THE JOURNAL OF Egyptian Archaeology

VOLUME 87
2001

PUBLISHED BY

THE EGYPT EXPLORATION SOCIETY
3 DOUGHTY MEWS, LONDON WC1N 2PG
ISSN 0307–5133

THE EGYPT EXPLORATION SOCIETY

(so-styled since 1919) was founded in 1882, and incorporated in 1888 as the 'Egypt Exploration Fund'. Ever since its foundation it has made surveys and conducted explorations and excavations in Egypt and the Sudan for the purpose of obtaining information about the ancient history, religion, arts, literature and ethnology of those countries.

Anyone interested in the promotion of the Society's objectives is eligible for election as a member. The annual subscription is £40.00 (with Journal) or £30.00 (non-Journal) or £55.00 (Graeco-Roman Memoirs); all members receive *Egyptian Archaeology* (two issues *per annum*). Members may vote at business meetings, attend lectures, purchase the Society's publications at a Members' discount and read in the Society's Library from which books and slides may be borrowed. UK taxpayers may increase the value of their subscriptions to the Society under the Gift Aid scheme.

Registered full-time students of Egyptology or Archaeology are eligible for election as Student Associates (£20.00) and enjoy most of the privileges of membership. Persons may also join the Society as Associates (£12.00) and be entitled to attend lectures, purchase publications at members' discount and read in the Library. Associates do not receive any annual publications and may not borrow books and slides.

Full particulars may be obtained from the Membership Secretary, 3 Doughty Mews, London WC1N 2PG. Phone: 020 7242 2266. Fax: 020 7404 6118. E-mail: eeslondon@talk21.com or eeslibrary@talk21.com. Website: www.ees.ac.uk

All communications to the JOURNAL OF EGYPTIAN ARCHAEOLOGY should be sent to DR LISA MONTAGNO LEAHY, DEPT. OF ANCIENT HISTORY AND ARCHAEOLOGY, UNIVERSITY OF BIRMINGHAM, EDGBASTON, BIRMINGHAM B15 2TT. E-mail: leahylmm@hhs.bham.ac.uk. All books for review should be sent to the LIBRARIAN, THE EGYPT EXPLORATION SOCIETY, 3 DOUGHTY MEWS, LONDON WC1N 2PG. E-mail: eeslibrary@talk21.com

GUIDELINES FOR CONTRIBUTORS

The *Journal of Egyptian Archaeology* is a refereed journal and prospective contributors must submit three copies of their manuscript for refereeing purposes. Preference will be given to articles in English. An abstract in English (maximum 150 words) should be provided at the beginning of the article.

Manuscripts should conform to *JEA* style. Text must be supplied on disk (PC or Mac), using standard word-processing applications, and in hard copy printed clearly on A4 or standard American paper, on one side only, double-spaced throughout and with ample margins. Please do not justify the right-hand margin or employ multiple typeface styles or sizes. Contributors must check with the Editor, in advance, if the text employs any non-standard fonts (eg. hieroglyphs, Greek, Coptic, etc) and may be asked to supply these on the disk with the text. Footnote numbers must be on separate pages at the end, also double-spaced. Footnote numbers should be placed above the line (superscript) after punctuation, without brackets. Single quotation marks should be used in both text and footnotes.

Abbreviations should be those of the *AEB* or *LÄ*; *ad hoc* abbreviations, after complete full reference, may be used for titles cited frequently in individual articles. Accepted forms of standard reference works may also be used. Porter and Moss, *Topographical Bibliography*, should be cited as PM (not italicized). Citations should take the form:

J. D. Ray, 'The Voice of Authority: Papyrus Leiden I 382', *JEA* 85 (1999), 190 (subsequently Ray, *JEA* 85, 190)

I. Mathieson, 'Magnetometer Surveys on Kiln Sites at Amarna', in B. J. Kemp (ed.), *Amarna Reports*, VI (EES Occasional Publications 10; London, 1995), 218–20 (subsequently Mathieson, in Kemp (ed.), *Amarna Reports* VI, 218–20)

Authors' initials and publication details, including full article title and/or series name and volume numbers, should be provided on first citation; surname alone, and an abbreviated title should be used subsequently. The use of op. cit. and loc. cit. should be avoided. Precise page references should be given, not the entire article run.

Any of the traditional systems of transliteration may be used (but *q* for *k*). Hieroglyphs used in the text should be accompanied by Gardiner sign-list numbers or, in the case of signs not in Gardiner, by slightly enlarged ink versions on a separate sheet. The latter also applies to cursive signs. Lengthy hieroglyphic passages must also be supplied separately.

Captions for figures and photographs with appropriate accreditations should be provided, double-spaced, on a separate sheet. Artwork and photographs for publication should have the contributor's name and a figure/plate reference written clearly on the back. Please send copies only in the first instance. Responsibility for obtaining permission to use copyright material rests with the author.

Manuscripts which do not conform to these conventions, or are otherwise unsatisfactory, will be rejected.

THE JOURNAL OF
Egyptian Archaeology

VOLUME 87

PUBLISHED BY
THE EGYPT EXPLORATION SOCIETY
3 DOUGHTY MEWS, LONDON WC1N 2PG
2001

Printed in Great Britain
Typeset by Patricia Spencer in Adobe Pagemaker
and printed by Commercial Colour Press,
116-122 Woodgrange Road,
Forest Gate, London E7 0EW

The EuroSlavic font used to print this work
is available from Linguist's Software, Inc.,
PO Box 580, Edmonds, WA 98020-0580, USA
Phone: (425) 775-1130. www.linguistsoftware.com

CONTENTS

BRIEF COMMUNICATIONS

REVIEWS

EDITORIAL FOREWORD

THROUGHOUT 2001 the Society has continued its full and active programme of Egyptological research. Excavation, survey and specialist study continued at the four major sites of long-term EES involvement—Sais, Memphis, Tell el-Amarna and Qasr Ibrim—and the Delta Survey proceeded apace. As always, accounts of these activities can be found in the 'Fieldwork' section of this volume. In addition to these projects, Elizabeth Bloxam from University College London deployed her EES Centenary Award funds to investigate Old Kingdom basalt quarries at Widan el-Faras, north of the Fayum, with Per Storemyr. A report should appear shortly.

The equally important publication of results from fieldwork was particularly productive, with a number of volumes appearing in the course of the year. The past collaboration with the Rijksmuseum van Oudheden in Leiden has yielded Maarten J. Raven's *The Tomb of Maya and Merit*, II. *Objects and Skeletal Remains*, a joint publication of the two organizations, while Geoffrey Martin's investigations in the Saqqara New Kingdom Necropolis have given us his *The Tomb of Three Memphite Officials. Ramose, Khay and Pabes*. Another volume of the now completed work in the Eastern Desert by Valerie Maxfield and David Peacock has yielded an account of some of their fieldwork in the 1990s—*The Roman Imperial Quarries. Survey and Excavation at Mons Porphyrites 1994–1998,* I. *Topography and Quarries*. A more specialist study of a previously rather neglected aspect of Egyptological investigation, the result of patient research into Amarna's residual remains, is to be welcomed in Barry J. Kemp and Gillian Vogelsang-Eastwood, *The Ancient Textile Industry at Amarna*. Graeco-Roman interests are served by the appearance of *The Oxyrhynchus Papyri*, LXVII, edited by Revel Coles.

The Doughty Mews office of the EES in London saw some changes in 2001. Carla Gallorini left after several years of sterling and much appreciated service. She was replaced as Librarian and Membership Secretary by Christopher Naunton who is continuing the computerisation of the Library catalogue started by Carla. Plans are also underway under his direction to revamp and reorganize the library for the better service of members. The enhanced in-house publications role of Patricia Spencer, who now produces both *Egyptian Archaeology* and the *Journal of Egyptian Archaeology* from the premises, has provided a more visible face to this major aspect of Egyptological work and has kept publication in the forefront of EES activity.

In Oxford the interim arrangements for Egyptology caused by the demolition of the old Griffith Institute have reached a happy conclusion. Jaromir Malek writes:

> After nearly three years in temporary accommodation, the Topographical Bibliography and the Archive moved into the Griffith Institute building attached to the new Sackler Library at 1 St. John Street, Oxford OX1 2LG, at the end of June and the beginning of July 2001. The Egyptology and ancient Near East library (librarian in charge: Diane Bergman), one of the best of its kind in the world, followed in July. It occupies the first floor (of five) of the spectacular rotunda building which opened officially on 24 September 2001. The Archive of the new Griffith Institute boasts a fully temperature and humidity controlled environment and scope for future expansion. It opened its doors to scholars at the beginning of October.

The material in the Archive is the subject of several Internet based projects. Tutankhamun: Anatomy of an Excavation (http://www.ashmol.ox.ac.uk/gri/4tut.html) makes available Howard Carter's records of the excavation of the tomb of Tutankhamun. *Egyptian Mirage*, which presents the Institute's nineteenth-century 'studio' photographs of Egypt is currently being edited. The first records of the database which will eventually include all the material in the Archive will go online early in 2002.

At present, the enlarged Topographical Bibliography team concentrates on the preparation of part 3 of the completely new volume VIII (*Objects of Provenance Not Known: Stelae, Reliefs and Paintings*). This will appear in 2003. Several publication formats are envisaged (book, Internet based database, possibly DVD), but Egyptologists need not worry that we shall uncritically succumb to the temptation of the latest in information technology and abandon the most popular form in Egyptological publishing, the book. The report of its death was an exaggeration.

The opening of the Great Court at The British Museum has brought an end to much of the disruption caused by building work there, although the refurbishment of the Egyptian galleries is not yet complete. Expansion and rearrangement of office, library and visitor facilities 'behind the scenes' have resulted in a much enhanced environment for both staff and visiting scholars. Of the annual Sackler Lecture Jeffrey Spencer writes:

At the British Museum, this year's Raymond and Beverly Sackler Distinguished Lecture in Egyptology was given on 18 July by Gaballa Ali Gaballa, Secretary-General of the Supreme Council for Antiquities of Egypt. Professor Gaballa focused on recent archaeological discoveries in Lower Egypt and highlighted the results of work in Alexandria and at Minshet Ezzat, site of a late Predynastic to Archaic Period cemetery. He also discussed the necessity of developing plans to deal with the cultural heritage of the region through cooperative programmes. The evening lecture attracted a capacity audience and followed a one-day colloquium on the subject of the Nile Delta, comprising papers by scholars from France, Holland and Germany in addition to the UK. These talks provided an illustration of the range of new discoveries being made in the region through fieldwork and historical research, with results spanning all periods from the Predynastic to medieval.

This year has seen the expansion of the teaching of Egyptology within the United Kingdom. The Department of Egyptology at the University of Liverpool has met the increasing demand for the subject, particularly at post-graduate level, with the appointment of Ian Shaw as a full-time lecturer. At the University of Swansea in Wales Kasia Szpakowska has been hired as lecturer in Egyptology to meet the renascent interest in the subject there. We wish them both successful careers in their new institutions.

Sadly, no year passes without losses in the subject, and 2001 was no exception. Jean-Philippe Lauer died in Paris on 15 May, aged 99. An able architect intimately associated with Saqqara, especially the Step Pyramid complex of Djoser which he did so much over decades to reconstruct physically and on paper, his knowledge of early Egyptian funerary architecture was unsurpassed. See http://perso.wanadoo.fr/thotweb/actualites/actualites.htm for further information about his life and career. On 5 July 2001 Erik Iversen, one of the leading figures in Danish Egyptology, passed away. He was an eminent scholar whose pioneering work *Canon and Proportion in Ancient Egyptian Art* (1955; revised 1975) proved a stimulus to the wider study of Egyptian metrological systems and opened up new avenues of research. A full obituary will appear soon in a leading Danish journal. Patrick O'Mara died in January at the age of 86, actively publishing until the end.

Once again as Editor-in-Chief of this *Journal* it falls to me to thank those who have contributed to the making of this volume, not least of whom are the authors who provide the

raw material and the unsung heroes who agree to act as anonymous referees for sometimes challenging contributions. I would also like to thank my fellow editors for working so selflessly, despite occasionally trying personal circumstances. Patricia Spencer deserves special credit for gearing so much of her working life around the production of *JEA*. Once again, the redoubtable Daniel Lines deserves our gratitude for undertaking the thankless job of proofreading the text. We must also thank Commercial Colour Press for printing this volume.

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

FIELDWORK, 2000-01

During 2000-01 the Society carried out an extensive programme of survey, excavation and field station and special project study. A study season at Qasr Ibrim concentrated mainly on ceramics and archaeobotanic remains. The ongoing escarpment survey and studies at Memphis were augmented by the Kom Helul Kilns Project of Paul Nicholson. Investigation at Amarna featured less well-known parts of the site, in addition to continuing projects, with quarries and new cemetery areas coming to light. In the Delta Penelope Wilson extended her attention to mapping and surveying Tell Mutubis on the Rosetta branch of the Nile, as well as continuing work at Sais. The Delta Survey focused on Tell Belim in the north-eastern Delta; the range and results of this Survey are now extensive enough to warrant a regular report in this section of the *Journal*.

None of these projects would have been possible without the support and assistance of the Supreme Council for Antiquities in Egypt (SCA), and the EES would like to express its gratitude to its Permanent Secretary, Gaballa A. Gaballa, and the SCA officials. Thanks are also due to the Secretary of the Supreme Council, Magdi Abu el-Aala, to the staff in the Abbassiya security office and to the numerous officials in the local Inspectorates who have given assistance. Rawya Ismail in the EES Cairo Office has provided her usual able support, for which the Society is grateful.

The Survey of Sais (Sa el-Hagar), 2000–01

THE summer team were in the field from 3 August to 22 September 2000 and consisted of: Penelope Wilson (Field Director), Gregory Gilbert (archaeologist), Daniel Lines (drill supervisor), Rachael Dann (finds supervisor), Shakira Christodoulou (drill assistant), Ahmed Fouad Rashwan and Fatma Kamel Rageb (SCA representatives). From 21 March to 9 April 2001 Penelope Wilson returned with Duncan Hale (geophysicist) to continue magnetometer survey work. Thanks are due to David Jeffreys for the loan of a drill kit, to Peter Carne (ASUD) and to Mahmoud el-Gamili for his help and enthusiasm. The team is grateful to the Inspectorate at Tanta for facilitating the work, and I would especially like to thank Abdu el-Fatah and Abd el-Ghrainy Zaki for their help and our Inspectors, Ahmed Rashwan and Fatma Kamel. As always I am very grateful to the people of Sa el-Hagar for their assistance, especially Sawy el-Bish for providing excellent lodgings. I would also like to thank the police both at Sa el-Hagar and Basioun and the workforce, especially Mohammed Bayoumi Selim and Senne el-Bish.

During these two seasons the mission carried out four main projects and a number of smaller pieces of work. For the first time some limited excavation work was begun in order to assess the nature of the archaeological material at the site and its relationship to the survey results.

Drill cores

A new drill head set had been purchased for the use of the Sais expedition and the Memphis team lent their set for a month, which allowed two drill teams to operate at one time. As a

result, the mission completed 38 cores this year, to give a total of 53 cores over the two seasons. Horizontal transects were made across areas of the Northern Enclosure and 'Great Pit' and in the farmed area between the Enclosure and 'Great Pit'. More random investigations were made in the village of Kawady and in specific areas of interest at the site, including the western side of the 'Great Pit' and the southern gateway of the Northern Enclosure. Preliminary analysis of the results confirmed the following: the river lay further to the east than in its present course; *gezira* sand was encountered in six locations; there is early pottery on the west side of the 'Great Pit'; near Kawady village there was some kind of settlement in Roman times and there was probably a small *tell* at one time, but it is now totally gone; there is a thick layer of black organic remains 7 m below the base of the 'Great Pit', lying over a wide area and of a slightly earlier date than some of the early pottery. In addition, the drill hit limestone and quartzite blocks in a number of places in the area of the southern gateway of the Enclosure and in the field where a magnetometer survey had shown up buildings about 3–4 m below the surface in 1998. Combined with the results of six deep drillholes carried out by Mahmoud el-Gamili, Professor of Geology at Mansura University, on behalf of the EES, it seems that there are two buried sand hills at Sais—one on the west of the site under the area west of the 'Great Pit' and possibly the modern village of Sa el-Hagar, and one on the east of the site under the Northern Enclosure area. Between the two hills there was once a lake or lagoon which led to the creation of the thick, black, organic layer found in the drill holes. At some time, probably just before the Predynastic Period, the river formed a channel between the two sand hills and there may have been early settlement on both sides. Later still, this channel stopped and the river instead flowed on the west of the site in its current location, with perhaps a second channel on the east in the area of the el-Qaddaba canal, effectively making Sais an island. This may have given the site its strategic and cultic significance in the Late Period.

Excavation 1: Kom Rebwa (fig. 1)

A 10 by 10 metre trench was begun in eastern Kom Rebwa in order to assess the date and types of archaeological material left in this antiquities-designated land. The place was chosen because it was a rectangular series of hillocks with a flat depression in the centre and the trench was put across one of the 'wall' hills to examine both the inside and outside of the area. It did prove to contain a substantial earthwork of some kind, about 5 m wide, running through it. The embankment had been constructed of mud-brick, with layers of thick pottery between the courses, and the disintegration of the wall meant that the pottery in it was released. The top strata were sieved in order to obtain as much material as possible for a pottery typology. The material from here has been dated to the early Saite Period, about the seventh century BC, by Peter French, who kindly looked at some of the sherds. The wall may therefore be either early Saite and contemporary with the pottery used to build it, or possibly later Saite, using pottery which had come from earlier structures in this place. Also among the debris of the wall were 22 fragments of terracotta votive cobras, presumably representing the goddess Wadjyet.

In the area west of the wall a series of vestigial walls running at oblique angles to the main wall were uncovered. They seem to represent several phases of use and occupation on the outside of the wall and included two circular mud-brick 'cupboards', or possibly ovens, which contained approximately 24 mostly complete, but all fragmentary, vessels, including a carinated bowl, 2 pot stands, an amphora and many bowls. There was also a small ante-

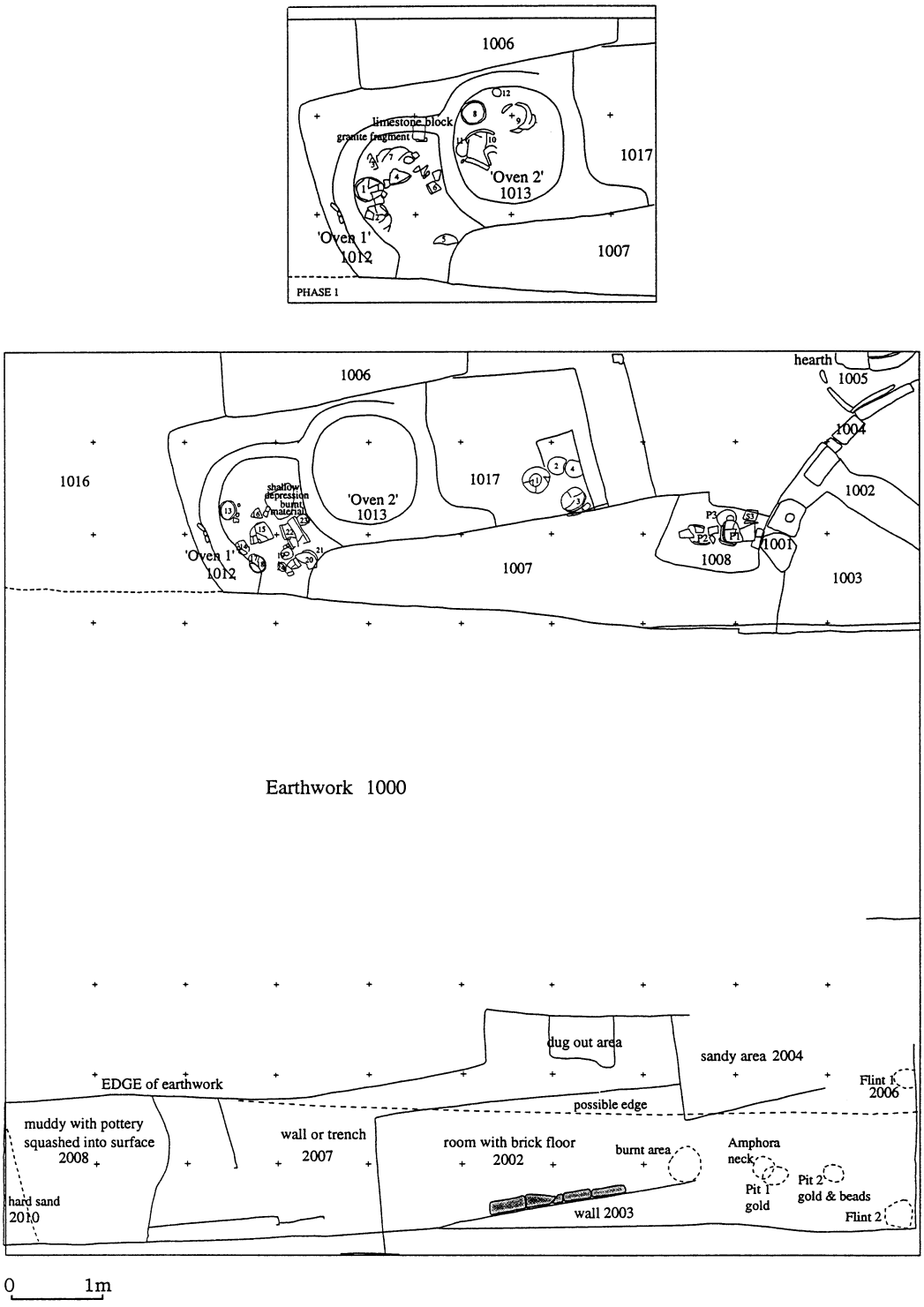


FIG. 1. Sais 2000, Kom Rebwa, east. Main drawing: phase 2. Detail: phase 1.

room built up against the main wall, with a curving wall extending to the east and a large limestone pivot stone. This room produced much pottery and outside the doorway was a dump of organic material including chaff and manure with several more associated fragmentary vessels. The date of this material is probably Ramesside and Third Intermediate Period. There was also a rim fragment from a Fifth Dynasty 'Medum bowl' which may be the prototype or ancestor of the Twenty-sixth Dynasty carinated types.

The area east of the wall was filled with debris from the main wall, mostly pottery, but there was also a fragment of a limestone statuette and a fragment of a granite offering table. We reached a floor level perhaps associated with the destruction of earlier buildings here, complete with a muddy floor and limestone door pivot. Directly under this was a series of walls, with mud-brick floor tiling running at an oblique angle to the main earthwork. This seemed to have been completely cleared down to the floor before the new massive structure was built over it. In the northern end of the trench was further evidence for the destruction of the buildings there, with some patches of burning. In this area there were numerous extremely small fragments of gold foil attached to wood or cartonnage, a few glass and faience beads, part of a faience ring with a deity depicted on it (the head missing) and an interesting flint assemblage. Again the date of this clearance may be Third Intermediate Period and the buildings below may be earlier.

The excavation confirmed that the hillocks in Kom Rebwa are not all simply sherd piles, sieved out of the *sebakh*, but that some still contain structures and that it is possible to excavate here without problems with the water table. The Third Intermediate Period date of the pottery suggests, too, that this area may well have simply been abandoned at the end of the Third Intermediate Period or that later material on top of it has been removed as *sebakh.* The plan of the area suggests that the orientation and nature of the main earthwork require further investigation.

Excavation 2: Western edge of 'Great Pit' (Birket Kebira)

The area was chosen because of the results of drill core 15 in 1999, which had collected Predynastic pottery sherds at a depth of 7 m below ground level. In addition, it was important to assess the feasibilty of excavation to this depth, with the help of a water pump to remove excess water. It was also an exercise in checking the core results against the actual strata and soil matrices. A 3 m by 4 m trench was dug to a depth of 3 m, with a step and sump at the southern end, and water was removed from the sump as necessary. At a depth of 3 m the soil making up the sides of the trench was very sandy, which meant that they became dangerously unstable. The work was stopped on the grounds that it was too dangerous for the workmen to continue and the trench was backfilled for safety's sake.

During the digging the team had encountered various archaeological strata. At the top there was some Ptolemaic and Roman pottery, but this mainly came from the uppermost disturbed rubbish layer. The pottery, bone and other material from between 1.5 m and 3 m down, however, dates to the late Predynastic and Early Dynastic Periods and it seems we have found the early material by accident (as so often happens). One sherd may be an Upper Egyptian imported ware. The dating was confirmed by Peter French and Ulrich Hartung at Buto and they suggested that the pottery from the depth of 7 m may belong to the Buto–Maadi cultural phase, dating to *c.* 3500 BC. It was interesting that the drill core had picked up the matrix of the Predynastic pottery but not the material itself. The sherd material seems to be associated with an oven and burnt area and is possibly on the side of a river

terrace or levée. In this case, it is more likely to be a settlement area rather than a cemetery and is close to the *gezira* location. The depth between the two levels is perplexing, with about four metres separating late Predynastic and the Buto–Maadi phase, and the Late Period pottery almost directly on top of it.

Combined with the drill core results from this area, it seems the early part of the site runs along the western edge of the 'Great Pit' and possibly under the houses to the west. There is some cause for concern with this area because a large area of land here has been excavated by the SCA in preparation for it to be sold to the village of Sa el-Hagar for development. There is also a temple foundation and a casemate foundation here, probably on top of the early material. There is still scope for considerable fieldwork to be done here in this most interesting area.

Magnetometer survey

Following a successful geophysical test in 1998, another approximately nine hectares of fields in twenty areas were surveyed with a fluxgate magnetometer. The results of the survey have yet to be processed completely but a few preliminary conclusions can be made. In general, it seemed that the further away from the current Antiquities Service land at Kom Rebwa the survey moved, the less there was to find under the ground. Bearing in mind that the maximum depth of penetration of the magnetometer is about 4 m, it is possible that any archaeological remains may have been buried under alluvial mud, ploughed out through intensive agriculture or buried under successive additions of manured earth brought from elsewhere to the fields. The fields to the north of the Enclosure proved to be featureless.

There was good coverage of the north-west area of the Northern Enclosure from the corner moving eastwards. The corner area has always been 'bad' land and though attempts have been made to grow crops here since the beginning of the Sais survey in 1997, they have always seemed to fail. A large area was therefore surveyed and also found to be without significant anomalies. During the nineteenth century it is clear this area was flooded each year during the inundation, so that any remaining monuments here may have been washed away or buried very deeply. The south part of the area is close to Rebwa West and so one might have expected some traces to have survived there, but this was not the case.

Further towards the centre of the Enclosure occasional faint anomalies showed up in several areas. Some of them could have been old field boundaries or water channels or other agricultural phenomena, but one circular area and one apparently regular square pattern with individual cells inside it may have been archaeological features. On the east side one field against the eastern Enclosure wall was surveyed and proved to contain a possible 4 m wide ditch across it filled with material (possibly pottery) which showed up as an intense anomaly.

Between the Enclosure and the canal only two areas could be surveyed. A large field in the very centre of this zone showed no anomalies at all; another small area almost at the apex of the trackways was an irregularly shaped field around a house and contained much rubbish and electricity pylons. The data from this area was not very good and it was difficult to make much of it.

Fields between the two parts of Kom Rebwa showed anomalies and looked promising. No clear-cut features could be identified but there may have been traces of ditches and past massive disturbance of the soil. The clearance of these fields was frustrating because it went so slowly and they were in an area with archaeological potential.

A field directly to the west of the Sheikh Shaheen farmhouse was surveyed and found to be quite clear, which was surprising because of its proximity to the field containing a large building surveyed in 1998.

The best results came from known archaeological areas. In Kom Rebwa East no part of the site had been surveyed before because of the hilly nature of the landscape and the long grass which concealed many dog burrows and other excavated holes. This year an attempt was made to try to see what kind of data could be gathered. The survey started on the west side of Kom Rebwa next to the main track, and there seemed to be little hope for the results because of the amount of modern rubbish, including chunks of brickwork and metal tins which had been disposed of here. However, the data gathered suggests that there are clear archaeological features here under the debris, possibly a large wall running under the main area of the *kom*.

The only remaining area of clear unexcavated land at Sais between the village and the Northern Enclosure is a small section to the north-east of the 'Great Pit'. Usually in the summer this land is very marshy because of water run-off from the rice fields, but in March it was dry, so we were able to survey it. In the area between the granite torso and a pit there is a twenty metre square stone building with interior walls and possibly large granite objects lying outside it. The lack of water in this northern side of the 'Great Pit' also allowed the lower part of the area to be surveyed. This was quite extensive, but lying at or below the Saite temple foundation level. It was quite surprising to find a major pit or ditch under this area and also a number of other ephemeral anomalies. Whatever they are, they either date from the destruction of the site and are pits filled with debris, or are earlier archaeological features.

Other projects

1. A section was taken through a rubbish dump at the west side of the 'Great Pit'. It contained pottery of the eighth–seventh century BC, including Greek imports and also possible Ptolemaic material.
2. Field walking in a field north-east of the SCA/police office yielded a range of material from Late Dynastic times up to the modern era.
3. A test pit 1m by 1m and to a depth of 30 cm dug in a field to the north-east of the SCA/police office (but different from the above) yielded a small amount of diagnostic pottery not yet fully analysed.
4. A section of the sherd hill in Kom Rebwa East was sieved and all sherds counted. The diagnostic material served to build up a pottery typology for Sais and, in fact, was very similar in date (early Saite–Saite) to that from Excavation 1.
5. A visual survey of the 'Great Pit' area was made, especially on the western edge, to assess the results of test pit excavations carried out by the SCA on behalf of the Sa el-Hagar council.
6. Various surface finds from walking around the site were collected, including Greek black gloss ware, African Red Slip and East Greek pottery.
7. Further work was done in the Tanta SCA Office archives.

Summary

The two sessions at Sa el-Hagar in 2000 and 2001 have produced:

• Confirmation of the existence of several phases of large Ramesside to Saite buildings existing under the *kom*s and hills of Kom Rebwa.
• Discovery of an area of late Predynastic–Early Dynastic settlement and of Buto–Maadi cultural material on the western side of the 'Great Pit', beginning at approximately 1.5–3 m below the lowest modern ground level.
• Continuation of the drill core survey to give a good sample of cores around the site now numbering 53 augur holes.
• Completion of the visual survey.
• Trials of various sampling methods (field walking, test pits, sections).
• Further magnetometer survey continuing to add to the overall picture of the site, but it does not yet seem possible to be systematic about the survey and this may prove to be a problem in the future.

PENELOPE WILSON

Tell Mutubis, 2001

PENELOPE Wilson worked from 10 to 15 April 2001 at Tell Mutubis with the excellent help and cooperation of Ibrahim el-Sayed Mitwaly (SCA Inspector). She would like to thank the Chief Inspector of the area Abd el-Ghrainy Zaki in Tanta and the local inspectorate at Kafr Sheikh under Ibrahim es-Saidi for their co-operation.

Previous work and outline of research

Tell Mutubis is on the west side of the Rosetta Branch of the Nile, about 15 km north of the town of Fuwa. It is one of a series of large Roman *tell*s in the north of Egypt and this mission followed previous visits by members of the EES (Steven Snape, Patricia Spencer and Jeffrey Spencer) to assess the site. The aim of the work was to make a map of the *kom* at Mutubis and to survey briefly the surface remains with particular attention paid to the dating of the latest levels of the site. Most of the time was devoted to collecting topographical survey and GPS data for a map to show the topography of the area, the *tell* itself, the contours of the *tell* and any other archaeological features at the site. The remainder of the time was spent recording the archaeological material at the site by photography and drawing as appropriate. A number of pottery sherds from the surface were drawn in profile for research into their date, and glass fragments were gathered and photographed for later assessment.

Results

The *tell* has two long sides of approximately 280 m and two shorter sides of about 180 m, forming a squat four-sided *kom*. It is 12 m high at its highest point above the general ground level. It lies in a larger area of about 650 m by 550 m. The mound lies on the northern edge of the site and is roughly rectangular in shape. It has very steep sides on the west and south and sloping sides on the north and east. This may be a result of wind erosion, digging or due to the type of structures buried under the mound on each of these sides. The flat areas on the west and south of the site seem to have been systematically cleared and presumably the

shape of the *tell* is in some part due to this digging. Essentially, it has simply been sheared off, leaving the stark and steep sides on the west and south.

The whole *tell* has a red colour caused by the great number of pot sherds lying on the surface; where it is not red, it is grey in colour because of exposed mud-brick walls. The surface not only has pieces of pottery lying on it but also glass, corroded coins, some stone fragments (including limestone, red granite and volcanic tufa) and organic material, particularly bones.

The northern side is quite gently sloping, with one major water run-off gully cut into the side. The western side has mud-brick structures visible along the edge, almost for its whole length. The sides are covered in pot sherds and red-brick fragments. At the southern end are the remains of two sections of a red-brick structure. One is still part of the mound, but the other seems to have been dug out in the past and is a water tank made of red-brick and pink mortar. The tank (3.5 by 3.5 m), has a plastered inside surface and is almost full of rubble. Near these structures is a fallen fragment of floor with rough marble tesserae. The flat area to the west shows signs that it has been dug out, leaving a number of depressions which fill with water in the winter. There is evidence for much red-brick debris in this area, but it is not clear if it is *in situ* or redeposited here from elsewhere on the site. A number of tracks cross this area on raised causeways or embankments. One of them is an old Light Railway embankment, branching off the main railway line to the south and once used for removing *sebakh* from the site.

The southern side of the *tell* is also very steep, with some mud-brick structures standing out clearly. At its western end a column of mud-brick currently stands to about 3 m in height with a small mound at its base. Near it is a second mud-brick outcrop with a red-brick structure standing independently from the main mound. Along this side are other isolated mud-brick features at the foot of the main mound, two noticeable fragments of red granite (one probably part of a column, the other with a clearly worked face) and a group of limestone blocks which seem to have been recently dug out of the mound. Further to the south is a red-brick building of some kind. A low mound also runs along the southern area of the site which may form a separate series of structures, along with traces of red-brick walls in the ground.

The eastern side is the other shorter side of the *kom* rectangle and like the north side, slopes more gently from the top to bottom. There are a number of water gullies cut into the side and some depressions perhaps caused by past digging.

Surface finds

Some pottery and glass were drawn in order to obtain information about the latest date of material at the site. The material included some ribbed Nile silt dishes and jars, African and Cypriot Red Slip Ware dishes and plates (some with embossed decoration) amphora spikes and necks, some fine wares and a few marl vessel fragments. At first glance this material seems to date from the Late Roman Period, around the fourth–seventh centuries AD.

PENELOPE WILSON

The Delta Survey

SINCE this is the first appearance of a report on the Delta Survey in the *Journal*, it is logical to provide some background on the origin of the project. The Survey was adopted by the Society in 1997, to provide an appropriate home for data collected by Jeffrey Spencer in previous years and to promote the additional gathering of information. Its purpose is to assess the current condition of archaeological sites in Lower Egypt, initially by visual inspection, combined with the use of maps, old records and satellite photographs. Published and unpublished information offered by any other expeditions operating in the area is being incorporated and the results are being collected into a database as a source of reference and a tool for planning new projects.

Development of the Survey

The most recent maps of the Delta are those of the Egyptian Survey Authority 1:50,000 series, surveyed in 1992–3 and published in 1996. Their greatest value is in showing the changes brought about through recent development, particularly the many new asphalt roads which are available for access to ancient sites, although the maps are by no means up-to-date in this respect. Also shown are the regions of drained marshland in which sites have been lost, especially around the edges of the coastal lakes where land has been converted for fish-farming. Archaeological sites are indicated as white areas, most often without any names, but they can be identifed by reference to the older Survey of Egypt maps on which names of ancient sites were more frequently included. Errors in place names occur on the new maps, sometimes because of misreading of the Arabic, and a few *tells* which are known to exist are not marked at all. Verification through on-site visits is still necessary for many locations.

There are two elements to the work of the Survey. The first stage of fieldwork consists of visits to record the present state of sites in the region, particularly those which have rarely been visited since the early inspection tours of Foucart, Daressy and Edgar for the Antiquities Service. Clusters of adjacent sites have been identified from maps so that several could be inspected on the same itinerary. The primary questions to be answered for many sites noted in early literature are: does any visible *tell* still remain or has it been levelled for agriculture? If it exists, has it been overbuilt or is it accessible for study? The extent of the sites remaining is being documented, together with other details, including surface features, the date of any surface pottery, occurrence of stone blocks and the degree of recent attrition. A group of mounds in Kafr es-Sheikh province was examined by Jeffrey and Patricia Spencer as long ago as 1990, prior to the adoption of this work by the Society, and some details published in *The Intellectual Heritage of Egypt (Studia Aegyptiaca* 14; Budapest, 1992), 535–9. In 1997, some fifteen sites in the north-east Delta were visited with the assistance of the Chief Inspector for Damietta, Atef Abu Dahap. Information was collected from the staff of the SCA regional offices on a further nine sites. Some of these survive as large mounds but others have been completely destroyed and levelled. Other locations in the Western Delta have been inspected by Penelope Wilson. The following colleagues have also been generous in providing information: Manfred Bietak, Renée Friedman, Christopher Kirby, Karla Kroeper and Steven Snape. Well-known sites and those which have been the subject of extensive excavation are not considered a priority for this project since they are well-documented in other sources of reference.

Among the more recent inspections have been visits to Tell Defenna and Tell Belim in

December 1999 by Patricia and Jeffrey Spencer. The visit to these sites was carried out with the assistance of Mohammed Abdel Maksud, then SCA Director at Zagazig, and Mohamed Kamal Ibrahim of the SCA centre at Qantara East.

Tell Defenna

The route to Tell Defenna is accessed from the main Port Said to Ismailiya road, by turning onto the road for Salhiya at a junction situated just south of the new high-level bridge over the Suez Canal near el-Qantara. This good quality asphalt road [route 405] is followed for about 5 km and then a turning taken to the right onto an unpaved road. After a further 4–5 km this road arrives at a bridge over the canal on the left, but the route to Tell Defenna requires remaining on the right of the canal past the bridge and then taking a track over the desert to the *tell*, which can be seen in the distance. The site is isolated in the desert and the elevated ruins of the citadel of Psamtik I have retained a similar appearance to their profile in Petrie's day,[1] but there is now no trace of the 'plain littered with pottery' which he noted. The flat desert surface, however, shows lines of buried walls and there is clearly much archaeological deposit remaining in the levelled areas. The isolation of the site means that it is not under immediate threat from land development, although a new canal and some associated buildings have been constructed some distance to the north.

Tell Belim

Tell Belim, formerly known as Tell Sherig, lies some 10 km directly north of Tell Defenna but cannot be reached from this direction. The visit in 1999 was made from the Port Said – el-Qantara main road, turning off to the west on a road beside the el-Salaam canal. This was followed for some 15 km to two minor roads on the left (south), one on either side of a canal. One road was asphalted in 1999, the other was not. The unpaved road is the more direct route, but was obstructed in 1999, so it was necessary to use the asphalt road as far as the first bridge, then cross to the unpaved road and double back for about 2 km. The final 4 km to the mound is traversed by means of a narrow dirt track which winds through the lagoons of recently-established fish-farms. In spite of modern encroachment by the surrounding lagoons, the site is a kilometre in length and even a cursory visit indicated that it was once an important location. The site has long been tentatively identified with the pharaonic city of Herakleopolis Parva and later the Christian centre of Sethroe. It appears on the Egyptian Survey Authority 1996 1:50,000 map with the erroneous name 'Tell Thilim'. Beyond the high mounds of Roman occupation debris an extensive low area was seen which had the appearance of a temple enclosure. Lack of time prevented a full inspection in 1999 and so a second visit was made in April 2000. On this occasion the existence of a temple enclosure at the west end of the mound was confirmed and several blocks of basalt, one inscribed with hieroglyphs, were noted on the surface. The existence of a pharaonic temple strongly reinforces the identification of the site with Herakleopolis Parva. Subsequently, and thanks to Alison Gascoigne of Cambridge University, a Royal Air Force aerial-photograph of the site was located in the library of University College London. This image, taken in 1935, shows the temple enclosure as having been approximately square in form with each side measuring about 250 metres. In view of the importance of the site and the risk posed to it by the surrounding agricultural development, a full survey was carried

[1] See the comparison between old and recent photographs of the site in Jeffrey and Patricia Spencer, 'The EES Delta Survey', *Egyptian Archaeology* 16 (Spring, 2000), 25–7.

out on behalf of the Sociey from 24 to 28 September 2000 by Jeffrey Spencer and Penelope Wilson, with the assistance of Ismail Abdel Raziq, SCA Inspector assigned to the expedition. For help in beginning the project we wish to thank the former Acting Director of Sharqiya Province, Sayed es-Sawi and Chief Inspector Hisham Mouman, as well as Mohamed Kamal Ibrahim, Chief Inspector for North Sinai. It was possible to complete the gathering of data for the mapping of the ancient *tell*, from which a contour map has been produced by Penelope Wilson. The high parts of the *tell* towards its eastern end were found to rise to a maximum height of almost twelve metres above the surrounding land.

Jeffrey Spencer carried out a preliminary survey of the surface pottery and of the visible traces of buried structures. The pottery survey revealed a distinction between the eastern and western halves of the *tell*, the former having a surface cover of Late Roman material and the latter, Egyptian dynastic sherds. Some areas, particularly the north side, have been covered by a deposit of wind-blown sand which obscures any archaeological features. This sand has almost certainly blown in from the dunes along the Delta coastal bar. The Late Roman part of the *tell*, which includes most of the more elevated areas, exhibits the usual products of the age, including fired bricks, fragments of glass vessels, sherds of imported ceramics such as African Red Slip Ware and the local Egyptian Red Slip Ware copies. Much vitreous slag and grey ash covers the slopes of the higher mounds of the *tell* and the remains of a small kiln were noted on the top of one. The surface is covered by much loose dust, but in places the outlines of buried structures are visible, particularly on the southern slope, which seems to have been occupied by houses.

To the west, almost no Roman material was observed except for a small quantity on a mound of dump at the north side of the pharaonic temple area. Otherwise, the surface dates from pharaonic times, the pottery from the higher areas dating from no later than the fifth century BC, with older material lower down the slopes. Here and there, however, are small elevated mounds covered with slag from industrial activity, and these are associated with pottery of Ptolemaic date. The extreme western end of the site is flat and salt-encrusted, sloping gently down to the water of a fish-lagoon. This low land is occupied by a cemetery, with burials in pottery coffins, or, more often, in two large coarseware jars joined at the rims. The levelling of the land has left some of these burials visible on the surface. They might date from the late Ramesside Period to the early Third Intermediate Period and be comparable to the similar burials at Tanis (the so-called 'inhumations primitives'), since pottery of that period occurs in the area. Alternatively, the burials could be of Roman date and have been cut through the older deposits. Much of this cemetery has already vanished in the digging of the nearby lake.

Some parts of the mud-brick enclosure wall of the temple complex are visible as surface traces on the ground at the west end of the site. Within this enclosure, the actual foundation-pit of the temple itself can be seen, consisting of a rectangle with dimensions of about 80×25 m, with scattered blocks of basalt lying to its north. There is no above-ground *in situ* masonry, but much information might be gained from an examination of the foundation. Numerous broken fragments of limestone, basalt, granite and quartzite lie on the ground.

The more detailed work carried out at Tell Belim is an example of how the initial inspections of the Delta Survey can be followed up once sites with good potential for new discoveries have been identified. The next series of site-visits is planned for early November 2001, when several sites in Sharqiya Province will be inspected, including Tell Sanhur, Tell Ginn and Tell Dibgu.

JEFFREY SPENCER

Memphis, 2000

THE Memphis 2000 season ran from 20 August to 15 December with four main sections: the Kom Helul Kilns Project; the Escarpment Survey; epigraphic study of reused blocks of Amenophis III at Kom Rabiᶜ; and the study of ceramics and other material from the EES Kom Rabiᶜ excavations (1984–90). The Field Directors were David Jeffreys and Paul Nicholson. The work at Kom Helul was directed by Paul Nicholson with a team comprising Sally-Ann Ashton (pottery), Amy Goldsmith (site supervisor), Joanne Hodges (artist), Andrew Holbrook (conservator), and Hendrikje Nouwens (registrar). David Jeffreys, Angus Graham and Serena Love worked on the Escarpment Survey. Janine Bourriau (Deputy Field Director) oversaw the ceramics' study with a team consisting of Bettina Bader, Amanda Dunsmore, Carla Gallorini, Serena Giuliani, Nadine Moeller, Gwilym Owen and William Schenck. W. Raymond Johnson was in charge of the epigraphic project, assisted by William Schenck. Lisa Giddy and Mary Anne Murray continued post-excavation work on the Society's earlier excavations at Kom Rabiᶜ. As always, we are indebted for the success of the mission to the officers of the SCA for their help and cooperation: Gaballa Ali Gaballa and Zahi Hawass, Muhammad Hagras and Adel Hussein at Saqqara, and Adel Abd el-Rahman and Zaki Awad (Inspector attached to this year's mission) at Mit Rahina. The work at Kom Helul was funded by the British Academy Grant SG-30317 and by the Seven Pillars of Wisdom Trust, to whom we are indebted for their support.

Kom Helul (Paul Nicholson)

The aim of the work was to reinvestigate the site of Kom Helul, partly excavated by Flinders Petrie. Around 1886 Petrie discovered a kiln or furnace site at Kom Helul, and returned to excavate there, following plundering by a collector, in the early 1900s. His excavations followed those he had made at faience- and glass-making sites at Amarna in 1891–2, and he clearly saw similarities in the material. Unfortunately, we now know that his reconstruction of the glazing process at Amarna was largely incorrect, and that the comparison with Memphis is only partly valid. To complicate matters, Petrie made no plans of his excavations at Kom Helul, and took only a single photograph of one of the several furnaces he excavated. Even the exact site of these square furnaces was not marked on his map. Many of his finds from the excavations at both Kom Helul and Amarna went to museum collections and over time some of the material became mixed. More serious is a possible mixing with material from Kom Qalama near Kom Helul, where a similar site, possibly of a different period, seems to have existed. The new EES work has several aims. A major objective is to locate a furnace or furnaces untouched by Petrie, in the hope that finds from the site would help to refine the dating of material in the Petrie Museum in London and in other museums. In particular, it is important to establish whether Kom Helul was active from Ptolemaic into Roman times, or whether it is a wholly Roman site. It was further hoped that it might be possible to locate the group of furnaces excavated by Petrie, since it is possible that these were never fully cleared and that valuable technological clues might remain undisturbed.

The site of Kom Helul lies south-east of the current Memphis Museum garden, almost due south of the old University of Pennsylvania dig house. It comprises an area of large debris mounds, now covered in camel thorn. A small irrigation canal separates the area known as HAC in the Memphis grid system from HAD. The latter area is of a slightly

different character, with less debris strewn on the surface, and with clear areas of fire reddening visible on the ground surface.

Three trenches were excavated during this first season of work at the site. Trench HAC1 was a 10 × 5 m excavation located due south of the southernmost tip of the disused army camp which now stretches between Kom Helul and the Memphis Museum garden. The site yielded a substantial wall and a dump of pottery, which included pieces known from Petrie's work to be industrial. However, it was clear that, despite a high reading from a preliminary geophysical survey, no kilns were to be found in the trench. It was therefore recorded and backfilled.

A second trench, HAC2, of 5 × 5 m, was begun a little further to the south-west in an area of undulating ground where it was thought some of the depressions might represent kiln sites. It quickly became apparent that no kiln was located in the area of the trench, but there was a very substantial quantity of broken industrial pottery. Much of this pottery was in the form of saggars, the vessels used to contain the faience during firing, many of them heavily glazed from use. These too were recorded by Petrie. So great was the quantity of industrial material that this trench was not fully excavated. A sondage in the southeastern corner yielded a useful series of different saggar forms and the clay strips used for joining them.

Study of the industrial ceramics from HAC2 and the other trenches showed that several sizes of saggar were in use. The purpose of these saggars was largely to provide a dust- and ash-free environment for the glazing of the vessels in the furnace, since 'fly-ash' might otherwise stick to the vessels, ruining the surface. The stacks of vessels were separated by little cones of clay, which left large scars on the undersides of the vessels, but only a small mark on the inside where the apex of the cone was in contact with the vessel below it. A number of these cones were found, some still adhering to the vessels. The saggar rim forms varied, but one of the commonest was flat topped with a finger groove running around it. This was used to form a kind of seal; wet clay was pressed into this groove and the underside of the next saggar placed on top of it to seal it. During firing the seal turned to ceramic, and we found numerous examples of these saggar joiners among the debris. The insides of these saggars are very heavily glazed in a variety of blues and greens. It is clear that this glaze formed on the inside of the saggar during firing, since it can be seen to have run over the saggar-joiner and to have broken away when the saggars were separated.

The final trench, HAD1, was located south of HAC and separated from that area by a small canal. Here a 5 × 5 m excavation yielded the remains of a fired brick wall and an extensive area of brick flooring. Further excavation showed this flooring to have several layers. It is provisionally suggested that this is the base of a kiln/furnace(s) with several rebuilds over time. Finds from this trench were very few, but a number of sealed contexts were identified, and it is hoped that they can be investigated next season, when it is planned to extend this trench further.

Overall, the season proved successful in clarifying many aspects of Petrie's earlier work, although no well preserved kilns were discovered. A detailed magnetometer survey to be undertaken in the 2001 season may be able to locate these. The finds throw light not only on faience-making at Kom Helul, but also on Petrie's reconstruction of the technology of vitreous materials at Amarna where he had previously worked before excavating the Memphis site. Over time, he seems to have conflated some of his Memphis evidence with that from Amarna, making his accounts somewhat confusing. The aim of the new work is to separate that evidence to present both the Memphis and the Amarna industries in their proper contexts. It is also hoped that a more complete dating for the Memphis site can be obtained.

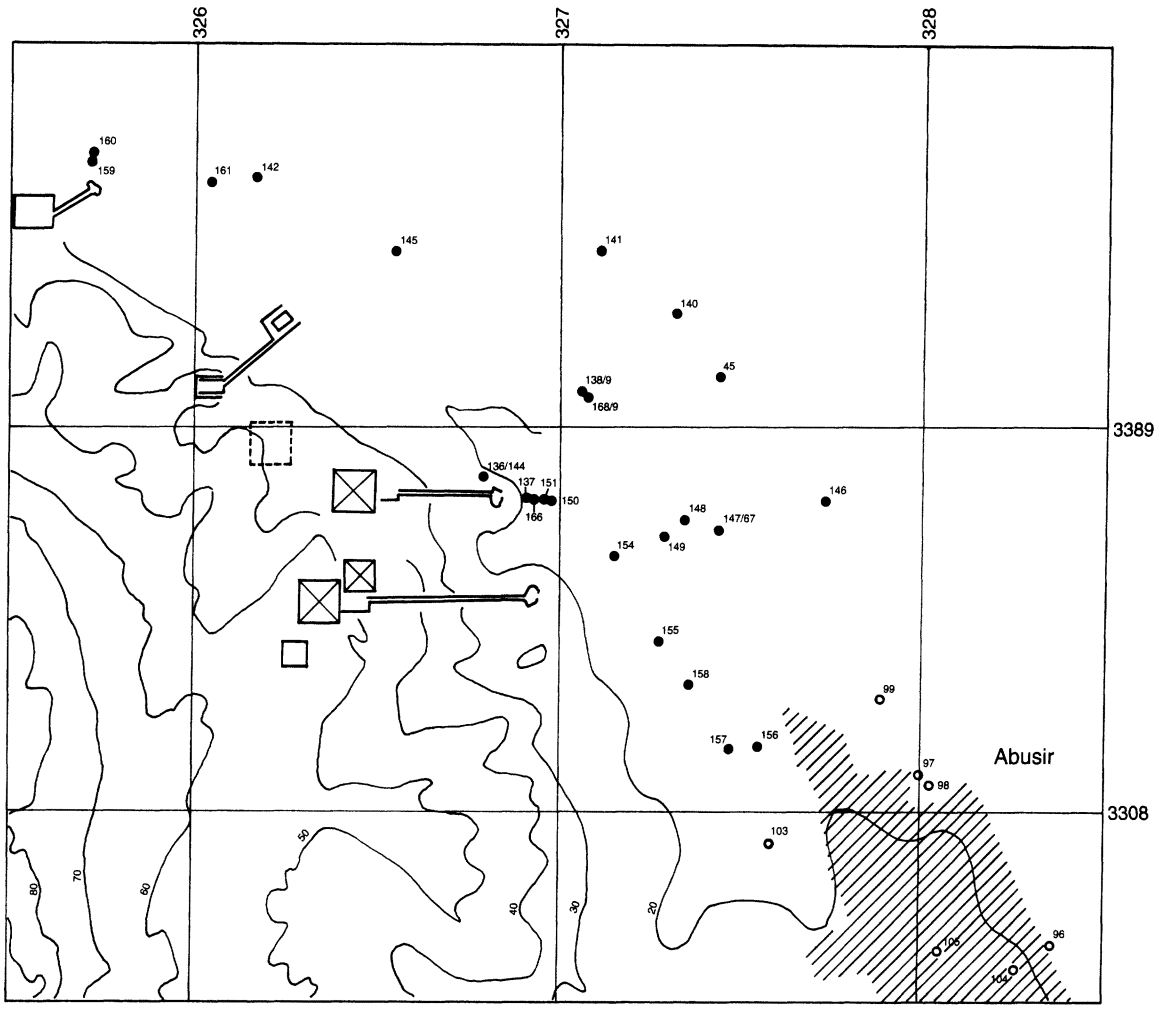


FIG. 1. Escarpment survey. Location plan of the drill cores taken in the 2000 season.

Escarpment survey (David Jeffreys)

The geophysical and sediment-coring survey along the escarpment was extended to take in the areas east of the Fifth Dynasty valley temples as far north as the sun temple of Niuserre (Abu Ghurab). The Memphis Survey had already taken several sediment cores to the south and west of Abusir town nine years ago,[1] when this stretch of desert margin was comparatively open and easily accessible; since then large parts of it have been enclosed for development, either as tourist enclaves or built up as residential and light-industrial zones.

At the beginning of the last century this low-lying land formed a seasonal lake, the Birket Mukhtar Pasha, and some marginal agriculture is still practised here. The Survey recorded over four metres of aeolian sand in sediment cores taken in the vicinity of the valley temple of Niuserre's pyramid, and in a line of cores in the approximate centre of the modern lake

[1] *JEA* 79 (1993), 12–14.

bed a metre of lake deposit was recorded above several metres of sand, with desert-like clays and mudstones at the base. These results seem to confirm our earlier suspicions that the lake is of only relatively late formation, probably late first millennium BC. In the Early Dynastic Period and the Old Kingdom this was probably a low shelf of desert at the mouth of the 'Abusir Valley' which leads up past the Sacred Animal Necropolis, the Serapeum and the Gisr el-Mudir. A similar shelf almost certainly exists beneath the Early Dynastic tombs excavated to the north of the Niuserre sun temple.[2] We therefore have found no evidence yet for channels or for the kind of silting that might be expected if the inundation really had reached this far. This would contradict the general belief, following Borchardt's famous reconstruction of the archetypal pyramid landscape,[3] that lakes or waterways in this part of the floodplain serviced the valley temples all the way from Meidum to Abu Rawash.[4] We hope that future work on the long-term changes in the relative levels of floodplain and inundation will help to clarify this question.

In addition, two cores were taken near the north wall of the Anubieion, down the slope of the escarpment east of the SCA Inspectorate building, where it was established that there is as much as 10 m depth of masonry; it remains to be seen whether the wall stood to this height or was built in a foundation trench. Since the walls of the Ptolemaic enclosures of the Anubieion and Bubastieion almost certainly approach (or encroach on) the edge of the floodplain, they could prove to be crucial points at which to examine the advance and retreat of alluviation over time, reflecting different climatic episodes.

Two cores were also taken from a site in the floodplain, approximately half a kilometre east of the cliff face, which we understand was declared a protected area when stone blocks were recorded there in the 1980s. The cores, however, showed only a sequence of heavy alluvial silts and clays, with no sign of cultural activity.

At the time of writing (summer 2001), Ian Mathieson (National Museums of Scotland Saqqara Project) has made available the final adjusted coordinates for the NMS–EES Saqqara plateau and escarpment surveys, and we will be releasing these shortly to all field projects currently working in the area; other colleagues are, of course, also welcome to the data (enquiries to David Jeffreys). It is planned to proceed on schedule in 2001 with the insertion of survey points which conform to the Ministry of Housing maps commonly used in fieldwork at Saqqara, Giza and Dahshur.

Epigraphic work (W. Raymond Johnson)

This short final season focused on a review of the architectural fragments re-used in the Ptah chapel of Ramesses II, and on documentation of two re-used blocks exposed when vandals pushed over two sections of wall stones. One block, partially concealed, was found in three pieces: one piece contained details of the sunk relief barque of Sokar. The block was subsequently replaced under the supervision of Inspector Zaki Awad. The second disturbed area revealed a raised relief name-frieze of Amenophis III (previously only partly visible), with alternating falcons and vultures and cartouches of the king. The new details were copied and the reliefs covered with a protective stone screen.

[2] A. Radwan, 'Ein Treppengrab der 1. Dynastie aus Abusir', *MDAIK* 47 (1991) 305–8; id., 'Recent excavations of the Cairo University at Abusir: "A cemetery of the 1st Dynasty"', in D. Kessler and R. Schulz (eds), *Gedenkschrift für Winfried Barta. Ḥtp dỉ n ḥzj* (Frankfurt, 1995) 311–14.

[3] L. Borchardt, *Das Grabdenkmal des Königs Sa3ḥu-re'*, I. *Der Bau* (Leipzig, 1910), pl. 3.

[4] E.g. G. Goyon, 'Les portes des pyramides et l'ancien canal de Memphis', *RE* 23 (1971), 137–53.

Study season: Middle Kingdom ceramics (Janine Bourriau)

The season was spent sampling and recording pottery from over 70 contexts at Kom Rabiaʿ. Over 2,000 sherds were recorded, 100 drawings made, and 200 photographs taken. The special studies of Pan-grave and 'fish-dish' fragments were completed. The sherds of Canaanite imported amphorae were classified and the study of Middle Kingdom pottery fabrics was completed. At the end of the season the remaining New Kingdom sherds were labelled and re-buried close to the workroom.

DAVID JEFFREYS, PAUL NICHOLSON, W. RAYMOND JOHNSON *and* JANINE BOURRIAU

Tell el-Amarna, 2000-01

The first members of the expedition travelled to Amarna on 5 March 2001; the season closed on 9 April 2001. The expedition comprised B. Kemp (field director), Lauren Bruning, Paul Buckland, Alan Clapham, Amanda Dunsmore, Surésh Dhargalkar, Helen Fenwick, Alison Gascoigne, Rainer Gerisch, Gwilym Owen, Gillian Pyke, Pamela Rose, Corinna Rossi, Peter Sheehan, Christopher Stevens and Kristin Thompson. The inspector was Helmi Hussein. The scale of the season's work was made possible by generous additional funding from the Amarna Research Foundation, the National Geographic Magazine, the Thames Valley Ancient Egypt Society (purchase of a digital logger for the electronic theodolite) and the research fund of the McDonald Institute for Archaeological Research.

Royal Valley sherds

The first of the field tasks was to bring to the expedition magazine two groups of sherds recovered during the 1984 season of Ali el-Khouli and Geoffrey Martin in the royal necropolis at Amarna. One group had been stored since then inside the Royal Tomb, the other had remained on the floor of the side valley which contains Tombs 27 and 28. This was successfully accomplished. Some mixture of contexts had occurred amongst the sherds in the Royal Tomb but for the most part the original groups could be separately identified. In the side valley three small dumps were located and photographed, and a map was made before their removal. Subsequently a series of aerial photographs was taken of the areas around all the tombs in the royal necropolis. A detailed survey of the side valley is planned by Marc Gabolde, and for this reason a scatter of sherds down the valley floor was left in place. The task of cataloguing and interpreting this important ceramic collection is being undertaken by Amanda Dunsmore.

Quarry survey

As part of a new survey of the desert surrounding Amarna, James Harrell of the Department of Earth, Ecological and Environmental Sciences at the University of Toledo (Ohio), assisted by Pamela Haywood, carried out a survey of ancient quarries and possible quarry sites along the east bank between a point five kilometres south of the Amarna plain and the neighbourhood of El-Bersheh, during December 2000. The principal purpose was to gain a clearer picture of the sources of the limestone used in Akhenaten's buildings. A short illus-

trated account by Harrell has appeared in *Egyptian Archaeology* 19 (Autumn, 2001), 36–8. In the spring of 2001 some of the quarries closest to Amarna were visited again for further documentation.

The first is close to Sheikh Said and overlooks the Nile. It is a very large underground quarry, of which a major part has collapsed. What gives it particular interest is partly the survival on the ceiling of a pattern of red-painted lines, with occasional annotations, which must relate to the management of the quarrying, and partly the fact that on one of the pillars the well known plan of a building is painted in red. The date is not yet established but is probably New Kingdom (the blocks removed were mostly larger than those of the Amarna Period). It could have served as a major source of limestone for Hermopolis. Plans and other drawings were made of the quarry and, in particular, of the best preserved ceiling which bears most of the painted lines and annotations. The annotations have been photographed.

The second quarry is really a whole group of quarries behind the northern cliffs at Amarna. The most compact are underground workings located in a conspicuous headland which, when visited by Petrie, still bore the name of Queen Tiy (the inscription has not survived). Again a detailed plan was made and a group of red-painted markings on the ceiling near one of the entrances was copied. On and around the headland are almost uncountable numbers of small- to medium-sized quarries from which blocks have been removed, mostly of the size used at Amarna. A fuller record was completed than was possible in December and a start was made in tracing the extent of gallery quarries which run just under the top of the cliff face which overlooks the Amarna plain. These proved to be more extensive than at first realised. Again all seem intended primarily to produce Amarna-sized blocks, which were taken down a steep natural incline behind the North City. A series of aerial photographs was taken.

A comparison of the quarries brings out widely differing approaches to the task of stone removal. The Sheikh Said quarry is a good example of a managed quarry operating under a control which expressed itself in regular measurement of the amounts of stone removed. The underground Queen Tiy quarry is similar, though without overt markings of progress. The open workings of the desert above the latter, however, are a fine example of self-organization, in which groups of people—who could have been townspeople or soldiers—have evidently responded to demands for personal responsibility for providing blocks of stone by making their own decisions as to where to begin cutting them. Sometimes they kept to themselves, sometimes they must have joined with others to create more extended workings. It is perhaps a sign of the urgency with which stone was demanded for the building of the city. Further recording is planned.

Desert survey

The principal initiative of the season was the start of a new survey of the desert behind the city. Taking advantage of the speed and precision that is now available through the use of global-positioning equipment, the aim is to extend the topographic and archaeological mapping of Amarna across the desert between the ancient city and the edge of the cliffs. Global-positioning survey (GPS) equipment is now capable, by referencing arrays of satellites, of rapidly storing survey data at centimetre accuracy in elevation as well as in geographic co-ordinates. The plan is gradually to cover the entire desert plain and to join it with digitized versions of the city plan which the Society published in 1993. The task has been

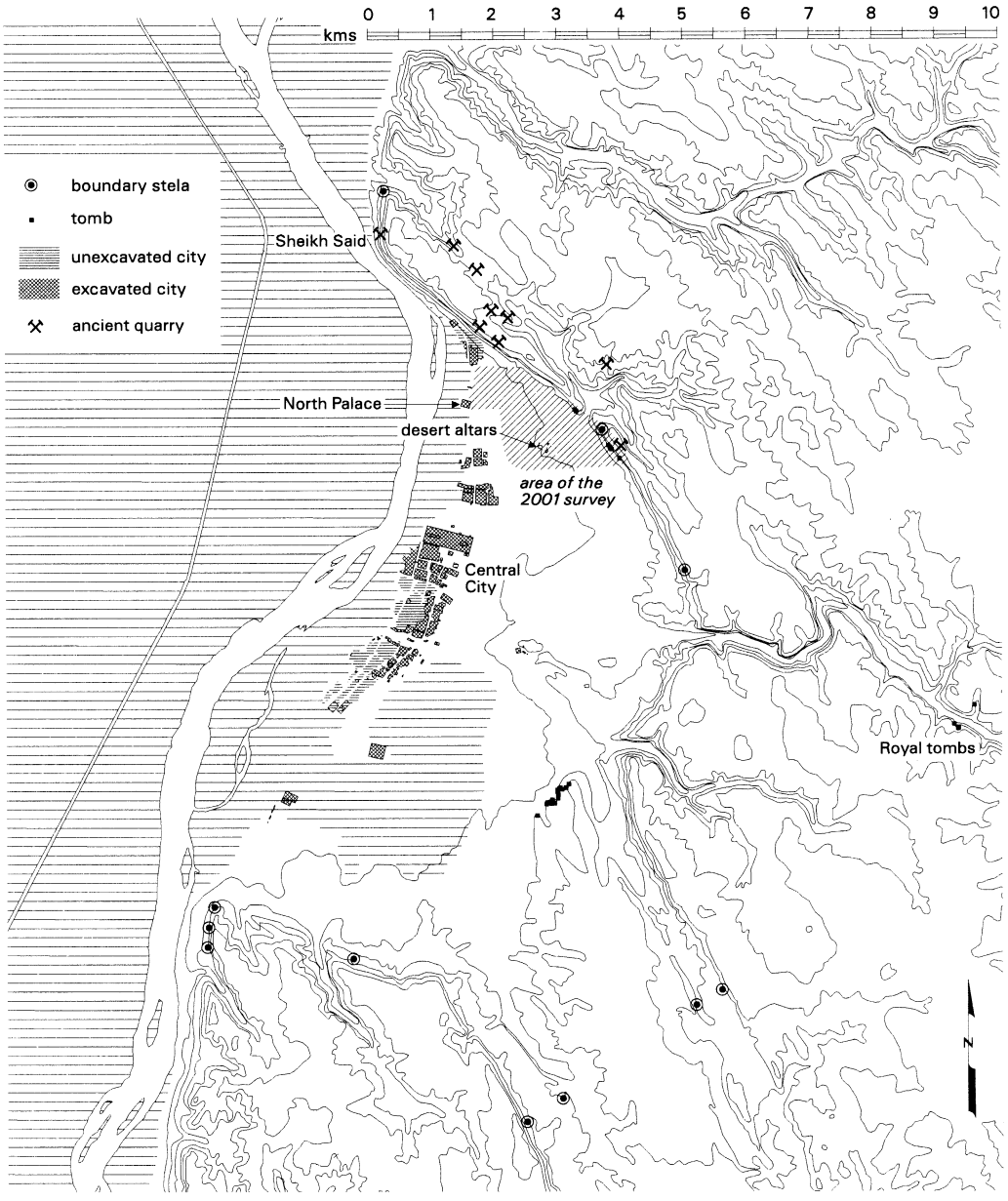


FIG. 1. Map of the Amarna region, showing the area covered by the desert survey in 2001.

begun by Helen Fenwick from the University of Hull, assisted by Paul Buckland and Peter Sheehan. The latter had, in a previous season (1994), made a contour survey of the North Tombs area and marked the positions of the tombs and outlines of the Late Antique stone dwellings. This year's survey, therefore, began with the co-ordination of this map with the continuation planned for the GPS unit. More features were added, including the outline of a red-brick building on the cliff top immediately over the entrance to the tomb of Panehsy, and presumably connected with the church into which the tomb was later converted. The GPS survey then extended westwards as far as the North Palace (fig. 1), combining the

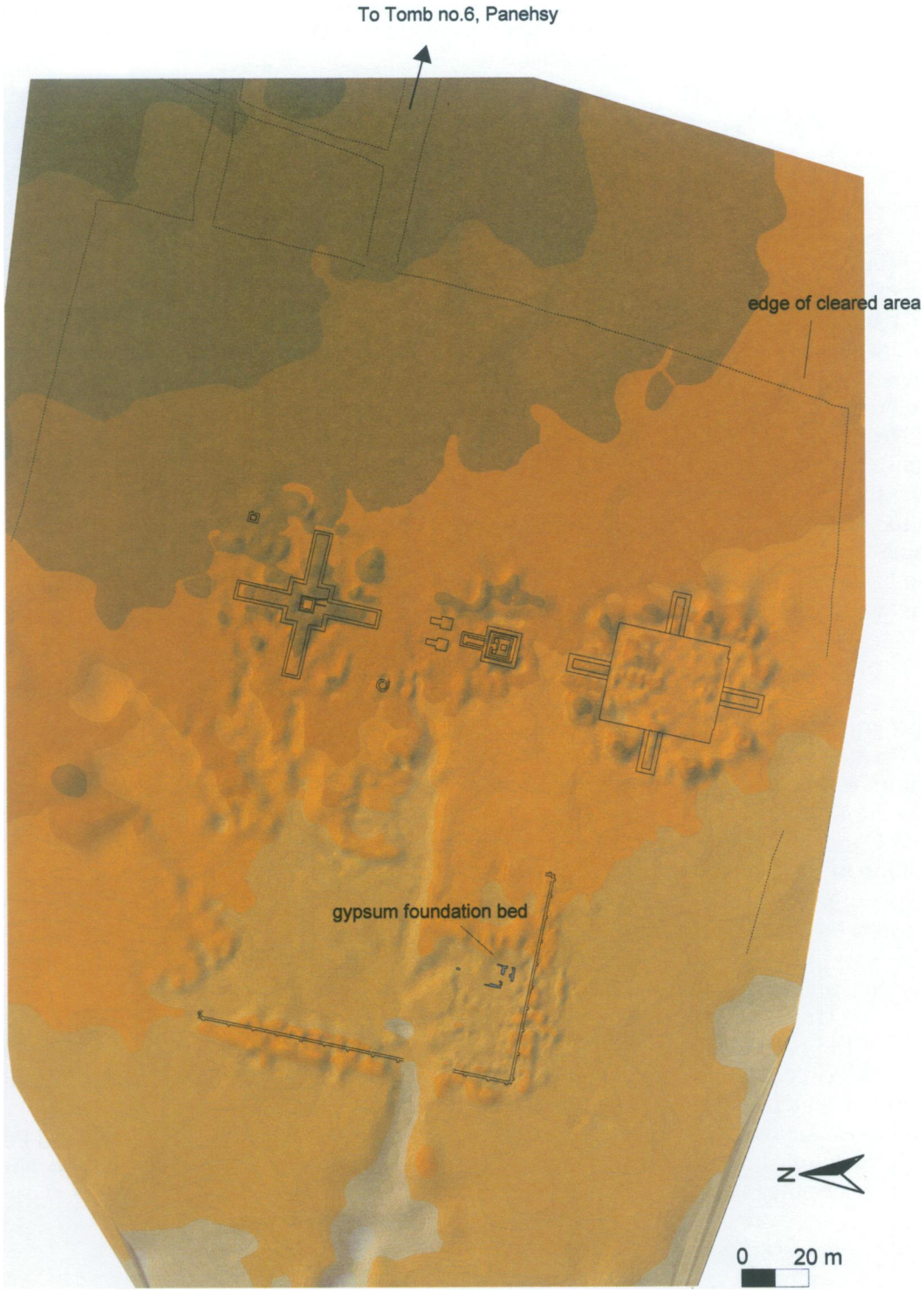


FIG. 2. Specimen section of the desert survey maps, covering the area around the Desert Altars.

topography with archaeological features. For the most part, these are ancient roads, which still survive in places despite the development of many modern vehicle tracks, and in this part of Amarna form quite a dense network.

As the survey progressed a more intensive study was made at the Desert Altars, excavated by Pendlebury in 1931/2 (see *City of Akhenaten* II, Chapter V). The remains of a gypsum-concrete foundation for a stone building were cleaned and planned in detail for the first time, and it proved possible to find traces of two more corners (the north-western and south-eastern) of the mud-brick enclosure wall which surrounded it. A preliminary sample of the desert survey, centred on the Desert Altars, is included here (fig. 2). The re-examination of the site confirms the fact that the area of surrounding desert which has been cleared of stones is present only on the east. It was 'entered' by two of the roads, one of which led directly to the foot of the slope below Tomb 6 (Panehsy). This particular road is exactly aligned with the east–west pair of ramps which belongs to the northernmost of the altars. On these grounds, one might conclude that the altars were a dependency of the North Tombs, and intended to be viewed and approached from that direction.

A significant discovery was a cemetery which is spread intermittently over the desert to the south of the tomb of Panehsy and to the west. It has been plundered, but to judge from the few sherds which lie around the graves (of the type often called 'beer jars'), it probably dates to the Amarna Period itself. If this discovery can be confirmed by excavation, it will go some way towards answering the question, where were the ordinary people of Amarna buried? Parts of the cemetery were intensively mapped by the GPS unit and aerial photographs were taken (pl. I, 1–2).

Repairs to ancient buildings

The programme of repairs to the fabric of some of the ancient buildings was continued under the supervision of Surésh Dhargalkar. The making of new bricks and the carrying out of repairs were pursued simultaneously at both the North Palace and the Small Aten Temple. At the former the repairs were concentrated on rooms to the south of the North-east Garden Court which are in a state of advanced decay and where each year sees a visible worsening of the condition of the brickwork. At the temple the outlines of the second and first pairs of pylons have been emphasized with new brickwork, and the hollow core of the third pylon has been filled.

Excavation south of the Great Palace

As part of the compilation of a final report on excavations done between 1996 and 2000 south of the Great Palace, two five-metre squares were excavated which had been omitted in 1996 but which occupy a significant position on the plan. They proved to contain an additional major wall provided with external buttresses, which must have been a palace enclosure wall of the very first years of occupation at Amarna. It was later demolished to make way for other structures.

Work at the field station

Paul Buckland, Alan Clapham, Christopher Stevens and Rainer Gerisch continued the study of the botanical materials, now mostly from the Workmen's Village, which contain a par-

ticularly rich and varied set of specimens of crop plants and natural vegetation. Pamela Rose began the cataloguing of pottery from a sample of the excavation squares from the area south of the Great Palace. Gillian Pyke completed the cataloguing of the Late Antique pottery from last year's excavations at the church on Kom el-Nana and started a study of the painted ceiling from the church, which depicted a number of human figures. Alison Gascoigne studied Late Antique pottery from Zawiyet Sultan. Kristin Thompson began the job of cataloguing the fragments of sculpture recovered over the years from the old excavation dumps near the south and north dig houses. She spent much of the time on a large set of pieces from a statue in black granite which has an unfinished surface. She was able to make a surprising number of joins, and what is emerging is a seated pair statue of Akhenaten and Nefertiti (headless). There are also many pieces from colossal red granite statues of Akhenaten, probably from the Great Palace.

BARRY KEMP

Qasr Ibrim, 2000

THIS year the Qasr Ibrim project had a study season from 26 January to 26 March 2000, based in SCA magazines in Shellal. The team consisted of Pamela Rose (Director and ceramicist), Janine Bourriau (ceramicist), Alan Clapham (archaeobotanist), Adrian England (illustrator), Peter French (small finds registrar), Gwil Owen (photographer), Ruth Owen (archaeobotanical assistant) and Gillian Pyke (ceramicist). Rawya Ismail joined the team for three days to assist with negotiations concerning boats for use in future field seasons. The SCA was represented by Hussein Mahsoub and Fathi Mahmoud el-Amin, and their cheerful assistance is gratefully acknowledged, as is that of the Chief Inspector of the Aswan region, Mohi ed-Din M. Ahmed. Thanks also go to the engineers of Skanska Cementation International working at Toshka, who provided transport for a brief visit to Qasr Ibrim. Work during the study season concentrated on finds and samples from last season's excavations in Meroitic and Napatan deposits.

Pottery

The excavations in 2000 in trench 23 produced a large quantity of pottery of the Napatan Period. Material of this date has not previously been encountered from well-stratified occupation deposits. During the study season it was fully documented, and a descriptive corpus containing almost 600 drawings was created for use in future field seasons. The pottery includes wares imported from Egypt and a few examples of amphorae from further afield, but the bulk are hand-made and wheel-made silt vessels of local origin. Some of these are known from cemetery sites elsewhere in Nubia, but the majority appear unique to Ibrim. Preliminary analysis suggests that most of the pottery is of Twenty-fifth Dynasty date, although a few pieces may be slightly later.

Archaeobotanical remains

Samples from the Napatan and Meroitic levels were examined. The remains, of which 99 per cent were desiccated, were superbly preserved, thus enabling the identification of most of the plants represented. The remains consisted most commonly of seeds, but also included leaves, fruits, cereal heads and in some cases whole plants.

The repertoire of plants from the Napatan levels is very similar to that found further north in Egypt, and can be considered to represent the standard 'package' of crop plants grown at that time. The presence of crop processing residue amongst the material indicates that the majority of the crops were grown in the vicinity of Qasr Ibrim. The Meroitic repertoire was very different, and shows that by or during the Meroitic Period there was a major change in the crop species cultivated around Qasr Ibrim. The species favoured include many with an African distribution, and their presence at Qasr Ibrim indicates a preference by the inhabitants for crops from further south rather than the Egyptian/Mediterranean repertoire used by the Napatan population.

Small finds

The remaining finds from the recent excavations were recorded, drawn and photographed. Most were of minor significance, consisting of beads, glass vessel fragments, basketry, wood, leather and metal items. The most important pieces were, firstly, one large and several small fragments of painted cloth decorated with a shrine, rows of baboons and traces of inscriptions, and, secondly, some fragments of painted cartonnage. These items were of Napatan date.

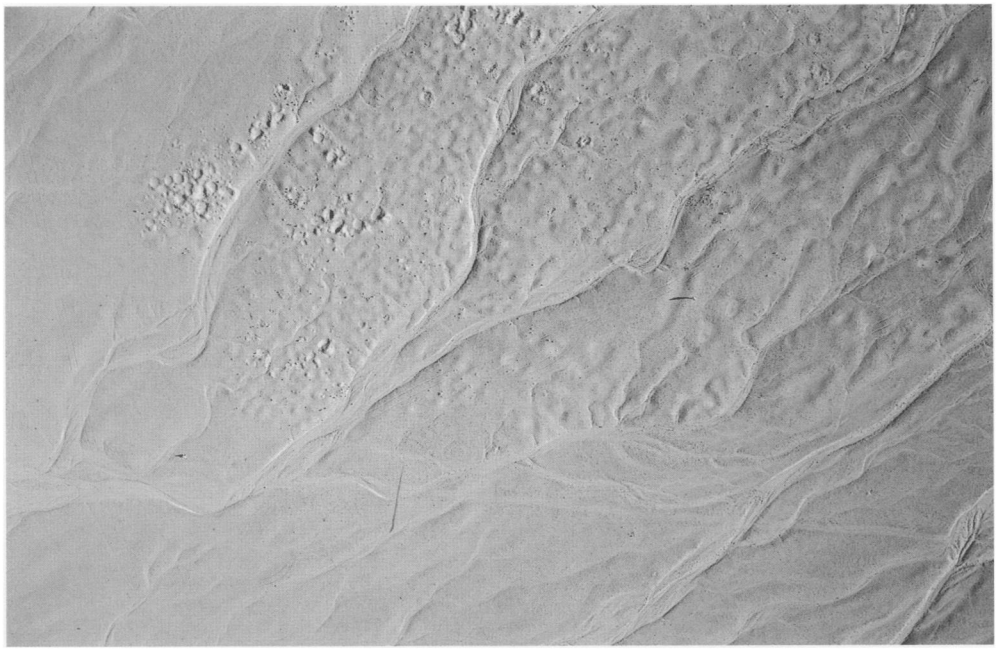
Visit to the site

At the end of January a day trip was made to Qasr Ibrim to examine the remaining wall-painting in the Taharqo temple, and to assess what would be required for its conservation and removal to the Nubian Museum in Aswan. The painting now stands at the edge of the area affected by water percolation and may be threatened if there is any increase in the water level. Fragments of the painting on the adjacent wall, which collapsed before the 2000 season, were collected and taken to the store in Shellal.

Photography

The director of the Nubian Museum kindly gave permission for Gwil Owen to take photographs of objects from Qasr Ibrim on display in the galleries. Owen also recorded a number of inscriptions on the rocks around the expedition's store in Shellal.

PAMELA ROSE



1. Aerial photograph of the eastern cemetery near the tomb of Panehsy. Recent disturbance to some graves is visible. North is towards the left.

2. Aerial photograph of the western cemetery. North is towards the bottom. Larger isolated tomb pits are visible towards the top right.

SAMANUD: THE URBAN CONTEXT

By NEAL A. SPENCER

As a complement to the Epigraphic Survey of the preserved temple reliefs at Samanud, published in *JEA* 85 (1999), the urban context of the late dynastic temple is considered. GPS data from recent fieldwork is combined with older travellers' reports to create a map, the first to indicate the locations of the temple remains, while a working contour map of the *tell* is also produced.

THE remains of the Late Period and Ptolemaic temple of Onuris-Shu at Samanud, in the central Delta, formed the subject of a season of epigraphic work, sponsored by the Egypt Exploration Society, now fully published.[1] While undertaking recording of Samanud's epigraphic remains, it became clear that a sizeable settlement mound was preserved beneath the expanding modern town. Many of the methods which can be used upon sites located within agricultural areas are not applicable within an urban environment; this article sets out to illustrate the important information which can, nonetheless, be extracted, through a study of early travellers' reports and old maps, on-site observations and GPS survey data. The new SCA building (fig. 1.1), while providing an ideal environment for studying the blocks from the site and housing the local inspectors, has covered the original archaeological context (pl. II, 1). A recent publication included a summary of the remains of ancient Sebennytos, but did not contain any discussion of the original location of the temple, other than the statement that the blocks came from 'a swampy area west of Samannûd, north of the railway station'.[2] The new SCA building was built over some of this area which used to become filled with water for much of the year,[3] a situation evident in photographs from the early 1990s (pl. II, 2)[4] and in descriptions from the early twentieth century. [5]

However, the ruins of Samanud's temple were not confined to the area now occupied by the SCA building. The key original publications of Samanud, by Naville, Kamal and Edgar,[6] focused on the surviving inscriptions, at the expense of any discussion of the high quality reliefs or the wider archaeological and topographical context. Crucially, Edgar distinguished between two sites, one seen by Naville and Kamal, and another area where the majority of blocks were visible upon Edgar's visit several years later. The former site was described by Kamal as follows:

[1] N. A. Spencer, 'The Epigraphic Survey of Samanud', *JEA* 85 (1999), 55–83.

[2] D. Arnold, *Temples of the Last Pharaohs* (Oxford, 1999), 127–8.

[3] Conversations with local inspectors and inhabitants, October 1998.

[4] As is evident from the position of the hospital (fig. 1.15) in the background in plate II, 1–2.

[5] Included in early editions of K. Baedeker, *Egypt and the Sûdân. Handbook for Travellers*[8] (Leipzig, 1929), 185.

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

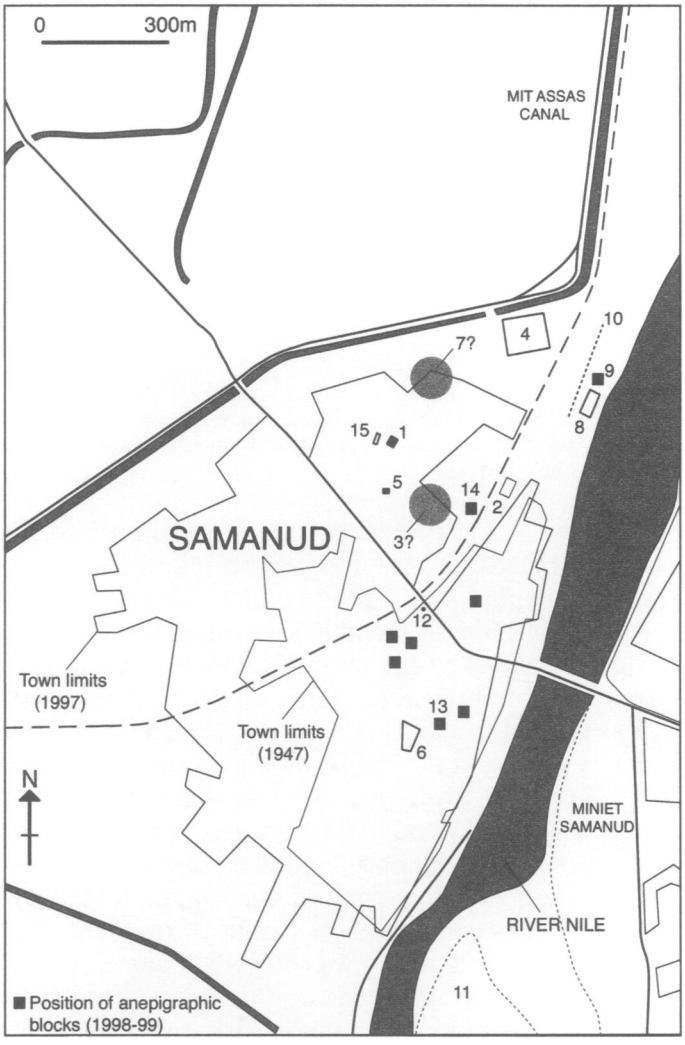


FIG. 1. Map of Samanud.

1: Temple (SCA building) 2: Railway station 3: Naville/Kamal area (?) 4: Water company 5: Police station (wall) 6: Church of Apa Nub 7: Edgar *tell* (?) 8: School 9: Football field 10: Elevated track 11: Position of Gezira Samanud in 1947 12: Viewpoints of plate III, 1–2 13: Findspot of blocks on Sharia Dahab 14: Anepigraphic blocks near railway station 15: Disease hospital.

Il [the temple] était au nord de la ligne des chemins de fer, entre la ville moderne de Samannoud et les ruines de l'ancienne ville qui restent encore très élevées. Là, on voit dans une dépression des terres et épars çà et la une quarantaine de fragments en granit rose malheureusement sans inscription. Deux seuls fragments sont couverts pourtant d'une belle écriture hiéroglyphique.[7]

The blocks subsequently published by Edgar were described as being from an area

some distance to the north, on a piece of waste ground which is partly a low *kom* and partly a swamp. It is being gradually brought under cultivation, but as it is private property we cannot interfere. The soil is white with limestone chips, the usual vestiges of the lime-burner. Probably

[7] Kamal, *ASAE* 7, 88. The two blocks are numbered **35** and **36** in the catalogue in *JEA* 85, 82.

> the foundations (and possibly part of the temple itself) were made of limestone; but all the blocks which remain are of granite, basalt and quartzitic stone.[8]

The latter site is explicitly stated as the location of the temple (fig. 1.1), with areas of inscribed stone, palmiform capitals and a naos fragment. The presence of limestone chippings supports this identification, as areas of chippings have been found in the place of now-destroyed temples at other Delta sites.[9]

Edgar noted the encroachment of cultivation on the limestone-rubble area, which is understandable, as the site was near the early twentieth-century edge of Samanud (cf. fig. 1). As the SCA building marks the site of the ancient temple, Edgar's statement quoted above implies the Naville/Kamal area is south of the SCA building, undoubtedly now covered by modern buildings (possibly fig. 1.3). The present location of the blocks recorded by Kamal and Naville in the other area is unknown, but the cluster of anepigraphic blocks still lying, some half-buried, north of the railway tracks near the train station (fig. 1.14), may indicate that the Naville/Kamal site was nearby (possibly under the football stadium, a relatively recent construction).

The modern town of Samanud expanded considerably during the twentieth century (fig. 1, based on survey maps),[10] so that precisely locating the area visited by Naville and Kamal is impossible. Visitors before Naville's time do not give sufficient topographical information to ascertain which portions of the temple ruins they were visiting. In 1828, Nestor l'Hôte saw basalt and granite blocks inscribed with the name of Nekhthorheb in a mound outside the town, but these could have been brought from either temple area;[11] the presence of several zones of settlement remains in the late nineteenth and early twentieth century (see below) makes interpretation of such statements rather hazardous. Remnants of the temple were used in the construction of quays, houses[12] and a mosque,[13] in addition to those re-used as millstones,[14] or simply uncovered for visitors to generate *baksheesh*.[15] Naville noted reticence on the part of some villagers:

> The difficulty is always to induce the people to let you see the stone; they have the most extraordinary superstition about them ... I found a statue lying down and used as a seat by the soldiers.[16]

Other reliefs are simply noted as having being seen in the modern town.[17] The Naville/Kamal site could be the remains of another sacred structure at Samanud—temple *temenoi*

[8] Edgar, *ASAE* 11, 91.

[9] E.g. Tell el-Muqdam: C. A. Redmount and R. F. Friedman, 'Tales of a Delta site: the 1995 Field Seasons at Tell el-Muqdam', *JARCE* 34 (1997), 79–80; Tell el-Balamun: A. J. Spencer, *Excavations at Tell el-Balamun 1991–1994* (London, 1996), 43.

[10] Egyptian General Survey Authority maps: 1:50,000 series, sheet NH36-16c (1997) and 1:2,500 series, sheets 916/637,5 and 917/637,5 (1932).

[11] J. Vandier d'Abbadie, *Nestor l'Hôte (1804–1842). Choix de documents conservés à la Bibliothèque Nationale et aux archives du Musée du Louvre* (Leiden, 1963), 17–18. This may be the same mound seen by Edgar in 1911, north of the modern town.

[12] J. G. Wilkinson, *Modern Egypt and Thebes* (London, 1843), I, 432–3.

[13] PM IV, 43.

[14] *JEA* 85, pl. x.

[15] J. A. St. John, *Egypt and Nubia, their Scenery and their People, being Incidents of History and Travel from the Best and most Recent Authorities, including J. L. Burchardt and Lord Lindsay* (London, 1845), 68.

[16] Letter of Naville to the Egypt Exploration Fund, 15 February 1887. Egypt Exploration Society archives.

[17] Blocks **41**, **44**, **46**, **48**, **51** and **52** (*JEA* 85, 82).

of the Thirtieth Dynasty and early Ptolemaic Period often featured secondary temples, mammisis, sacred storehouses (termed *šnᶜ wᶜb*) and chapels elevated upon casemate foundations of mud-brick[18]—or even a separate temple enclosure (a sanctuary may have been dedicated to the goddess Mehit, consort of Onuris-Shu).

Finally, attention must be drawn to the recent discovery of a significant brick wall,[19] south of the SCA building (thus possibly near the Naville/Kamal area) but north-east of the main road into the town centre. This came to light as a result of preparations for a new police station in 1995 (fig. 1.5). The wall was photographed before the construction work continued,[20] but I have not yet been able to ascertain its orientation. The position of the Naville/Kamal area with respect to this wall, important if it was part of the temple precinct wall, will never be precisely known, as Edgar does not indicate the distance separating the two sites.

What of the nome capital that surrounded the sacred enclosure? The nome *Ṯb-nṯrt* is known from the Old Kingdom onwards,[21] though it was divided in two from the Eighteenth Dynasty.[22] It remained a nome capital throughout the first millennium BC, and two sarcophagi unearthed in 1924 provide evidence for elite Saite burials.[23] Later, it features on maps and lists of important Egyptian towns, compiled by both classical[24] and Arabic[25] writers. Epiphanius' disapproving account of pagan cults in the fourth century AD mentions Samanud.[26] The town was a resting place on the Holy Family's flight from Egypt, according to Coptic tradition,[27] and the church of Apa Nub is still prestigious for its summer *moulid* (fig. 1.6). The fifteenth-century Arab writer Maqrizi attributes the destruction of the pharaonic temple to AD 961–2;[28] Robert Huntingdon reported the presence of fourteen mosques at Samanud in 1678.[29] By the the late eighteenth century, Samanud was a major

[18] N. A. Spencer, *Sustaining Egyptian Culture: Royal and Private Construction Initiatives in the First Millennium B.C.* (PhD dissertation, University of Cambridge, 2000).

[19] Dr Sabri Husnein, personal communication.

[20] The SCA monitors any building work in the modern town. I have seen photographs of this wall, but to my knowledge no plans were made.

[21] E.g. in the sun-temple of Niuserre: E. Edel and S. Wenig, *Die Jahrezeitenreliefs aus dem Sonnenheiligtum des Königs Ne-user-Re* (MÄS 7; Berlin, 1974), pl. 6. The name has been translated as 'the Calf and the Goddess' (P. Montet, *Géographie de l'Égypte ancienne,* I. *La Basse Égypte* (Paris, 1957), 103). A further discussion of the symbolism behind the name is found in C. Favard-Meeks, *Le temple de Behbeit el-Hagara. Essai de reconstitution et d'interprétation* (SAK 6; Hamburg, 1991), 462. The post-pharaonic development of the name, resulting in present-day Samanud, is also covered by H. Gauthier, *Les nomes d'Égypte depuis Hérodote jusqu'à la conquête arabe* (Cairo, 1935), 172.

[22] Favard-Meeks, *Behbeit el-Hagara*, 462.

[23] M. Abou-Seif, 'Two Granite Sarcophagi from Sammannûd (Lower Egypt)', *ASAE* 24 (1924), 91.

[24] J. E. Ball, *Egypt in the Classical Geographers* (Cairo, 1942), 109 (Ptolemy), 164 (Hierocles), 175 (Stephanus of Byzantium), 178 (George of Cyprus).

[25] G. Wiet, *Ya'kubi: Les pays* (Textes et traductions d'auteurs orientaux 1; Cairo, 1937), 193–4; J. H. Kramers and G. Wiet, *Ibn Hauqal. Configuration de la Terre (Kitab Surat al-Ard)*, I (Paris, 1964), 132, map 5 [68].

[26] D. Frankfurter, *Religion in Roman Egypt. Assimilation and Resistance* (Princeton, 1988), 59–60.

[27] For a general summary of Coptic Samanud, see R. Stewart, 'Samannûd', in A. S. Atiya (ed.), *The Coptic Encyclopaedia*, VII (New York, 1991), 2090.

[28] U. Bouriant, *Maqrizi: Description topographique et historique de l'Égypte* (MMAF 17; Cairo, 1900), 85–6. Maqrizi states his sources as scientific books, local aged men or responsible authorities, in addition to his own observations (p. 9); much of what he said is now viewed as fanciful (p. v). He described Samanud temple as 'one of the most marvellous things in Egypt' (pp. 85–6).

[29] U. V. Volkoff. *Voyages en Égypte pendant les années 1678–1701* (Voyages Occidentaux en Égypte 23; Cairo, 1981), 183.

troop stationing post for the Napoleonic army.[30] With such a continuous and varied history attested through textual sources, archaeologists will be reassured by the presence of a significant settlement mound.

John Gardiner Wilkinson noted the *tell* during his visit of 1827:

> Here are the mounds of Sebennytus ... The mounds are extensive, but after wandering to the end as far as the sheikh's tomb, I found no ruins.[31]

Naville and Kamal also noted the settlement mound:

> The large mound which is all that remains of the ancient city lies to the westward of the present town; the site of the temple is indicated by a number of blocks which are nearly always standing in water. Several have been dragged towards the city, and left on the spot where I saw them, several feet deep in water.[32]

> Sur le penchant du tell, on voit les vestiges du temple dédié à Anhour, dont il existe encore un grand nombre de blocs.[33]

> [The temple] ... dont l'emplacement se reconnaît de nos jours très facilement. Il était au nord de la ligne des chemins de fer, entre la ville moderne de Samannoud et les ruines de l'ancienne ville qui reste encore très élevèes.[34]

> Actuellement la ville moderne conserve encore son rang et occupe la partie meridionale de l'emplacement de la cité ancienne. Les ruines de cette dernière restent encore en partie vers le côté nord et elles sont assez élevées pour qu'on puisse affirmer qu'elle était immense et très importante.[35]

Finally, in 1924, Abou-Seif reported the discovery of two sarcophagi, some 2.5 m below the surface level of the 'Market Company's *tell*', in the cemetery of Saidi Eqil.[36]

The *tell* described in these accounts was north of the modern town and the temple remains, later destroyed by the expansion of agricultural land or modern settlement (possibly fig. 1.7), but there is also evidence for a settlement mound south of the temple. Despite the built-up nature of present-day Samanud, the ancient *tell* is clearly visible below the modern buildings south of the SCA building and railway line. This situation seems little changed from the 1950s, when Montet observed:

> En parcourant Samannoud on peut constater que le sol s'élève par endroits de plusieurs mètres. Je n'ai pas vu de vestiges anciens *in situ*, mais il en existe, m'a-t-on dit, à faible profondeur.[37]

[30] H. Laurens and J. Laurens, *Kléber en Égypte 1798–1800. Kléber, commandant en chef.* Fasc. 2. *1799–1800* (Voyageurs Occidentaux en Égypte 25; Cairo, 1995), 150, 745, 867–8, 889–90, 954.

[31] *Modern Egypt* I, 432–3.

[32] Naville, *Mound of the Jew*, 24.

[33] E. Naville, 'Les fouilles du Delta pendant l'hiver de 1887', *Rec Trav* 10 (1888), 57.

[34] Kamal, *ASAE* 7, 88. Kamal was referring to a 'temple site' south of the present day site; again, he gives no indications of distances.

[35] Kamal, *ASAE* 7, 94.

[36] *ASAE* 24, 91.

[37] *Géographie* I, 104.

The GPS survey of the *tell*

Several extensive walks through the modern town during the epigraphic work of 1998 made it clear that much of the city centre is built on the undulating surface of the *tell* (pl. III, 1–2), with ten anepigraphic blocks scattered throughout the streets, measuring up to 1.46 m in length (cf. fig. 1).[38] In 1999, an opportunity to use GPS equipment arose through the offices of the EES.[39] The Trimble Pathfinder equipment compares readings from up to eight satellites to calculate an exact positional reading; a cumbersome mobile unit records one set of data, subsequently calibrated against a base station reading to create an accuracy quoted at 1cm in the horizontal and vertical planes. After several weeks of surveying the environs of Sa el-Hagar (Sais),[40] the shortfalls of this instrument had become apparent. Despite the almost flat topography of the site, it became clear that the receiver required at least five satellites with a signal-to-noise ratio (SNR) in excess of 80% before it could 'initialise' to attain the maximum degree of accuracy, effectively requiring the satellites to be very high in the sky, rather than approaching the visible horizon. Egypt has better satellite coverage than the UK, yet initialising was frequently hampered by trees or even one-storey village houses. Once in Samanud, the problem was exacerbated, as the town centre consists of narrow streets lined with five- to seven-storey apartment blocks. Thus, initialisation was possible only in relatively open areas, such as along the railway line, near the river and in the SCA temple building (but only at certain times of the day).

The purpose of the 1999 season at Samanud was to create a working contour map, into which could be anchored the basic street layout and the position of the SCA building, with a long-term aim that the map could be used for indicating the position of future excavations undertaken, as modern building work permits.[41] Ascertaining the position of the temple was simple, as the size of the open-air court reveals enough of the sky for initialisation. This is the first time the temple area has been plotted on a map (fig. 1.1). Subsequently, the roof of the inspector's office was used as a base station, where the radio receiver was installed.

The best-preserved parts of the *tell* produced a basic problem in that the high-rise buildings along narrow streets typically blocked a 'view' of more than three or four satellites at any one time. It was therefore necessary to ascend the buildings and to take readings from the roofs. The data was subsequently translated by subtracting the height of the building from the vertical GPS reading. Accuracy was reduced to about 5–10 cm in the vertical plane, sufficient to provide a reliable guide to the high points and general form of the underlying *tell* (though rather unsatisfactory for such expensive equipment). A more accurate contour map of the site is evidently possible, though would require more time, an expenditure of which is probably not justified on a site where few controlled excavations are ever likely to be undertaken.

The basic contour map of the elevated *tell* in the area south-west of the railway bridge is

[38] *JEA* 85, 74.

[39] The GPS survey was undertaken on 4–5 October 1999, with the help of Penelope Wilson. Thanks are due to the SCA for permitting the survey to be undertaken, the EES for continuing to support the work at Samanud, to Rawya Ismail who helped immeasurably with the paperwork in Cairo, and to Inspector Mohammed Asfour in Tanta. Finally, the Department of Ancient Egypt and Sudan in The British Museum provided access to the required software.

[40] As part of the EES expedition, directed by Penelope Wilson.

[41] It was under these circumstances that a thick wall was found under the present police-station. SCA inspectors are charged with regular inspection of modern foundation laying. I accompanied Moustafa Abou Hussein on one such visit; the building was on low-lying land, and the foundation trench had already filled with subsoil water.

reproduced as figure 2.[42] Elevations of up to 9.24 m above the level of the SCA building's floor were recorded. As the original archaeological context is not presently accessible, one can only state that the new building's floor is roughly level with that which existed beforehand, on the basis of photographs (compare pl. II, 1 and 2) and the surrounding street levels. Section AB, facing south-east, provides an indication of the relative scale of the settlement mound with respect to a typical apartment block (fig. 3). This section was chosen to take advantage of the best concentration of data.

Several features of Samanud's topography merit further discussion, as they may shed light on the relationship between temple and settlement. The buildings south-east of the railway station are founded on a ground level at least three metres above that of those north of the railway line. An embankment was clearly constructed to lay the tracks, but it is unknown if *sebakheen* had already cut back archaeological deposits or if the lower ground

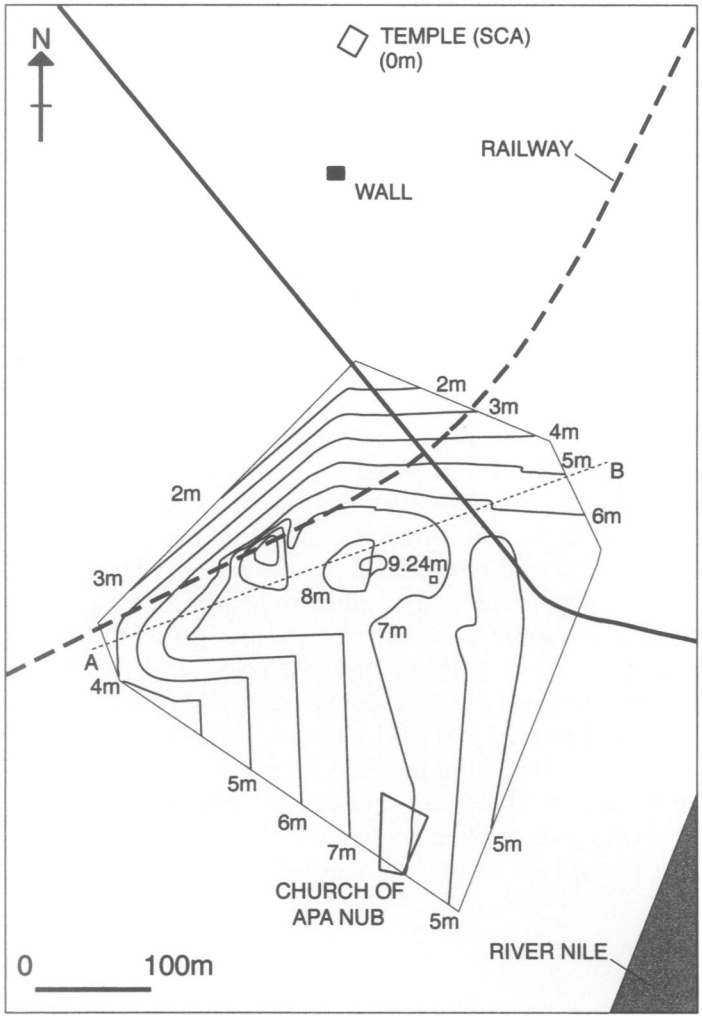


FIG. 2. Outline contour map of Samanud *tell*.

[42] The data was processed using the Trimble Survey Office software, after which it was imported into Auto CAD to create a contour map and sections, before being completed on Adobe Illustrator.

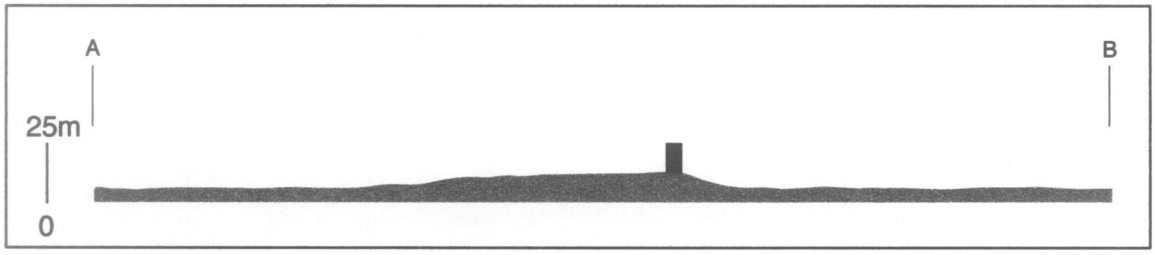


FIG. 3. South-east facing section AB through *tell* (cf. fig. 2).

north of the railway tracks attests to the original presence of a sacred enclosure. This is also the zone containing the highest concentration of anepigraphic blocks not yet removed to the SCA building. The modern buildings on the other side of the tracks, that is, south of the railway line, are surrounded by a ground level equal to, or higher than, that of the railway embankment. Clearly this area, including the modern town centre, has been continuously occupied throughout Samanud's settlement history, emphasised in the quadrant south-east of the railway bridge, where the street level undulates following the contours of the *tell* beneath (pl. III, 1–2, fig. 1.12). Further anepigraphic pink granite blocks were recorded here (cf. fig. 1), some half-buried in the compressed earth of the street surfaces. Two of the temple reliefs were found in this area during the last decade, along Sharia Dahab (fig. 1.13).[43]

To the north-east of the town centre, between the river and the railway (fig. 1.9) and next to the town's main primary school, high land has been cut back by *sebakheen* (the part now used as a school football field, abutting the river bank; pl. III, 3). Several column drums were unearthed here.[44] One interesting feature in this area is the elevated track, running parallel to the railway (visible to the left of plate 5, fig. 1.10). It is possible this marks the position of an ancient feature such as an enclosure wall (the northern enclosure at Sais is now marked by such a track),[45] but excavations would be required to prove such a theory. The track continues north, though on a different orientation, parallel to the Mit Assas canal.[46] An understanding of the site is further hindered by the lack of knowledge about the orientation of the thick wall found beneath the new police station (fig. 1.5).

Any settlement remains north and west of the temple area, such as those noted by Naville and Kamal discussed above, would have been more susceptible to the action of *sebakheen*, as this was rich agricultural land, without the protection afforded by being built over. A shaded area on the map tentatively indicates the area where a second settlement mound may have been located in the early part of the twentieth century (fig. 1.7). As a settlement mound clearly exists under parts of the modern town (fig. 2), at least two areas of ancient settlement can be proposed, to the south and north-west of the temple area, which may itself have included two temples or even enclosures. The model of settlement mounds abutting temple sites is one found at many Delta sites, such as Tell el-Balamun,[47] Naukratis[48] and Mendes.[49]

[43] Blocks **2** and **16** (*JEA* 85, 58, 65–7).

[44] *JEA* 85, pl. xiv, 2.

[45] P. Wilson, 'Sais: Surveying the Royal City', *EA* 12 (1998), 3–6.

[46] Egypt General Survey Authority maps: 1:25,000 series, sheet 91/630 (1947).

[47] Spencer, *Tell el-Balamun* I, 11–13.

[48] W. M. F. Petrie, *Naukratis* (MEEF 3; London, 1886), pl. xl.

[49] R. K. Holz et al., *Mendes*, I (Cairo, 1980), 23–4, pl. 18.

The relationship of the temple and town to the wider geographical context also merits consideration. At present, the modern town of Samanud abuts the western bank of the Damietta branch of the Nile, at 31°14' E, 31°58'N.[50] Presumably, the ancient city and its temple were oriented towards the Sebennytic branch, leading to classical geographers' name for the river. Many Arab geographers located the town on the east bank of the Nile.[51] This has been pointed out as false with respect to the Damietta branch,[52] but if the two branches were being confused at this time, the mistake is easily explained. Data on when the Sebennytic branch ceased to be significant is lacking. A late Byzantine writer, Stephanus of Byzantium, recorded the existence of a lake at Samanud;[53] this could have been the descendant of a temple harbour, but has now disappeared. The Bahr Shibin which passes between Mehalla el-Kubra and Samanud, some 2 km from the ruin area,[54] is a navigable channel which may have had a precursor in ancient times. The Gezira Samanud, a turtleback in the Damietta branch south of the town (fig. 1.11), may be the island recorded by Ptolemaic and early Roman writers.[55] Between 1947 and 1997, this island became part of the east bank, and its limits can no longer be distinguished.[56]

Two short seasons of epigraphic and survey work undertaken at Samanud has revealed how much can be extracted from apparently limited remains. The development of further methods of investigating partly concealed sites is needed, as ever-more archaeological sites will become obscured by modern towns and cities. For example, upriver from Samanud lies Abu Sir Bana, a *tell* known from early Egyptological literature, but never the subject of systematic excavations.[57] However, since 1947, when the riverside mound lay on the outskirts of a small village,[58] the situation has changed drastically, and the entire surface of the *tell* is now covered with an expanded settlement, the streets and alleys littered with half-buried stonework.[59] Drill-coring provides an obvious method for further investigation of such sites as Samanud and Abu Sir Bana, where electricity is not routed below ground. Unfortunately, the metal framework used to provide the basis of modern buildings' foundations in Egypt rules out the use of magnetometry at urban sites, despite its usefulness elsewhere.[60]

50 Egypt General Survey Authority map, scale 1:50,000, sheet NH36-16c.

51 For example, Ya'kubi (tenth century AD): Wiet, *Ya'kubi*, 193–4; Ibn Hauqal (tenth century AD): Kramers and Wiet, *Ibn Hauqal*, 132, map 5 [68].

52 Montet, *Géographie* I, 104; Wiet, *Ya'kubi*, 194, n. 2.

53 Ball, *Egypt in the Classical Geographers*, 175.

54 Egypt General Survey Authority maps: 1:50,000 series, sheet NH36-16c (1997).

55 Gauthier, *Les nomes*, 89; Strabo, XVII, 19.

56 Compare Egyptian General Survey Authority maps: 1:25,000 series, sheet 91/630 (1947), and 1:50,000 series, sheet NH36-16c (1997).

57 Naville, *Mound of the Jew*, 27–8.

58 Egypt General Survey Authority maps: 1:25,000 series, sheet 91/630 (1947).

59 Observations made during a visit to the site 28 October 1998.

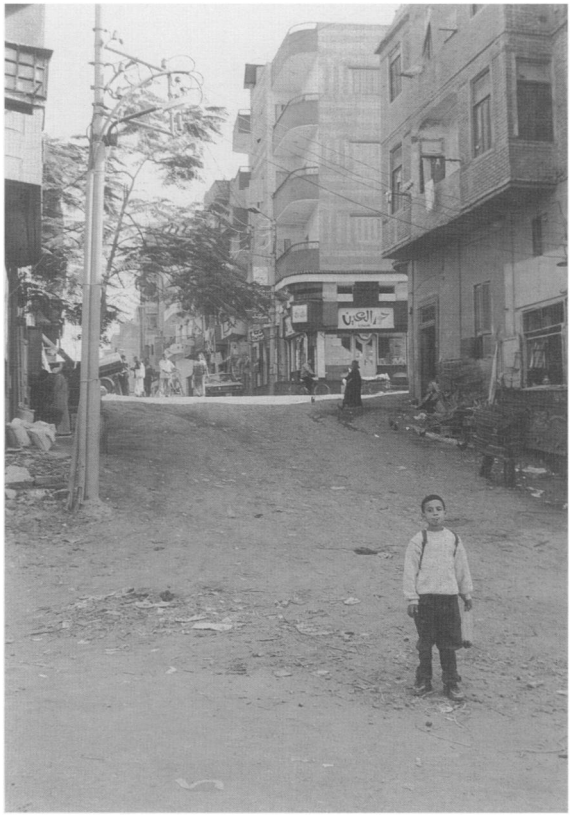
60 Magnetometry has been used to impressive effect in the fields of the Delta and the desert environment at Saqqara: P. Wilson, 'The Survey at Sais (Sa el-Hagar), 1998', *JEA* 85, 1–2; E. Pusch, 'Towards a Map of Piramesse', *EA* 14 (1999), 13–15; I. Mathieson et al., 'The National Museums of Scotland Saqqara Survey Project, Earth Sciences 1990-1998', *JEA* 85, 21–43. Thank are due to Dr Edgar Pusch for elucidating the problems particular to an urban environment (personal communication, 18 July 2001).

PLATE II

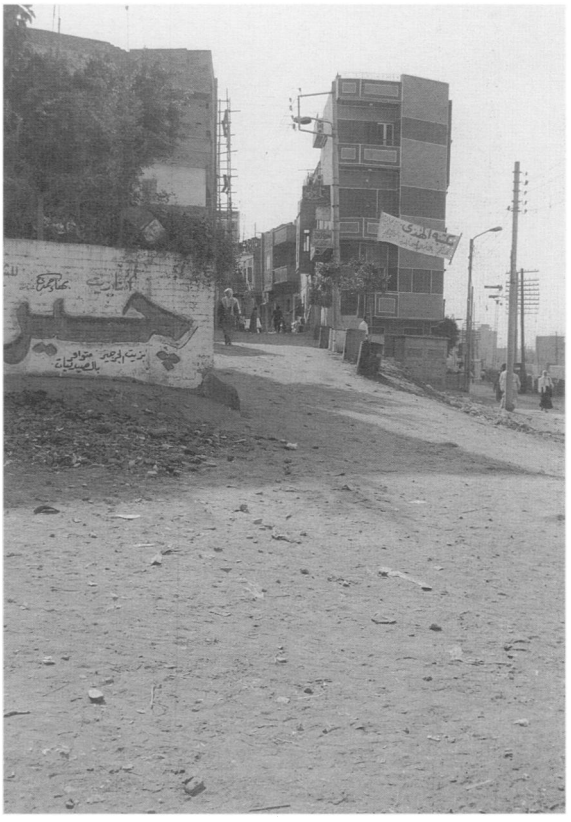
1. The SCA building, housing the temple blocks.

2. The temple remains in the early 1990s.

SAMANUD: THE URBAN CONTEXT (pp. 23–31)



1. Street in town centre (cf. fig. 1.12).



2. Street in town centre (cf. fig. 1.12).

3. Elevated track running northwards from town.

SAMANUD: THE URBAN CONTEXT (pp. 23–31).

THE TOMB OF NYANKHNESUT (RE)DISCOVERED

By ANTHONY LEAHY *and* IAN MATHIESON

A brief account with plan of the recently identified mastaba of Nyankhnesut, an official of the Sixth Dynasty, which stands at the foot of the north-west corner of the enclosure of Sekhemkhet at Saqqara. Many of its reliefs are already in museums, particularly in the U.S.A., and little decoration survives in the tomb. The inscriptions show that the owner's many titles included that of 'Greatest of seers of Heliopolis'.

THE existence of a mastaba belonging to an official of the Sixth Dynasty called Nyankhnesut has long been apparent from reliefs scattered around the museums of the world.[1] That these stem from the clandestine discovery and looting of the tomb early in the twentieth century is known from the correspondence of the dealer Jacob Hirsch, who acquired many of its reliefs.[2] However, although one letter records the discovery of the tomb 'already in ruins, around 1917 at Saqqara',[3] its precise location has remained uncertain until now.

In January 2000, reports of robberies prompted the authorities at Saqqara to investigate a tomb at the foot of the north-west corner of the enclosure of Sekhemkhet (fig. 1). A team under Mohammed Hagras, then Director of Saqqara, cleared and consolidated the structure, which was in poor condition, roofless and filled with sand and collapsed limestone. As the tomb stands in the concession currently held by the National Museums of Scotland Saqqara Project, the Chief Inspector of Saqqara, Khaled Mahmoud, asked the Project's Director, Ian Mathieson, to plan it. This was done (fig. 2), and the texts and reliefs examined by Anthony Leahy, in November 2000.[4] The results of that brief exploration are offered here. This does not pretend to be an exhaustive account of the mastaba. Our aims are merely to make available to interested parties its location, a description of the original physical setting from which its wall decoration has been plundered and the new information it provides on the man for whom it was built.

The uppermost part of the tomb's false door (pl. IV, 1) had in fact been visible above the sand at least since 1991, when it was noted by Mathieson during a field-walking survey. The inscriptions on the false door and elsewhere show that the monument belongs to one Nyankhnesut. As the name seems to be unique, it is assumed here that there was only one

[1] PM III^2, 694–6, cf. 647 n. 1. For additional blocks and the most recent discussion of the tomb, see L. Berman with K. J. Bohac, *The Cleveland Museum of Art. Catalogue of Egyptian Art* (Cleveland, 1999), 136 n. 3. In a paper presented in 1989, and cited by Berman, E. Brovarski estimated the number of known reliefs from the tomb to be nearly sixty: *ARCE Annual Meeting, Philadelphia 1989, April 21–23, 1989, Program and Abstracts*, 26–7.

[2] See Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art*, 135.

[3] The quotation is from Berman's summary rather than Hirsch's original.

[4] The plan published here (fig. 2) was inked by Mark Roughley from Ian Mathieson's drawing. The authors also acknowledge with gratitude the assistance of Khaled Mahmoud, as well as that of the new Director of Saqqara, Adel Hussein, and of Hamdi Amin Said, the Supreme Council for Antiquities inspector attached to the National Museums of Scotland Project in 2000.

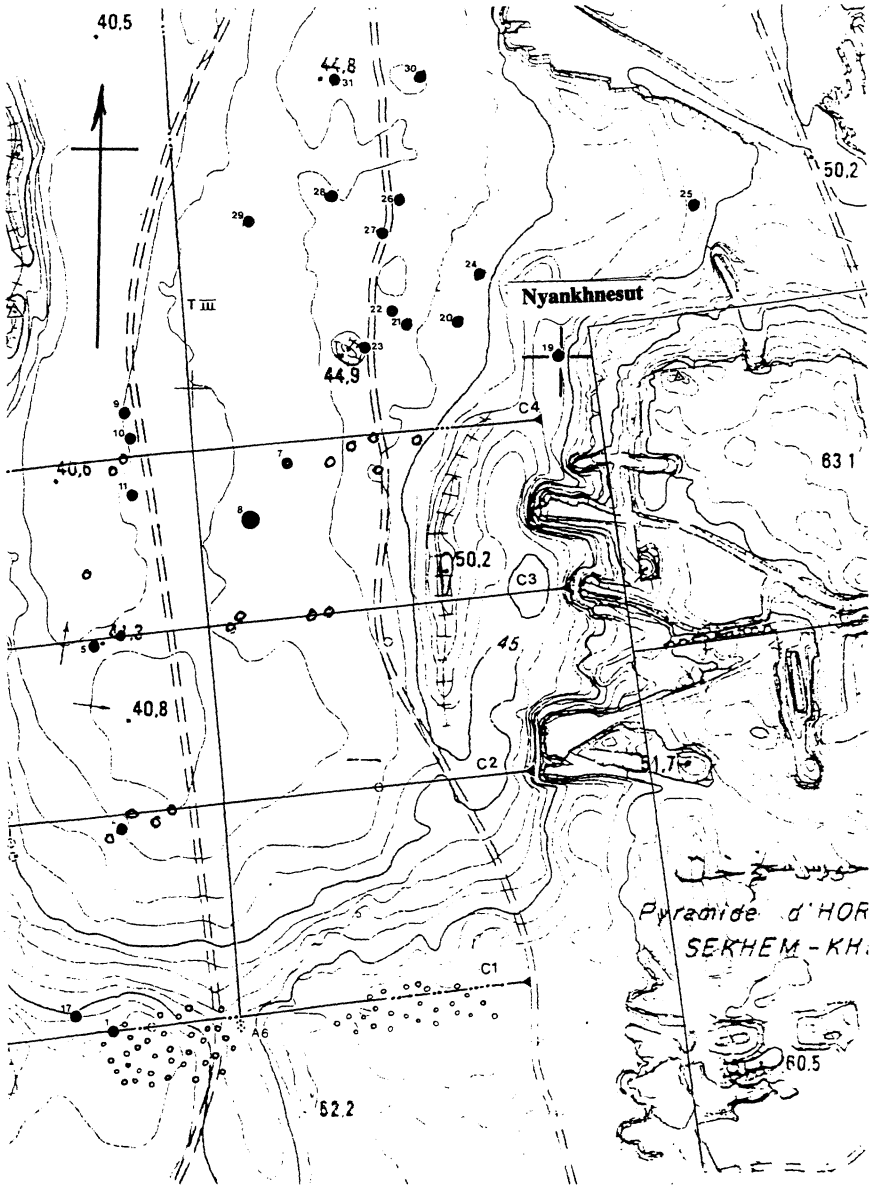


FIG. 1. Location of the tomb of Nyankhnesut superimposed on the 1:5000 map of the Ministry of Housing and Reconstruction (1977). Scale here 1:2500. Elevations in metres above Mean Sea Level. Grid: UTM, WGS84, Int. Spheroid.

such official and that all the scattered blocks derive from this, his tomb. It faces due north and is approximately 20 m deep from the entrance to the rearmost chamber. It is approached by what now appears as a courtyard (A), apparently formed by part of another mastaba opposite and by other adjacent brick structures.

The entrance consists of a lintel and two jambs of limestone set into a façade that, for two metres on either side, is made up of large, unevenly sized, limestone blocks roughly mortared together. Beyond that, it is composed of mud-bricks, each with many stone inclusions. Both jambs have two columns of hieroglyphic text (fig. 3) above a large figure of the owner

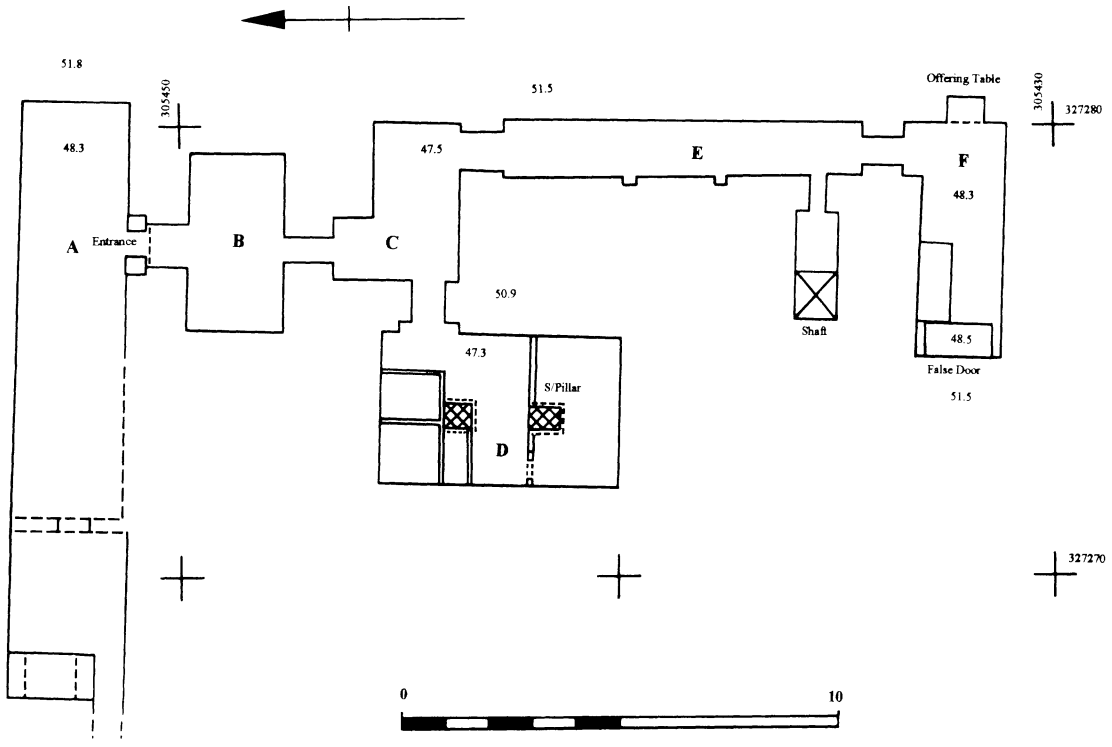


FIG. 2. Plan of the tomb of Nyankhnesut. Scale 1:100. Elevations in metres above Mean Sea Level. Grid: UTM, WGS84, Int. Spheroid.

facing inwards and holding the long staff indicative of his official status. Although all this is in sunk relief, the surface is now very worn and parts of it are difficult to see clearly. On the left jamb, a knee-high figure, identified as the 'elder of the domain and *ka*-priest, Khesi' stands behind Nyankhnesut, while the diminutive 'steward and *ka*-priest, Iu' offers to them both. On the right jamb, the same Khesi offers to Nyankhnesut. If the lintel was ever carved, there are now no discernible traces.

A short passage leads into the first chamber (B). There, and through much of the tomb, the original walls are consistently preserved up to a height of about one metre. Following the usual practice, this lower portion was undecorated except for horizontal bands of black, yellow and red at the top of the surviving surface. Above this, hundreds of stone fragments of variable size have been arranged haphazardly in a drystone wall technique by the workmen of the Supreme Council for Antiquities. The resulting 'walls' are variable in height, but rise to as much as three metres above the floor of the tomb. Only a small number of pieces have text or decoration visible, and on fewer still do any substantial traces of colour remain.[5] Among the blocks included in the rebuilding in room B, one is carved with a striking variation on a distinctive motif: several long-horned desert animals—including a

[5] By no means all the reliefs to be found in the tomb are mentioned individually in the following description. Most are irregular fragments rather than rectangular blocks and some are so worn that it is not easy to recognise even the general nature of what is depicted.

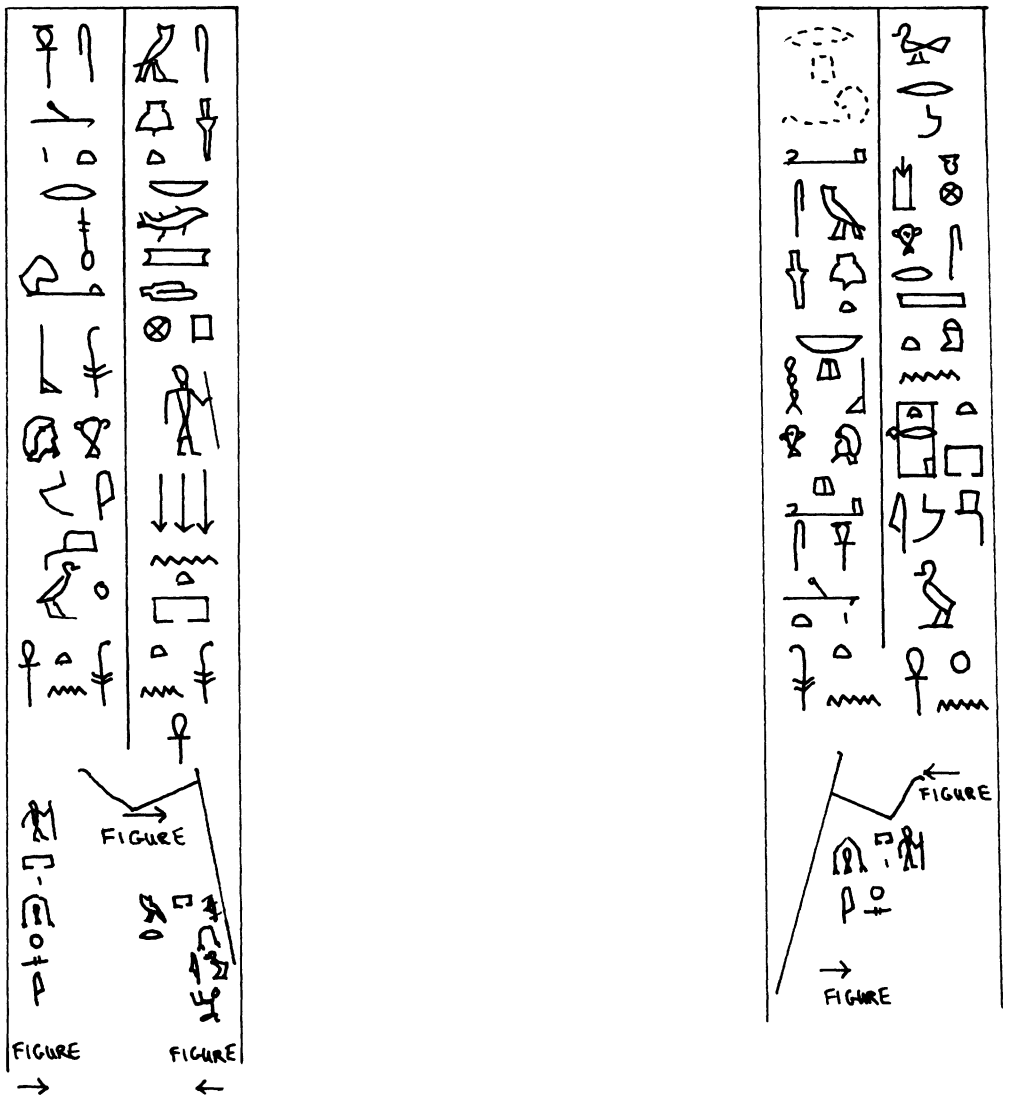


FIG. 3. The inscriptions on the façade.

stag—are shown being driven through water in the wake of a man carrying over his shoulders a calf which looks back at those following.[6] There is also a rather abraded scene of offering bearers moving from right to left, with the lower part of one register and the upper part of a second beneath it. On the former, the name '[Ise]si-ankh', with the royal component in a cartouche, and, separately, a name or title *sšm* are preserved; on the lower, a perhaps incomplete title *ỉmy-r ꜥprw*..., stands in front of a man carrying a crane, its long beak held firmly shut.[7] In each case, these are captions to subsidiary figures and do not

[6] Similar animals are shown being led in singly on a block in Cleveland, 1930.734 (Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art*, 141), but are oriented in the opposite direction so cannot be a proximate part of this scene.

[7] Cf. the name 'Unas-ankh' on a block in Cleveland: Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art*, 139 no.78. For comments on some other titles and individuals mentioned on blocks from the tomb, see J. Malek, 'The Provenance of Several Tomb-reliefs of the Old Kingdom', *SAK* 8 (1980), 204–6.

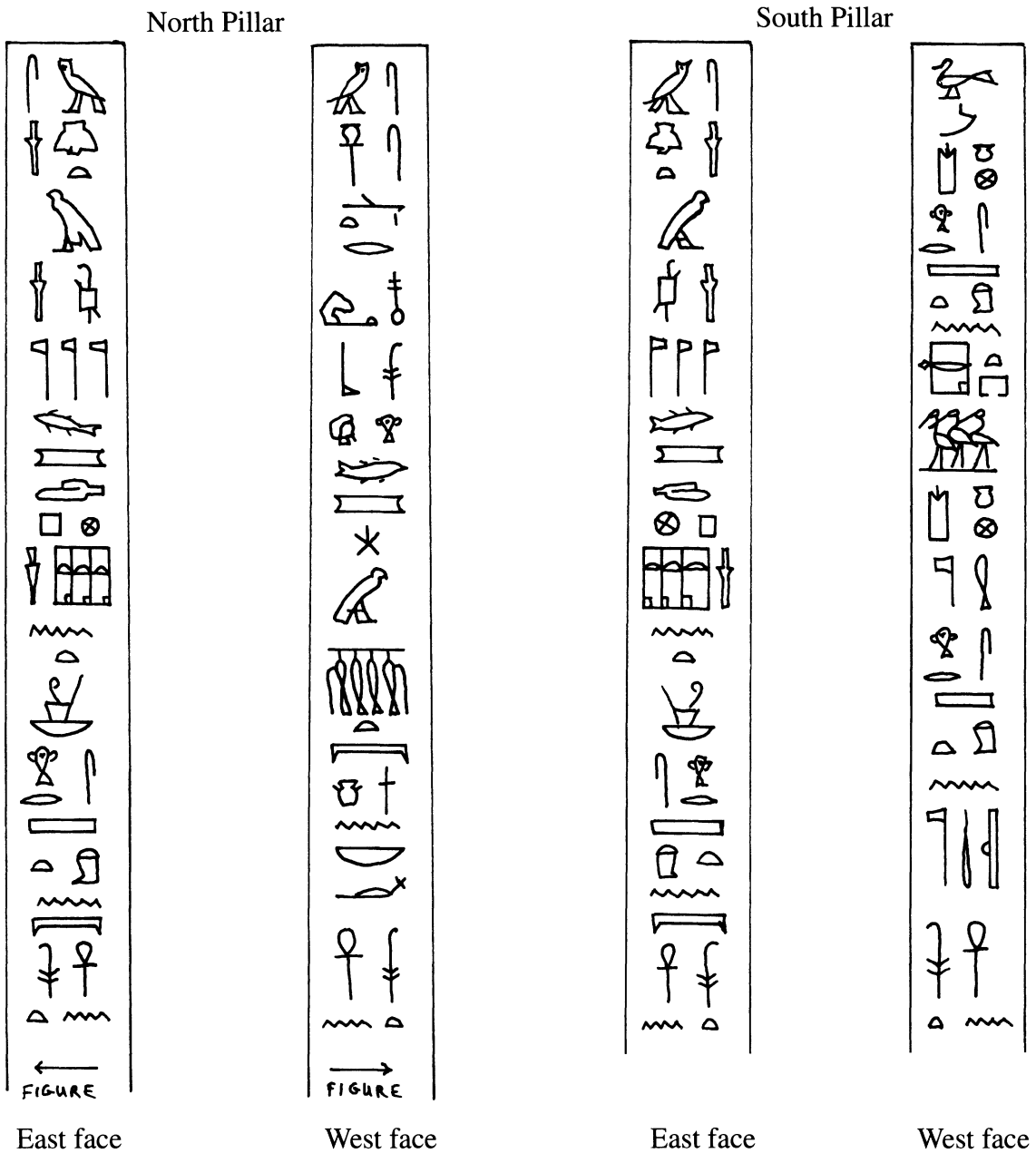


FIG. 4. The inscriptions in the pillared chamber (D).

relate directly to the owner. A third block, placed on its side, has a single column of sunk relief hieroglyphs giving part of the titulary of Nyankhnesut which can be restored on the basis of inscriptions elsewhere in the tomb as '[secretary] of the great estate, [prophet of] the souls of Heliopolis'.

In the short passageway leading from B to C, and also those from C to E and E to F, some walls are intact to a greater height (to a maximum of *c.* 2 m), presumably because they offered no pictorial scenes of interest to robbers, only further horizontal bands, this time of green and yellow, above the dado already described. Of the loose blocks placed in C, two

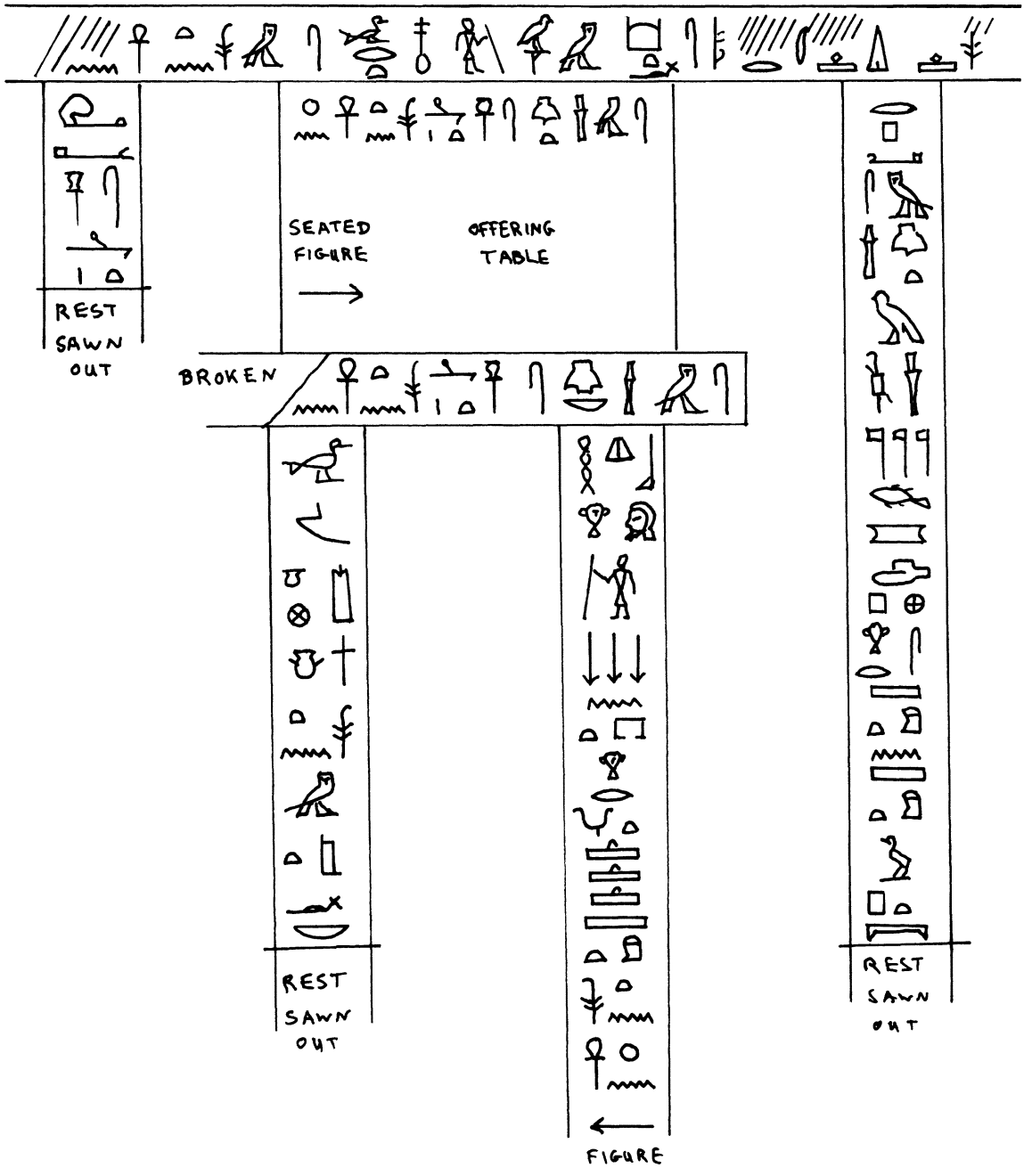


FIG. 5. The inscriptions on the false door (chamber F).

stand out. The first shows a man leading three long-horned desert animals, of which two look forward and one back: this may well belong with the scene represented by the block described above in B. The second depicts a man restraining on leashes wild animals which walk ahead of him in two registers. Above can be seen the rear end and tail of a large feline, probably a lion; below there are two monkeys walking on all fours. To the west of chamber C is another room, D, in which the walls have been solidly rebuilt with new limestone blocks to a height of about three metres. Here, there is neither wall decoration nor loose

fragments. There are, however, deeply cut columns of text enumerating titles on the eastern and western sides of two *in situ* pillars (pl. IV, 2; fig. 4). In a reuse of uncertain date, the room was subdivided by the construction of mud-brick walls that took the pillars as starting points (as shown in fig. 2).

Another passage leads south from C into a long corridor, E. Here, immediately above dado level in the middle of the west wall, is the only *in situ* relief in the whole tomb. It depicts an incomplete procession of at least ten female offering bearers (now lacking heads and shoulders) oriented south towards the false-door room (F) (pl. V, 1).[8] Traces of yellow female flesh colour can be seen, and the hemlines of their sheath dresses are clearly carved. Some figures have one arm hanging down carrying a basket or similar, while others have both hands raised. In between them, painted in colour but not carved, are the names of the estates they personify, which include a '*ḥwt-kꜣ* Nyankhnesut'.[9] Among the other fragments to be found in E are two that may well belong together but have here been placed on opposite walls. The first depicts birds and other wildlife above a papyrus clump (pl. IV, 3), the second the lower back leg of a male figure in action in a skiff against a papyrus thicket background (pl. IV, 4). On another there is part of a procession of figures, for one of whom a name, Nynemty, survives.[10] On a few blocks, there is very good colour preservation: for instance, a bird netting scene shows a naked man, with red skin, operating against a blue-grey background (pl. V, 2). A separate scene shows a variety of birds, but with little colour remaining, and another a pile of offerings. On an isolated inscription placed on its side there is part of two columns from a caption describing Nyankhnesut supervising some aspect of his estates (*mꜣꜣ... r-pᶜt...*). To the west of the southern end of the corridor is a niche with a sand-filled shaft that has not been explored. The walls, here preserved to some three metres, are unadorned.

At the end of E, there are offerings painted on the east 'jamb' created by the narrowing of the corridor into a passageway that leads to the final chamber (F). The latter has a libation basin set into the east wall and an inscribed false door with a podium in front of it on the west (pl. IV, 1; fig. 5). Projecting from the north wall is a bench with a line of sunk hieroglyphs painted black on the south and east sides (pl. V, 3; fig. 6). Offerings constitute the predominant theme of the fragmentary scenes found here and a man carrying birds in a basket is particularly well preserved.

The cutting out of blocks from the decorated parts of the tomb in the early twentieth century seems to have been very thorough. According to Malek,[11] Nyankhnesut 'holds the rather sad dispersion record among ancient Egyptian tombs', being represented in 'some fifteen museums and several private collections', and it has been remarked (n. 1 above) that as many as sixty reliefs are known. It is not surprising, therefore, that very few are left in the tomb itself. As will be evident from the descriptions above, they generally represent

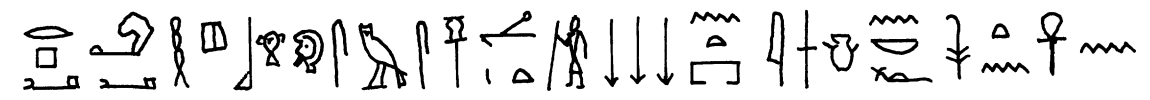
[8] Fortuitously, this is the one case where a direct join with one of the dispersed reliefs can be postulated with confidence. A block formerly in the Hirsch collection (PM III², 696, antepenultimate entry) shows the heads and upper bodies of eight female offering bearers, which are likely to fit on top of some of the torsos left *in situ*. Since the removed piece also preserves a large part of the register above, with a procession of cattle, it may be that a wider virtual reconstruction of at least this part of the wall will be possible.

[9] Cf. the index of H. Jacquet-Gordon, *Les noms des domaines funéraires sous l'Ancient Empire égyptien* (BdE 34; Cairo, 1962), 467–8.

[10] For a man of this name on blocks thought to have come from Nyankhnesut's tomb, see Malek, *SAK* 8, 204, and Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art*, 138 n. 5.

[11] *SAK* 8, 205.

Front



Right side

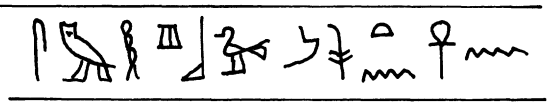


FIG. 6. The inscribed bench (chamber F).

common Old Kingdom motifs. Only one relief is *in situ*, and it is impossible to be certain that the others found in the debris and included in the recent rebuild are on the correct walls or even in their original rooms (cf. the comments above on the papyrus thicket and desert animal scenes). Thus, while the rediscovery of the tomb may extend the range of reliefs attributable to it, it is unlikely to offer much guidance on precisely where particular scenes belonged within the structure.[12]

As far as inscriptions are concerned, the situation is slightly more positive. With some exceptions, notably in the lower part of the false door (chamber F) where sections have been sawn out to a depth of 3–4 cm, these seem not to have been felt interesting enough to cut out for the antiquities market.[13] A number have survived *in situ* on the façade, in the pillared hall and in the false-door chamber. As these consist largely of title sequences, whereas the texts associated with the removed pictorial scenes are mostly captions, they provide a fuller guide to Nyankhnesut's *cursus honorum* than was previously available.[14] The inscriptions may be translated as follows:

The façade: inscriptions above the figures of Nyankhnesut

Left jamb, right column:
Sem-priest, director of every kilt, administrator of Buto, elder of the *senwet*-shrine Nyankhnesut.

Left jamb, left column:
Sole companion, keeper of the diadem, chief of Elkab, revered one Nyankhnesut.

Behind Nyankhnesut stands a small figure called 'the elder of the domain and *ka*-priest Khesi'. In front of him kneels another small figure called 'the steward and *ka*-priest Iu'.

[12] For discussion of some scenes, and problems of reconstruction, see e.g. the indexes to Y. Harpur, *Decoration in Egyptian Tombs of the Old Kingdom: Studies in Orientation and Scene Content* (London,1987) and N. Cherpion, *Mastabas et hypogées d'Ancien Empire: le problème de la datation* (Brussels, 1989).

[13] It is probably the case that the removed reliefs have received more attention and possible that texts have not yet been recognised: just one of the fragments listed in PM III², 694, consists of text alone. This is a block in Cleveland, for which see Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art,* 139 no.78. It is also possible that at least some of the sawing out of parts of the false door took place more recently, and that the pieces have not yet appeared on the antiquities' market.

[14] Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art,* 136 n. 1, mentions only 'count', 'chief of Nekheb' and 'director of *qaqau*-boats', and the same three are the only ones listed in PM III², 694.

Right jamb, left column:
[Count, hereditary] prince, *sem*-priest, director of every kilt, chief lector priest, assistant, sole companion Nyankhnesut.

Right jamb, right column:
Greatest of seers of Heliopolis, secretary of the great estate, revered one Nyankhnesut.

Facing Nyankhnesut stands a small figure labelled 'elder of the domain and *ka*-priest Khesi'.

The pillars

North pillar, east face:
Sem-priest, director of the kilt, director of the followers of Horus, administrator of Buto, director of the estates of the Red Crown, secretary of the sky Nyankhnesut.

North pillar, west face:
Sem-priest, sole companion, keeper of the diadem, chief of Elkab, administrator of the domain 'Star of Horus, foremost of the sky', confidant of his lord Nyankhnesut.

South pillar, east face:
Sem-priest, director of the kilt, director of the followers of Horus, adminstrator of Buto, director of the estates of the Red Crown, secretary of the sky Nyankhnesut.

South pillar, west face:
Greatest of seers of Heliopolis, secretary of the great estate, prophet of the souls of Heliopolis, secretary of the divine word Nyankhnesut.

The false door

Horizontal line at top:
An offering which the king gives and which Anubis gives, that he may be buried in the west (after) a very great old age, the *sem*-priest Nyankhnesut.

Across the top of the funerary meal:
Sem-priest, director of the kilt, sole companion Nyankhnesut.

Vertical column on left:
Hereditary prince, sole companion [...rest of column removed].

Vertical column on right:
Count, *sem*-priest, director of the kilt, director of the followers of Horus, administrator of Buto, secretary of the secrets of the sky [...rest removed].

Horizontal line beneath funerary meal scene:
Sem-priest, director of every kilt, sole companion Nyankhnesut.

Left inner vertical column:
Greatest of seers of Heliopolis, confidant of the king in his every place [...rest removed].
Right inner vertical column:
Chief lector priest, elder of the *senwet*-shrine, controller of secret commissions Nyankhnesut.

Bench in false-door room

Front:
Count, hereditary prince, chief lector priest, *sem*-priest, sole companion, elder of the *senwet*-shrine, confidant of his lord Nyankhnesut.

East side:
Sem-priest, lector priest, greatest of seers Nyankhnesut.

Old Kingdom documentation for almost all these titles can be found in the recent reference work of Dilwyn Jones.[15] Particularly noteworthy is the confirmation provided here of Brovarski's hypothesis that Nyankhnesut was a high priest of Heliopolis.[16] The fact that the uncommon title *ḫrp q3q3w* recorded for him elsewhere does not appear even once among what are evidently the key inscriptions remaining in the tomb may suggest that it was peripheral to his main activities.[17] Exactly when his career reached its zenith remains uncertain. It has long been recognised that the tomb cannot be earlier than the reign of Teti because one of several basiliphorous names known from the reliefs incorporates his nomen.[18] Stylistic considerations have been felt to favour an early Sixth Dynasty date[19] but there appears to be nothing now left in the tomb that will allow closer definition. Nonetheless, the fact that its location, form and size are now known may provide a stimulus to further study of Nyankhnesut and his monument.

[15] *An Index of Ancient Egyptian Titles, Epithets and Phrases of the Old Kingdom* (BAR International Series 866; Oxford, 2000). The only ones not included there are 'prophet of the souls of Heliopolis' and 'secretary of the Great Domain' (but cf. no. 2344 for the latter).

[16] *ARCE Annual Meeting, Philadelphia 1989, April 21–23, 1989, Program and Abstracts*, 26–7.

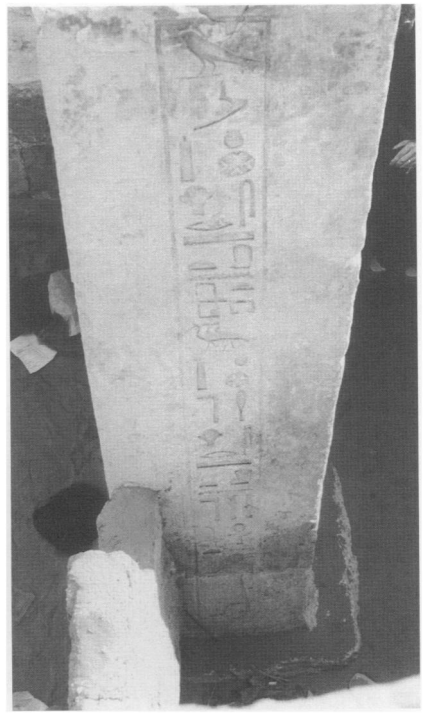
[17] For this title, see P. Chevereau, 'Contribution à la prosopographie des cadres militaires de l'Ancien Empire et de la Première Période Intermédiaire, B: Titres nautiques', *RdE* 40 (1989), 21–2 no. 427, who quotes Nyankhnesut as his only example, citing a block in Cleveland which he mistakenly attributes to Dahshur; cf. Jones, *Index of Ancient Egyptian Titles*, 751–2 no. 2740, for other instances.

[18] The first to note this seems to have been W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (London, 1946), 208 n.1; cf. Malek, *SAK* 8, 205 n. 9.

[19] E.g. Berman, *The Cleveland Museum of Art. Catalogue of Egyptian Art*, 135–6.

PLATE IV

1. Room F. The false door.

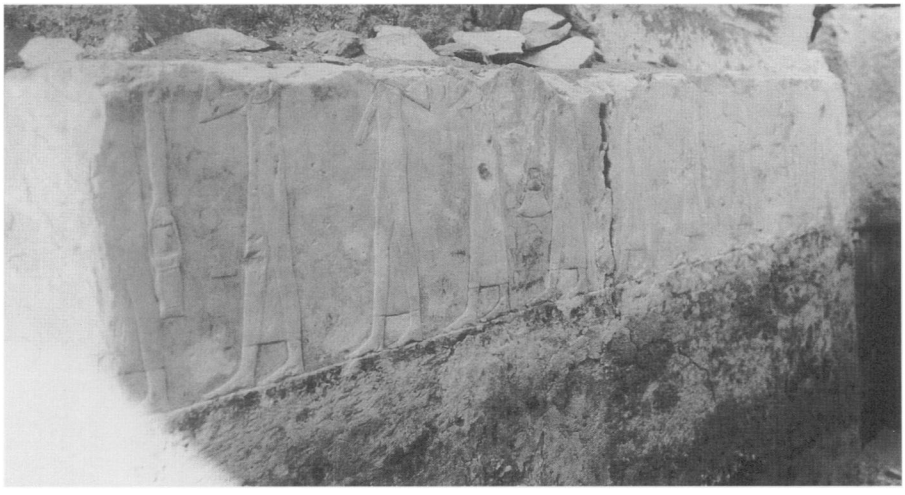


2. Room D. The south pillar, west side.

3. Corridor E. Birds in papyrus thicket.

4. Corridor E. Man in a boat.

THE TOMB OF NYANKHNESUT (RE)DISCOVERED (pp. 33–42)



1. Corridor E, west wall. Female offering bearers.

2. Corridor E. Netting of birds.

3. Room F. The inscribed bench.

A CURIOUS MIDDLE KINGDOM STELA IN BIRMINGHAM*

By DANIEL LINES

A small limestone stela from the collection of the University of Birmingham is considered. The main points of interest are the relatively poor quality of the inscription, which has given rise to a number of mistakes and idiosyncrasies, and the difficulty in correctly recognizing the identity and significance of the single human figure shown.

WITHIN the small collection of Egyptian antiquities held in the museum of the Department of Ancient History and Archaeology at Birmingham University in England is a little stela made of a dark limestone, crudely incised with cursive hieroglyphs (fig. 1 and pl. VI). The stela, which has not yet received a registration number, has dimensions of 23.3 cm in height (through the centre) × 21.3 cm in width (at the base) × 5.8 cm in depth (maximum). A small and incomplete label which apparently once preserved a number, possibly an auction number, adheres to the top of the inscribed surface. From the remaining traces, it seems to have read '106', '126', or '136'. A small number '126' is faintly visible at the very bottom of the same surface, as an off-white mark. It has thus far not been possible to find the stela in auction catalogues or the like, despite these pieces of evidence. I have been unable to find any record of how the object originally came to be in Birmingham.

Some scant traces of pigment remain on the stela, most notably a light blue colour in the body of the bird sign in front of the figure at the bottom right. There are also traces of what now appears as a bluish-grey colour, but was originally a bright blue, in many of the signs from the second line of the inscription downwards, with more pigment being preserved towards the bottom. There are no remaining vestiges of any other colours in the inscription.

Other marks on the object are likely to have been caused in comparatively recent times. Amongst these are patches of a greenish-brown residue around the edges, particularly along the bottom edge, black marks on the roughly-hewn rear surface and along the bottom edge, and small traces of what is apparently charred wood adhering to the stone around all four edges. These last presumably derive from a relatively modern wooden frame or mount of some sort.

In general terms, the stela is typical of those erected in large numbers at Abydos during the Middle Kingdom, and can therefore tentatively be assigned a provenance in Abydos, notwithstanding the recent, admirable work of Marée in re-assigning stelae to regional workshops and cemeteries.[1] Dating the object accurately and securely is difficult, due mainly

* I am very grateful to Anthony Leahy for bringing the stela to my attention, for suggesting this publication, and for providing assistance in the initial reading of the inscription and the preparation of the manuscript. Lisa Montagno Leahy offered numerous suggestions throughout the process of finalising the text. I would also like to thank the *JEA* referees, who made many stimulating observations.

[1] M. Marée, 'A Remarkable Group of Egyptian Stelae from the Second Intermediate Period', *OMRO* 73 (1993), 7–22; idem, 'A New Middle Kingdom Necropolis', paper presented to the Eighth International Congress of Egyptologists,

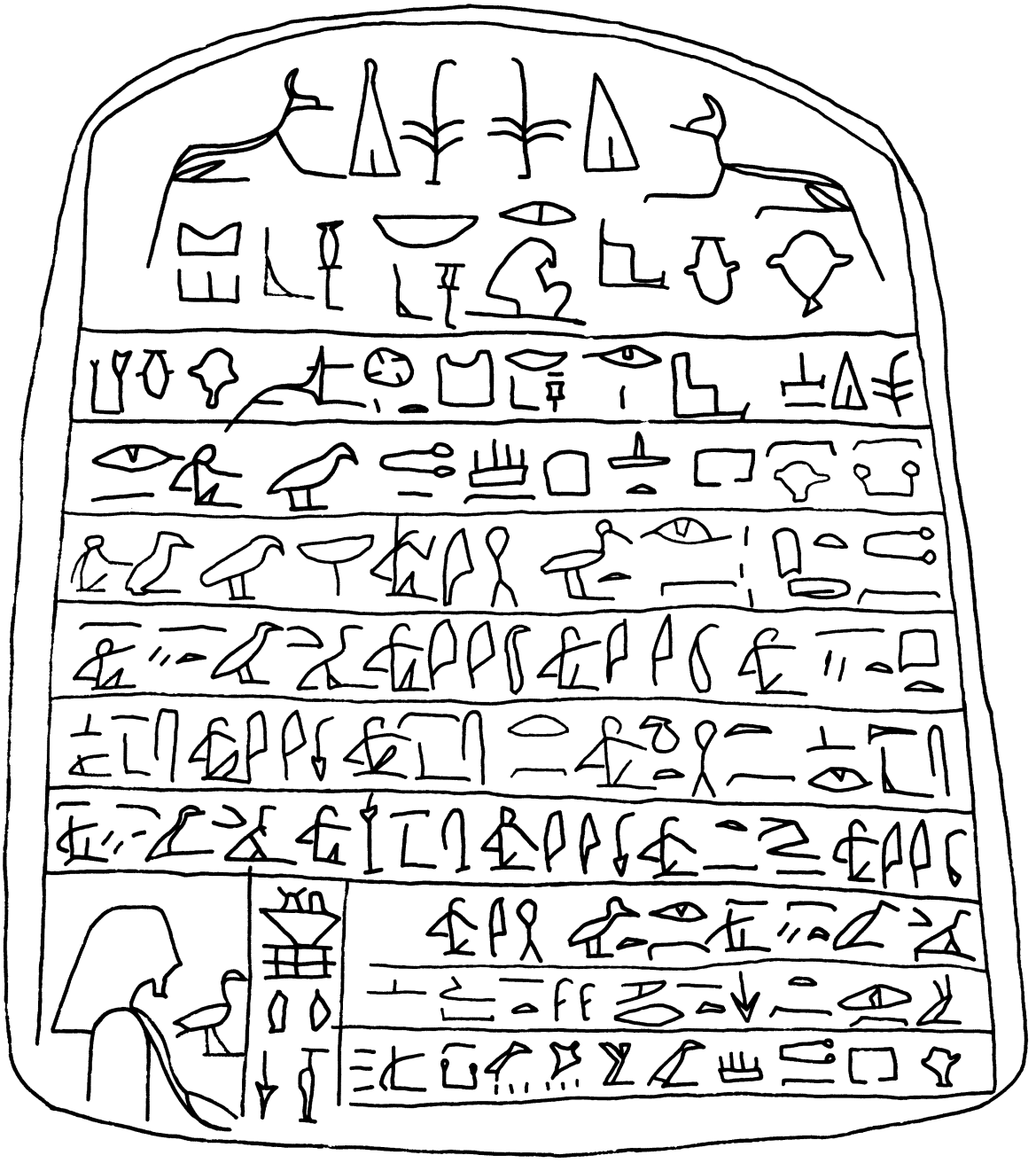


FIG. 1. The stela of Hetepmontu.

to its crude workmanship and the rather abbreviated content of the inscription. Because of these factors, it is not possible to apply to this type of stela the full range of dating criteria that are applied to those grander examples with more extensive inscriptions and icono-

Cairo, 28 March – 3 April 2000. In a wider sense, and on purely instinctive and subjective grounds, one might be tempted to take the crude nature of this stela and similar examples as being indicative of 'provincial' status, yet in this usage the word often loses any geographical connotations and becomes essentially synonymous with 'second-rate'.

graphic elements.[2] Nevertheless, primarily on the basis of onomastic evidence,[3] the rather flat curve to the lunette,[4] the presence of two symmetrically arranged jackals therein,[5] and the arrangement of the signs in the *ḥtp-di-nsw* formula (see n. (d) to the translation), I would suggest a date in the Thirteenth Dynasty. The inscription consists of a lunette followed by nine lines of hieroglyphs reading from right to left. The last three lines stop short of the left-hand side of the stela, and in the space thus created there is a short vertical column containing abbreviated offerings, and then the head and upper body of a human figure with a bird hieroglyph in front of it.

The lunette at the top of the stela and the first line of the inscription contain *ḥtp-di-nsw* offering formulae, mentioning 'Osiris, lord of Abydos' and 'Wepwawet (?), who dwells in Abydos' (see n. (b) to the translation). The offerings are made 'for the *ka* of' a man called Hetepmontu, whose name appears in the second line of the inscription, preceded by his title of *ḥry-pr*, 'majordomo'.[6] Lines 3–7 then include the names of nineteen of Hetepmontu's relations and ancestors.[7] The last two lines of the inscription are rather difficult to understand fully. A discussion of their meaning, and their possible significance, follows the translation.

Translation

Lunette

<An offering>[a] which the king gives <to> Wepwawet (?)[b] who dwells in Abydos and Osiris, lord of Abydos[c]

Main text

(1) An offering which the king gives[d] <to> Osiris lord of Abydos and to Wepwawet (?) who dwells in Abydos (2) for the *ka* of the majordomo[e] Hetepmontu,[f] born of (3) Tjenet,[g] born of Sathi;[h] Nebwa;[i] (4) Panety (?);[j] Ty; Ty;[k] Panetyeni;[l] (5) Senebhetep,[m] born of Henut;[n] Renseneb;[o] Ty; Senebhetep;[p] (6) Ty; Wenten;[q] Ty; Resseneb (?);[r] Panetyeni; (7) Panetyeni, born of Sathi; (8) consisting of what the beloved sister Netmaa (?)[s] has done[t] for[u] (9) the majordomo <Hetep>montu (?),[v] consisting of cattle and fowl for <his/their> *ka*(s).[w]

[2] See in particular K. Pflüger, 'The Private Funerary Stelae of the Middle Kingdom and their Importance for the Study of Ancient Egyptian History', *JAOS* 67 (1947), 127–35; C. J. C. Bennett, 'Growth of the *Ḥtp-Di-Nsw* Formula in the Middle Kingdom', *JEA* 27 (1941), 77–82.

[3] None of the names mentioned in the inscription are conclusive in respect of dating the object, but taken together, they do favour a date in the Thirteenth Dynasty rather than earlier. See, in particular, the patterns of occurrence listed by G. Castelluci, 'L'onomastica del Medio Regno come mezzo di datazione', *Aegyptus* 60 (1980), 3–72, for the names *Rn-snb* (no. 80) and *Rs-snb* (no. 90).

[4] See Pflüger, *JAOS* 67, 128; R. Hölzl, 'Round-Topped Stelae from the Middle Kingdom to the Late Period: Some Remarks on the Decoration of the Lunettes', in *Atti sesto congresso internazionale di egittologia,* I (Turin, 1992), 285.

[5] See Hölzl, *Sesto congresso* I, 288.

[6] For this title, see W. A. Ward, *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom* (Beirut, 1982), 116, no. 977 ff, and the references provided there; *Wb.* I, 515, 1–2. See also n. 42 below.

[7] Since there are numerous repeated names in the list, this number assumes that each instance of each name refers to a separate individual, something which is impossible to prove but which must be likely, given the obvious urge apparent on stelae of this sort to commemorate as many people as room allowed.

Notes to the translation

(a) *ḥtp* is missing from the formula within the lunette, the top line of which instead consists of two sets of *dì-nsw* <*n*> *Wpwꜣwt* (?) arranged symmetrically.[8]

(b) Both here and in the first line of the inscription this deity is represented by a couchant jackal alone. The lack of any further signs (there is neither iconographic elaboration nor any accompanying phonetic signs), and the occurrence of only the simple epithet *ḥry-ib ꜣbḏw*, 'who dwells in Abydos' (see n. (c) below), make it impossible to say for certain whether Anubis or Wepwawet is intended.[9]

(c) Despite the arrangement of the signs, the elements at either side of the lunette's lower part, beneath the couchant jackals, should clearly be read together to give *ḥry-ib ꜣbḏw*, 'who dwells in Abydos' as an epithet of Wepwawet (or possibly Anubis). The signs in the middle of this line then give 'Osiris, lord of Abydos', with the toponym abbreviated to its first two signs. This abbreviated writing is mitigated somewhat since, due to the arrangement of signs, the same toponym appears again immediately to the left. The abbreviated version is then repeated when the toponym recurs at the end of line 1 of the inscription.

(d) The writing of the *ḥtp-dì-nsw* formula with sign order **nsw-dì-ḥtp*, as exists here, is a dating criterion that usually indicates a date in the late Thirteenth Dynasty or Second Intermediate Period.[10]

(e) The title *ḥry-pr* is well known from the Middle Kingdom (see nn. 6 and 42), and is attested on other stelae from Abydos,[11] including at least one similarly crude Middle Kingdom example.[12] Where appropriate, this title is genitivally followed by the name of an institution. Since Hetepmontu's title is unadorned in this way, it is safe to assume that he did not serve a particularly prestigious house or institution.

(f) This name is not listed by Ranke, although the pattern *ḥtp*-DN is attested,[13] and reversing the order of the two elements would give Montuhotep, a common private name in the Middle Kingdom.[14]

(g) For this feminine name, although without the determinatives as here, see Ranke, *PN* I, 392, 8. A spelling with similar determinatives, but with a possible final element *-ib*, is attested for a *nbt-pr* on Cairo CG 20540, c[15] (Ranke, *PN* I, 392, 9). The seated determinative is missing on the Birmingham stela, having been replaced with plural strokes.

(h) For this name see Ranke, *PN* I, 291, 11. Here, and throughout the inscription, there is no discernible difference between the male and female seated-person determinatives. To have two consecutive filiations, as is the case with this name and the preceding two, is unusual on stelae of this sort.

(i) The second bird sign can be safely identified as an *aleph* due to its similarity to the signs used as phonetic complement after *pꜣ* in lines 6–7 (see n. (l) below), and the similarity of each of these signs to

[8] Such an omission is unusual but not unique. See, for example, W. K. Simpson, *Inscribed Material from the Pennsylvania-Yale Excavations at Abydos* (New Haven, 1995), 42, fig. 69 and 43, fig. 70.

[9] Among the epithets of gods from the Abydos material that are listed by J. Spiegel, *Die Götter von Abydos* (Wiesbaden, 1973), 170–83, this particular epithet is not found applied to Anubis. It is found six times for Wepwawet, but never as the only epithet. The same epithet, sometimes on its own, is also attributed to Hathor, Min, Osiris, and Ptah, as well as to unnamed gods. Given the relatively small total number of occurrences, the identification of the jackal deity here as Wepwawet is more likely, but is not certain. It is common for Middle Kingdom stelae to depict jackals without either deity's name: see M. Malaise, 'Inventaire des steles égyptiennes du Moyen Empire porteuses de representations divines', *SAK* 9 (1981), 268–72.

[10] See P. C. Smither, 'The Writing of *ḥtp-dì-nsw* in the Middle and New Kingdoms', *JEA* 25 (1939), 34–7, along with the observations on this work made more recently by P. Vernus, 'Sur les graphies de la formule "l'offrande que donne le roi" au Moyen Empire et à la Deuxième Période Intermédiare', in S. Quirke (ed.), *Middle Kingdom Studies* (Cambridge, 1991), 141–52; Marée, *OMRO* 73, 8 n.7.

[11] See, for example, Cairo CG 20018 (H. O. Lange and H. Schäfer, *Grab- und Denksteine des Mittleren Reichs im Museum von Kairo*, I (CG; Berlin, 1902), 17–18), on which nine of the twenty low-ranked individuals represented hold this title.

[12] Cairo JE 91253, a limestone stela with an inked hieratic inscription. See Simpson, *Inscribed Material*, 33, l. 17.

[13] See, for example, *Ḥtp-Ptḥ*: Ranke, *PN* I, 258, 6.

[14] See Ranke, *PN* I, 154, 21.

[15] H. O. Lange and H. Schäfer, *Grab- und Denksteine des Mittleren Reichs im Museum von Kairo*, II (CG; Berlin, 1908), 158–61.

some hieratic versions of the sign.[16] Nevertheless, the name *Nb-wꜣ* is not attested in Ranke.

(j) The signs clearly read **Pt-nty*, but it seems likely that *Pꜣ-nty* (probably as a variant or a contraction of *Pꜣ-nty-n.i*, for which see n. (l) below) is intended, even though this would require both of the first two signs written here to be erroneous, based on the other writings of the latter name on the Birmingham stela. Another possibility is a name  , *Pt-ty*, suggested by a *JEA* referee, although none of the spellings of this name listed by Ranke, *PN* I, 142, 13–14, employs the sky hieroglyph.

(k) The name (Ranke, *PN* I, 377, 22) is written twice here and occurs three further times in lines 5–6. It is possible that identical names in apposition in lists of this sort represent the names of father and son without any written indication of filiation, so we may have here Ty, son of Ty. The same may be true of the repetition of the name Panetyeni in lines 6–7.

(l) The sign after the *pꜣ*-biliteral, which clearly resembles a quail-chick, can hardly be intended for anything other than *aleph* as phonetic complement. The shape of *aleph* within this inscription can be seen in the two further occurrences of this same name, at lines 6–7, where it occurs twice in apposition (for which see n. (k) above). For the name, see Ranke, *PN* I, 114, 5. The form of the *pꜣ*-sign itself, with the wings added as a V-shape above, and separated from, the body of the bird, brings to mind the hieratic form of the sign.[17]

(m) The sign I have read as *ḥtp* is poorly formed, and there is no determinative, but otherwise the name, not listed by Ranke, is clear. Another possible reading of the name is simply 'Seneb' with a book-roll determinative,[18] although the height of the vertical tick on the sign, both here and when the name appears again at the end of the same line, makes *ḥtp* more likely. Although the name is apparently masculine, the subsequent filiation 'born of' is rendered *irt n* rather than *ir n*, possibly in order to fill the available space.

(n) For this feminine name, see Ranke, *PN* I, 242, 18.

(o) For this common name, see Ranke, *PN* I, 222, 26.

(p) The name, at the end of the line, is rather cramped. The seated-man determinative in particular shows a highly stylised and simplified form, although one for which similarly cursive hieratic parallels exist.[19]

(q) The name is not listed by Ranke, but the writing seems clear, with the simplified version of *wn* being clearly related to its hieratic form.[20] Given the similar shapes of *n* and *t* in this inscription, and the numerous transpositions, the name *Wnnt* (Ranke, *PN* I, 79, 23) may have been intended.

(r) *snb* is clear, as is the determinative, but the upright sign between is problematic. It appears to have some deeper cutting at its top end, but this could just as easily be a slip of the chisel. Among the possible identifications are  , giving the name *Rs-snb* (Ranke, *PN* I, 226, 25), and  , giving *Ỉwn-snb* (not listed by Ranke), both of which would also imply a graphic transposition. A further possibility is the name Seneb followed by a vertical book-roll determinative (see n. (m) above).

(s) The reading of these signs as a name *Nt-mꜣʿ* is far from certain. Although each of the signs appears clear, there is no determinative, and this name is unattested elsewhere as far as I am aware. Another possibility suggested by a *JEA* referee is to consider that *Mry<t>* is the name of the sister,[21] and what follows is a slightly jumbled writing of *mꜣʿt-ḫrw*, giving 'the sister Mery, vindicated'.

(t) The meaning of this entire line is far from clear (see n. (s) above). The first sign certainly resembles the hieratic form of *m*.[22] The sign below *ir* could be either *n* or *t*, since both are here rendered as flat lines of often variable length. The relative lengths of the two flat lines forming the next group suggest *t* followed by *n*. This is then followed by *snt mry* (sic), the second word being spelt with two reed-leaves that have not been fully carved.[23] My best attempt to make sense of the whole phrase

[16] See G. Möller, *Hieratische Paläographie* (Leipzig, 1902), 18, no. 192.

[17] See Möller, *Hieratische Paläographie*, 21, no. 222.

[18] This spelling of the name is attested in Ranke, *PN* I, 312, 15.

[19] See Möller, *Hieratische Paläographie*, 3, no. 33, especially the Old Kingdom examples.

[20] See Möller, *Hieratische Paläographie*, 12, no. 132.

[21] *Mry* is attested as both a male and a female name (Ranke *PN* I, 160, 1).

[22] See Möller, *Hieratische Paläographie*, 18, no. 196.

[23] This form, without the upper part of each leaf having been cut out, closely resembles the hieratic; see Möller, *Hieratische Paläographie*, 27, no. 282.

involves disregarding the sign below *ỉr*, leaving a relative form: *m ỉrt.n snt mry<t>*, 'consisting of what the beloved sister (or: 'the sister Mery, vindicated'—see note (s) above) has done'. One factor in favour of regarding the sign below *ỉr* as otiose is the vertical spacing of *ỉr* roughly in the middle of the line, with the flat sign below it being squeezed into the reduced space available. A comparable otiose sign from this inscription is the *t* below *ṯ* in Hetepmontu's name in the second line.

(u) Although this otherwise flat sign clearly has a short vertical tick added, it is difficult to understand it as *ḥtp*. It may be significant, however, that *ḥtp* is missing from the closely proximate and apparently garbled writing of Hetepmontu's name in the following line.

(v) The signs follow Hetepmontu's title, but if they are intended as a writing of his name, they are very badly jumbled. A literal transcription gives **ṯn-mnꜣ*, since the bird sign following *mn* resembles the *alephs* in lines 3 and 6–7. A quail-chick, giving **ṯn-mnw*, may have been intended: we have already seen one example of these two signs being confused with one another at line 4 (n. (l) above).

(w) After *n kꜣ* a genitival *n* and the owner's name and titles would normally follow, as in line 2 above. There is hardly sufficient room remaining here, but we might still expect perhaps *n kꜣ.f*, 'for his *ka*'. The intended meaning of what actually appears—a seated-person determinative and three short horizontal lines—is difficult to discern. One possibility is that the last group reads  , *.sn*, giving 'for their *kas*'. If, however, these three lines are simply curious plural strokes, perhaps the whole phrase was intended as short-hand for 'for the *ka*s of the <above-named> people'.

Vertical column

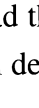
The single short column of inscription, which abuts the ends of lines 7–9 of the main text, consists of signs representing rather abbreviated offerings, the exact meanings of which remain uncertain due to the poor workmanship.[24] At the top of the column is a cup or basket () surmounting a grid-like sign (possibly a simplified version of ). The basket contains a probable ox-head ( , the identification being partly based on the similar form of the sign in line 9 of the main inscription) and a loaf. Immediately below this group are two tall signs to be identified as another two loaves ( and ) or a loaf plus a poorly-formed beer jar (, *ḥnqt*). Beneath these are two rather more easily recognisable signs, a *ḥs*-vase () to the right and the *sn*-sign () to the left. It is possible that the former sign stands for a commodity such as *mrḥt*, 'oil', and the latter is an abbreviated offering of incense (*snṯr*). Another interpretation, assuming the signs read from left to right in order to face the figure to their left, would be to read the two signs together as an abbreviated spelling of *sn(bt)*, 'jar', of which  is the usual determinative.

Figure of the dedicatee

In the small space at the bottom left of the stela, directly to the left of the vertical column of offerings, there is the upper part of a human figure, with a bird sign directly in front of it. The figure, presumably of the dedicatee Hetepmontu, is simply rendered in outline only, the only internal detail being the curved junction between the shape representing the head and neck and that representing the 'body'. The shape of the head suggests a heavy, shoulder-length wig and a beard. Bearded human figures are not particularly common on Middle Kingdom Abydos stelae, although several examples do exist. A more distinctive feature of the figure is the shape of the body. Only the upper body is shown, represented by a narrow

[24] I am very grateful to a *JEA* referee for offering a number of suggested readings of these signs, some of which have been included here.

semi-lozenge shape with parallel, straight, vertical lines for the sides and a rounded top. The arms are added with simple lines in front of the body, giving them the appearance of thin sticks. A single incised line represents both upper arms, splitting into two lines below the elbow.

In attempting to understand what exactly is depicted by this figure, and what its significance may be, it is first necessary to consider whether it was deliberately conceived and executed as it appears (i.e. as a 'bust', consisting only of a head and upper body), and in that sense is complete, or whether it is intended as a depiction of the upper part of what, given the available space, would have been a full-length human figure. An intriguing third possibility, suggested by a *JEA* referee, is that the stela itself is incomplete, with a part missing at the bottom that would originally have accommodated the remainder of this figure at the left, and perhaps an offering table or another pictorial element at the right, beneath the inscription. While the—admittedly curious—absence of a borderline below the figure at first lends credence to this idea, a close examination of the bottom surface of the stela offers no evidence of it having been truncated in this way,[25] and I consider such an explanation to be unlikely on the balance of evidence.[26]

An initial point in favour of a complete 'bust' is the lack of parallels for a deliberately executed partial figure. Supporting the second interpretation—that the figure is to be understood as the upper part of a (probably seated) figure—is the fact that it is open-ended at the bottom (depictions of busts in Egyptian two-dimensional art, some of which are discussed below, tend to have a bottom edge or base-line of some sort),[27] and the existence of complete figures from the Abydos material that are otherwise comparable, including examples from similarly humble objects. One such parallel for Hetepmontu's lozenge-like body shape appears on Pennsylvania UM 69-29-122.[28] On this small, rough stela inscribed for one Intef, a complete seated figure is shown, apparently representing the mummified dedicatee. Like the figure on the Birmingham stela, this one has the head outlined in such a way as to suggest a wig and beard. It also has a narrow, lozenge-shaped torso. A thin 'arm' projects forward horizontally from a point low down on the body and terminates in a crude hand. A similar mummiform figure, again with short 'arms', is depicted on a small painted limestone stela in the British Museum (EA 246; fig. 2),[29] seated before an offering table. Depictions of mummiform figures such as these, which suggest an iconographic identifica-

[25] The general appearance of the bottom edge of the stela, and the appearance there of chisel marks, smoothed down to shallow grooves, is not significantly different from the treatment of the other three edges. The borderlines of the inscription provide further evidence—that on the right-hand side appears to form a right-angled corner at the bottom of the stela, the vertical borderline apparently not continuing below this point. The borderline to the left does continue to the bottom edge of the inscribed surface, but it does so as an increasingly faint scratch; the unfortunate loss of the lower left corner impedes any further evaluation.

[26] One could imagine that such an alteration might have been made to fit the stela into an ancient niche or even into a modern frame or mount. Nevertheless, it seems improbable in this instance given that the inscription is evidently complete and yet seems to have been rather squeezed into the available space, which would be less likely, though not impossible, had the stela originally been longer. Similarly, the column of abbreviated offerings in front of the figure would be rather superfluous, and oddly positioned, if Hetepmontu was originally sitting before an offering table depicted in this 'missing' space. I know of no comparable stela having been truncated in such a way that the line of the cutting dissects a human figure, as would be the case here.

[27] One exception to this, interestingly, comes from the Middle Kingdom—see n. 38 below.

[28] Simpson, *Inscribed Material*, 40, fig. 65.

[29] E. A. W. Budge, *Hieroglyphic Texts from Egyptian Stelae etc. in the British Museum*, IV (London, 1913), 11, no. 332 and pl. xlv.

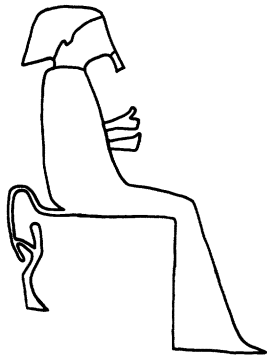


FIG. 2. Mummified figure of Senbu from BM EA 246. After Budge, *Hieroglyphic Texts from Egyptian Stelae etc. in the British Museum* IV, pl. xlv.

tion with Osiris, also appear on grander stelae.[30] However, since only the upper body and head of the figure on the Birmingham stela have been represented, any attempt to classify it as a mummified figure would still be tentative at best.

If, on the other hand, the figure is taken as a 'complete' depiction of a bust, then any comparisons become necessarily even more cautious, since almost all of the comparative material comes from the New Kingdom, and so any mooted parallels are diachronous. New Kingdom 'ancestor busts' are found at many sites, but are best known from the site of Deir el-Medina, where together with the equally well-known *ꜣḫ iqr n Rᶜ* stelae, they constitute the main artefactual expression of that village's cult of ancestor worship.[31] At least two–and possibly as many as seven–examples of *ꜣḫ iqr n Rᶜ* stelae have been found at Abydos,[32] as has at least one known bust, taken to be an ancestor bust.[33] Certainly, the general form of the three-dimensional ancestor busts shares a number of points with our two-dimensional figure, and the overall effect of our figure—the simplified rendering of the upper body and

[30] Although decorum prevented the depiction of the deceased in the presence of Osiris during the Middle Kingdom, an Osirian identification was sometimes expressed through the depiction of mummified dedicatees (examples include CG 20056 (with two standing mummy figures: Lange and Schäfer, *Grab- und Denksteine* I, 66–8) and CG 20544 (with seven seated male mummy figures: Lange and Schäfer, *Grab- und Denksteine* II, 167–9), and, carved in very high relief on some grander stelae, engaged mummiform statuettes (cf. CG 20497 (Lange and Schäfer, *Grab- und Denksteine* II, 88–9) and CG 20569 (Lange and Schäfer, *Grab- und Denksteine* II, 206–7). However, two-dimensional representations of mummiform figures, including those cited here, do not tend to have quite such straight vertical lines forming the sides of the upper body as is the case for Hetepmontu's figure, so even here no exact parallels can be found.

[31] For the busts, see F. D. Friedman, 'On the Meaning of some Anthropoid Busts from Deir el-Medina', *JEA* 71 (1985), 82–97; J. L. Keith-Bennett, 'Anthropoid Busts II: Not from Deir el Medineh Alone', *BES* 3 (1981), 43–71; W. Kaiser, 'Zur Büste als einer Darstellungsform ägyptischer Rundplastik', *MDAIK* 46 (1990), 269–85, esp. 270–2. For the stelae, see R. J. Demarée, *The ꜣḫ iḳr n Rᶜ Stelae – On Ancestor Worship in Ancient Egypt* (Leiden, 1983); idem, 'More *ꜣḫ iḳr n Rᶜ* Stelae', *BiOr* 43 (1986), 348–51; A. R. Schulman, 'Some Observations on the *ꜣḫ iḳr n Rᶜ* Stelae', *BiOr* 43 (1986), 302–48. For a useful brief summary of the ancestor cult at Deir el-Medina, see F. D. Friedman, 'Aspects of Domestic Life and Religion', in L. H. Lesko (ed.), *Pharaoh's Workers: The Villagers of Deir el Medina* (Ithaca, 1994), 111–17. For earlier ancestor worship, see the remarks of D. Franke, *Das Heiligtum des Heqaib auf Elephantine* (Heidelberg, 1994), 130 and n. 390.

[32] See Demarée, *The ꜣḫ iḳr n Rᶜ Stelae*, 184, and M. A. Leahy, 'Abydos in the Libyan Period', in M. A. Leahy (ed.), *Libya and Egypt c. 1300–750 BC* (London, 1990), 176 and n. 7.

[33] Keith-Bennett, *BES* 3, 51 and 62–3 (no. A1). This particular bust is rather small (9.5 cm high), but it is interesting to note that it features 'faint incisions on the body' which 'seem to indicate arms'.

head, the latter with a heavy wig—is strikingly similar to a number of the busts.[34] In particular, the form of many of the busts is such that the shape described by the 'shoulders', when seen in profile, closely resembles the shape of the same area as depicted on our figure.[35]

Of particular interest in considering Hetepmontu's stela are two examples of New Kingdom stelae that themselves apparently depict ancestor busts in two dimensions. BM EA 270, from Deir el-Medina,[36] has two busts modelled in relief projecting from the upper part of its surface. The busts are shown frontally, and it is notable that they show stunted 'arms' added to the otherwise plain shape representing the shoulders and upper body. They also have beards. The lower section shows one painted bust, depicted in profile, which faces a female worshipper. The second example has an Abydene provenance.[37] It shows a woman facing a bust, which is placed on a low plinth, and offering incense with her left hand while pouring a libation with her right hand. The bust portrayed here (see fig. 3) also bears a striking resemblance to the figure on the Birmingham stela, with its lozenge-shaped body and rounded shoulders, although there is no indication of arms.

Although the bulk of the evidence concerning busts comes from the New Kingdom, the depiction of 'busts' of deceased relatives on votive/commemorative objects—although no archaeological attestation of such a bust, nor the identification with the *ꜣḫ iqr*—apparently stretches back to the Middle Kingdom. A bust-shaped figure painted in the centre of a Middle Kingdom bowl (inscribed in hieratic around its edge with a letter from a man to his deceased wife, the latter presumably depicted by the bust) has a body shape very similar to the figure of Hetepmontu, including its parallel, straight sides and lack of a base line (see fig. 4).[38] It also displays a short tick rising diagonally from the front of the base, which may provide a further parallel for the two-dimensional depiction of busts with stunted 'arms'. In

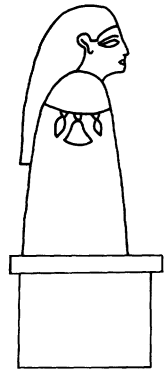


FIG. 3. Bust from the stela of Henut. After Vandier d'Abbadie, *RdE* 5, fig.1.

[34] By no means all of the busts have wigs, however.

[35] See, for example, Keith-Bennett, *BES* 3, 66, fig. 5.

[36] A picture of this object is published in M. Bierbrier, *Tomb-builders of the Pharaohs* (London, 1982), 95.

[37] The stela in question was excavated by Mariette (see A. Mariette, *Catalogue général des monuments d'Abydos* (Paris, 1880), 461, no. 1224) and a line-drawing was published in an article by J. Vandier d'Abbadie, 'A propos des bustes de Laraires', in *RdE* 5 (1946), 133–5 and fig. 1, in which the bust depicted on the stela is described as being 'du modèle exact des bustes de Deir el-Medineh' (p. 134). The object is now in Cairo (T.30/10/17/1 = T.20/6/28/15).

[38] See A. H. Gardiner and K. Sethe, *Egyptian Letters to the Dead* (London, 1928), 5–6 and pls. v and v.a. I am indebted to a *JEA* referee for bringing this object to my attention.

FIG. 4. Bust-like figure from the Berlin bowl. After Gardiner and Sethe, *Egyptian Letters to the Dead*, pl. v.

artistic terms, it is this 'bust' that provides the closest parallel for the figure on the Birmingham stela.

Given the difficulty of ascertaining the significance and symbolism of the seated figure, it is doubly unfortunate that the correct identification, and therefore the meaning, of the bird hieroglyph in front of the figure is equally uncertain. Since the discussion above touched on the subject of ancestor worship and the *ꜣḫ iqr n Rˁ* stelae, it might be tempting to see it as the *ꜣḫ*-bird,  . However, although it has roughly the correct form, being a bird with long legs and a long neck with a slim body set close to the horizontal between them, it has neither of the distinctive features of the crested ibis, viz. the crest behind the head and the extended, curved beak. That is not to say that a reading *ꜣḫ* should be discarded on these grounds: our craftsman may have omitted the crest, either accidentally or intentionally, perhaps due to it being rather too difficult to carve, perhaps rectifying the mistake in paint that is now lost. There is no room in which the beak might have been added since the carving of the bird has been started rather too far to the right and as a consequence, the line separating it from the vertical column of offerings to its right cuts through the front of its head. It should also be noted that a number of the other bird signs in the main inscription have longer beaks than might be expected, in particular the *sꜣ*-bird in the name Sathi in line 3. Indeed, the numerous peculiarities and errors in the shapes of the other bird signs in the main inscription only serve to emphasise the impossibility of positively identifying the sign in question on the grounds of its form alone. One is thus invited by this enigmatic creature to consider alternative explanations for its presence in front of the equally enigmatic figure.

One possibility is that the bird is to be read  , *sꜣ*, 'son'. However, there are no close parallels for this that I know of, and while this sign usually has a shape roughly similar to our bird, the two *sꜣ*-birds in the name Sathi in lines 3 and 7 of the inscription resemble each other more closely than either resembles this sign. Another factor that militates against *sꜣ* is the reference in line 8 to the stela having been dedicated by Hetepmontu's sister. Perhaps rather more likely than this last suggestion is that the bird intended is  , *bꜣ*. Once again the general form of the sign is correct, but any positive identifying features are missing from the shape that has been carved—in this case the tick projecting forward from the bird's breast.

Discarding the *sꜣ* option, the correct identification of each element, the figure and the

bird sign, at once depends upon, and yet would inform, the other. If the figure represents the upper portion of a mummified and seated[39] dedicatee, the bird sign would most likely represent the *ba* of Hetepmontu, even though this particular combination would still be unique from the Abydos material as far as I am aware. If, on the other hand, the figure is not a direct representation of Hetepmontu, but rather depicts a bust representing him, then the reading *ꜣḫ* for the bird sign would have to be considered, since it would then be tempting to see the bust as an early version or precursor of the ancestor busts of the New Kingdom.[40]

Discussion

It was noted in discussion of the inscription (see nn. (s)–(w) to the translation) that the meaning of the last two lines is obscure, but that they seem to suggest that the stela was dedicated to Hetepmontu by a sister[41] of his, possibly named Netmaa or Mery. Interestingly, Hetepmontu's own name appears to have been very badly garbled when it occurs in the last line (see n. (v) to the translation). The seated-person determinative is also missing, which while not unique even within this inscription (it is also missing after the first name in line 3, for example), would perhaps not be expected after the name of the stela's dedicatee. If we are to read these signs as Hetepmontu's name—and no more plausible reading is apparent to me—one might simply accept that this error is further indication of the generally poor quality of the inscription. However, it seems rather unlikely that Hetepmontu would have purchased an object on which he could see that his own name had been so badly mangled by the sculptor. That is, unless he could not read his own name—yet this seems even less probable. While he was certainly of no great standing (the title of *ḥry-pr* is generally one of relatively low rank),[42] he would surely have been able to recognise his own name when written, if not necessarily been able to write it himself. If his sister not only dedicated the stela to Hetepmontu, as the penultimate line suggests (see n. (t) to the translation), but did so without his help or involvement at any point, then it may have been this sister who was unable to spot what appears to be a glaring mistake in the writing of her brother's name. This explanation is not entirely satisfactory either, however, since it leaves the question of how an illiterate female relative of a man of relatively low status was able to purchase the object, crude though it is.

While there is nothing particularly unusual about a commemorative stela dedicated by a female relative, it is interesting to note that on both of the examples of New Kingdom stelae

[39] While it is not certain that the figure is intended as being seated, this is strongly suggested by the position of the arms, which is more similar to that of figures seated before an offering table than to that of standing figures.

[40] However, the danger of overextending any analogies between the Deir el-Medina busts and material from other sites has been noted elsewhere (e.g. by Friedman, *JEA* 71, 97, n. 74). Given this, there is no *a priori* reason that this should not be an association of an anthropoid bust with the *ba* rather than the *akh*, although it does seem less likely than the two possibilities outlined above, and such a connection based on such ambiguous evidence would be very difficult to sustain.

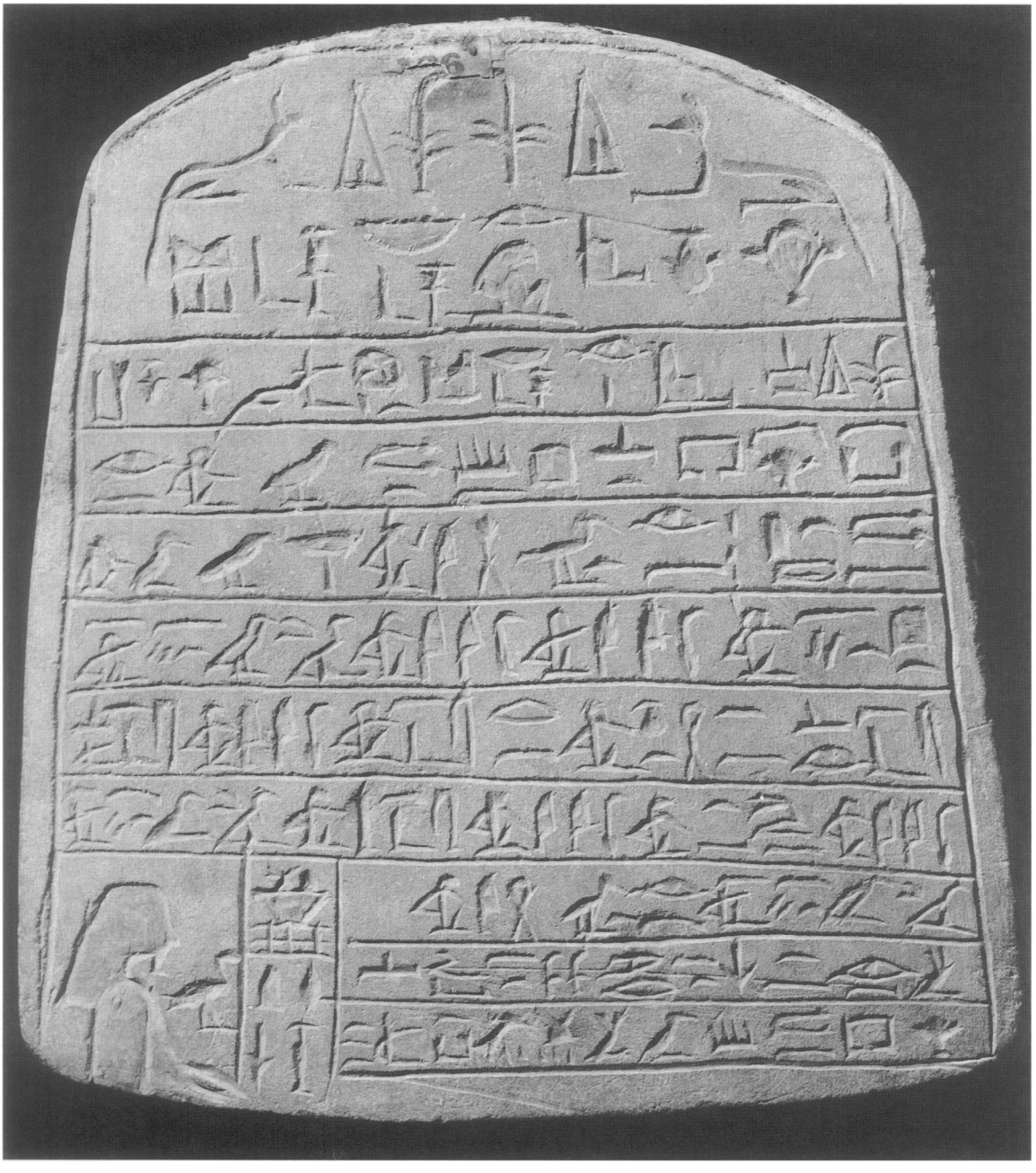
[41] While 'sister' is the traditional translation of the term *snt*, it has been shown to encompass relationships to female relatives including those that we would know as 'aunt' and 'niece'. It is not until the Eighteenth Dynasty, however, that it can also signify 'wife': see G. Robins, 'The Relationships Specified by Egyptian Kinship Terms of the Middle and New Kingdoms', *CdE* 54 (1952), 203.

[42] In this, I agree with W. C. Hayes, *A Papyrus of the Late Middle Kingdom in the Brooklyn Museum* (Brooklyn, 1955), 103. Despite the fact that literal translations of the Egyptian title and of the usual translation 'majordomo' both suggest someone in charge of a house, it is clear from the status of those holding the title that it refers to little more than a domestic servant (see ibid. 91 and 108). Even the *Wörterbuch*'s 'Art Hausbeamter niederen Ranges' (*Wb.* I, 515, 1) is rather too grand. See also n. 6 above.

showing ancestor busts in two-dimensions mentioned above, the bust is facing a female worshipper.[43] Nevertheless, it hardly requires stating that any link between the Middle Kingdom material from Abydos and ancestor worship in the New Kingdom would require evidence far more substantial and far less equivocal than that offered by Hetepmontu's stela. It is not impossible that the present object may represent an interesting early expression of ideas whose archaeological zenith was to come centuries later: that is, a stela featuring the depiction of a bust representing a deceased relative. However, unless other similar stelae are waiting to be discovered or reappraised, this intriguing but ambiguous object is destined to remain just that.

[43] See nn. 36–7 above.

PLATE VI



The stela of Hetepmontu.

A CURIOUS MIDDLE KINGDOM STELA IN BIRMINGHAM (pp. 43–54)

PRECIOUS-METAL POLYCHROMY IN EGYPT IN THE TIME OF TUTANKHAMUN*

By DEBORAH SCHORSCH

Gold and silver appear in Egypt at least as early as the Predynastic Period, and remained thereafter in use for the manufacture of ritual and funerary objects and personal possessions. On occasion, the ancient metalworker or his patron would choose to combine them in the manufacture of an *objet de vertu*: a jewel, a vessel, a royal coffin. The earliest uses of gold and silver, and electrum—a naturally occuring alloy of the two—together can be described as random, as the juxtapositions appear to have no meaning in terms of relative monetary value or visual design, and to have no colouristic or symbolic associations. During the Old Kingdom there appear the first objects that use precious metals systematically for their contrasting colours, a practice that becomes more widespread in the Middle Kingdom. The greatest sophistication in the use of precious metals can be documented during the second half of the Eighteenth Dynasty, particularly in the time of Tutankhamun, when gold—including alloys that are reddish or have been intentionally coloured red—silver and electrum, were used together also to exploit their inherent colours and to evoke symbolic meaning.

GOLD and silver, the precious metals of Old World antiquity, appear in Egypt at least as early as the Predynastic Period, and remained in use thereafter for the manufacture of ritual and funerary objects and personal possessions. Gold has been particularly associated with ancient Egypt in the minds of the public and Egyptologists alike, even before the spectacular discoveries in the tomb of Tutankhamun in the 1920s. Our culture, like most others that have preceded it, pays more attention to gold than to silver, but certainly the relative scarcity of large or complex silver objects from ancient Egypt, particularly those dating before the Eighteenth Dynasty, has shaped our perceptions of the significance and value of silver to the Egyptians of ancient times.

Early sources of gold in Egypt and Nubia are well known from contemporary texts and from evidence of exploitation in antiquity. Gold was available from alluvial deposits in dry river beds in the desert, known as wadis, or mined from veins occurring in quartz formations. Many texts attest to royal expeditions to mine gold, while others mention the gold received as foreign tribute and booty and through trade. By way of contrast, silver was not

* My thanks go to James H. Frantz, Conservator-in-charge of the Sherman Fairchild Center for Objects Conservation, The Metropolitan Museum of Art, for his on-going support and enthusiasm for my work. I am indebted to my colleagues at the Fairchild Center: Ellen G. Howe, Ann Heywood, Elizabeth Hendrix and, especially, Richard E. Stone; in the Department of Egyptian Art: Dorothea Arnold, Marsha Hill, Diana Craig Patch, Catharine Roehrig, Susan Allen and James Allen; to the Museum's Wallace Curator in Egyptology, Christine Lilyquist; and to Susanne Gänsicke (Museum of Fine Arts), all of whom generously shared their expertise and offered valuable commentary. Lawrence Becker (Worcester Art Museum) contributed unstintingly to every phase of this research. Mark T. Wypyski of the Sherman Fairchild Center, Richard Newman of the Department of Objects Conservation and Scientific Research, Museum of Fine Arts, Boston, and Michael Cowell and Nigel Meeks, Department of Scientific Research, The British Museum, contributed analyses of some of the objects discussed herein. I am also grateful to Mohammed Saleh, former director of the Egyptian Museum, Cairo, Rita Freed (Museum of Fine Arts, Boston) and W. V. Davies (The British Museum) for their hospitality during repeated visits while I examined objects and archives in their care. Thanks are also due to Christian Eckmann (Römisch-Germanisches Zentralmuseum, Mainz), Olivia Horton (former intern, Sherman Fairchild Center) and Somaya Ibrahim (Egyptian Museum, Cairo) for their generous contributions.

readily available in Egypt, and this is reflected in both the archaeological record and in ancient texts. Availability and value, however, did not have a consistent inverse relationship, and gold took precedence over silver in terms of economic value beginning in the Middle Kingdom, while silver was still the less common metal. The ancient Egyptians had no true coinage until the fourth century BC, and our understanding of the relative values of the two metals is based on the order in which they appear on offering lists in temples of pharaonic date.[1]

Linguistic evidence suggests that gold and silver, and electrum—a naturally occurring alloy of the two[2]—were only gradually distinguished as separate entities.[3] In early texts a single word, *nbw*, was used indiscriminately until the early Fourth Dynasty to refer to gold, silver and electrum. At this time a term specifically for silver, *nbw ḥḏ* (meaning 'white gold' or 'white precious metal'), came into use, and *nbw* was reserved exclusively for gold. 'Electrum' has been proposed as the meaning of the word *ḏʿm*, which also appeared in Old Kingdom texts. *nbw ḥḏ* was quickly replaced by *ḥḏ* with a gold determinative (i.e. *ḥḏ nbw*), the only term used in Egypt to denote silver until Macedonian or Ptolemaic times. *nbw* was the only word used for gold until the New Kingdom, when a multiplicity of terms appear in texts, describing such diverse qualities as origin (e.g. 'gold of the desert' (*nbw n ḫȝst*)), colour (e.g. 'green gold' (*nbw wȝḏ*)) or form (e.g. 'gold in lumps or nuggets' (*nbw m gngn*)). At this time the word for electrum, *ḏʿm*, loses its meaning, as there are now many new words that describe the quality or purity of gold (e.g. 'fine gold' (*nbw nfr*)).

Gold and silver are rare metals that have similar working properties. They enjoy a high degree of compatibility and often occur together in nature. Unlike the components of many binary metal systems, gold and silver are mutually soluble in all proportions, and most of these alloys are suitable for the mechanical and metallurgical processes generally practiced in antiquity. When, or even if, gold and silver were refined or intentionally alloyed in pharaonic Egypt remain open questions.[4]

[1] For relative values of gold and silver in ancient Egypt, see especially J. R. Harris, *Lexicographical Studies in Ancient Egyptian Materials* (Berlin, 1961), 41–2; J. J. Janssen, *Commodity Prices from the Ramessid Period: An Economic Study of the Village of Necropolis Workers at Thebes* (Leiden, 1975), 101–11; J. Černý, 'Prices and Wages in Egypt in the Ramesside Period', *Cahiers d'histoire mondiale* 1 (1954), 903–21, esp. 904–6.

[2] Electrum, following Pliny's definition (*Nat. Hist.*, XXXIII, 23), is an alloy of gold with twenty or more per cent silver. He uses the term for both naturally occurring and intentionally produced alloys, both of which were used in Roman times. Historians of ancient metalwork generally confine the meaning to the former. Many of the electrums described below also contain intentional additions of copper. Regardless of geological source, the presence of copper in silver, gold or electrum in amounts of more than approximately 1.5 per cent is considered to be the result of intentional alloying: Z. A. Stós-Fertner and N. H. Gale, 'Chemical and Lead Isotope Analysis of Ancient Egyptian Gold, Silver and Lead', in I. Schollar (ed.), *Proceedings of the 18th International Symposium on Archaeometry and Archaeological Prospection, Bonn, 14–17 March 1978* (Archaeo-Physika 10; Cologne, 1979), 299–314, esp. 306; N. H. Gale and Z. A. Stós-Gale, 'Ancient Egyptian Silver', *JEA* 67 (1981), 103–35, esp. 107.

[3] The following brief discussion is based primarily on the most recent thorough treatment of ancient Egyptian metal terminology, which appears in Harris, *Lexicographical Studies*, 32–50.

[4] Andrew Oddy, for example, has stated on several occasions (e.g. in 'Gilding Through the Ages', *Gold Bulletin* 14 (1981) 75–9; 'Gilding of Metals in the Old World', in S. La Niece and P. T. Craddock (eds), *Metal Plating and Patination* (London, 1993), 171–81) that gold refining began in Egypt during the New Kingdom. This possibility, based on examination of crucible sherds of New Kingdom date, has been proposed recently by Th. Rehren and S. Young, 'Melting and Refining of Gold', paper presented at the *World Archaeological Congress IV* in Cape Town in 1999. According to sources summarized by P. Hatchfield and R. Newman, 'Ancient Egyptian Gilding Methods', in D. Bigelow, E. Cornu and G. F. Landry (eds), *Gilded Wood, Conservation and History* (Madison, CT, 1991), 27–47, esp. 30–1, the ability to produce extremely thin gold leaf is not dependent on the availability of high-purity gold, as had been suggested by Oddy. Stós-

Colour rather than working properties may have been a major consideration in the choice of a gold–silver alloy, regardless of its origins. Each pure metal has a characteristic colour. This varies in alloys of different compositions and in the case of gold and silver, a palette of metal colours ranging between the end points of gold's bright yellow tone and the cool silvery white of silver can be observed. Whereas only a small amount of silver will affect the natural colour of gold, more substantial amounts of gold must be added to silver to change it perceptibly. In fact, most gold–silver alloys from ancient Egypt are ternary mixtures of gold, silver and copper, and the effect of copper on the colour of gold–silver alloys can be considerable.[5] Much has been written about the aesthetics of colour in the manipulation of precious metals, perhaps most convincingly with respect to the ancient cultures of the New World.[6] The extent to which subtle colour variations among different gold–silver alloys were observed or appreciated by the ancient Egyptians is a question worthy of consideration.

In ancient Egypt, the two most important symbolic associations with silver were the moon and ritual purity.[7] Although the ibis-headed Thoth was the major lunar deity, the use of silver was not particularly favoured for his images. Solar gods, such as Horus and Hathor, also had lunar aspects, which were associated with silver. The god Nefertem was represented in silver probably far more frequently than any other deity, but the correlation between deity and metal finds no parallel in textual sources.[8] Gold was primarily associated with the sun and solar deities, and with rebirth. Gold and silver have also been paired with the flesh and bones of the gods respectively.

Fertner and Gale, in Schollar (ed.), *Proceedings of the 18th International Symposium,* 308, note that naturally occurring gold of high purity is rare but not unknown, and suggest that in ancient Egypt this scarcity was paralleled by the only rare occurrences of high-purity gold artifacts. Hatchfield and Newman, in Bigelow et al. (eds), *Gilded Wood*, 32–3, include analyses of many leaf samples of high-purity gold, but with one exception they date to the Late Period or later. The earliest material evidence of gold refining in the Mediterranean basin, which dates to the late seventh to mid-sixth century BC, was found at Sardis in western Anatolia; see, most recently, N. D. Meeks et al., 'The Scientific Study of the Refractory Remains and Gold Particles from the Lydian Gold Refinery at Sardis', in S. Demirci, A. M. Özer and G. D. Summers (eds), *Archaeometry* 94, *Proceedings of the 29th International Symposium on Archaeometry* (Ankara, 1997), 461–82. R. J. Forbes, *Ancient Technology,* VII[2] (Leiden, 1964), 173–4, discusses the possibility of gold refining in earlier periods, based on textual evidence; c.f. J. H. F. Notton, 'Ancient Egyptian Gold Refining; A Reproduction of Early Techniques', *Gold Bulletin* 7 (1974), 50–6.

[5] E. Drost and J. H. Haußelt, 'Uses of Gold in Jewellery', *Interdisciplinary Science Reviews* 17 (1992), 271–80 and fig. 1.

[6] H. N. Lechtman, 'Traditions and Styles in Central Andean Metalworking', in R. Maddin (ed.), *The Beginning of the Use of Metals and Alloys* (Cambridge, MA, 1988), 344–78, esp. 169–75; D. Schorsch, E. G. Howe and M. T. Wypyski, 'Silvered and Gilded Copper Metalwork from Loma Negra: Manufacture and Aesthetics', *Boletin Museo de Oro* 41 (1997), 145–63; D. A. Scott, 'Depletion Gilding and Surface Treatment of Gold Alloys from the Nariño Region of Ancient Colombia', *JHMS* 17 (1983), 99–115; c.f. J. M. Ogden, 'Gold in Antiquity', *Interdisciplinary Science Reviews* 17 (1992), 262–3; S. La Niece, 'Depletion Gilding from Third Millennium Ur', *Iraq* 57 (1995), 41–7.

[7] For the symbolic associations of gold and silver based on textual sources such as temple inscriptions and funerary books, mostly dating from the Ramesside through the Ptolemaic periods, see S. Aufrère, *L'Univers minéral dans le pensée égyptienne*, II (Cairo, 1991), 353–406 (gold), 409–23 (silver). As Aufrère himself points out in his introduction to the 'theology of gold' (p. 353), a true 'history' of the emergence of these associations is a major study still to be undertaken.

[8] L. Becker, L. Pilosi and D. Schorsch, 'An Egyptian Silver Statuette of the Saite Period', *MMJ* 29 (1995), 37–56, esp. n. 46. This is certainly the case if one considers only large silver figures, relatively few of which have survived. Like most Egyptian metal figures of deities, extant silver figures of Nefertem derive from the market and are generally attributed to the second half of the first millennium BC.

Precious-metal polychromy, as it emerges in Egypt in the Eighteenth Dynasty, is a specific achievement, reflected in the manufacture of royal jewellery of the highest quality, that exploits the decorative, colouristic and symbolic values of gold, silver and electrum. It is manifest most fully in the jewellery of Tutankhamun but has roots in the arts and aesthetics developed in the time of his immediate predecessors, Amenhotep III and Akhenaten. These precious metals, however, were already in earlier periods used together in ways that were visually or symbolically meaningful to the ancient craftsman and his patrons. At the same time, there are many cases in which the juxtaposition of silver and gold or electrum can perhaps best be described as random.

The juxtaposition of gold and silver in ancient Egypt

One of the the earliest Egyptian examples of gold and silver used together in the manufacture of a single object probably dates to the late Predynastic Period or to the beginning of the Early Dynastic Period.[9] This enigmatic find from Hamra Dom (near Abadiyeh and Hu) consists of a rectangular sheet of gold with rounded edges (*c.* 6.7 × 3.5 cm) (pl. VII, 1), described in the *Journal d'Entrée* as a handle or cover for a tool. The gold was at least partially wrapped in a single sheet of silver that did not survive burial very well and that has deteriorated further since its recovery at the end of the nineteenth century. Each corner of the sheet is perforated with two small holes. Instances such as this, where silver covers gold rather than vice versa, are extremely rare in the ancient world.[10] Although its significance is not apparent to the modern observer, the juxtaposition of gold and silver in this manner must be interpreted as deliberate.

At least two wooden artifacts plated with both gold and silver leaf were found in the early Fourth Dynasty tomb of Queen Hetepheres at Giza. One of these is a headrest,[11] and although the wooden substrate is not preserved, it was possible for the excavator to reconstruct its form and the distribution of the precious metal leaf on its surfaces. Silver had been applied to the base, the fluted column and the block on top of the column and gold to the curved upper piece that supported the head. It is not certain if the silver and gold leaf were positioned in this way for visual contrast or if their presence and placement have some correlation to their symbolic value, or to their inherent colourations.

In fact, in the few cases dating prior to the Middle Kingdom where gold and silver (or electrum) were used together, usually in the form of beads, the combinations have no recognizable visual patterns. Such juxtapositions may parallel the early practice of not distinguishing in writing between precious metals, but more than anything, these simple necklaces and bracelets probably represent accumulations of desirable commodities, with gold and silver and other materials—faience, glazed steatite, semi-precious stones, ivory,

[9] Cairo JE 31563 = CG 14516: J. E. Quibell, *Archaic Objects* (CG; Cairo, 1905), 278, pl. lviii. Unfortunately there does not appear to be reliable documentation for this find, which also included two silver blades as well as a number of other artifacts; see E. Baumgartel, *The Cultures of Predynastic Egypt*, II (London, 1960), 8–9. Gold overlay and, according to Baumgartel (*Predynastic Egypt* II, 9) silver rods, were used in the embellishment of the lug handles of a porphyry vessel (JE 31548 = CG 14341) associated with the find. The rods are described as 'copper?' by Quibell and as bronze in the *Journal d'Entrée*.

[10] D. Schorsch, 'Silver-and-Gold Moche Artifacts from Loma Negra, Peru', *MMJ* 33 (1998), 109–36, esp. 125–8.

[11] G. A. Reisner and W. S. Smith, *A History of the Giza Necropolis*, II (Cambridge, MA, 1955), 42–3, fig. 43 and pl. 39. A tubular wooden box (now Cairo JE 89619a–b) thought to have contained walking sticks also had parts that were covered with gold leaf and leaf of silver or electrum. In this case, unfortunately, the condition of the find made any reconstruction tenuous: Reisner and Smith, *Giza Necropolis* II, 45–6, fig. 46 and pl. 33.

copper, etc.—used interchangeably, if and as available. Unfortunately, we usually have no knowledge of how these small, often simple, beads and spacers were originally strung. Later in date, but among the few well-documented examples, is a necklace of gold, silver, faience and semi-precious stone beads, seemingly strung in a random manner, that was found with its string intact in the tomb of Neferu (pl. VII, 2).[12] The burial was found among the Eleventh Dynasty tombs of royal women located within a courtyard of the temple of King Mentuhotep II at Deir el-Bahri and was excavated during the 1924–5 campaign of the Metropolitan Museum's Egyptian Expedition.[13]

The use of silver increased substantially in Egypt during the Middle Kingdom, and although this is reflected in the increased number of extant objects that combine gold and silver, their number remains quite low relative to the overall production of artifacts of one metal or the other, and especially of gold, at least until the first millennium BC. An example of a Middle Kingdom object on which the placement of two differently coloured alloys seems decorative is the *sa*-amulet also found in an Eleventh Dynasty tomb at Deir el-Bahri (pl. VII, 3).[14] Said to represent a life preserver made of reeds or a folded tent, the amulet consists of alternating electrum and silver wires held in place mechanically by six flat electrum bands;[15] the bands themselves appear to have been fused closed. A second example of a decorative juxtaposition of gold and silver dating to later in the Middle Kingdom was found at Abydos in a rich tomb of an official named Hor, where it is seen on a ring consisting of a lapis lazuli scarab in a gold bezel mounted on a silver band.[16]

The earliest example of any kind of metal inlay from ancient Egypt dates to the beginning of the Twelfth Dynasty.[17] It is found on one of the two silver scarabs (pl. VIII, 1) that belonged to Wah, a private individual whose burial at Deir el-Bahri is notable for the pre-

[12] MMA 25.3.246: W. C. Hayes, *The Scepter of Egypt: A Background for the Study of Egyptian Antiquities in The Metropolitan Museum of Art*, I (New York, 1953), 160, 229; H. E. Winlock, 'The Excavations at Thebes', *BMMA* 21, 3, supplement (1925), 5–32.

[13] Additional interesting cases where the arrangement appears to be random can be cited. A set of four simple gold and silver spacers in The British Museum (EA 63444) dating to the First Intermediate Period was found on the wrist of a woman buried at Matmar (G. Brunton, *Matmar* (BME; London, 1948), 47, pls. xxvii, xxxii, no. 150; C. Andrews, *Ancient Egyptian Jewellery* (London, 1990), 52, no. 314, pl. 25). Each spacer consists of four ring beads joined side by side; one spacer is gold, two are entirely of silver, while the fourth has three silver beads and one of gold, the latter possibly added during repair in ancient times. An apparently random combination of gold, electrum and silver leaf once adorned the Thirteenth Dynasty wooden anthropoid coffin of Senebtisi found at el-Lisht. The coffin no longer survives but the fragments of its precious metal cladding recovered by the excavators exhibit a wide range in composition and, correspondingly, a wide range in colour: A. C. Mace and H. E. Winlock, *The Tomb of Senebtisi at Lisht* (MMA Egyptian Expedition 1; New York, 1916), 36–49; J. H. Frantz and D. Schorsch, 'Egyptian Red Gold', *Archeomaterials* 4 (1990), 133–52, esp. 151. Whether or not the maker or the owner of this coffin visually distinguished between the different colours is not clear. If so, the disparities were overlooked or deemed irrelevant.

[14] MMA 25.3.253:Winlock, *BMMA* 11, 3, supplement, 21 and fig. 2; Hayes, *Scepter* I, 162, 230.

[15] Surface analyses of the wires and of one electrum band were carried out using energy dispersive X-ray spectroscopy at the Sherman Fairchild Center for Objects Conservation at The Metropolitan Museum. The silver wires contain 1–3 per cent gold, as well as copper. The electrum wires and the band contain varying amounts of silver, ranging from 25–40 per cent, as well as copper, but visually are quite similar; c.f. Drost and Haußelt, *Interdisciplinary Science Reviews* 17, fig. 1.

[16] University of Pennsylvania Museum E 9192; J. Garstang, *El Arabah* (ERA 1900; London, 1901), 4, pl. i; illustrated in colour in D. P. Silverman, *Searching for Ancient Egypt: Art, Architecture and Artifacts from the University of Pennsylvania Museum* (Dallas, 1997), no. 56. In both publications the materials are described as lapis lazuli and gold.

[17] Most extant Egyptian metal objects with metal inlay are bronzes, often artificially patinated, that were embellished with one or more metals such as gold, silver, electrum, copper and unpatinated bronze. The most elaborate of these incrusted black bronzes present another type of metal polychromy. The earliest examples include the figure of a kneeling king in the Ortiz Collection (G. Ortiz, *In Pursuit of the Absolute: Art of the Ancient World. The George Ortiz Collection*,

cious metal artifacts it contained, and the relatively abundant use of silver at a time when it occurs so infrequently.[18] The wings are inlaid with electrum hieroglyphs naming Wah and his employer Meketra with their respective titles. There is certainly a visual component here; if the inlays were not a different material they would not be visible, and it is therefore interesting to observe that the hieroglyphs are barely legible because the electrum is so pale.[19] Within the assemblage of silver components that make up each scarab is a longitudinal tube made of electrum. These tubes, which have the practical function of holding the cord, are barely visible, in part because of their pale colour, and in part because of their mostly interior position.[20]

An interesting juxtaposition of gold and silver is seen on two fragments of a *cloisonné* inlay 'plaque' of Middle Kingdom date excavated in 1994 at Dahshur by the Metropolitan Museum's Egyptian Expedition (pl. VIII, 2).[21] The larger fragment consists of a silver backplate, approximately 2.5 × 3.5 cm, to which gold *cloisons* framing six rosettes were applied. A smaller fragment supporting two rosettes is equal in size to the original width of the plaque. Gold strips form a border along one long and one short side of the larger fragment, and the longer strip extends approximately 5 cm beyond the break edge of the backplate, perhaps indicating the plaque's original length. The fields that surround the rosettes are inlaid with carnelian and turquoise. Each rosette consists of blue and white inlays forming

---

revised edition (London, 1996) no. 37) and a crocodile in the Ägyptische Sammlung in Munich (D. Wildung, 'Berichte der Staatlichen Kunstsammlungen, Neuerwerbung, Staatliche Sammlung Ägyptischer Kunst', *Münchner Jahrbuch der bildenen Kunst*, series 3, 30 (1979), 202–4). Both are said to come from the Faiyum as part of an undocumented find of late Middle Kingdom bronzes; for confirmation of the intentional origins of the black surfaces on these bronzes, see A. Giumlia-Mair, 'Das Krokodil und Amenemhat III. aus el-Faiyum', *Antike Welt* 27 (1996), 313–21; idem, 'Black Copper is not Niello', *Egyptian Archaeology* 11 (1997), 35–6. Objects of similar manufacture and date are known from Syrian and Mycenaean contexts. Based on visual observations of highly decorated weapons from the tomb of Ahhotep (see n. 39 below) one might suggest that the manufacture of artificially patinated encrusted bronzes was probably revived in Egypt at the very beginning of the New Kingdom. The high quality figural bronzes of the Third Intermediate Period are among the finest examples of metal polychromy of this type.

[18] MMA 40.3.12-13: H. E. Winlock, 'A Discovery of Egyptian Jewelry by X-Ray', *BMMA* 31 (1936), 274–8; D. Schorsch, 'The Gold and Silver Necklaces of Wah: A Technical Study of an Unusual Metallurgical Joining Method', in C. E. Brown, F. Macalister and M. M. Wright (eds), *Conservation in Ancient Egyptian Collections* (London, 1995), 127–35. The dating of Wah's tomb is reconsidered in Do. Arnold, 'Amenemhat I and the Early Twelfth Dynasty at Thebes', *MMJ* 26 (1991), 5–48.

[19] The inlays contain approximately 29 per cent silver and 5 per cent copper. They are visible clearly here in plate VIII, 1 because the silver was covered with a dark grey tarnish at the time the scarab was photographed.

[20] The electrum internal tubes of the inlaid scarab and the other scarab contain approximately 21 and 42 per cent silver respectively, with small amounts of copper. The silver used in the manufacture of the scarabs and Wah's ball-bead necklace has been found to contain no gold (Schorsch, in C. E. Brown et al. (eds), *Conservation in Ancient Egyptian Collections*, 129; c.f., J. Mishara and P. Meyers, 'Ancient Egyptian Silver: A Review', in A. Bishay (ed.) *Recent Advances in Science and Technology of Materials*[3] (New York, 1974), 29–45, 36, nn. 2–4), which is traditionally associated with a foreign origin; see, for example, A. Lucas, 'Silver in Early Times', *JEA* 14 (1928), 313–19; Gale and Stós-Gale, *JEA* 67; Th. Rehren, K. Hess and P. Graham, 'Auriferous Silver in Western Asia: Ore or Alloy?', *Journal of the Historical Metallurgy Society* 30 (1996), 1–9. Laurion, on the Greek mainland, has been suggested as the source for Wah's silver, on the basis of its lead isotopic ratios (Z. Stós-Gale, unpublished report).

[21] The fragments (field nos. 1994.1341–1342) are among the precious metal finds from the tomb of Queen Weret (*c.* 1880 BC) in the Senwosret III pyramid temple complex at Dahshur: Di. Arnold and A. Oppenheim, 'Reexcavating the Senwosret III Pyramid Complex at Dahshur', *KMT* 6 (1995), 44–56; A. Oppenheim, 'A First Look at Recently Discovered 12th Dynasty Royal Jewelry from Dahshur', *KMT* 6 (1995), 10–11; idem, 'The Jewellery of Queen Weret', *Egyptian Archaeology* 9 (1996), 26.

petals, overlaid by a rock crystal disk.[22] The disks are held in place by copper (or copper alloy) nails with gilded heads, which would have also secured the plaque to its support. The function of the plaque is unknown, and again one must note that it was manufactured at a time when silver—and in this case silver that would not have been at all visible—was clearly more rare than gold, while the latter, according to modern scholars, was only beginning to become more highly valued.

This method of manufacture—that is, the pairing of a silver backplate with gold *cloisons*—continues to be used in the New Kingdom and later. In the majority of cases, the imagery of these *cloisonné* jewels relates to feathers. An elaborate falcon pectoral in The British Museum is said to come from Thebes and probably dates to the late New Kingdom. Described as silver in a recent publication,[23] the pectoral, in fact, has gold *cloisons* applied to a silver backplate. Also of interest is a *cloisonné* inlay falcon pectoral in the Museum of Fine Arts in Boston with a silver backplate and silver *cloisons* that were gilded on their narrow exposed edges.[24] It has been proposed that the use of gold and silver on the Boston pectoral reflects the association of these metals, known from texts, with the flesh and bones of the gods.[25]

Throughout Egyptian history, gold leaf and sheet were applied to metal and to other substrates to impart to them the visual appearance or symbolic value of gold. As a rule, partially or entirely gilded silver was relatively rare in Egypt until at least the first millennium BC,[26] and most, if not all, descriptions of artifacts dated earlier than the New Kingdom as gilded silver have been proven erroneous.[27] There are, however, a number of examples

[22] The blue and white elements of the Dahshur rosettes are probably Egyptian blue and limestone. The use of rock crystal over inlays is also known from a gold pendant representing a recumbent cow from the tomb of Princess Khnumet, also located at Dahshur, but dating earlier in the Twelfth Dynasty; see Cairo JE 51126 = CG 52975, illustrated in colour in C. Aldred, *Jewels of the Pharaohs: Egyptian Jewellery of the Dynastic Period* (Washington D. C. and New York, 1971), pl. 29, top.

[23] EA 14355: Andrews, *Jewellery*, pl. 175.

[24] MFA 1981.159: P. Lacovara, 'An Ancient Egyptian Royal Pectoral', *Journal MFA* 2 (1990), 19–29; R. Newman, 'Technical Examination of an Ancient Egyptian Royal Pectoral', *Journal MFA* 2 (1990), 30–7; C. Lilyquist, 'The Boston/Lafayette Jewel and Other Glass-Inlaid Ornaments', *Varia Aegyptica* 9 (1993), 33–44. The date of the pectoral is uncertain, both on stylistic and technical grounds. The use of gilded silver, particularly as the gold was applied metallurgically using a diffusion method, may support a later date, as does the use of glass inlays. In the Egyptian Museum in Cairo are at least two other 'jewels' dating to the Ptolemaic Period that combine a silver backplate with gold *cloisons*. These include four fragments of a 'collier' (CG 53194–53197), perhaps from two differents vessels, found at Mansura (E. Vernier, *Bijoux et orfèvreries* (CG; Cairo, 1927), 393–4, pl. lxxxviii) and the wings of a scarab (JE 46356) found as part of a votive hoard near the sacred lake at Dendera temple (A. Abdalla, 'Finds from the Sebbakh at Dendera', *GM* 145 (1995), 9–28, esp. 23). The body of the scarab is made of lapis lazuli. A 'winged' *cloisonné* inlay plaque in the Louvre (E 25379), described in museum records as a vessel mount, is constructed from gold *cloisons* on what is presumably a silver backplate (S. Gänsicke, 'King Aspelta's Vessel Hoard from Nuri in the Sudan', *Journal MFA* 6 (1994), 14–40 and fig. 13). Recently, a wet chemical analysis of corrosion products on the backplate raised doubt as to whether it is actually made of silver; instrumental analysis of the metal itself will be undertaken in the near future to clarify this question. See Lilyquist, *Varia Aegyptica* 9, 39-40, for descriptions of three additional inlaid jewels in the Ashmolean Museum and the Ny Carlsberg Glytothek that are thought to employ both gold and silver but also require closer examination.

[25] Lacovara, *Journal MFA* 2, 21. An oft-cited reference to this correspondence is found in the temple of Ramesses II at Abu Simbel (Aufrère, *L'Univers minéral*, 413).

[26] For a recent treatment of general and technical considerations, including textual references, relating to Egyptian as well as Nubian gilded silver, see S. Gänsicke and R. Newman, 'Gilded Silver from Ancient Nubia', in T. Drayman-Weisser (ed.), *Gilded Metals: History, Technology and Conservation* (London, 2000), 73–96.

[27] For example, one of a pair of unpublished Middle Kingdom rings from Sheikh Farag (tomb 42, Boston, MFA, 13.3918–3919) described as gilded silver was analyzed recently by Richard Newman of the Department of Objects Con-

of partially gilded silver statuary, both solid and hollow, dating from the late New Kingdom or Third Intermediate Period onwards.[28] These include a striding figure of a king holding the goddess Maat in the Louvre,[29] a striding figure of the god Amun in The British Museum[30] and a standing figure of Horus formerly in the Hoffmann Collection.[31] Typically, the gold leaf highlights and embellishes clothing, headdresses or insignia; the kilt and uraeus of the royal figure in the Louvre are gilded, as well as the small figure of Maat in his hands. On the figure of Amun in The British Museum, the feather crown and the kilt are gilded.[32] One of the most impressive ancient Egyptian gilded-silver objects is a large, solid-cast, seated cult figure of the falcon-headed god Horus, now missing his crown, thought to date to the late New Kingdom or Third Intermediate Period.[33] The silver was never visible, as the massive figure, weighing upwards of sixteen kilograms, was entirely clad with thick sheets of gold that were hammered into channels scoring its surface. As with the falcon pectoral in the Museum of Fine Arts, the symbolic relationship between gold and silver and the flesh and the bones of the gods has been cited in connection with this figure.[34]

The preponderance of silver and its use with gold in the burials of Yuya and Thuya, the

servation and Scientific Research in the Museum of Fine Arts (personal communication), and found to be made from an alloy containing approximately 42 per cent gold and 6 per cent copper, with the remainder silver. The publication of an Eleventh Dynasty bracelet from Deir el-Bahri as gilded silver has also proven to be inaccurate. This bracelet is one of a pair excavated by Naville (E. Naville, *The Eleventh Dynasty Temple at Deir el-Bahari*, I (MEEF 28; London, 1907), 44, pl. x) and now in The British Museum (EA 40931: Andrews, *Egyptian Jewellery*, 60, no. 391, pl. 29). Both bracelets were analyzed by Michael Cowell of the Department of Scientific Research at the British Museum and the author in 1996 and found to be made of silver that contains a modest amount of gold (*c.* 2.4 per cent). It is doubtful that the Second Intermediate Period silver diadem in the Rijksmuseum van Oudheden in Leiden (G.1) is gilded, as has been suggested by A. Wilkinson, *Ancient Egyptian Jewellery* (London, 1971), 111; c.f. M. J. Raven, 'The Antef Diadem Reconsidered', *OMRO* 68 (1988), 77–90.

[28] Becker et al., *MMJ* 29, 47 and 52. In ancient Egypt, hollow silver statuary was the exception.

[29] E 27431: C. Ziegler, 'Jeune pharaon présentant l'image de la déesse Maât', *La Revue du Louvre et des Musées de France* 3 (1988), 181–5.

[30] EA 60006: S. Quirke and A. J. Spencer, *British Museum Book of Ancient Egypt* (London, 1992), 75, fig. 55.

[31] G. A. Legrain (ed.), *Collection H. Hoffmann, catalogue des antiquités égyptiennes* (Paris, 1894), 110.

[32] A peculiar silver statuette in Leiden (AO 11c) represents a woman 'wearing' a gold sheet outfit. Her hair or head covering is gilded; illustrated in colour in National Museum of Antiquities, *Life and Death Under the Pharaohs* (Leiden, 1998), no. 77; see also, Becker et al., *MMJ* 29, n. 66. The figure is mounted on a wooden base inscribed with the name of Thutmose III.

[33] N. Reeves and J. H. Taylor, *Howard Carter before Tutankhamun* (London, 1993), 172; C. H. Roehrig, 'Cult Figure of a Falcon-headed Deity', in *Ancient Art from the Shumei Family Collection* (New York, 1996), 4–7.

[34] Reeves and Taylor, *Before Tutankhamun*, 172. Interesting to mention in a discussion of early gilded silver is a group of broad 'slit' earrings (also called hair-rings), popular in the late New Kingdom (Nineteenth–Twentieth Dynasties). A number of these were made of gilded silver, including an unprovenanced pair in The British Museum (EA 14347–14348) that were studied in depth by Meeks (unpublished report, 1977). These were found to have been gilded by a metallurgical method, perhaps diffusion. Provenanced examples are known from Saqqara (Brooklyn Museum of Art 37.745E and Cairo JE 6471 = CG 52372–52373; see C. R. Williams, *Catalogue of Egyptian Antiquities 1-160, Gold and Silver Jewelry* (New York, 1924), 117–18, pl. xv. a-d, and Vernier, *Bijoux et orfèvreries*, 130–1, pl. xxix), from Riqqeh (whereabouts unknown; see R. Engelbach, *Riqqeh and Memphis*, VI (BSAE 25; London, 1915), 15, pl. xi) and from Saft el-Henna (Goshen) (Victoria and Albert Museum 532-a.1906; W. M. F. Petrie, *Hyksos and Israelite Cities* (BSAE 12; London, 1906), 37, pls.xxxviiiA, no. 26); the whereabouts of a second pair, from grave 176 (p. 38), is unknown. Also dating to the late New Kingdom is an unusual gilded-silver plaque in the Museum of Fine Arts in Boston (04.1955) believed to be part of the burial equipment of Queen Nefertari, the principal wife of Ramesses II. The plaque measures 11.5 × 4.7 cm and is inlaid with semi-precious stones and glass. A recent technical examination in the Museum of Fine Arts indicates that the gold was applied to a calcium carbonate ground on top of a resin-impregnated textile; see Y. Markowitz, P. Lacovara and P. Hatchfield, 'Jewellery Fragments from the Tomb of Nefertari in the Museum of Fine Arts', in E. Goring, N. Reeves and

parents of Amenhotep III's chief wife Tiye, has been noted by Lilyquist, who discussed a pair of sandals found on the mummy of Thuya.[35] In fact, both metals were used primarily in the form of leaf applied over gesso onto wooden substrates. Of particular interest are the fourth coffin of Yuya and the third coffin of Thuya, both of which are silvered on their interiors and gilded on their exteriors.[36] Additionally, two of Thuya's shabti figures and her inner coffin were covered with silver leaf partially overlaid with gold leaf.[37] As noted, provenanced gilded silver of any kind unequivocally dated prior to the New Kingdom is practically unknown; gilded silver leaf of any pharaonic date appears equally unusual.[38]

A use of gold and silver to denote social or professional standing, thus far unique, can be observed on a model barque found among the funerary equipment of Queen Ahhotep, whose burial at Thebes contained a number of objects made of gold and/or silver and/or electrum.[39] The barque, which is carried on a wooden and copper alloy chariot, is made of gold. The figures of the oarsmen were cast in silver, while three men of higher status—a helmsman, and two supervisors, one standing and one seated—are gold.[40]

Precious-metal polychromy in the time of Tutankhamun

The jewellery found in the tomb of Tutankhamun attests to the sophisticated use of gold, silver and electrum during the second half of the Eighteenth Dynasty. While our ability to recognize this achievement during this period must in part be due to the abundance of finds—Tutankhamun's tomb contained the only burial of an Egyptian king to have survived largely undisturbed by ancient and modern looters—there are a few precious metal objects dating earlier in the New Kingdom that herald this later development. Tutankhamun's jewellery probably reflects aesthetic traditions and their expression in metalwork that reach back to the reign of Amenhotep III (probably his grandfather) in the first half of the fourteenth century BC, a period associated with great material wealth and a high level of visual and technological refinement in small-scale works of art.

Among the several thousands of objects found in Tutankhamun's tomb, more than twenty clearly juxtapose gold, silver and/or electrum. Before discussing the pectorals and related jewels and one of the king's thrones, mention should be made of Tutankhamun's second coffin, of solid gold, the lid of which was fixed to its case with ten silver tenons inscribed

J. Ruffle (eds), *Chief of Seers, Egyptian Studies in Memory of Cyril Aldred* (London and New York, 1997), 220–8. In Egypt this gilding method is most commonly associated with wooden or other non-metallic substrates, but it has been occasionally observed on copper alloy or bronze objects; see W. A. Oddy, T. G. Padley and N. D. Meeks, 'Some Unusual Techniques of Gilding in Antiquity', in Scollar (ed.), *Proceedings of the 18th International Symposium*, 230–42.

35 C. Lilyquist, 'Descriptive Notes from the Valley', in Goring et al., *Chief of Seers*, 201–6.

36 Yuya, JE 95227 = CG 51004; Thuya, JE 95233 = CG 51007: J. E. Quibell, *The Tomb of Yuaa and Thuiu* (CG; Cairo, 1908), 10–17, 23–7, pls. iii–vi, ix–xii

37 Shabti figures, JE 95363 and 96364 = CG 51037 and 31038; inner coffin, JE 95226 = CG 51003: Quibell, *The Tomb of Yuaa and Thuiu*, 5–10, 38–9, pls. iii–iv, xvii.

38 See n. 45 below.

39 F. W. von Bissing, *Ein thebanischer Grabfund aus dem Anfang des Neuen Reiches* (Berlin, 1900). Ahhotep's burial and grave goods are discussed in depth by Wilkinson, *Egyptian Jewellery*, 95, 100–3, 108–9, 135–8, and by Aldred, *Jewels*, 198–203, pls. 49–58; unfortunately, systematic identification of materials has not been undertaken. Ahhotep is conventionally believed to be the mother of Kamose, the last ruler of the Second Intermediate Period, and of Ahmose, founder of the Eighteenth Dynasty; for a recent consideration of her identity, see M. Eaton-Krauss, 'The Coffins of Queen Ahhotep, Consort of Seqeni-en-Re and the Mother of Ahmose', *CdE* 55 (1990) 195–205.

40 JE 4681+CG 52666: illustrated in colour in M. Saleh and H. Sourouzian, *Official Catalogue, The Egyptian Museum* (Mainz, 1987), no. 123.

with the name of the king.[41] Other objects that combine gold and silver include an ointment container in the shape of a cartouche,[42] two trumpets,[43] a bracelet,[44] a sickle,[45] various sticks[46] and a 'sword-stick' guard.[47] Of special interest is a pair of staves, one of gold and one of silver, each surmounted by a small image of the young king.[48] The use of gold and silver for these staves has been noted and discussed frequently.[49]

Tutankhamun's burial contained many pectorals, collars and other jewels to be worn around the neck. Among these, particularly relevant to a discussion of the juxtaposition of gold, electrum and silver, are the traditional shrine pectorals. Some of these ornaments were found on the body of the king and others in various caskets deposited in the tomb.[50] Several pectorals are thought to have been made for other patrons and then scavenged or

[41] JE 60670 = CCN 254: illustrated in N. Reeves, *The Complete Tutankhamun. The King, his Tomb, the Royal Treasure* (London, 1990), 110; c.f. Aufrère, *L'Univers minéral* II, 313. The first, or outer, gilded wooden coffin also had silver tenons, as well as silver handles, and both coffins had silver nails with gold heads that secured the tenons; see H. Carter and A. C. Mace, *The Tomb of Tut-Ankh-Amen,* II (London, 1927), 71, 75.

[42] JE 61496 = CCN 240bis. The cosmetic vessel is described and illustrated in colour in *Tutanchamun*, exhibition catalogue (Berlin, 1980), 100–3; for the symbolic significance of some of the coloured inlays, see L. Manniche, 'The Body Colours of Gods and Men in Inlaid Jewellery and Related Objects from the Tomb of Tutankhamun', *AcOr* 43 (1982), 5–12, esp. 10.

[43] JE 62007 = CCN 175: illustrated in Reeves, *Complete Tutankhamun*, 164. There is a second trumpet (JE 62008 = CCN 50gg), combining gold and silver (and bronze or copper) elements; see I. E. S. Edwards, *Tutankhamun: his Tomb and his Treasures* (New York, 1976), 103, for description and pl. 8 for colour illustration.

[44] JE 62007 = CCN 256hh2. This bracelet consists of a gold bangle and what appears to be a silver *wedjat*-eye; the latter is described as iron by Carter and Mace (*Tut-Ankh-Amen* II, 122, pl. lxxxii.a3).

[45] JE 61246 = CCN 561. It was made of wood with gilded silver sheet; the blade is made of pieces of blue glass.

[46] E.g. JE 61653 = CCN 50xx: illustrated in H. Carter and A. C. Mace, *The Tomb of Tut-Ankh-Amen,* I (London, 1923), pl. lxxi.a; JE 61661 = CCN 582i: illustrated in H. Carter and A. C. Mace, *The Tomb of Tut-Ankh-Amen*, III (London, 1933), pl. xlv.a; JE 61262 = CCN 582b; JE 61667 = CCN 204 and JE 61675.

[47] JE 61659 = CCN 619c.

[48] JE 61665 and 61666 = CCN 235a–b. The bottom of the silver stave is covered with an elongated electrum or gold cap; the gold figure is illustrated in colour in Edwards, *Treasures*, pl. 12; see C. Desroches-Noblecourt, *Tutankhamen, Life and Death of a Pharaoh* (London, 1963), 136, for a black and white illustration of both figures.

[49] Desroches-Noblecourt (*Tutankhamen*, 262–3), for example, suggests that the numerous walking sticks found in the tomb were used during Tutankhamun's funeral, and proposes two possible symbolic meanings specifically for the gold and silver pair. She writes that the staves could refer to the king's role in the reincarnation of the sun and moon, but she also proposes a more active purpose, that of assuring, through their sympathetic magic, the reconstitution of Tutankhamun's body after death, with the silver, his bones, and the gold, his flesh, respectively the creations of his male and female parents. Munro (in *Tutanchamun*, 70–1) discusses the staves in terms of a reintroduction of the orthodox Amun-Min dogma following the heresies of the Amarna Period, while Reeves (*Complete Tutankhamun*, 178) suggests that they were used during Tutankhamun's coronation. See also M. Hill, *Ancient Egyptian Royal Bronzes, with Special Attention to the Kneeling Pose* (doctoral dissertation, New York University, 2000), 45–7, for a discussion of ritual staves, including the gold and silver staves of Tutankhamun and a formerly gilded, copper alloy Amarna Period figure of a young king that would have surmounted a staff. As noted by Hill, the latter figure was probably found by Borchardt at Gurob, which according to a recent suggestion by Do. Arnold (*The Royal Women of Amarna, Images of Beauty from Ancient Egypt* (New York, 1996), 27–8) was the site of a funerary cult of Amenhotep III, and as such may provide insights into the significance of the gold and silver staves from Tutankhamun's tomb. The Gurob figure is now in the Walters Art Gallery in Baltimore (54.406); published (without provenance) by G. Steindorff, *Catalogue of the Egyptian Sculpture in the Walters Art Gallery* (Baltimore, 1946), no. 134.

[50] References to colour illustrations appear in the notes below; for general discussions of Tutankhamun's pectorals and individual descriptions, see Wilkinson, *Egyptian Jewellery*, 138–46; Aldred, *Jewels*, 217–24; M. Vilímková, *Egyptian Jewellery* (London, 1969), nos. 32, 34–51; Edwards, *Treasures*, *passim*; E. Feucht-Putz, *Die königlichen Pektorale: Motive, Sinngehalt und Zweck* (Bamberg, 1967), *passim*. The pectorals bear CCN numbers beginning with 256 (found on the

reused for the young ruler's hasty interment.[51] Ten of the pectorals found in the tomb, and one piece thought to be a counterpoise or clasp, combine gold and silver, gold and electrum, or gold, silver and electrum, in ways that relate specifically to the colours of the metals or symbolic values assigned them.

While each pectoral is a complex assemblage of motifs, each imbued with meaning, the general iconographic content of these eleven jewels combining gold and silver can be divided into three groups: six pectorals and the counterpoise/clasp present as their major theme solar imagery; three pectorals refer to the union of Upper and Lower Egypt; one pectoral probably represents a religious ceremony.

To the ancient Egyptians, Egypt existed not as a single entity, but as the union of 'the two lands', Lower Egypt and Upper Egypt. This duality was expressed constantly in texts, and visually through the juxtaposition of Upper and Lower Egyptian gods and goddesses, totem animals, plants, buildings, etc. When represented as the ruler of Upper Egypt, the king wore a distinctively shaped crown, called *hedjet*, or 'the white one'; the crown of Lower Egypt was called *deshret*, 'the red one'. In two- and three-dimensional sculptural representations and in wall-paintings, the crowns of Upper and Lower Egypt were painted white and red respectively. The double crown, combining elements of both regional crowns, was painted white and red, and appears in representations of the king (or a god) shown in relation to unified Egypt. A gold *cloisonné* inlay pectoral from the tomb of Sithathor at Dahshur, inscribed with the name of Senwosret II, is perhaps the only representation of the two crowns, in this case in the form of the double crown, on a high-quality jewel dating before the time of Tutankhamun. The components of the Lower Egyptian crowns worn by the opposed pair of Horus falcons are inlaid with bright orange carnelian, while the Upper Egyptian components are inlaid in blue turquoise.[52] The use of blue inlays for the white crown can also be seen on a gold pectoral from Tutankhamun's tomb that represents the goddesses Isis and Neith flanking two crowned cobras.[53] On the pectoral and counterpoise associated with Tutankhamun's corselet, the white crown elements are inlaid with white glass. On the counterpoise the red crown element is made of gold.[54]

An accurate representation in metal of the white crown occurs, apparently for the first time, on three of Tutankhamun's pectorals. One three-dimensional pectoral made of gold with *cloisonné* inlay represents the vulture goddess of Upper Egypt wearing a white crown made of electrum with inlaid gold *atef*-feathers (pl. VIII, 3).[55] A shrine pectoral depicts the god Osiris flanked by the vulture and cobra goddesses of Upper and Lower Egypt wearing,

---

king's body), 261 (found in the Anubis shrine), 267 (found in the marquetry casket) and 269 (found in the cartouche casket); c.f. H. Murray and M. Nuttall, *A Handlist of Howard Carter's Catalogue of Objects in Tut'ankhamūn's Tomb* (Tut'ankhamūn's Tomb Series 1; Oxford, 1963), 9–11.

[51] Discussed by, for example, Reeves, *Complete Tutankhamun*, 151, and D. C. Patch, 'Tutankhamun's Corselet: A Reconsideration of its Function', *BES* 11 (1991), 55–77.

[52] JE 30857 = CG 52001: illustrated in colour in H. Stierlin, *The Gold of the Pharaohs* (Paris, 1997), 96–7. The coiled appendage on the red crown is a gold wire. For the relationship between the colours blue and white, see below n. 89.

[53] JE 61945 = CCN 261i: illustrated in colour in Aldred, *Jewels*, pl. 95, where the red crown appears far more red than in reality. The identification of the material used for the inlay remains to be undertaken. According to Reeves (*Complete Tutankhamun*, 151), this pectoral might have originally been made for someone other than Tutankhamun.

[54] JE 62627 = CCN 54k: the corselet is discussed in Patch, *BES* 11, and illustrated in colour in H. W. Müller and E. Thiem, *Gold of the Pharaohs* (Ithaca, 1999), fig. 391. The inlay of the red crown on the pectoral is now a milky grey colour; the material used for the inlay and its original colour are not known.

[55] JE 61894 = CCN 267i: illustrated in colour in Aldred, *Jewels*, pl. 102.

respectively, a white crown of silver and a red crown of gold (pl. IX, 1).[56] Silver was also used on this pectoral for the representation of Osiris' linen-wrapped, mummiform body, which typically is white in painted representations, while his flesh is made of gold.[57]

The majority of Tutankhamun's pectorals, as well as many of his other personal jewels, whether of gold or of gold with silver or electrum, feature solar imagery that includes a falcon or, more frequently, a scarab beetle.[58] The pectorals with scarabs generally spell out in hieroglyphs or make allusion to the prenomen of Tutankhamun, Nebkheperure, 'lord of the evolutions of the sun',[59] and when they include components of silver or electrum, they represent the sun's lunar aspect, evoking an evolutionary stage that occurs at night during the sun's voyage through the underworld.

The most elaborate pectoral in this group is made of gold and silver; most of the inlays are glass (pl. IX, 2).[60] The images are arranged in horizontal registers. In the centre is a stone scarab of an unusual, pale-green colour, with outstretched wings and a falcon's tail. The scarab's lower legs are those of a falcon and in each talon it holds a *shen*-sign and a lily or lotus blossom. The scarab rests on a fringe of blossoms that has been likened to an Old Kingdom flower garland.[61] Its upper legs support a barque containing a *wedjat*-eye and two uraei, surmounted by the moon, which is represented by a silver disk on a gold crescent. On the disk is a small gold image of the king, flanked by the ibis-headed moon god Thoth, both wearing moon disks on their heads, and by the falcon-headed sun god, Re-Harakhty, wearing a sun disk. According to Alix Wilkinson, the pectoral illustrates the stages of transformation, paralleled by religious texts, that the king undergoes after death, from the time of his leaving the earth, represented by the flowers, until he meets the sun god Re.[62]

Four other pectorals reproduce some shorthand version of the sun's night journey. These always include one or more scarabs lifting the moon from the earth or the water, and in each case the moon is made of silver or electrum.[63] Another 'lunar aspect' pectoral presents the moon sitting directly on a barque,[64] and a solitary counterpoise (or clasp) juxtaposes the moon between the solar disks worn by flanking uraei.[65] Similar lunar imagery with the use

[56] JE 61946 = CCN 261o; a colour illustration of the pectoral in very tarnished condition appears in Aldred, *Jewels*, pl. 96. On another smaller pectoral (JE 61901 = CCN 256vvv; illustrated in colour in Desroches-Noblecourt, *Tutankhamen*, pl. xxxix.a) the two goddesses, wearing gold and silver crowns, flank a *wedjat*-eye.

[57] The flesh of males, human and divine, is generally painted red. In this case the parallel between gold and the colour red, discussed at greater length below, does not fit, as the skin of Osiris, because of his connection to the fecundity of the earth, is most often shown as green or black.

[58] I.e. JE 61886 = CCN 267a: illustrated in colour in Aldred, *Jewels*, pl. 104, top.

[59] This translation was suggested by James Allen; other variations have been proposed, including 'master of transformations like Re', suggested by Aldred, *Jewels*, 222; c.f. M. Vilímková, 'Pektoralien in Form von Tutankhamûn's ersten Namen *Nb-ḫprw-Rᶜ* und ihre Varienten', *Annales of the Naprstek Museum* 9 (1980), 163–9; D. P. Silverman, 'Cryptographic Writing in the Tomb of Tutankhamun', *SAK* 8 (1980), 233–6.

[60] JE 61884 = CCN 267d: illustrated in colour in Aldred, *Jewels*, pl. 106.

[61] Aldred, *Jewels*, 223.

[62] 'Jewellery for a Procession in the Bed-chamber in the Tomb of Tutᶜankhamūn', *BIFAO* 84 (1984), 335–45.

[63] Pectoral with counterpoise, JE 61887 = CCN 256qqq: illustrated in colour in I. E. S. Edwards, *Tutankhamun's Jewelry* (New York, 1976), no. 29b; pectoral, JE 61890 = CCN 267n: illustrated in colour in Vilímková, *Egyptian Jewellery*, pl. 48; pectoral with counterpoise, JE 61900 = CCN 256ooo: illustrated in colour in Edwards, *Tutankhamun's Jewelry*, no. 25; pectoral and counterpoise, JE 61885 = CCN 267l and j: pectoral only illustrated in colour in Andrews, *Egyptian Jewellery*, fig. 119.

[64] JE 61897 = CCN 269k: illustrated in colour in Aldred, *Jewels*, pl. 101.

[65] JE 61979 = CCN 267b: illustrated in colour in Aldred, *Jewels*, pl. 107, right; c.f. Wilkinson, *BIFAO* 84, 340.

of silver is seen on at least three of Tutankhamun's rings,[66] and on two additional jewels: a blue glass scarab, surmounted by a moon composed of a silver disk rimmed with gold on a gold crescent,[67] and a fragment, described as part of a mirror handle in the *Journal d'Entrée*, representing a gold barque supporting a silver disk on a gold crescent, flanked by two uraei.[68]

Another reflection of the interest in the colouristic possibilities of precious metals in the New Kingdom is the use of red gold. Scholars have noted and described the phenomenon since the early days of Egyptology, and gold objects with red or purple surface colourations unrelated to their intrinsic underlying colour are frequently observed. In the overwhelming majority of these cases, which include examples that can be attributed to every period of Egyptian history, this is not an intentional colouristic effect, but the result of corrosion, specifically the presence of a thin film of a silver–gold sulfide mineral that happens to be red.[69] This corrosion product generally forms during burial but in some cases it is due to ambient environmental conditions of storage or display.[70]

However, not all Egyptian red gold is the result of burial conditions, and certainly the selective use of red gold of a different nature can be attested during the New Kingdom, particularly among the grave goods of Tutankhamun. This phenomenon was described by Wood in an article entitled ' The Purple Gold of Tutankhamun', based on his examination of a group of small red gold sequins found in alternation with yellow gold bars.[71] Using emission spectroscopy Wood detected a small amount of iron in the red-gold sequins that is not present in the yellow gold, and he was able to reproduce a similar red surface colouration by adding iron to small amounts of molten gold. Wood's experiments have been successfully reproduced using iron pyrites[72] and hematite.[73] Egyptian gold objects with red surface colourations due to the presence of iron are very rare and when they do occur, are limited to royal contexts of the New Kingdom.[74] For this reason and because this phenomenon is until now undocumented in other cultures, it seems less likely that the iron derives from the intentional addition of iron minerals and is unrelated to the exploitation of gold with impurities of an iron-rich compound.[75]

Although the sequins actually studied by Wood are no longer *in situ* and it is not clear from which object they came, several finds from the tomb of Tutankhamun combine dis-

[66] JE 62429 = CCN 44d: illustrated in Aldred, *Jewels*, pl. 91, top center; JE 62445 = CCN 44e and JE 62428 = CCN 256ff: both illustrated in colour in Vilimková, *Egyptian Jewellery*, pls. 60 c and d, 61 c and d, 63.

[67] JE 61966 = CCN 54q.

[68] JE 62346 = CCN 544ddd5.

[69] Frantz and Schorsch, *Archeomaterials* 4.

[70] D. Schorsch, 'Egyptian Red Gold, Ancient and Modern Origins', paper presented at the Second International Conference on Ancient Egyptian Mining and Metallurgy and Conservation of Metals in Cairo in 1998.

[71] R. W. Wood, 'The Purple Gold of Tutankhamun', *JEA* 20 (1934), 62–5.

[72] H. J. Plenderleith and A. E. A. Werner, *The Conservation of Antiquities and Works of Art, Treatment, Repair and Restoration*[2] (London and New York, 1971), 215–16.

[73] Frantz and Schorsch, *Archeomaterials* 4, 147 and n. 12.

[74] Two possible occurrences of this type of intentionally produced red gold that were not part of Tutankhamun's burial equipment are a pair of earrings of Ramesses XI (JE 6085 and 6086 = CG 52323 and 52324) from Abydos (illustrated in colour in Aldred, *Jewels*, pl. 134) and a diadem (JE 39674 = CG 52644) inscribed with the names of Seti II and Queen Tawosret (illustrated in colour in Müller and Thiem, *Gold of the Pharaohs*, fig. 417).

[75] Alluvial gold and gold mined from quartz veins generally contain iron only in trace amounts, although iron minerals may be present in quartz veins. The benefaction of this ore was carried out in ancient times by grinding and flotation, so iron would not be easily incorporated in the gold during processing. More analyses of gold ores from Egypt, as well as systematic trace element analyses of ancient Egyptian gold artifacts, would shed more light on this question.

crete components of red and yellow gold, such as a pair of leather sandals decorated with red-gold rosettes and yellow-gold lilies and papyrus umbels (pl. IX, 3).[76] Other finds from the tomb may well have shown a similar, ordered use of red-gold and yellow-gold components, but it is sometimes difficult to establish colour-related features using only the black and white excavation photographs that document the appearance of these objects before they were restored. One pair of Tutankhamun's earrings (pl. X, 1)[77] was reconstructed with strings of beads from which dangle alternating red-gold drops and yellow-gold flower finials.[78]

The main bodies of these earrings include cherry-red gold beads, described by Aldred as 'purple' gold, following Wood's terminology.[79] The beads are covered with small yellow-gold granules and wires arranged in geometric patterns, giving the effect of a finely textured surface.[80] In fact, the use of red gold with applied yellow-gold ornament seems to be found in cases where surface texture is emphasized as, for example, on an *ajouré* 'buckle' that depicts the king in his chariot.[81] The buckle itself is made of hammered red-gold sheet to which were applied yellow-gold granules of varying sizes. Closer examination and elemental analyses of the metal forming the support and the granules is necessary to determine the nature and origin of the red colour.

It is tempting to see these red-and-yellow-gold jewels as part of a specific aesthetic, a more subtle alternative to the heavy, incrusted style typical of many of the precious metal finds from Tutankhamun's tomb. The buckle, while admittedly clumsy in its execution, is delicate in conception, depending on the *ajouré* work, the fine linear details and modelled forms produced by chasing, and the applied granules for its visual impact.[82]

Another type of red gold, in this case based on alloy composition, has also been associated with the New Kingdom, specifically the second half of the Eighteenth Dynasty. Aldred illustrates a red-gold signet ring inscribed with the name of Tutankhamun's predecessor, Akhenaten, ascribing the colour to the presence of copper in the alloy,[83] and Ogden found a second, distinctly red, gold ring, also bearing the name of Akhenaten, to contain about 20 per cent copper.[84] This red gold was not used with gold of more conventional colour on the same object, but there seems little doubt that its distinctive colour was the intended consequence of the alloying process, appearing as it does in the manufacture of a specific type of object within a narrow range of time during which metal colour and coloured metals were used in new ways.[85] Gold for the ancient Egyptians clearly had some 'quality' of redness;

[76] E.g. JE 62680 = CCN 21f and g: JE 62681 = CCN 21k and l.

[77] JE 61972 = CCN 269a(2); illustrated in colour (with incorrect CCN number) in Aldred, *Jewels*, pl. 122, centre.

[78] Evidence for this reconstruction can be noted on unpublished photographs in the Archives of the Department of Egyptian Art in The Metropolitan Museum of Art (TAA 1112–1113).

[79] *Jewels*, 230.

[80] Granulation first appeared in Egypt in the Middle Kingdom, with some of the finest specimens deriving from the Twelfth Dynasty tomb of Khnumet; illustrated in Aldred, *Jewels*, pl. 29; see also C. Lilyquist, 'Granulation and Glass: Chronological and Stylistic Investigations at Selected Sites, ca. 2500–1400 B.C.E.', *Bulletin of the Schools of Oriental Research* 290–1 (1993), 29–94.

[81] JE 87849, no CCN number: illustrated in colour in Andrews, *Egyptian Jewellery*, fig. 73.

[82] This is not to suggest that all of Tutankhamun's granulated jewels were made using red gold; see, for example, his daggers, illustrated in Desroches-Noblecourt, *Tutankhamen*, pl. xxi.a–b.

[83] Edinburgh, National Museums of Scotland 190.1: Aldred, *Jewels*, 31, 211, illustrated in colour in pl. 69, far right. A ring inscribed with the names of Akhenaten and Nefertiti with the same integral red colour is in The Metropolitan Museum of Art (26.7.767); Hayes, *Scepter* II, 293, fig. 180.

[84] Ogden, *Interdisciplinary Science Reviews* 17, 262–3.

[85] Stós-Fertner and Gale, in Schollar (ed.), *Proceedings of the 18th International Symposium*, 306–7 and fig. 5, for data

conventional yellow gold, as we have seen earlier, was consistently used to represent attributes traditionally red in colour on jewels where silver was used for white ones.[86]

A gold pectoral with a representation of Tutankhamun standing between the seated deities Sakhmet and Ptah, which has been interpreted as a depiction of a coronation or *heb-sed* festival, uses silver for an Upper Egyptian crown worn by a falcon and for the linen-wrapped, mummiform body of Ptah (pl. X, 2).[87] It has been paired with straps and a counterpoise found in a different casket.[88] The counterpoise, which represents the goddess Maat standing before the seated king, employs a different precious metal palette. Various campaigns of photography document that the pectoral had tarnished and was polished at least once since its initial cleaning when newly excavated. At present, some of the gold or electrum surfaces bear a reddish tarnish, presumably a sulfide, that must be environmental in its origin. Specifically, the disks in the *nḥḥ*-frieze along the bottom of the pectoral display a pattern of selective tarnishing that suggests an ordered use of two gold alloys with different silver contents, and therefore different in colour. This subtle juxtaposition of the alternating metal colours would have been echoed by the contrast in the relative warmth or coolness of the precious metal disks and their inlaid semi-precious stone backgrounds: cool blue stones were used with the yellow-gold disks, and orange stones with the more silver-rich gold, now tarnished, that would have appeared whiter.[89] It is probable that the restrung red- and yellow-gold fish pendants suspended from the bottom of the counterpoise originally were in alternation with the blue papyrus buds. The source of this red colour is at present unknown but is likely to have been intentionally produced by the addition of iron. The overall result may be more 'aesthetic' than colouristic or symbolic, but the metals are employed with a sophistication that far surpasses the Middle Kingdom examples that decoratively juxtapose silver and gold or electrum.

The term 'polychromy' refers generally to painted, three-dimensional works of art, for example, medieval European wood or stone sculptures, where two or more colours are applied in organic media. By extension, 'precious-metal polychromy' is quite suitable to describe the appearance of Tutankhamun's 'golden throne', the most ornate of the six found in his tomb.[90] The back-panel represents the young king seated before his wife in a floral pavilion with the rays of the Aten in the form of the sun-disk entering through an opening in

---

from analyses of several copper-rich silver-gold alloys dating to the New Kingdom and earlier; no information about the type of objects from which these samples were removed is provided.

[86] Having established a relationship between gold and the colour red, one might return briefly to the large gilded-silver Horus described earlier. If, in fact, the use of gold and silver in this case can be explained as representing the flesh and bones of the god, one might suggest that the metals are used for their inherent colourations as well as their symbolic associations, with silver representing white bones and gold the red skin tone typically used in representations of male entities.

[87] JE 61941 = CCN 267q (pectoral) and 269i and j (counterpoise and chains): illustrated in colour (with incorrect CCN numbers) in Aldred, *Jewels*, pls. 99–100.

[88] Carter and Mace (*Tut-Ankh-Amen* III, 66–7) suggest that some of the jewellery found in the marquetry casket had probably originally been placed in one of the other caskets, but provide no reason as to why these specific components were strung together. Such information may appear in Carter's notes but these are currently not accessible due to renovations underway at the Griffith Institute where they are stored.

[89] The use of blue inlays to represent the white crown, as seen on the pectoral of the Middle Kingdom princess, Sithathor, and on the Isis and Nephthys pectoral of Tutankhamun, might also correspond to a sensibility, similar to our own, that experiences blue as a cool colour.

[90] JE 62028 = CCN 91: illustrated in colour in Desroches-Noblecourt, *Tutankhamen*, pls. vi, x.

the roof (pl. X, 3).[91] The throne is made from wood and is largely gilded. Gold sheet forms the background of this scene, and the skin of the king and queen is represented with dark red glass, while other details, such as their jewellery, their hair and headdresses, the trim of their garments and the pavilion and its furniture, are inlaid with glass and semi-precious stones in a variety of colours that correspond to or elaborate the colours seen in painted representations. The dark blue coiffures worn by the royal couple are to be read as black; their fine, white, pleated linen garments conventionally worn in the New Kingdom are rendered in silver sheet in shallow relief, as are their white sandals.[92]

Among the objects from the tomb of Tutankhamun, it seems an established principle that silver was chosen to represent realistically things that are conventionally white. Earlier in date is a small wooden head of Queen Tiye, embellished with precious metal and other materials, that also used silver in a similar way with a different visual content.[93] Queen Tiye was the chief wife of Amenhotep III, and the sculpture dates to the time of their son, Akhenaten. Traces of a silver *khat*-headdress and a gold band across the queen's forehead are still visible at the edges of a second linen and beaded headdress, added some years after the head was first created.[94] The *khat*-headdress represents a white cloth bound to the forehead by a cloth band of another colour or texture and was usually worn by kings, by several goddesses and, during the reigns of Amenhotep III and Akhenaten, by Queen Tiye and Queen Nefertiti.[95]

Summary

Only in the Fourth Dynasty did the written Egyptian language first distinguish between gold and silver, and this may be reflected in the seemingly random juxtapositions of the two metals that were frequent, relative to their overall use together, in the Old Kingdom and the First Intermediate Period. By the same token, the multiplicity of terms introduced in the New Kingdom to describe the diverse colours, forms, qualities and origins of gold, and the fact that the word for silver continued to be written with a gold determinative, are not incongruous with the complex, intentional pairings of yellow and red gold, silver and electrum that appear in the time of Tutankhamun. Other issues briefly mentioned in the introduction are relevant to a consideration of the uses of gold and silver through the course

[91] The uraei flanking the king and queen wear wooden double crowns with silver and gold leaf on the white crown and red crown components respectively.

[92] The king and queen wear similar but less elaborate clothing and regalia in a representation on a carved ivory panel from one of Tutankhamun's caskets (JE 61477 = CCN 540–1): illustrated in colour in Edwards, *Treasures*, pl. 33. For parallels in the use of colour and detail in painted representations in nobles' tombs dating just before and during the second half of the Eighteenth Dynasty, see, for example, N. de G. Davies, *Ancient Egyptian Painting* (Chicago, 1936); C. K. Wilkinson and M. Hill, *Egyptian Wall Paintings: The Metropolitan Museum of Art's Collection of Facsimiles* (New York, 1983) and monographic treatments of various Theban tombs in the *Archäologische Veröffentlichungen* volumes of the German Archaeological Institute in Cairo.

[93] Berlin, Ägyptisches Museum und Papyrussammlung 21823. The head was studied mostly recently by Dorothea Arnold (*Royal Women*, 27–35) in conjunction with a special exhibition about the queens and princesses of the Amarna Period.

[94] Tiye's *khat*, along with two of the four surviving gold uraei that adorned it and the gold nails that fixed it to the wooden head, has been made visible through the use of CAT scans; see D. Wildung, 'Metamorphosen einer Königen: Neue Ergebnisse zur Ikonographie des Berliner Kopfes der Teje mit Hilfe der Computertomographie', *Antike Welt* 26 (1995), 245–9.

[95] M. Eaton-Krauss, 'The *Khat* Headdress to the End of the Amarna Period', *SAK* 5 (1977), 21–39.

of Egyptian history. What were the sources of the silver used in Egypt before and during the Middle Kingdom, and to what degree was the relative rarity or value of silver at different times reflected in the ways that it was used? Did the Egyptians actually refine gold or electrum in the New Kingdom, and if so, did they add silver to the resulting pure metal in order to exploit the colouristic possibilities offered by precious metal alloys?

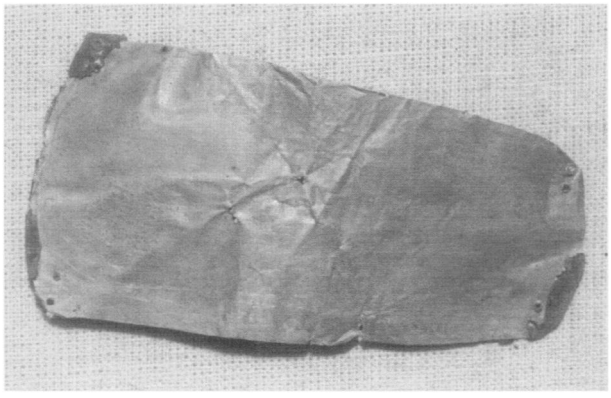
The sophisticated small-scale works of art of the New Kingdom, and particularly those dating to the reigns of Amenhotep III and his successors Akhenaten and Tutankhamun, are characterized by an expanded palette, facilitated by the introduction of glass and the formulation of new faience glazes in the early Eighteenth Dynasty. Most *cloisonné* inlay jewellery dating to the time of its first flowering in the Twelfth Dynasty, and to its reappearance during the first half of the Eighteenth Dynasty, is canonical in its use of light blue, dark blue and orange inlays made of turquoise, feldspar or blue faience, lapis lazuli and carnelian respectively.[96] The same can be said of beaded jewellery, such as *wesekh*-collars and bracelets. White faience, which was used from the time of the Middle Kingdom for small votive objects, is almost absent in jewellery until the reign of Amenhotep III,[97] when it was introduced along with new colours—deep red, yellow and apple green—and opaque glasses that supplemented and sometimes replaced semi-precious stones for use as inlays and beads.[98] Recent investigations of Egyptian faience have stressed its ritual character, moving away from the outdated idea that it was a cheap substitute for stone.[99] Furthermore, from the point of view of manufacture, faience and glass offered not only a broader range of colours, but the ability to be shaped by moulding or modelling. Viewed from this perspective, it is possible to connect the various innovative uses of precious metal colours in the jewels of the second half of the Eighteenth Dynasty to expanded colouristic and technological options available in other media at that time, and to the desire to exploit them in the manufacture of small works of great sophistication.

[96] For typical examples, illustrated in colour, see Aldred, *Jewels*, pls. 27–8, 34, 37 (Twelfth Dynasty) and 49–50, (early Eighteenth Dynasty). One of the earliest instances where the three stones were used together as inlays is seen on the silver armlets of Queen Hetepheres: Reisner and Smith, *Giza Necropolis* II, 43–4, pls. 37–9.

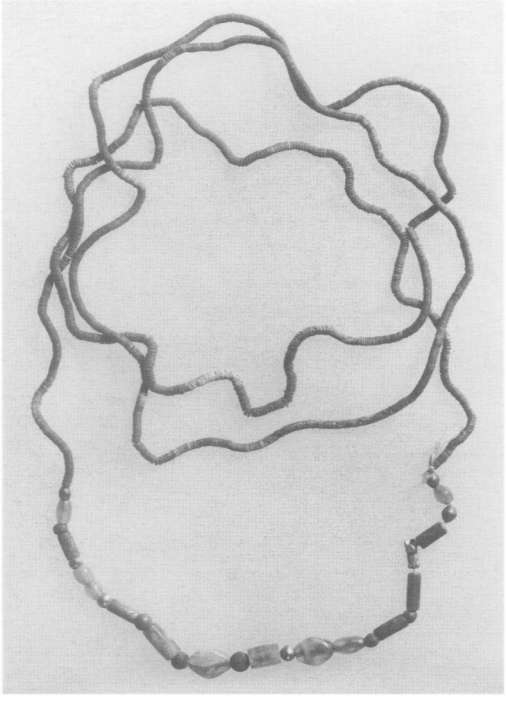
[97] The white inlays seen occasionally on Middle Kingdom jewellery are, as a rule, badly decayed blue-green faience; see, e.g., Aldred, *Jewels*, pls. 40, 42.

[98] This is not to say that the canonical colour scheme used almost exclusively in earlier times was abandoned in the second half of the Eighteenth Dynasty; see, e.g., Aldred, *Jewels*, pl. 104.

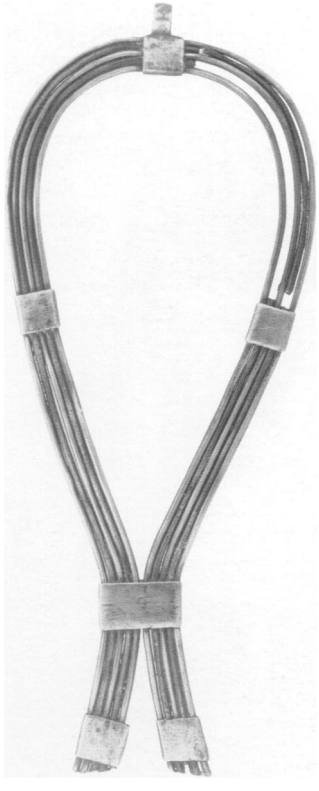
[99] See, e.g., R. S. Bianchi, 'Symbols and Meanings' and D. C. Patch, 'By Necessity or Design', in F. D. Friedman (ed.), *Gifts of the Nile, Ancient Egyptian Faience* (New York, 1998), 22–31 and 32–45.



1. Gold plaque clad with silver sheet, from Hamra Dom, Cairo JE 31563 (photograph courtesy of Christian Eckmann).



2. Gold, silver, faience and semi-precious stone necklace from the tomb of Neferu (no. 31) at Deir el-Bahri, MMA 25.3.246. Rogers Fund, 1925.

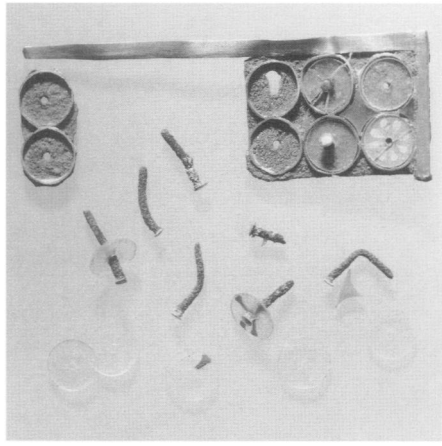


3. Silver and electrum *sa*-amulet from the burial pit of a 'dancing-girl' (No. 23) at Deir el-Bahri, MMA 25.3.253. Rogers Fund, 1925.

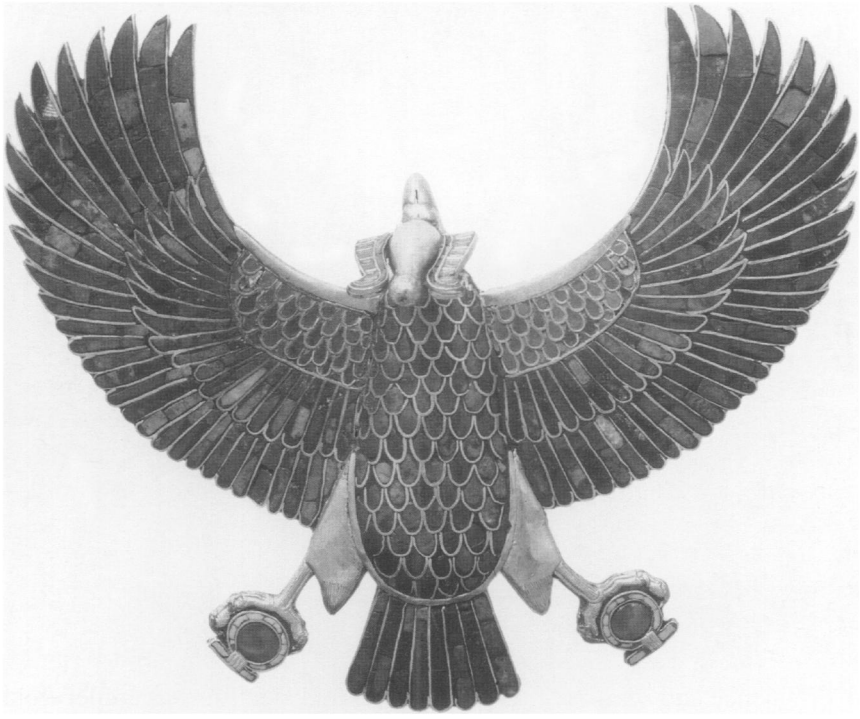
PRECIOUS-METAL POLYCHROMY IN EGYPT IN THE TIME OF TUTANKHAMUN (pp. 55–71)

PLATE VIII

1. Silver scarab inlaid with electrum from the mummy of Wah from tomb MMA 1107 at Deir el-Bahri, MMA 40.3.12. Rogers Fund, 1940.

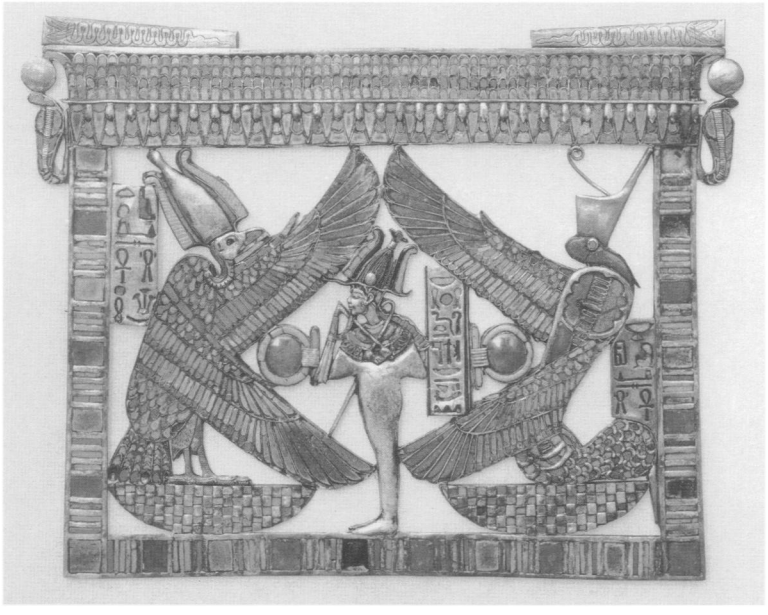


2. Silver plaque with gold *cloisons* from the tomb of Weret at Dahshur, MMA field no.1994. 1341–1342 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).



3. Vulture pectoral from the tomb of Tutankhamun, Cairo JE 61894 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

PRECIOUS-METAL POLYCHROMY IN EGYPT IN THE TIME OF TUTANKHAMUN (pp. 55–71)



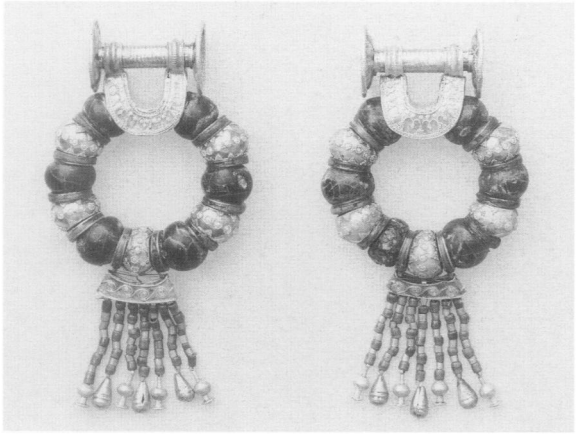
1. Osiris pectoral from the tomb of Tutankhamun, Cairo JE 61946 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

2. Scarab pectoral from the tomb of Tutankhamun, Cairo JE 61884 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

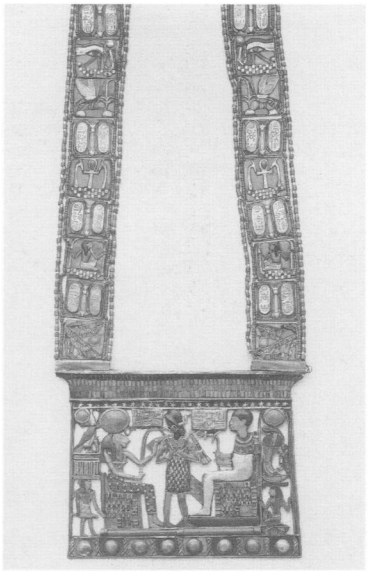
3. Leather sandal with red and yellow-gold sequins from the tomb of Tutankhamun, Cairo JE 62681 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

PRECIOUS-METAL POLYCHROMY IN EGYPT IN THE TIME OF TUTANKHAMUN (pp. 55–71)

PLATE X



1. Granulated earrings from the tomb of Tutankhamun, Cairo JE 61972 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).



2. Coronation pectoral from the tomb of Tutankhamun, Cairo JE 61941 (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

3. Throne from the tomb of Tutankhamun, Cairo JE 62028, detail of backrest (photograph by the Egyptian Expedition of The Metropolitan Museum of Art).

PRECIOUS-METAL POLYCHROMY IN EGYPT IN THE TIME OF TUTANKHAMUN (pp. 55–71)

DIMENSIONS AND SLOPE IN THE NINETEENTH AND TWENTIETH DYNASTY ROYAL TOMBS

By CORINNA ROSSI

After the work carried out by the Theban Mapping Project in the Valley of the Kings, it is finally possible to compare the ancient texts and drawings that refer to the quarrying of the Theban royal tombs with accurate and reliable surveys of these monuments. Two issues in particular are discussed here: the degree of correspondence between written records and actual tombs, and the way in which the slope of the descending corridors was established and measured. The available evidence suggests that the dimensions of the initial plan may have been significantly modified during the work, and that the ancient architects might have measured the length of the sloping passages in a way that does not correspond to our modern graphic conventions.

THE Theban area has provided a large amount of material related to work in the Nineteenth and Twentieth Dynasty royal tombs, including architectural plans and sketches, written records of supplies, daily activities and stages in the completion of the projects. In some cases, texts and drawings contain a description of completed or planned architectural elements of a tomb, together with their dimensions, expressed in cubits, palms and fingers. Lists of these documents (ostraca and papyri) have been published by Černý, who was the first to suggest an identification of the descriptions with existing tombs,[1] and Demarée, who added a number of other documents, and classified the material into three groups: plans, lists of measurements and journals.[2]

Černý founded his identifications on the basis of palaeography and comparison with the plans that were available at that time, but the lack, until recently, of accurate surveys of the Theban tombs hampered further developments of the research on this subject. The situation has now significantly improved thanks to the excellent work done by the Theban Mapping Project,[3] that finally makes it easier to compare the information provided by the ancient texts and drawings with the tombs as they were actually completed.

In June 1999 I had the opportunity to study the surveys carried out by the Theban Mapping Project before their publication and to compare them with the descriptions contained in some of the texts from Deir el-Medina and the Valley of the Kings.[4] The comparison between ancient documents and modern surveys provides a wealth of information on the relationship between project and practice, such as the degree of correspondence between planned and final dimensions, the importance attributed by the ancient architects to the dimensions themselves, the way sloping surfaces were measured and so on. Some of the results of this study are summarised below, with particular concentration on the way the slope of descending corridors was established and measured.[5]

[1] J. Černý, *The Valley of the Kings* (Cairo, 1973), 23–34.

[2] R. J. Demarée, ' "Royal Riddles" ', in R. J. Demarée and A. Egberts (eds), *Village Voices* (Leiden, 1992), 9–18.

[3] Theban Mapping Project, *Atlas of the Valley of the Kings* (Cairo, 2000).

[4] The research was generously funded by the Thomas Mulvey Fund and the Lady Wallis Budge Fund.

[5] This research would not have been possible without the help of Professor Kent R. Weeks, Dr Edwin C. Brock, Walton

The dimensions of corridors and chambers

One of the most important points is the correspondence between the dimensions given by the ancient documents and those in the actual tombs. Among the ancient texts, some record the work already carried out by the workmen,[6] while others refer to the initial plan laid out by the architects.[7] Whenever it is possible to check, the ancient surveys appear to be relatively precise, but the initial plan might have been significantly different from the final result. Our knowledge of the characteristics of the latter relies upon two sources, P. Turin 1923 and related fragments and O. Cairo 25184. The first contains the calculations carried out by the scribe to establish how many cubic cubits of rock should have been removed in one year in order to complete in three years the project of enlargement of KV 9, started for Ramses V and then taken over by Ramses VI.[8] This ambitious plan would have produced the largest tomb in the Valley of the Kings, but the tomb was never completed. The second is the plan of a tomb identified as the original plan of KV 6, quarried for Ramses IX.[9] That this was an initial plan, and not the survey of the completed tomb, may be inferred from the fact that the actual dimensions are significantly different from those given by the accompanying text. As in P. Turin 1923, the dimensions of the rooms and passages correspond to simple, round figures, such as 30 cubits for the length of corridors, 10×10 cubits for the 'hall of hindering', 20×20 cubits for the burial chamber, and so on.

The records of the work kept by the scribes from time to time during the quarrying of royal tombs, however, show that the initial dimensions were meant only as a rough guide. The final dimensions of rooms and corridors were either decided on the spot,[10] or might be influenced by various events, such as the sudden death of the king[11] or the collision with another tomb.[12] At the very end of the work a final survey took place in order to record every important detail, as may be inferred from the existence of P. Turin 1885 (recto), the detailed plan of KV 2, the tomb of Ramses IV, which is one of the most spectacular ancient Egyptian architectural drawings.[13]

Whenever scribes or architects recorded the work completed to a certain date—that is, took note of the results of a survey—the dimensions are expressed in cubits, palms and fingers (respectively about 52.5 cm, 7.5 cm and 1.8 cm).[14] In this way they were potentially able to express differences of a few centimetres. However, comparison with the most recent surveys shows that it is not easy to check the accuracy of these measurements, primarily because many rooms are significantly irregular. In these cases, only one length, one breadth

Chan, the entire staff of the Theban Mapping Project, Dr Salima Ikram and Nadine Möller. I wish to express my gratitude to Barry J. Kemp for his constant support and advice.

6 Group B (Lists of measurements) and group C (Journals) in Demarée's list.

7 Group A (Plans) in Demarée's list.

8 R. Ventura, 'The Largest Project for a Royal Tomb in the Valley of the Kings', *JEA* 74 (1988), 145.

9 G. Daressy, *Ostraca* (CG; Cairo, 1901), 35 and pl. 32, and 'Un plan égyptien d'une tombe royale', *Revue Archéologique* 32 (1898), 235–40.

10 As seems to be the case of O. Cairo 51936, discussed by R. Engelbach, 'An Architect's Project from Thebes', *ASAE* 27 (1927), 72–6. See also N. Reeves, 'Two Architectural Drawings from the Valley of the Kings', *CdE* 61 (1986), 43–9.

11 As might be the case, for instance, of KV 1, the tomb of Ramses VII.

12 As it was in the case of KV 11, abandoned by Sethnakhte after the collision with KV 10 (the tomb of Amenmesse). Later Ramses III took over and completed the tomb along a shifted axis, adopting a rising corridor as a solution to avoid the underlying chamber of KV 10.

13 H. Carter and A. H. Gardiner, 'The Tomb of Ramses IV and the Turin Plan of a Royal Tomb', *JEA* 4 (1917), 130–58.

14 For a parallel see N. de Garis Davies, 'An Architect's Plan from Thebes', *JEA* 4 (1917), 194-9.

and one height were taken and recorded, even if, for instance, in some corridors the height of the ceiling is not constant, and in other cases the side walls are not parallel.

Moreover, it is sometimes difficult to understand at which points exactly the measurements were taken, as in the case of pillared chambers with slides. These are rectangular, almost square rooms with two pillars on both sides of a steep slide starting from the upper entrance and leading down to a lower door. The texts, however, give a height which does not correspond either to the height of the chamber at the upper entrance (more or less corresponding to the height of the pillars on both sides of the slide) or to the height of the chamber as it corresponds to the lower door, when the depth of the slide is also taken into account. Another difficult case is represented by the external corridor, the 'god's passage which is upon the sun's path', where there seems to be no way to verify the length given by the texts. This length must have been measured from the entrance of the tomb to an outermost limit which was probably identified or established by marks which have long been obliterated by the passing of time or by the modern tourist paths.[15] Finally, it is unclear what was regarded as the upper limit of the corridor and therefore to what the height given by some texts should be compared.

In conclusion, it seems that these detailed surveys were meant to record not only that the work was progressing, but also that it was being carried out with accuracy. The round figures of cubits of the initial plan had been long forgotten, and there is no evidence to suggest that the irregularity of some chambers and corridors represented a problem for the architects or the scribes. This suggests that the initial dimensions were just a convenient starting point, and that the discrepancy between the original plan and the final result was an obvious consequence of the quarrying process.[16]

The slope of descending passages

In the Valley of the Kings, starting from the middle Nineteenth Dynasty the slope of the tombs diminished progressively, and almost disappeared in the late Twentieth Dynasty burials. Even though this must have been an extremely important element during the quarrying, the slope of the descending passages is never mentioned in the surviving texts. Moreover, our own assessment of the evidence may be influenced by the fact that modern plans of sloping tombs represent the projection of the sloping surface on a horizontal plane. The projection, therefore, happens to be shorter than the actual length of the sloping surface (figs. 1 and 3). But what do we really know of the way the ancient Egyptians measured and represented a sloping passage?

This is an ideal case to test the comparison between modern surveys and the group of ancient documents on the works. The surviving drawings do not help, since the two most complete original plans, that on papyrus of KV 2 (Ramses IV) and that on an ostracon identified as KV 6 (Ramses IX), correspond to rather 'flat' tombs. The steepest corridor among those of both tombs is the first in KV 2, which unfortunately is not included in the ancient plan and therefore cannot be compared with the modern survey. The verso of P. Turin 1885[17] contains the dimensions of some elements probably of KV 9 (Ramses V–VI),

[15] Could this landmark have been a foundation deposit? Cf. J. M. Weinstein, *Foundation Deposits in Ancient Egypt*, PhD Dissertation, University of Pennsylvania 1973, figs. 2, 3, 7 and 19.

[16] C. Rossi, 'The Plan of a Royal Tomb on O. Cairo 25184', *Göttinger Miszellen* 184 (2001), 45–53.

[17] Carter and Gardiner, *JEA* 4, 158, and K. R. Weeks, 'The Berkeley Map of the Theban Necropolis; Report of the Second Season, 1979', *Newsletter ARCE* 109 (Summer 1979), Appendix - Special Supplement, 14–15.

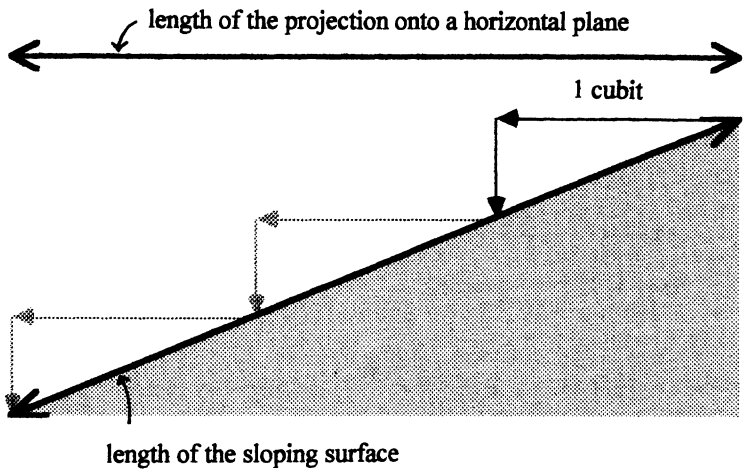


FIG. 1. Slope of a descending passage.

a long tomb consisting of four corridors, a well room, a pillared hall, two lower corridors, an antechamber and a burial chamber. In this case, too, the slightly sloping first and second corridors are not mentioned in the text and, therefore, cannot be compared with the survey. Among all the other documents, only O. Cairo 25537 (referring to KV 47, the tomb of Siptah) provides an interesting clue.

This ostracon was identified by Černý by means of the date and the name of the vizier, Hori.[18] The dimensions of the second corridor prove to be particularly important. As usual, the length of the first, external corridor as described by the ostracon is difficult to compare with the remains of the actual tomb. The height, however, given as 10 cubits in the text (about 5.25 m), may be measured as about 5.30 m at the entrance of the tomb, and the breadth given in the text and that of the actual external corridor correspond perfectly, 6 cubits for the ostracon (about 3.15 m) and about 3.14 m in the tomb. As for the second corridor, its final length appears to have been recorded as 30 cubits 3 palms, about 15.97 m (recto, line 4). The internal àength of the actual corridor (measured from the section) is about 15.83 m from doorjamb to doorjamb. This seems to suggest that the length was measured along the sloping surface of the oblique passage, since its projection on a horizontal plane would be much shorter, about 15.17 m only. This would also correspond to the general character of other ancient Egyptian architectural plans representing various types of buildings, which not only do not respect the exact proportions of the rooms, but do not show the use of any graphic device such as foreshortening or 'flattening' due to a projection either.[19] From these premises it would be extremely difficult to support the idea that, on their drawings and ostraca, the Egyptians wrote values resulting from graphic projections. It is more likely that, when the architect wrote that a corridor was 30 cubits long, this length was meant as measured along the sloping surface of the corridor.

[18] J. Černý, *Ostraca hiératiques* (CG; Cairo, 1930–5), 16, 33*, 34*, pls. 22 and 23.

[19] See, for example, the ambiguous sketch on O. BM 41228, discussed by S. R. K. Glanville, 'Working Plan for a Shrine', *JEA* 16 (1930), 237–9, and C. C. Van Siclen III, 'Ostracon BM41228: a Sketch Plan of a Shrine Reconsidered', *GM* 90 (1986), 71–7. See also the comparison between ancient drawings, written dimensions and modern surveys of the tombs of Ramses IV and Ramses IX in B. J. Kemp and P. Rose, 'Proportionality in Mind and Space in Ancient Egypt', *Cambridge Archaeological Journal* 1 (1991), figs. 10 and 11.

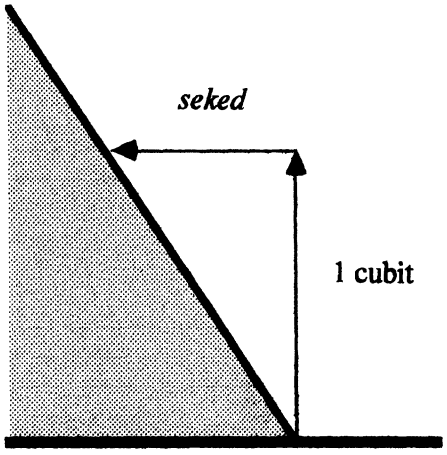


FIG. 2. Slope of a pyramid.

In theory, the system adopted by the ancient Egyptian architects to measure the slope of a descending corridor implied the possibility for them to calculate its projection on a horizontal plane as a consequence. As we know from the surviving mathematical sources, the Egyptians measured the slope as the horizontal displacement for a vertical drop of 1 cubit, that is, the number of cubits, palms and fingers by which the sloping side had 'moved' from the vertical at the height of one cubit (fig. 2). This distance was called a *seked*. Maragioglio and Rinaldi noted that in some of the sloping corridors of the Old Kingdom pyramids of Khufu, Khafra, the queen of Userkaf, Sahura, Neferirkara and the satellite pyramid of Djedkara, the architects adopted a slope of about 26°30', corresponding to the ratio 1:2 cubits, that is, a vertical drop of 1 cubit every 2 cubits measured along a horizontal line[20] (therefore corresponding to a *seked*-like ratio of $\frac{1}{2}$ cubit every 1 horizontal cubit). This is probably the same slope found in the descending corridors of the secondary pyramids GIc, GIIIa, GIIIb, Neferheteperes and Neith,[21] while the slope of corridors of other pyramids can be more or less easily expressed using similar *seked*-like ratios (for example, 3 palms every cubit for the 22° of Djedefra, the satellite of Neuserra and Khentkawes II,[22] 4 palms for the 30° of Meidum, the Bent Pyramid at Dahshur and GIIIc,[23] possibly 4 palms + 2 fingers for the 33° of GIa, GIb and Khendjer).[24]

Corridors of subterranean tombs were quarried into bedrock, and not built in the fashion of many corridors in pyramids, but the method of measuring the slope may have been the same. The slopes of the Amarna Royal Tomb corridors (fig. 3), for instance, can be easily interpreted by means of the clues provided by Old Kingdom pyramids. The first corridor has a slope of about 35°, very close to a *seked*-like ratio of 5 palms, the slope of the second corridor is about 15°30', corresponding to 2 palms and the third corridor has a slope of about 49°, equal to 8 palms (that is, 1 cubit + 1 palm). In the tombs of the Valley of the Kings, according to the survey of the Theban Mapping Project which I examined, the slope of descending corridors varies considerably, but the values that seem to recur more often

[20] V. Maragioglio and C. Rinaldi, *L'architettura delle piramidi memfite* (Turin–Rapallo, 1963–77) IV, 26; V, 52; VII, 24 and 50; VIII, 84.

[21] P. Jánosi, *Die Pyramidenanlagen der Königinnen* (Vienna, 1996), 184.

[22] Maragioglio and Rinaldi, *Piramidi* V, 14; VIII, 12; Jánosi, *Pyramidenanlagen*, 184.

[23] Maragioglio and Rinaldi, *Piramidi* III, 18 and 66; Jánosi, *Pyramidenanlagen*, 184.

[24] Jánosi, *Pyramidenanlagen*, 184.

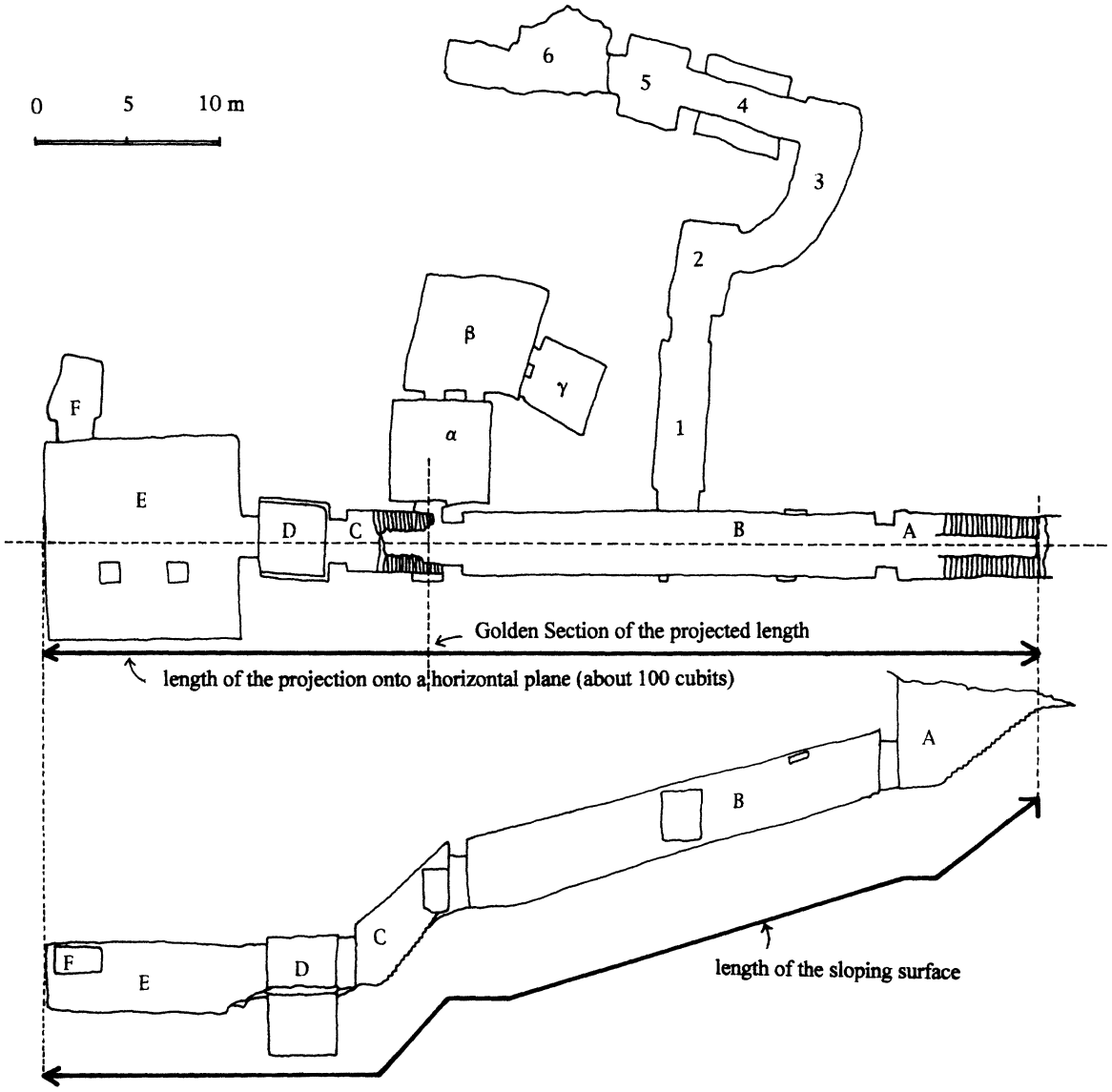


FIG. 3. Plan and section of the Amarna Royal Tomb, showing Lehner's suggestion that the plan was designed after the Golden Section, and the difference between sloping saurfaces and horizontal projection (re-drawn after Lehner, in Martin, *The Royal Tomb at el-ʿAmarna* II, pls. 1 and 12).

are about 8° (corresponding to a *seked*-like ratio of 1 palm) and about 16° (corresponding to 2 palms).

Of course, once a ratio between horizontal advancement and vertical drop (that means a right-angled triangle) has been chosen to fix the slope of a corridor, the final length, slope and depth of the corridor itself will reflect the proportions of that triangle (fig. 1). This means that, at least from a theoretical point of view, the use of a *seked*-like system implies that it would have been possible for the ancient architect to calculate the projection of the final length of the corridor simply by adding the horizontal 'treads' of the step-by-step process. However, from a practical point of view it was not necessary to check the slope

continuously: once it had been established, it could be just checked at more or less wide intervals, provided that it was considered necessary.

The absence of any mention of the slope in any of the drawings and the written sources might even be explained with the suggestion that this was one of the aspects that was not taken into account during the preliminary planning and was decided directly during the quarrying. If this is true, whenever new tombs were quarried in the vicinity of older burials in the increasingly crowded necropolis, certainly the lack of any record of the slope of the already sealed tombs did not help, and in fact, in a few cases collisions between tombs did take place. It is even possible that the risk of running into older tombs, of which only the position of the entrance was recorded, may be one of the reasons for the progressive reduction of the slope of the later tombs.

Evidence that the ancient architects were interested in the projection of the sloping surface on a horizontal plane is virtually non-existent. It is worth mentioning one case, however, where the ambiguous use of the word *mḏwt*, 'depth', might be interpreted as pointing in this direction. In P. Turin 1885 (recto) this word is employed in the description of two recesses in the walls of two corridors and refers to 'the distance to which these recesses are sunk beneath, or behind, the vertical side-walls of the chambers to which they belong'.[25] Therefore, here 'depth' appears to be a 'horizontal' dimension. In two ostraca from the tomb of Senmut, however, the word *mḏwt* is used to designate a 'horizontal' depth in one instance (as in P. Turin 1885), and a 'vertical' depth in another text.[26]

P. Cairo 86637[27] is another case where the word *mḏwt* seems to have been used to describe a 'vertical' dimension, possibly the height, since in the first corridor it follows the length (missing) and the breadth, while in the second and third it follows the length and, presumably, the missing breadth in the middle. According to Černý, the palaeography points to the reign of Ramses II as the period when this text was written.[28] The surviving dimensions (the text is damaged in the middle), however, have little in common with KV 7, the tomb of Ramses II, nor do they correspond to the tombs of his immediate predecessor (KV 17, the tomb of Seti I) or of his successor (KV 8, the tomb of Merenptah).[29] This is a pity, because it is impossible to check an interesting detail. Among the dimensions listed on this papyrus, the height of the external corridor, as usual, is difficult to check, but, if we assume that *mḏwt* refers to the height, the third and fourth corridors appear to be too high (respectively 9 cubits 4 palms and 8 cubits, about 5 m and about 4.18 m) not only in comparison with KV 7 (Ramses II), but with any other tomb. Therefore, it might be suggested that here the word *mḏwt*, in a more general meaning of a 'vertical' measure, referred to the total vertical drop of the corridor. Unfortunately, however, the dimensions of KV 7 (Ramses II) do not support this interpretation, and the problem of the precise identification of the *mḏwt* in this text must remain for the moment unsolved.[30]

[25] Carter and Gardiner, *JEA* 4, 138.

[26] W. C. Hayes, *Ostraka and Name Stones from the Tomb of Sen-mut (No. 71) at Thebes* (MMA Egyptian Expedition 15; New York, 1942), 21–2, nn. 88 and 115, ostraca nos. 62 and 75.

[27] A. M. Bakir, *The Cairo Calendar No 86637* (Cairo, 1966), 56 and pl. 50.

[28] Černý, *Valley of the Kings*, 25.

[29] It may be worth mentioning that the description of the tomb given by P. Cairo 86637 excludes the possibility that the text referred to KV 5, the tomb of the sons of Ramses II.

[30] If, despite the appearance, the 'depth' here referred to a 'horizontal' dimension such as in P. Turin 1885 (verso), in theory *mḏwt* might be interpreted as the projection on a horizontal plane of the total length of the corridor. Not even this interpretation, however, is supported by the actual dimensions of KV 7.

Therefore, it seems reasonable to suggest that the slope of corridors in New Kingdom royal tombs, just as any other sloping surface, was measured by means of a *seked*-like system. At the same time, there is no evidence to assume that the Egyptians gave any consideration to the projection on a horizontal plane of a sloping passage. The length was probably measured along the sloping surface, although it does not seem that the same starting points were always used. To measure the length of a corridor, the obvious distance would be from doorway to doorway, but in some cases the surveys which I have examined show that it might have been measured up to the edge of a step, thus including the thickness of a doorway, or it might have taken into account the presence of a double frame, and so on. Two cases of different methods are visible in the tombs described by O. Strassb. H.112 and O. BM 8505. In O. Strassb. H.112,[31] which describes QV 44, the tomb of Khaemweset, a son of Ramses III, the length of the treasuries and of the burial chamber includes the thickness of their entrances, and the length of the corridors includes the thickness of the upper doorway. In O. BM 8505,[32] which refers to QV 51, the tomb of Queen Isis, built under Ramses VI, the length of the second corridor is probably taken from step to step, thus excluding the upper doorway and including the thickness of the lower doorway.

If the suggestion is accepted that for the ancient architects the length of a corridor was the sloping surface and not the horizontal projection, then we must pay attention to the way we interpret modern plans. Mark Lehner, for instance, suggested that the Amarna Royal Tomb was intended to be 100 cubits long and that the entrance to the rooms α, β and γ lies at the point corresponding to the subdivision of the length according to the proportion generally called the 'Golden Section' (fig. 3).[33] This is true in plan, that is, on the projection on a horizontal plane, but not in section. If the Egyptians measured the length of sloping corridors along the sloping surface, the length of the tomb would be much more than 100 cubits, and the correspondence to the Golden Section of the entrance to the secondary funerary apartment in the Amarna Royal Tomb would disappear. In order to have a length in plan of 100 cubits, the ancient architects would have had to design the tomb both in plan and in section, but, as we have seen, no evidence of such a process, either drawn or written, seems to have survived.

In conclusion, this short article contains only a few observations on a vast corpus of material that deserves more attention. When revised or new translations of all these texts will be available, the study of the architecture of these tombs is likely to produce more interesting results.

[31] K. A. Kitchen, *Ramesside Inscriptions*, VII (Oxford, 1989), 288–9. See also Y. Koenig, *Les ostraca hiératiques inédits de la Bibliothèque nationale et universitaire de Strasbourg*, (DFIFAO 33; Cairo, 1997), pls. 44–7, and C. A. Keller, 'The Draughtsmen of Deir el-Medina: a Preliminary Report', *Newsletter ARCE* 115 (1981), 14. This ostracon is not included in Černý's and Demarée's lists.

[32] C. Rossi, 'The Identification of the Tomb Described on O. BM 8505', forthcoming in *Göttinger Miszellen* 187 (2002).

[33] M. Lehner, 'The Tomb Survey', in G. T. Martin, *The Royal Tomb at el-'Amarna*, II (ASE 35; London 1989), 5–9.

PANAKHTEMIPET ET SES COMPLICES
(À PROPOS DU PAPYRUS BM EA 10054, R° 2, 1–5)

Par ANNIE GASSE

P. BM 10054 preserves the testimony of a number of tomb robbers. For col. 2 of the recto, some fragments unknown to Peet and hitherto unedited confirm that the passage records the deposition of the fisherman Panakhtemipet. His participation in two separate episodes of robbery, which are not likely to have been far apart in time, argues in favour of a revision of the chronology of the end of the New Kingdom and especially of the period of *wḥm mswt*.

À l'occasion d'un séminaire consacré à l'étude paléographique du papyrus BM EA 10054 (pl. XI),[1] j'ai pu constater sur les photos du British Museum que, depuis la publication de Peet,[2] de nombreux petits fragments avaient été retrouvés et plusieurs d'entre eux habilement replacés dans leur position d'origine (fig. 1). Cet état de fait intéresse la partie supérieure du recto du papyrus et notamment les deux premières colonnes ainsi, naturellement, que l'équivalent au verso (bas des colonnes). C'est au début de la deuxième colonne que je m'intéresse ici. En effet, les deux premières lignes de cette colonne, que l'on peut restituer en partie grâce à ce nouveau montage—Peet supposait à juste titre qu'il en manquait une ou deux—contribuent à éclairer une question de chronologie de la fin de la XX^{e} dynastie sur laquelle se sont penchés notamment Peet,[3] von Beckerath[4] et, plus récemment, Thijs.[5] Certaines hypothèses de ce dernier se voient renforcées par les fragments inédits, tandis que plusieurs points de détail peuvent être précisés ou modifiés. Le rôle et les dépositions du pêcheur Panakhtemipet sont plus que jamais au cœur de cette question, ainsi que la liste de ses complices.

Ce papyrus enregistre surtout[6] les dépositions de plusieurs individus ayant participé à des pillages de tombes à la fin de la période ramesside. Curieusement, le début du texte a été copié au verso, ligne 1 du rouleau.[7] Le verso, ligne 5, donne une liste des voleurs mentionnés par ce document avec leur identité (fonction et parfois nom des parents). La date de ces

[1] La participation de M. Michel Gaudichon à ce séminaire a été aussi active qu' efficace. La mise en route de cet article doit beaucoup à son intérêt pour le document et à la pertinence de ses lectures. Je tiens à remercier également ici Vivian Davies, Conservateur au département des Antiquités égyptiennes du British Museum qui m'a très libéralement autorisée à publier ces fragments inédits, ainsi que Richard Parkinson, Conservateur adjoint à ce même département, pour ses conseils et son assistance toujours généreusement dispensés.

[2] T. E. Peet, *The Great Tomb Robberies of the Twentieth Dynasty* (Oxford, 1930), 52–71, pls. vi–viii (cité *GTR* par la suite). R. Parkinson m'a aimablement précisé par lettre que l'on ne sait pas exactement depuis quand ces fragments ont été retrouvés et mis en place.

[3] *GTR*, 56–60.

[4] J. von Beckerath, 'Zur Datierung des Grabraüberpapyrus Brit. Mus. 10054', *GM* 159 (1997), 5–9 ; idem, 'Bermerkungen zur Chronologie der Grabräuberpapyri', *ZÄS* 127 (2000), 111–16 et plus particulièrement 114–15 où l'auteur défend la chronologie traditionnelle en s'appuyant sur les papyrus mentionnés ici, et tout particulièrement le p. BM EA 10054.

[5] A. Thijs, 'Reconsidering the End of the Twentieth Dynasty. Part I : The Fisherman Pnekhtemope and the Date of BM 10054', *GM* 167 (1998), 95–109 et 'Reconsidering the End of the Twentieth Dynasty. Part II', *GM* 170 (1999), 83–99.

[6] À l'exception des dernières colonnes du verso, qui sont consacrées à des distributions de grain.

[7] Cf. Peet, *GTR*, 53 ; voir la reconstitution de Thijs, *GM* 167, 97.

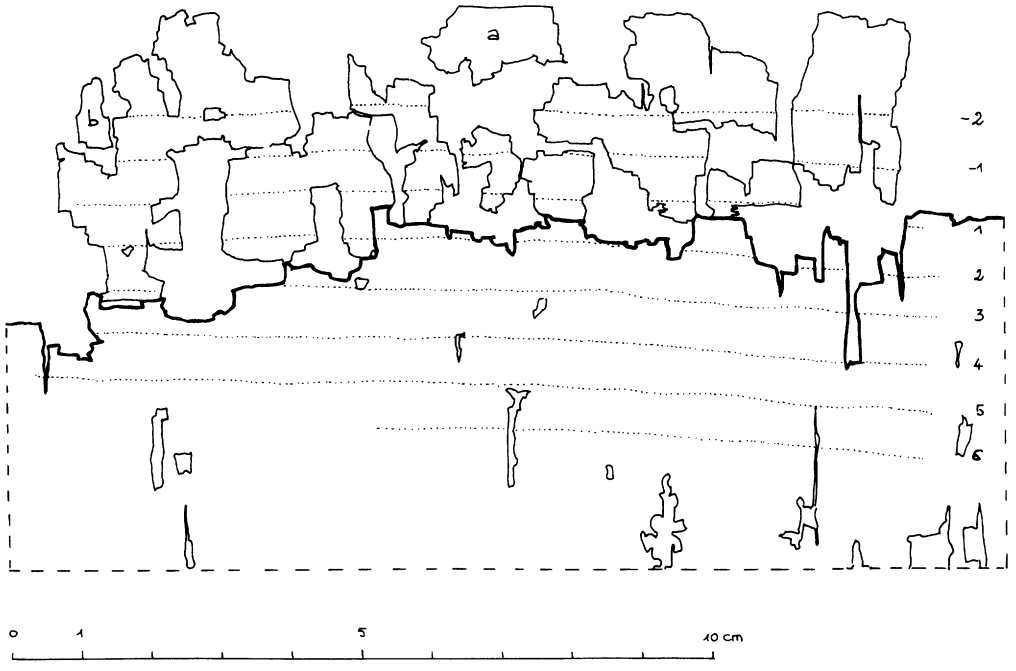


FIG. 1. P. BM EA 10054, r° 2: Le texte publié par Peet est délimité par un trait épais; les fragments inédits sont entourés d'un trait fin.

dépositions constitue un des nœuds du problème. Que ce papyrus soit un document provisoire, une sorte d'aide-mémoire,[8] est tout à fait possible. Les différentes parties du texte, consignant des événement parfois espacés de plusieurs années, ont manifestement été copiées de la même main, y compris les colonnes 5 et 6 du verso, pourtant écrites plus rapidement et donc plus cursivement.[9]

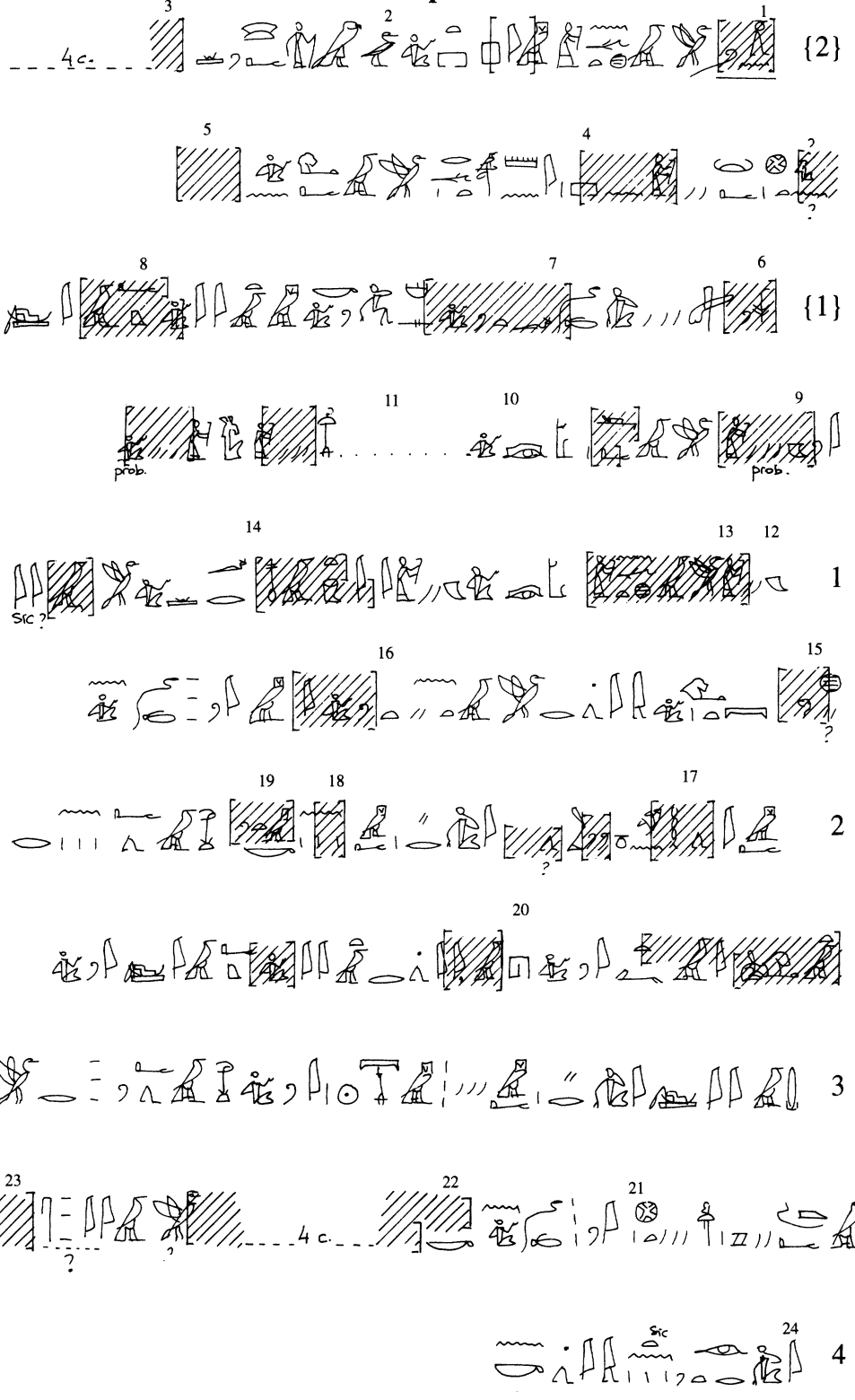
Un bref rappel du contenu de ce papyrus aidera à comprendre les lignes qui suivent :

1. v° 1, 1 sqq.: Titre du document, date (an 16, troisième mois d'*akhet*, jour 14). « Interrogatoire des voleurs dont on a constaté qu'ils avaient pillé les tombes de l'ouest de la Ville, etc. »
2. v° 1, 1–9, r° 1, 1–13: Interrogatoire du carrier Imenpanefer.
3. r° 2, {1}–6: Interrogatoire du pêcheur Panakhtemipet (ce que précisent les fragments nouveaux publiés ici).
4. r° 2, 7–16: Autre interrogatoire du carrier Imenpanefer, sur la même affaire que la première fois.
5. r° 3, 1–6: Interrogatoire du forgeron Pakhyhat sur la même affaire que Panakhtemipet.
6. r° 3, 7–17: An 18, deuxième mois d'*akhet*, jour 24. Déposition du prêtre-*ouâb* Penounheb.
7. v° 5 et 6: Liste de voleurs cités dans les pages précédentes.
8. v° 2–4: An 6 (de *Ouhem-mesout*, troisième mois d'*akhet*, jour 10). Liste de distribution de grain.

[8] Cf. Thijs, *GM* 167, 104–6.

[9] Cf. *infra* p. 84, note 10° à propos de la graphie de *rs*. Je me réfère, en outre, à une étude paléographique inédite de l'ensemble du document effectuée par Mme Henriette Musnik.

Transcription



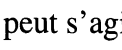
Ce sont les paragraphes 2, 4 et 7 qui nous retiendront ici. Les mêmes personnages se retrouvent en partie dans les papyrus suivants:

• p. BM EA 10052, 14, 10–21: an 1 de *Ouhem-mesout*, quatrième mois de *chemou*, jour 8. Interrogatoire du pêcheur Panakhtemipet.

• p. Mayer A r° 5, 9:[10] an 1 de *Ouhem-mesout*, quatrième mois de *chemou*, jour 15. Interrogatoire du pêcheur Panakhtemipet.

Notes à la transcription

1. Il faut restituer, ainsi qu'aux deux paragraphes suivants (r° 2, 7 et r° 3, 1), *ỉnw* en rouge ; la fin du *w* apparaît sous le *p3*.

2. *Sic.* Il ne peut s'agir de  car la filiation est indiquée, sur tout ce papyrus, par  .

3. Tous les témoignages rassemblés sur ce papyrus (v° 1, 4, r° 2, 7, r° 3, 1) sont présentés selon le même schéma:

« A *comparu* X fils de Y, dont la mère est Z, (fonction et institution dont il dépend). Il fut interrogé. Il dit: etc. »

Le paragraphe consacré ici à la déposition de Panakhtemipet doit donc suivre cette construction, ce qui incite à reconstituer le texte de la façon suivante, en se fondant sur les données du v° 5, 6  . Il faudrait alors comprendre « [sa mère Hel, de] Thèbes». Le fragment a) n'a donc pas sa place ici (ce qui se répercute évidemment au verso). Le reste d'un signe (partie supérieure d'un *p3* ?) est d'ailleurs sensiblement trop haut par rapport au sommet des signes de cette ligne.

4. Comparer avec le même groupe à la fin de la ligne 7 de la même colonne qui offre une graphie analogue: etc.  (1:1)

5. Il faut restituer  d'après les p. BM EA 10054, r° 3, 5; BM EA 10052, 14, 11 et Mayer A r° 5, 9. Le fragment b) me semble mal placé; les restes de signes qu'il porte ne conviennent pas non plus à la fin de la ligne suivante.

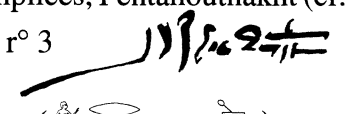
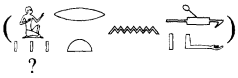
6. Il faut restituer *sw*.

7. Restitution la plus probable, qu'autorise la largeur de la lacune.

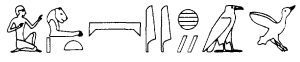
8. *ᶜq3i* est le mot qui convient le mieux ; on le trouve dans le même emploi *infra* l. 4 ainsi que dans un autre fragment inédit, *infra* l. 2 de la même colonne.

9. Restitution la plus probable. C'est le titre que porte *P3-wᶜ-rs* au v° 5, 9.

10. Graphie comparable à celle du v° 5, 9.

11. Ces quelques signes désignent très probablement un des complices, Pentahoutnakht (cf. *infra*, pp. 89–90). Par comparaison, notamment, avec la l. 3 du r° 3  (1:1), je propose avec quelque hésitation de comprendre *wᶜ n rmṯ* (), avec un *n*, visible également en r° 3, 3 mais non transcrit par Peet.

[10] Cf. K. A. Kitchen, *Ramesside Inscriptions,* VI (Oxford, 1983), 803 (date du document) et 813–14 (r° 5, 9–12).

12. Ces deux premiers signes sont transcrits par Peet.
13. La fin du nom étant claire, on peut très probablement restituer ce nom puisque le titre et la largeur de la lacune conviennent.
14. Le titre, le *i* initial et la fin du nom imposent de restituer cet anthroponyme. On peut comparer avec les autres attestations de ce même papyrus, r° 3, 3 et v° 5, 14: dans la première le rouleau de papyrus manque, dans la seconde, la fin est en lacune.
15. Si ce fragment est correctement placé—ce qui paraît avéré pour la ligne supérieure—l'emplacement des deux *i* est surprenant. En effet, le nom de Pakhyhat est écrit, en r° 3, 1 comme en v° 5, 8, normalement: 
16. Restitution la plus probable: la largeur de la lacune convient.
17. Restitution la plus probable: comparer avec les graphies *infra* r° 2, 8 et r° 3, 8 (*tw.i ḥn.kwi irm* ...). On peut donc également restituer *ḥn.k*, « hâte-toi », ou *ḥn*(*.k*) (*Wb.* III, 103, 22), « recule », c'est-à-dire « repars » (avec nous) ; néanmoins la première solution est préférable, étant largement attestée tout au long de ces témoignages. Le *.k* serait entièrement en lacune.
18. La trace du pluriel est visible ainsi que la fin de la ligature avec le *n*.
19. Le papyrus n'offre que des graphies de *mtw.n* (ex. *infra* l. 10, 11 et 12) ou *mtw.i* (v° 1, 9).
20. Ici commencent les fragments inédits de cette ligne.
21. Ici commencent les fragments inédits de cette ligne.
22. Le *.k* transcrit par Peet est probable; c'est du reste la proposition la plus logique pour ce reste de signe horizontal.
23. La fin de la ligne, en lacune, pouvait contenir encore un ou deux cadrats (comparer avec la fin de la l. 5 de Peet).
24. Ce début de ligne, dont je donne la transcription, est complet chez Peet (l. 4). Je ne transcris ni ne traduis la fin de cette ligne et des suivantes, n'apportant rien de nouveau aux lectures de Peet.

Traduction

({1})[11] [**A été amené**] Panakhtemipet fils de Horourkhâou [et dont la mère est Hel], pêcheur du domaine d'Amon sous la direction du prince de Thèbes.
({2}) [**Il fut interrogé**]. [Il] dit :
[« J'étais] installé dans mon [bateau] lorsque [le forgeron] Paouâres, (...?...), l'artisan Soutyn[akht], (1) le forgeron [Panakht]res, le forgeron Ytnefer et Paykhyhat vinrent à l'endroit où je me trouvais. Ils me dirent :
—(2) Viens—hâte-toi !— avec nous et laisse-nous de l'autre côté.
Je montai dans mon bateau, (3) je traversai nuitamment avec eux et les laissai sur la rive occidentale de Thèbes. Ils me dirent :
— ... (?) (4) jusqu'à ce que nous (re)venions vers toi. »

[11] Je numérote entre deux accolades les lignes inédites afin de ne pas modifier la numérotation connue et toutes les citations y afférentes dans la bibliographie égyptologique. Le texte en **gras** représente les mots en rouge du papyrus.

Commentaire

La première ligne de la colonne et la datation

Les fragments inédits ajoutent deux lignes au haut de cette colonne. Le papyrus est, sur certains fragments, conservé jusqu'au sommet de la feuille et montre une marge de 1 cm seulement. Nous sommes ainsi certains de connaître la première ligne de cette colonne. Celle-ci ne donne pas de date,[12] mais présente le témoignage de Panakhtemipet exactement comme, à la l. 7, celui de Imenpanefer; le texte du r° 2 suit donc exactement celui de la colonne r° 1, laquelle doit se lire, comme l'avait montré Peet, après le verso 1.

La date citée au v° 1, l. 1, an 16, troisième mois d'*akhet*, jour 4, est donc celle de tous les témoignages qui suivent, y compris celui de Panakhtemipet.

Identité de Panakhtemipet

La lecture du nom de Panakhtemipet ne fait aucun doute. Fils de Horourkhâou, il est bien le pêcheur que citent les documents suivants et, tout particulièrement, le p. BM EA 10054, r° 3.

p. BM EA 10054, v° 5, 6

p. BM EA 10052, 14, 11

p. Mayer A, r° 5, 9

p. BM EA 10054, r° 3, 5

Si le nom du père est rare (abs. *PN*), celui de la mère (*PN* I, 245, 7) est commun. Le nom de Panakhtemipet est écrit, dans les trois attestations du p. BM EA 10054, avec un *m* alors

[12] Contrairement à une supposition de Beckerath, *GM* 159, 8, n. 7.

que les deux autres papyrus l'écrivent avec un *n*. Cette variante banale est attestée par le *PN* I, 113, 18.[13]

Les quatre passages citant Panakhtemipet lui attribuent la qualité de *wḥ*ˁ, « pêcheur », et trois précisent « du maire de la Ville » (*n pȝ ḥȝty-*ˁ *n Niwt*). Il dépendait du maire de Thèbes-Est de l'époque, Paser. Si la restitution de la première ligne proposée ici est juste, elle introduit un élément nouveau dans la titulature de Panakhtemipet car il semble qu'il y soit désigné comme « pêcheur du domaine d'Amon, sous la direction du maire de la Ville ». L'existence d'interférences entre les deux pôles économiques—l'État et le Temple—est connue [14] même si la réalité des faits reste souvent difficile à cerner. Un autre personnage au moins, dans les papyrus traitant de ces profanations de sépultures de la fin du Nouvel Empire, se trouve dans une position assez comparable à celle de Panakhtemipet : il s'agit de l'« étranger (*ȝᶜᶜw*) Ouserhatnakht, sous la direction (*r-ḫt*) du chef des chasseurs d'Amon : il est sous la responsabilité (*m-dì*) du maire de la Ville » (p. BM EA 10052, 2, 9).

Quoi qu'il en soit des rapports de Panakhtemipet avec le domaine d'Amon, la totalité des documents soulignent sa dépendance à l'égard du maire Paser, lequel, précisément, avait tenté de dénoncer, par le biais des vols de tombes, tout un système de complicités au cœur duquel se trouvait son rival, Paourâa, le maire de Thèbes-Ouest.

Le bateau

Panakhtemipet désigne l'embarcation dans laquelle il a transporté les complices comme « mon bateau (*tȝy.i* ˁ*qȝi*)» (r° 2, {1} et r° 2, 2). Ce terme féminin (*Wb* . I, 234, 15) désigne un bateau de transport, fréquemment affecté au convoiement de céréales et qui se trouve, le plus souvent, aux mains de pêcheurs.[15] Il ne s'agit probablement pas dans le cas présent d'une embarcation de grande taille (ici elle transporte sept hommes), car elle devait rester maniable et relativement discrète lors de ses frauduleuses activités nocturnes.

Quant au propriétaire réel du bateau, il est difficile de préciser de qui il s'agit. Le possessif qu'utilise Panakhtemipet ne doit pas être pris au sens strict et juridique, et il est possible que l'embarcation ait été la propriété du maire de la Ville.[16]

Rôle de Panakhtemipet

Sa culpabilité ne fait aucun doute. S'il n'a pas participé personnellement aux pillages—il ne semble pas avoir aidé à fracturer les cercueils pour en arracher l'or—il a transporté nuitamment les voleurs de la rive droite à la rive gauche de Thèbes, en toute connaissance de cause, semble-t-il. D'ailleurs, il se trouve trois fois, sur les cinq témoignages liés aux cambriolages auxquels il a participé, appelé à témoigner :

1. p. BM EA 10054, r° 2, {1}: Déposition de Panakhtemipet (an 16 de Ramsès IX):

[13] On la retrouve, par exemple, dans toute une branche de la famille de Djehoutyemheb (XIX^{e} dynastie), d'après les inscriptions de la TT 45 : Aucun des Panakhtemipet de cette lignée n'y est signalé comme pêcheur.

[14] Cf. J. J. Janssen, 'Prolegomena to the Study of Egypt's Economic History during the New Kingdom', *SAK* 3 (1975), 181–2; B. J. J. Haring, *Divine Households. Administrative and Economic Aspects of the New Kingdom Royal Memorial Temples in Western Thebes,* (Egyptologische Uitgaven 12; Leyde, 1997), 17 et particulièrement 19.

[15] Cf. L. H. Lesko, *A Dictionary of Late Egyptian,* I (Berkeley, 1982), 93 ; A. H. Gardiner, 'Ramesside Texts Relating to the Taxation and Transport of Corn', *JEA* 27 (1941), 30, n. 2.

[16] La question se pose dans les mêmes termes pour les pêcheurs de la Tombe. Cf. D. Valbelle, *Les ouvriers de la Tombe. Deir el-Médineh à l'époque ramesside* (BdE 96; Le Caire, 1985), 132.

« J'étais installé dans mon bateau... ». Il fait traverser (*ḏ3i*) les voleurs vers Thèbes-Ouest.

p. BM EA 10054, r° 2, 2: Déposition de Panakhtemipet (suite) : « Je suis monté dans mon bateau... pour faire traverser (*ḏ3i*) les voleurs. »

2. p. BM EA 10054, r° 3, 6: Déposition de l'un des voleurs (Pakhyhat). Le type de bateau n'est pas cité, mais on dit que Panakhtemipet a fait traverser (*ḏ3i*) la bande vers la rive gauche.

3. p. BM EA 10054, v° 5, 6: Il figure dans la liste de personnages impliqués dans les pillages de tombe rapportés par ce papyrus.

4. p. BM EA 10052, 14, 10 sqq.: Déposition de Panakhtemipet (*Ouhem-mesout*, an 1). Il fait traverser (*ḏ3i*) les voleurs dans un bac (*mḫnty*).

5. p. Mayer A, r° 5: Déposition de Panakhtemipet (*Ouhem-mesout*, an 1). Il fait traverser (*ḏ3i*) les voleurs, sans nommer ceux-ci ni désigner son embarcation.

La teneur des trois comparutions de Panakhtemipet est chaque fois différente. La première fois (p. BM EA 10054, r° 2, 1 sqq.), il témoigne sans qu'aucune circonstance soit précisée; la deuxième fois (p. BM EA 10052, 14, 10 sqq.), il le fait en prononçant le serment (*ʿnḫ-n-nb*) de ne pas mentir. Enfin, la troisième fois (p. Mayer A, r° 5, 1 sqq.), il doit témoigner sous les coups (*sw smtr m qnqn*). Or, lors de cet interrogatoire particulier, il avoue avoir touché une somme plus faible (2 *qités* d'or) que lors de la première comparution (3 *qités*). La logique voudrait que le résultat eût été l'inverse. Ce fait confirme que Panakhtemipet a avoué sa participation à deux affaires différentes,[17] lesquelles ont été examinées respectivement

1. en l'an 16 du règne de Ramsès IX, premier mois d'*akhet*, quatorzième jour (p. BM EA 10054, r° 2 et 3);

2. en l'an 1 de *Ouhem-mesout*, quatrième mois de *chemou*, huitième jour (p. BM EA 10052, 14, 1)[18] et quinzième jour (p. Mayer A).

Ces deux derniers interrogatoires font probablement allusion au même cambriolage. Lors de la première de ces deux dépositions, Panakhtemipet donne sous serment le nom de ses complices: le forgeron de la Tombe Ouâres, le prêtre-*ouâb* Panakhtres et l'artisan Ytnefer (donc seulement trois personnes); il a convoyé les voleurs mais n'a pas participé au pillage. Une semaine plus tard, il avoue sous les coups le montant de la rétribution que lui ont attribuée les malfrats.

Il semble que, à l'occasion de ces deux vols, sa participation se soit bornée au transport des voleurs. La première fois (p. BM EA 10054), il ne mentionne que la rive de Thèbes-Ouest (*p3 mryt*[19] *imntt Niwt*), tandis que la seconde fois (p. BM EA 10052) il avoue avoir transporté les voleurs sur la rive du Faucon (*t3 i3dt nt p3 bik*).[20] Ici encore—et où que doive se situer, sur la rive gauche, ce lieu—la différence de formulation plaide en faveur de deux affaires différentes.

[17] Ainsi que le présentait Thijs, *GM* 167, 99–101, et malgré Peet, *GTR*, 167, n. 14.

[18] Les interrogatoires consignés dans ce papyrus se terminent le dixième jour de ce même mois.

[19] Le terme est pris ici dans son sens général et non dans son acception juridique de berge où se tenaient certains interrogatoires : cf. A. G. McDowell, *Jurisdiction in the Workmen's Community of Deir el-Medîna* (Egyptologische Uitgaven 5; Leyde, 1990), 217–23.

[20] Un lieu de la rive gauche non identifié: cf. Peet, *GTR*, 162, n. 35.

Les complices

Puisqu'il semble assuré que la déposition de Pakhyhat, en BM EA 10054, r° 3, 1 sqq., se rapporte au même événement que celle du fragment qui nous occupe ici (p. BM EA 10054, r° 1 sqq.), on doit retrouver les mêmes personnages dans les aveux. La liste du v° 5, récapitulation des noms des pilleurs mentionnés dans tous les témoignages de ce papyrus, doit confirmer l'identification de ces individus. Thijs[21] étayait en partie sa thèse sur la possibilité que le p. BM EA 10054 ait pu contenir, aux colonnes 5 et 6 du verso, les noms des forgerons Imenpanefer et Hapiâa, du porteur d'eau Khaemouaset et de l'artisan Soutynakht. Les fragments inédits, qui permettent d'ajouter quatre lignes à la colonne 5 et six à la colonne 6, sont très lacuneux, mais aucun de ces noms n'y est lisible.

En effet, aux côtés de Panakhtemipet, « acteur » en r° 2 puisque c'est lui qui témoigne, et complice en r° 3, on retrouve une bande bien connue:

1. Pakhyhat

Selon le r° 3, 1, il est forgeron de la Tombe, fils de Qedkhetef [22] et de Bouipet; le v° 5, 8 donne également le nom de ses parents. Appelé à témoigner après Panakhtemipet (r° 2, {1} sqq.) et Imenpanefer (r° 2, 7 sqq.), il rapporte les mêmes faits que le pêcheur. Un peu plus tard, il est mentionné dans une liste de receleurs,[23] ainsi que parmi les voleurs interrogés pour d'autres pillages.[24]

Selon les v° 7 et 9, les forgerons Paouâres et Pentahoutnakht sont ses frères, puisque tous trois ont les mêmes parents.

2. Paouâres

Le p. BM EA 10052 (14, 15) cite un certain Ouâres, forgeron de la Tombe. Il s'agit probablement du même homme qui aurait donc participé aux deux pillages.

3. Pentahournakht

Du troisième frère forgeron, on ne sait d'après les documents connus s'il dépendait également de la Tombe. Mentionné dans le témoignage de Pakhyhat (r° 3, 2), puis par la liste du v° 5, 7, il devrait figurer parmi les complices dénoncés par Panakhtemipet au r° 2, puisque celui-ci précise avoir convoyé six hommes. Cependant les fragments restants ne permettent guère de reconstituer son nom. Or, à la l. 5, Panakhtemipet mentionne clairement avoir transporté *six* pilleurs. On ne peut invoquer ici une des erreurs de nombre si fréquentes dans les documents égyptiens puisque, au r° 3, le témoignage de Pakhyhat corrobore, à ce nom près, la présente déposition. En effet, à l'exception de celui qui dépose, les complices sont cités exactement dans le même ordre dans ces deux témoignages:

l. 25. Pakhyhat (r° 3): Paouâres, Pentahoutnakht, Soutynakht, Panakhtres, Ytnefer et Panakhtemipet.

[21] *GM* 167, 101.

[22] Le nom de son père n'est pas rare à Thèbes. Un Qedkhetef forgeron, notamment, est connu à Deir el-Medina (J. J. Janssen, *Commodity Prices from the Ramessid Period* (Leyde, 1975), 25), mais il semble difficile d'établir un lien de parenté avec Pakhyhat.

[23] En l'an 17, dans le Journal de la Nécropole (G. Botti et E. Peet, *Il giornale della necropoli di Tebe* (Turin 1920), pl. 48, 5), ainsi que le signale Valbelle, *Ouvriers*, 210 et n. 6.

[24] P. BM 10053, r° 7, 15.

l. 26. Panakhtemipet (r° 2) : Paouâres, ... ?..., Soutynakht, Panakhtres, Ytnefer et Pakhyhat.

Le groupe lacuneux qui sépare, à la l. {2} de la col. 2, Paouâres et Soutynakht, désigne probablement Pentahoutnakht, non pas nommément, mais par une périphrase, peut-être *wˁ n rmṯ*, « un homme ». On ne peut savoir si Panakhtemipet a oublié son nom au moment de la déposition ou si la faute en incombe au copiste du document. Toutefois, qu'il ait été omis ou nommé de façon allusive, sa participation à l'expédition ne fait guère de doute. Ainsi n'est-ce pas la présence d'un forgeron de la Tombe qu'il faut déplorer dans cette affaire,[25] mais sans doute celle de trois frères forgerons dont du moins deux sont employés par cette institution. L'un d'eux, Paouâres, ayant sans doute pris goût à ce genre d'aventure, aurait récidivé avec le vol avoué par Panakhtemipet en l'an 1 de *Ouhem-mesout*.[26]

4. Soutynakht

L'artisan Soutynakht, fils de Ânqet et dont la mère est Isis, de l'ouest de la Ville (p. BM EA 10054, v° 5, 20) n'apparaît pas dans le p. BM EA 10052: il n'a donc participé qu'au premier des deux cambriolages dont il est question ici. Lors d'un autre interrogatoire[27] mené en l'an 16 de Ramsès IX,[28] un homonyme, artisan du temple de millions d'années de Ramsès III, fils de Penânqet, est mentionné également dans un procès de pilleurs de tombes. Qu'il s'agisse du même individu est vraisemblable mais non totalement assuré.[29]

5. Panakhtres

— p. BM EA 10054, r° 3, 3: Il est cité comme « un homme de la *smdt* [30] du temple de millions d'années de Thoutmosis Ier ».

— p. BM EA 10054, r° 2, 1.

— p. BM EA 10054, v° 5: Cette colonne mentionne deux Panakhtres.

. l. 15: Le premier, sans titre, est dit fils de Paounech, sa mère est Nesymout, de Tôd.

. l. 17: Le second est un prêtre-*ouâb*, fils d'Iyemnefery.

— p. BM EA 10052, 14, 15: Un Panakhtres, prêtre-*ouâb* du temple de millions d'années d'un roi qui est probablement encore Thoutmosis Ier,[31] est cité.

On admet généralement que le personnel-*smdt* se distingue du personnel religieux des temples[32] et que, à Deir el-Medina, ce terme désigne des « employés » venus de l'extérieur.

[25] Cf. Valbelle, *Ouvriers*,128–9 ; il faut donc nuancer l'affirmation de McDowell, *Jurisdiction*, 189, n. 13.

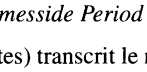
[26] P. BM 10052, 14, 15.

[27] Cf. Thijs, *GM* 167, 101 et W. Helck, *Materialien zur Wirtschaftsgeschichte des Neuen Reiches*, I (Wiesbaden, 1960), (112)–(113).

[28] P. Amherst, 4, 4 (daté de Ramsès XI par Helck, *Materialien* I, (112)–(113) et sans doute aussi p. Amherst, 1, 7.

[29] Dans l'état actuel du papyrus, les fragments inédits ne semblent pas attester, dans les premières lignes, la présence d'un autre Soutynakht, ce qui donne raison à Thijs, *GM* 167, 101, contre Beckerath, *GM* 157, 7.

[30] Peet proposait avec quelque hésitation la lecture *smdt* ; or, quoique l'écriture soit très cursive, cette interprétation ne fait aucun doute (on peut comparer, notamment, avec l'ostracon Caire 25581 v° 4, certes plus ancien (règne de Merenptah), mais tout aussi cursif et qui offre la plus ancienne mention connue du terme à Deir el-Medina (J. Černý, *A Community of Workmen at Thebes in the Ramesside Period* (BdE 50; Le Caire, 1973), 183.

[31] Peet (*GTR*, pl. xxxix, notes) transcrit le nom  et indique dans sa note 5 que l'on peut lire également  devant le scarabée. Ce groupe serait donc réduit à un simple trait vertical. Cette lecture plaide en faveur du temple de Thoutmosis Ier plutôt que de celui de Ramsès X dont ce serait l'unique attestation (cf. Haring, *Divine Households*, 425, n. 2).

[32] Haring, *Divine Households*, 6–7.

Il est donc probable que le Panakhtres du p. BM EA 10054 est membre de la *smdt* du temple de millions d'années de Thoutmosis I^er^ ; il apparaît comme *ḥmty* dans la déposition du r° 2 et, au v° 15, il est désigné comme fils de Paounech et de Nesymout. Le p. BM 10052, 14, 15 cite un Panakhtres, fils de Paounech et prêtre-*ouâb*, titre apparemment incompatible avec celui de membre de la *smdt.* Le plus vraisemblable est que le scribe du p. BM EA 10052 a copié ce titre par erreur, le confondant avec Panakhtres, fils d'Iyemnefery.[33]

6. Ytnefer

— p. BM EA 10054, r° 2, 1: il figure comme forgeron.

— p. BM EA 10054, 3, 3 et v° 5, 14: il figure comme forgeron du domaine de Montou de Tôd.

— p. BM EA 10052, 14, 16: il figure comme artisan.

Les attestations du p. BM EA 10054 présentent donc Ytnefer comme forgeron (*ḥmty*) du temple de Montou à Tôd. L'orthographe du nom est la même dans tous les cas, tandis que le p. BM EA 10052 écrit le nom différemment et attribue au personnage le titre, plus général, d'artisan (*ḥmw*).[34] Toutefois il s'agit assurément du même individu.

Si lacuneux que soient ces « nouveaux » fragments, ils portent à notre connaissance un certain nombre de détails intéressant le « cursus » des voleurs et le fonctionnement de leurs bandes. Les malfrats transportés par Panakhtemipet sont, en grande partie, ancrés sur la rive gauche, soit par leurs racines familiales (Soutynakht, dont la mère est originaire de l'ouest de Thèbes), soit par leurs occupations professionnelles (un membre du personnel du temple de millions d'années de Thoutmosis I^er^ et les trois frères forgerons dont deux au moins sont employés de la Tombe). Ils étaient donc bien placés pour connaître les richesses à piller et les lieux où les trouver, bien qu'ils fussent, en théorie, tenus au secret.

Ytnefer, forgeron du temple de Montou de Tôd, ainsi que le pêcheur Panakhtemipet sont, quant à eux, des Thébains de la rive droite. On les retrouve, en compagnie de Panakhtres et de Paouâres, dans l'affaire traitée par le p. BM EA 10052, 14. On ne sait ce que sont devenus entre-temps leurs complices ni pourquoi, cette fois-là, ils n'ont œuvré qu'en groupe restreint. En dépit des quelques différences orthographiques des noms et des variantes dans l'énoncé des qualités (surtout en ce qui concerne Panakhtres), il semble tout à fait probable qu'il s'agit de la même aventure.[35] Quoi qu'il en soit, les fragments inédits examinés ici confirment qu'il y a eu deux vols différents perpétrés en partie par les mêmes personnages, et qu'il est peu vraisemblable que ces vols aient été séparés par un quart de siècle, ainsi que le remarquait Thijs.[36] Ce point semble renforcer l'hypothèse de cet auteur, selon laquelle la « Renaissance » (*Ouhem-mesout*) mentionnée dans les p. BM EA 10052 et Mayer A aurait débuté en l'an 19 de Ramsès IX.[37]

À côté de cette importante question de chronologie, la « petite histoire » ou, plutôt,

[33] Cf. Haring, *Divine Households*, 456 et n. 7, qui distingue deux Panakhtres, l'un *ouâb* et l'autre membre de la *semdet*; cependant, l'auteur penche pour les confondre en un seul personnage (425, n. 2).

[34] Plutôt que « carpenter » ainsi que le comprend Thijs, *GM* 167, 98.

[35] Il faut rappeler que, alors que vizir et échanson ont changé, le maire de Thèbes-Ouest est toujours Paourâa. Dans l'hypothèse d'un laps de temps d'un quart de siècle entre les deux affaires, passer une si longue période dans le même poste est remarquable mais non impossible.

[36] *GM* 167, 95–108 et *GM* 170 , 97: L'auteur, dans ce dernier article, estime à un peu plus de six ans et demi le laps de temps écoulé entre ces deux événements. En effet, le premier vol a très probablement eu lieu en l'an 13 de Ramsès IX, ainsi que celui que confesse sur le même papyrus (BM 10054, v° 1, 6) Amenpanefer.

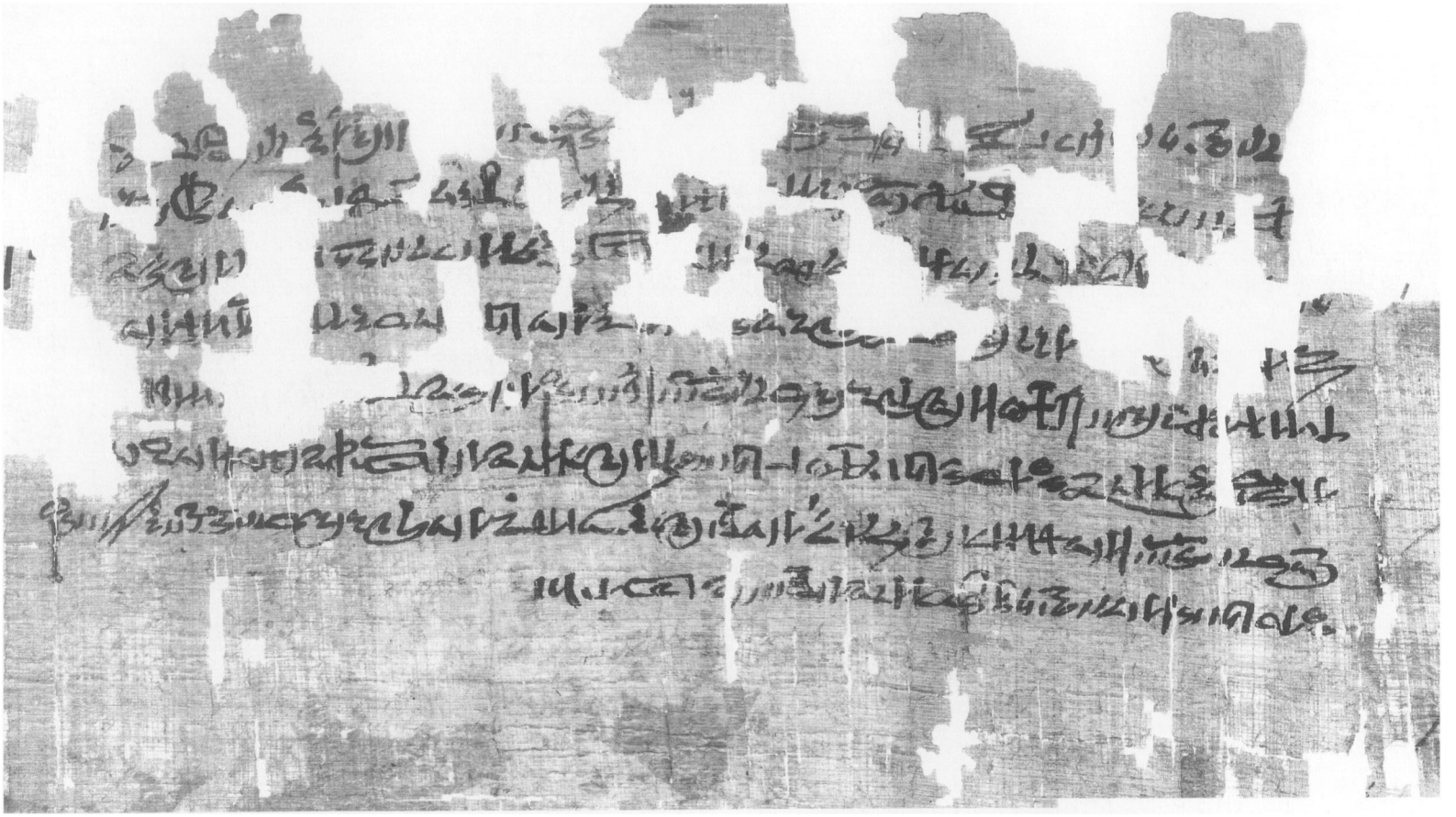
[37] Thijs, *GM* 170, en particulier 97.

l'histoire de la société thébaine de la fin du Nouvel Empire s'enrichit également grâce à ces quelques fragments. On lit couramment que les membres de la communauté de Deir el-Medina n'ont guère participé en personne à ces événements. Cela est vrai dans la majorité des cas, mais les deux cambriolages dont il est question ici permettent de nuancer cette affirmation.

Plus intéressante, peut-être, est la mise en cause d'un individu—Panakhtemipet—dépendant du maire de Thèbes. Il n'est d'ailleurs pas le seul pêcheur impliqué dans ce type d'affaire : la chose est compréhensible lorsque, comme ici, les voleurs partent de la rive droite. Qui, mieux qu'un pêcheur, en effet, connaissait les courants, la topographie des berges, des îles et des bancs de sable particulièrement nombreux et mouvants à cet endroit du fleuve? Si Panakhtemipet est le modèle du passeur, complice qui ne participe pas au pillage proprement dit, son rôle dans ces deux épisodes apporte un jour inattendu sur les activités de certains pêcheurs à la fin de l'époque ramesside. D'autres pêcheurs, en effet, ont participé de façon analogue au pillage des tombes royales. Le p. BM EA10053 en cite deux:

1. p. BM EA 10053, 1, 14: le pêcheur Nebân du deuxième prophète d'Amon a touché, pour rétribution de sa complicité, 10 *débens* de cuivre ; sa part est modeste puisque deux de ses complices (sur 8) ont touché 20 *débens* et un autre 30. Seul un esclave n'a reçu que 5 *débens*.
2. p. BM EA 10053, 2, 9: le pêcheur Nakhtemouaset en a, lors d'une autre affaire, touché 5. Sur les dix voleurs de ce groupe, seuls lui-même et un prêtre-*ouâb* n'ont touché que la moitié de ce qu'ont reçu les autres.

Panakhtemipet, quant à lui, fut mieux traité par ses complices puisque, en dépit de son exiguïté, la somme qu'il reçut constitue la même part de butin que la leur (p. BM EA 10054, r° 3, 6). Il est vrai que, selon Pentahoutnakht (p. BM EA 10054, r° 3, 5–6), il avait coutume de leur faire traverser le fleuve et cette habitude a pu engendrer une certaine familiarité ; de là à la complicité, il n'y avait qu'un pas que Panakhtemipet a franchi à ses risques et périls mais pour le bien de l'histoire puisque sa constance dans l'illégalité a permis d'éclairer un point délicat de chronologie.



P. BM EA 10054, r° 2, premières lignes incluant les fragments inédits (*copyright The British Museum*).

PANAKHTEMIPET ET SES COMPLICES (pp. 81–92)

AN ANCIENT EGYPTIAN 'CD-ROM': ASHMOLEAN MUSEUM HO 1256*

By GUILLAUME BOUVIER, ROB DEMARÉE
and KOEN DONKER VAN HEEL

Publication of Ashmolean Museum HO (Hieratic Ostracon) 1256, a pottery lid or cover which until 1999 was registered as Ashmolean Museum DO (Demotic Ostracon) 899. It is written in late cursive hieratic and deals with agricultural matters such as plots of land and grain. Its provenance is unknown, but may be the Theban region.

ASHMOLEAN Museum HO (Hieratic Ostracon) 1256 (pl. XII, 1 and 2) is a pottery lid or cover bearing a late cursive hieratic text. The writing material used by the scribe is somewhat peculiar for a documentary text, although parallels do exist, which are, however, in most cases referred to as disks or plates. These date from the New Kingdom[1] to the Late Period.[2]

The text is very succinct, composed by or for an unknown official, and for the most part seems to deal with the giving out of small plots of farm land, each time just one aroura in size, and also with the delivery of small quantities of grain. The object was acquired by the museum from A. H. Sayce. Its provenance is not known, although some of the names in the text have a distinct Theban flavour to them. On the inside of the lid, here termed the reverse, was written in ink: 'Prof. A. H. Sayce / 1926.683 / DO (Demotic Ostracon) 899'. The latter caption was changed into HO (Hieratic Ostracon) 1256 after it was found to be late cursive hieratic and not demotic in November 1999.[3]

Although the lack of a king's name after the regnal year 3 mentioned on this lid prevents one from giving a precise dating, both palaeography and onomastics suggest a date from the end of the Twentieth Dynasty onwards. This hypothesis finds confirmation in the analysis (from a photograph) performed by a pottery expert, who roughly dated this lid to 'anywhere from the Late New Kingdom through the Third Intermediate Period'.[4]

* The editors are grateful to Helen Whitehouse of the Ashmolean Museum for her permission to publish Ashmolean Museum HO 1256 and for providing the material for the description, to Ben Haring for reading an earlier draft of this article and to Cary Martin for correcting the English. Guillaume Bouvier would also like to express his gratitude to the Fondation Fyssen for a generous grant allowing him to spend six months working in Leiden.

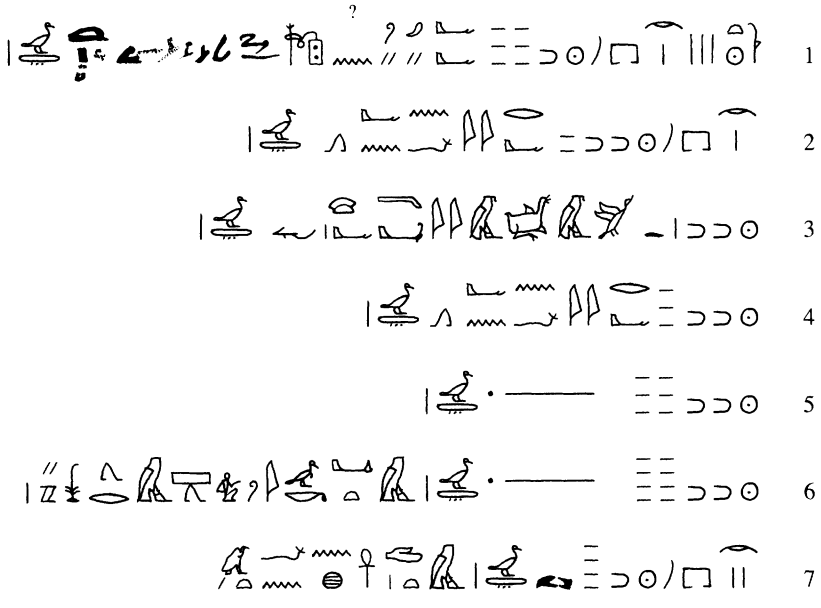
1 W. M. F. Petrie, *Medum* (London, 1892), 40 no. 58 and pl. xxix no. 8.

2 W. Spiegelberg, *Hieratic Ostraka and Papyri Found by J. E. Quibell in the Ramesseum 1895–6* (ERA; London, 1898), pls. xli–xli A, nos. 330–1, now kept as nos. H.28 and H.27 in the Cabinet de numismatique de la Bibliothèque Nationale et Universitaire de Strasbourg; see also disk Louvre N 706, in E. Revillout, *Corpus Papyrorum,* I (Paris, 1895–1902), pl. 8.

3 Ashmolean Museum HO 1256—then still Ashmolean Museum DO 899—was discovered by Brian Muhs of the Papyrologisch Instituut (Leiden), while surveying the demotic ostraca collection of the museum. It was then shown by Helen Whitehouse to Koen Donker van Heel in November 1999, who together with Rob Demarée was working on the former Gardiner collection of hieratic ostraca. The plan to publish this difficult late cursive hieratic lid was greatly encouraged by Guillaume Bouvier, who improved on some of the original readings by Demarée and Donker van Heel and was subsequently invited to join them.

4 The analysis of the lid was kindly provided by Colin Hope: 'I would suggest that your bowl could date anywhere from

Obverse, col. I



Reverse, col. I

Reverse, col. II

FIG. 1. Ashmolean Museum HO 1256. Obverse col. I, Reverse col. I and col. II.

Obverse, col. II

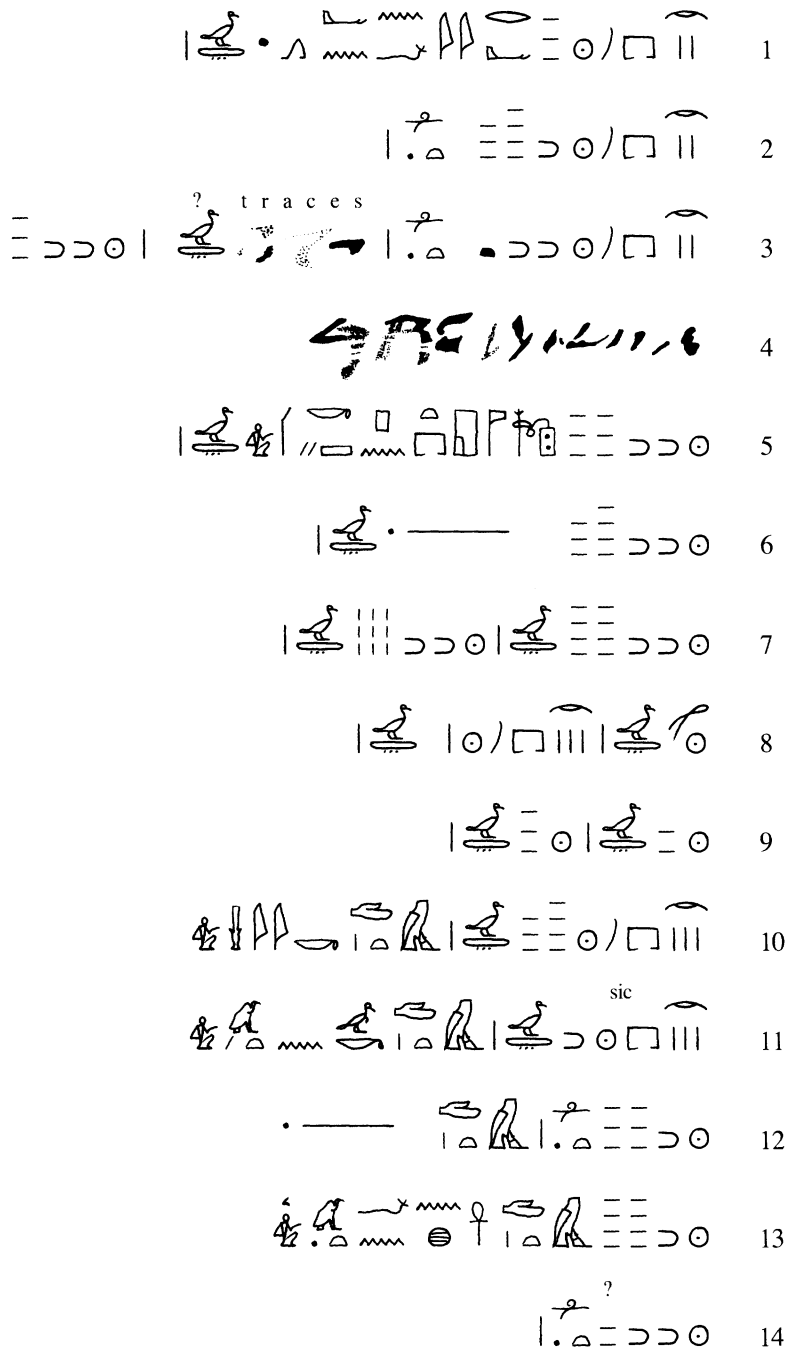


FIG. 2. Ashmolean Museum HO 1256. Obverse col. II.

Description

Ashmolean Museum HO 1256 is a wheel-made red ware lid or cover measuring 13.4 cm in diameter, with a vessel profile of 0.5 cm. There is a depression of 4.7 cm in diameter in the centre of what has been termed the reverse, bearing a scar where the object was detached from the wheel. The lid is intact; the surface pits were probably caused by organic matter being burnt out in the firing. The writing on both sides is in black ink. On the obverse are two columns of seven and fourteen lines, respectively. The first column of seven short lines covers a 'regnal year 3' from I *pr.t* 16 to II *pr.t* 14. The second column, which is upside down in relation to the first, covers dates from II *pr.t* 3 to III *pr.t* 22 (?). Lines 12–13 of col. II are separated from lines 6–7 of col. I by a dividing line. On the reverse there are five lines (called col. I and II here for the sake of convenience), covering III *pr.t* 1 to IV *pr.t* 17. When the scribe arrived at the end of line 4 he reached the circular depression in the middle of the reverse, so that he was forced to turn the lid upside down and then write the last line, which immediately follows line 4 in the dating.

Translation

Obverse, col. I

I Regnal year 3, first month of the *pr.t*-season, day 16: in the charge of[a] the scribe ...?...[b] 1 aroura.[c]
II First month of the *pr.t*-season, day 22: given to him again:[d] 1 aroura.
III Day 21:[e] *P3-ṯ3y-ḫ*ˁ:[f] 1 aroura.
IV Day 23: given to him again:[d] 1 aroura.
V Day 26: —ditto[g]—: 1 aroura.
VI Day 28: —ditto[g]—: 1 aroura, in the possession of *B3ki*. Going southwards.[h]
VII Second month of the *pr.t*-season, day 14:[e] 1 aroura, by[i] *ˁnḫ=f-n-Mw.t.*

Obverse, col. II

1 Second month of the *pr.t*-season, day 3: given to him again:[d] 1 aroura.
2 Second month of the *pr.t*-season, day 17: 1 aroura.
3 Second month of the *pr.t*-season, day 20:[e] 1 aroura. ... 1 aroura (?).[j] Day 23:
4 ...?...[k]
5 Day 26:[l] the scribe of the temple[m] *Pn-Kš*: 1 aroura.
6 Day 27:[l] —ditto[g]—: 1 aroura.
7 Day 28:[l] 1 aroura. Day 29: 1 aroura.
8 Last day of the month: 1 aroura. Third month of the *pr.t*-season, day 1: 1 aroura.
9 Day 2: 1 aroura. Day 3: 1 aroura.

---

the Late New Kingdom through the Third Intermediate Period. With such simple forms, isolated from context, dating is not easy. In general it belongs to a category of round-based, simple bowls with slightly flaring rims; they may possess an inflected contour. Such bowls start in the Eighteenth Dynasty—naturally, they are better made then—and tend to be red-slipped and polished. In D. A. Aston, *Egyptian Pottery of the Late New Kingdom and Third Intermediate Period (Twelfth–Seventh Centuries BC). Tentative Footsteps in a Forbidding Terrain* (SAGA 13; Heidelberg, 1996), the form (though without examples as roughly-thrown as yours) occurs as Phase I (twelfth–tenth centuries), group 6 (p. 60) and Phase II (tenth–eighth centuries), group 5 (p. 67).'

10 Third month of the *pr.t*-season, day 7: 1 aroura, by *Ky-sn*.
11 Third month of the *pr.t*-season, day 10: 1 aroura, by *Bꜣk-n-Mw.t*.
12 Day 16: 1 aroura, by —ditto[g]—.
13 Day 18: by *ʿnḫ=f-n-Mw.t*.
14 Day 22 (?): 1 aroura.

Reverse, col. I

1 Third month of the *pr.t*-season, day 1: received from the *wʿb*-priest *ʿnḫ=f-n-Mw.t*: barley, 3 *oipe*.
2 Received[n] in (?) the fourth month of the *pr.t*-season, day 5: emmer,[o] 2 *oipe*.
3 ...[p] the scribe of the temple[m] on this day: 1 aroura.
4 Fourth month of the *pr.t*-season, day 27: 1 aroura. Fourth month of the *pr.t*-season, day 16: 1 aroura.

Reverse, col. II

1 Received[n] in (?) the *ʿ.t*-building.[q] Fourth month of the *pr.t*-season, day 17: emmer, 1 *khar* 2 *oipe*.

Notes

Obverse

(a) I 1: *ʿ.wy n* (?) *NN*; the closest parallel to the writing here is in O. Leiden F 1980/3.7 (end of Twentieth Dynasty or later), to be published by G. Bouvier in *BIFAO* 101 (2001). A less likely reading would seem to be *ꜣḫ.w.t n NN*, 'fields of NN'. What has been read as *n* (?) may be a filling stroke or a scribal mark of a different nature; see note (e) on obverse I 3 below.

(b) I 1: What appears to be the name of the scribe has stoutly resisted all our efforts at transcription. The first signs following *sš* may perhaps be read as *Mn-ḥr* but this is far from certain, since a reading *rmn* could be and has been considered as well. At the end one may possibly read *Niw.t*.

(c) I 1: *sṯꜣ.t* 1; one is tempted to read *ỉr.n* 1 here, in view of the fact that Ashmolean Museum HO 1256 also features a much fuller spelling of *sṯꜣ.t* 1, e.g. in obverse II 2 and 3, which could be cause for concern. On the other hand, *sṯꜣ.t* is a group that readily lends itself to abbreviated forms; see, for instance, A. Gasse, *Données nouvelles administratives et sacerdotales sur l'organisation du domaine d'Amon,* I (BdE 104; Cairo, 1988), 243; S. P. Vleeming, *Papyrus Reinhardt. An Egyptian Land List from the Tenth Century* B.C. (Hieratische Papyri aus den Staatlichen Museen zu Berlin, Preussischer Kulturbesitz; Berlin, 1993), 84, and A. S. von Bomhard, *Paléographie du Papyrus Wilbour. L'Écriture hiératique cursive dans les papyri documentaires* (Paris, 1998), 85.

For the writing of *sṯꜣ.t* with the duck and land-sign, more or less typical for the Late Period, see D. Meeks, 'Une fondation memphite de Taharqa (stèle du Caire JE 36861)', in *Hommages à la mémoire de Serge Sauneron,* I (BdE 81; Cairo, 1979), 251 n. 59.[5] The writing in Ashmolean Museum HO 1256 is, of course, much more cursive than the hieroglyphic examples cited by Meeks, but finds a parallel in abnormal hieratic P. Louvre E 7852 l. 5 (reign of Taharka), for which see K. Donker van Heel, 'Papyrus Louvre E 7852. A Land Lease from the Reign of Taharka', *RdE* 48 (1997), 86 and pl. viii.[6]

[5] For a variant spelling not listed by Meeks, see *Recueil d'études égyptologiques dédiées à la mémoire de Jean-François Champollion à l'occasion du centenaire de la lettre à M. Dacier* (Bibliothèque de l'École des Hautes Études, Sciences historiques et philologiques 234; Paris, 1922), 363.

[6] A photograph of P. Louvre E 7852 was reproduced in F. Hoffmann, *Ägypten. Kultur und Lebenswelt in griechisch-römischer Zeit. Eine Darstellung nach den demotischen Quellen* (Berlin, 2000), 17.

(d) I 2, 4 and II 1: *rdy n=f ꜥn* is palaeographically possible and makes sense. For *n=f* abbreviated to an oblique stroke, see A. H. Gardiner, *Ramesside Administrative Documents* (Oxford, 1948), 1a n. 2a. Another reading we considered was *rdy n=f imy-r pr*, although because *im.y-r pr* is neither preceded by the article nor followed by the ideogram stroke[7] (and a name), there are serious reasons for doubt, as is the fact that a reading *tȝy=f ꜥ.t* seemed equally likely. In fact, in view of a fairly close parallel in the Twentieth Dynasty account papyrus P. Turin Cat. 1907–1908 recto III 1 and 6, a reading *rdy n=f <m tȝ> ꜥ.t* was also very briefly considered,[8] but rejected for obvious reasons.

It is not clear what may be meant by the phrase *rdy n=f ꜥn*, but it does not seem likely that we are dealing with a scribe giving away plots of farm land. *rdi*, 'give', may in abnormal hieratic sometimes have been used as an abbreviation of *rdi r skȝ*, 'give to till', i.e. 'lease out'; see, K. Donker van Heel, 'Papyrus Louvre E 7865 Verso and Recto: Leasing Land in the Reign of Taharka', *RdE* 49 (1998), 96–7 n. iv.

(e) I 3: The meaning of the sign after the day date eludes us. The same phenomenon occurs in obverse I 7 (and perhaps also in II 3), after the day date and before *sṯȝ.t* 1, so reading it here in I 3 as a dative *n* is not the best option. Perhaps it is a scribal mark carrying some meaning, but probably not the ditto-sign, which this scribe knew very well how to write (see e.g. obverse I 5–6).

(f) I 3: *Pȝ-ṯȝy-ḥꜥ*; the element *ṯȝy* is written in a peculiar way, but no alternative reading comes to mind. This may be a personal name, which is, however, not in Ranke's *Die ägyptischen Personennamen*, but cf. *Pȝ-ṯȝy-sry.t* in H. Ranke, *Die ägyptischen Personennamen,* I (Glückstadt, 1935), 121.6 and cf. H. Ranke, *Die ägyptischen Personennamen,* II (Glückstadt/Hamburg, 1949–52), 355. If it is to be viewed as a title, a *ṯȝy ḥꜥ* or 'arms bearer' would have been someone of not too elevated rank in the armed forces; see P. M. Chevereau, *Prosopographie des cadres militaires égyptiens du Nouvel Empire* (Antony, 1994), 190-2 § 26.[9]

(g) I 5, 6 and II 6, 12: For *mi nn,* 'ditto', see Gasse, *Données nouvelles* I, 243, and S. P. Vleeming, *The Gooseherds of Hou. A Dossier Relating to Various Agricultural Affairs from Provincial Egypt of the Early Fifth Century* B.C. (Studia Demotica 3; Leuven, 1991), 251–2 § 89.

(h) I 6: *sṯȝ.t 1 m dỉ.t Bȝkỉ. šm r rsy* is only one of two possibilities. One could perhaps also suppose that *Bȝkỉ* is involved in a case of haplography and read *ṯȝ.t* 1 *m dỉ.t Bȝkỉ <ỉw=ỉ> šm r rsy,* '1 aroura, in the possession of *Bȝkỉ*, <while I> was going southwards'. The spelling of *Bȝkỉ* with *ỉ* + *w* at the end seems odd, but has been seen before; see N. E. Scott, in *The Metropolitan Museum of Art Bulletin* 15/3 (1956), 85 no. 14 and pl. 86.

(i) I 7: For the abbreviated way *m ḏr.t* is written (also in obverse II 10–13 and reverse I 1), see S. P. Vleeming, *Enchoria* 18 (1991), 222. For the meaning 'by', see A. H. Gardiner, *The Wilbour Papyrus,* II (Oxford, 1948), 76 f. and 214; B. Menu, *Le régime juridique des terres et du personnel attaché à la terre dans le Papyrus Wilbour* (Publications de la Faculté des Lettres et Sciences Humaines de l'Université de Lille; Lille, 1970), *passim.*

(j) II 3: No reading presents itself for these traces and even *sṯȝ.t* looks suspicious.

(k) II 4: There are many problems with this line. The reading *rdy n=f* for the first two groups would presuppose that in this case the scribe was rather less careful than in the other cases where he wrote it (obverse I 2, 4 and II 1), something one has difficulty in accepting. After this follow *pȝy* and some horizontal traces, perhaps suggesting *pȝy=w* (?) and *ḥry* and what appears to be *wꜥb* (see the same sign in reverse I 1). If, however, one opts to combine these elements and read an undetermined name *Pȝy=w-ḥry-wꜥb*—for which cf. Ranke, *Die ägyptischen Personennamen* I, 127.17–18: *Pȝy=f-ḥry-nṯrỉ* and *Pȝy=f-ḥry-ḥs*[10]—one is still faced with the fact that after this putative name the line stops, there being

[7] The reading *imy-r pr* without an ideogram stroke would be very problematical; the examples transcribed thus in Gasse, *Données nouvelles,* pl. 27 (transcription) and 95 (photo), in her rendering of P. Louvre AF 6345 + Griffith fragments, verso V 31, may be misleading. Her first example seems to feature a dot after the house-sign, after which probably read *ỉmn* instead of *Ḥr*. The second example would require collation of the original.

[8] See J. J. Janssen, 'A Twentieth Dynasty Account Papyrus', *JEA* 52 (1966), 88 n. uu and pl. xvii.A (*rdy n=f m tȝ ꜥ.t* [...] and *rdy n=f m ḏr.t tȝ ꜥ.t n ḫw.t-nṯr*, in recto III 1 and III 6, respectively).

[9] The title is not listed in A. R. Schulman, *Military Rank, Title and Organization in the Egyptian New Kingdom* (MÄS 6; Berlin, 1964), which has a *ṯȝy sry.t* on 69–71 and a *ṯȝy tkm* on 71–2.

[10] The name *Pȝy=f-ḥry-ḥs* occurs more often in abnormal hieratic; see G. Vittmann, 'Zwei kursivhieratische Urkunden in Kairo', *Enchoria* 26 (2000), 138 n. d.

no object *st3.t* 1 to the very doubtful *rdy n=f*, as elsewhere. Equally the reading *rdy n=f p3y=w* (?) *ḥry* leaves one with the inexplicable *w'b* at the end of the line.

(l) II 5-7: The day dates in these lines were all corrected afterwards, possibly when the scribe wrote 'day 29' in II 7 and then saw that he had mistakenly written 'day 25, 26 and 27' instead of 'day 26, 27 and 28'.

(m) II 5: The writing is slightly cramped, but the reading *sš ḥw.t-nṯr* is certain, even if one argues about the transcription of the sign following *nṯr*, here and on the reverse:

obverse II 5

reverse I 3

Reverse

(n) I 2, II 1: The *šsp*-sign is followed by two strokes in reverse I 1 (*šsp m ḏr.t*), against three strokes here. Reading the third stroke as an *m* is in both cases palaeographically problematic.

(o) I 2: Whether the ear of grain was written here or just a simple *b* cannot be made out, perhaps contrarily to what is seen in reverse II 1, where a *b* seems to have been written. The transcription is the traditional one, explained in M. Malinine, *Choix de textes juridiques en hiératique anormal et en démotique*, II (RAPH 18; Cairo, 1983), 62 n. 2, 2.

(p) I 3: The signs left untranscribed might be read *ḥw* with the striking-man determinative. In view of the brevity and uncertainty of the clause,[11] we have opted for leaving this group untranscribed.

(q) II 1: *t3 ˁ.t*; the reading is certain (cf. above n. (d)), but *šsp m t3 ˁ.t*, which one would like to read here, is problematical as the stroke before *t3* does not agree well with hieratic *m* (cf. above n. (n)).

H.-W. Fischer-Elfert, 'Zwei Akten aus der Getreideverwaltung der XXI. Dynastie (P. Berlin 14.384 und P. Berlin 23098)', in *Miscellanea Aegyptologica Wolfgang Helck zum 75. Geburtstag* (Hamburg, 1989), 57 n. d, noted that the *ˁ.t* in connection with grain, taxes and people of elevated rank is not an official (administrative) building but a private house, apparently basing his opinion on W. Helck, *Materialien zur Wirtschaftsgeschichte des Neuen Reiches*, III (Akademie der Wissenschaften und der Literatur, 1963/2; Wiesbaden, 1963), 337 ff.,[12] and J. J. Janssen and P. W. Pestman, 'Burial and Inheritance in the Community of Necropolis Workmen at Thebes (P. Bulaq X and O. Petrie 16)', *JESHO* 11 (1968), 160 and n. 11. However, in the Late Period early demotic P. Rylands 9[13] *ˁ.t*, 'house', exists side by side with *ˁ.wy*, 'house, place, temple', and *pr*, 'house', all three being used in composite terms pointing towards official (administrative) use, such as *ˁ(.t) n sb3*, 'school', *ˁ.wy n wpi*, 'courthouse', and *pr-ḥḏ*, 'treasury, storehouse', *ˁ.wy* in meaning even alternating with *s.t* on some occasions,[14] so that one

[11] The verb *ḥw* in an agricultural context may mean 'thresh'; see, for instance, A. M. Moussa and H. Altenmüller, *Das Grab des Nianchchnum und Chnumhotep* (ÄV 21; Cairo, 1977), 132 and pl. 59b (Old Kingdom); A. H. Gardiner, 'Ramesside Texts Relating to the Taxation and Transport of Corn', *JEA* 27 (1941), 64 (Ramesside). It apparently found its way into Coptic, for which see W. Vycichl, *Dictionnaire étymologique de la langue Copte* (Leuven, 1983), 286. For a less likely alternative of *ḥw* in connection with an agricultural field in demotic, see G. Mattha and G. R. Hughes, *The Demotic Legal Code of Hermopolis West* (BdE 45; Cairo, 1975), 69, notes on l. 24 and 26.

[12] Cf. W. Helck, 'Haus', *LÄ* II, 1061–2, where the *pr* is described as 'anscheinend die Dienstwohnung' and the *ˁ.t* as 'das aus eigener Initiative und eigenem Besitz errichtete Wohnhaus'.

[13] See now the new edition by G. Vittmann, *Der demotische Papyrus Rylands 9* (Ägypten und Altes Testament 38; Wiesbaden, 1998).

[14] P. Gallo, 'Some Demotic Architectural Terms', in S. P. Vleeming (ed.), *Aspects of Demotic Lexicography* (Studia Demotica 1; Leuven, 1987), 36 and n. 6, and cf. Vleeming, *The Gooseherds of Hou*, 36–7 n. *ff*, and Vycichl, *Dictionnaire étymologique de la langue Copte*, 52–3.

should perhaps be careful not to assign too strict a meaning to *ꜥ.t* here in Ashmolean Museum HO 1256. Overall, a translation 'private house' has much to recommend it, just as much as, for instance, 'store-house' in *tȝ ꜥ.t Pr-ꜥȝ ꜥnḫ wḏȝ snb* in a New Kingdom jar label published by M. A. Leahy,[15] or *ꜥ.t* in the sense of 'département de l'administration alimentaire', of which many examples are cited in Meeks, *Année lexicographique*.[16]

General commentary

As has become clear from the translation and the notes, this small document—dealing with relatively insignificant agricultural matters—still keeps many of its secrets. The crucial first line on the obverse, for instance, remains unclear, thus hampering our understanding of the text as a whole. What may be said, however, is that at a certain point in time some scribe decided to write down a series of 'journal notes' onto a lid or cover, perhaps in an effort to keep tabs on his own or someone else's activities.[17]

The recurring phrase *rdy n=f ꜥn* 'given to him again', suggests that obverse I 1 deals with the 'commissioning' of agricultural land. Why each time one aroura is 'given', however, remains vague. If it were for the purpose of tax assessment, one would expect the payable amount to follow directly after the field measurement, which is not the case. Likewise, our text has not very much in common with land registers like P. Reinhardt, P. Prachov or the Louvre and Griffith fragments, which do not mention a date in each line, nor hint at any 'commissioning' or 'giving out'. The succinctness of the lines in our text is another problem. No mention is made of the location of the plots, of owner or agricultural manager, or of harvest, rental or tax. The small size of the fields, on the other hand—one aroura in this text—would not seem to be entirely uncommon.[18]

Except for the regular 'giving out' of one aroura there are three dates in III–IV *pr.t* on which relatively small quantities of corn—emmer or barley—are mentioned as having been received. This can hardly be the harvest of any such field.[19] At the most one could think of the estimated or payable tax or perhaps the rental for one aroura. If the Ankhefenmut mentioned as 'manager' (*m ḏr.t*) in obverse I 7 is the same man as the *wꜥb*-priest Ankhefenmut in reverse I 1, one could envisage such a scenario. The assessment would in that case have taken place on II *pr.t sw* 14 (obverse I 7) and on III *pr.t sw* 1 Ankhefenmut would then have paid the required rental (reverse I 1). This, of course, remains conjecture.

One final remark may be made about the place of this document in the agricultural year. During the eleventh–eighth centuries BC the *pr.t*-season shifted from early September–early January to late June–late October. If our document was written somewhere during this

[15] M. A. Leahy, *Excavations at Malkata and the Birket Habu 1971–1974. The Inscriptions* (Egyptology Today 2/4; Warminster, 1978), 14 and pl. 6–6a no. 60.

[16] D. Meeks, *Année lexicographique* 1 (Paris, 1980), 55; *Année lexicographique* 2 (Paris, 1981), 60–1, and *Année lexicographique* 3 (Paris, 1982), 42. Note that *tȝ ꜥ.t* which according to *Année lexicographique* 2, 60, refers to 'the royal tomb' in O. Turin 57056 obverse line 5, in reality refers to the huts of the workmen, as is more often the case in absence reports. See, for instance, Nineteenth Dynasty Ashmolean Museum HO [= former O. Gardiner] 37 (*m tȝy=f ꜥ.t*) and O. Cairo 25523 (*m tȝ ꜥ.t*) and Twentieth Dynasty O. DeM 339 (*m tȝ ꜥ.t*).

[17] Maybe this scribe was in fact the same man as the scribe mentioned in obverse I 1, meaning that he referred to himself in the third person singular in the rest of the text.

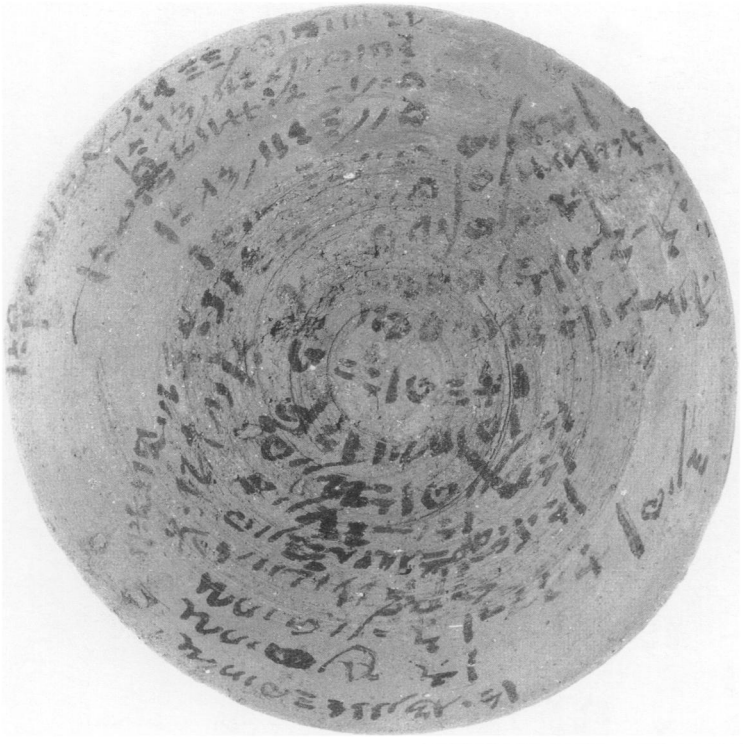
[18] See the comprehensive discussion of smallholders and split holdings by S. L. D. Katary, 'O. Strasbourgh H 106: Ramesside Split Holdings and a Possible Link to Deir el-Medineh', in R. J. Demarée and A. Egberts, *Deir el-Medina in the Third Millennium* AD. *A Tribute to Jac. J. Janssen* (Egyptologische Uitgaven 14; Leiden, 2000), 171–208.

[19] The amounts produced by one aroura vary from 5–20 XAr ; see Vleeming, *P. Reinhardt*, 69 § 19.

period, one may perhaps suppose that it could be connected with the leasing and sowing season rather than with the period when the harvest was gathered and the taxes were paid. Note, however, that no mention is made of sowing seed (*pr.t* or *mymy*), simply of barley and emmer, which are delivered in III–IV *pr.t*.

In conclusion, therefore, it may be said that, when the scribe took up this lid, over two and a half millennia ago, to jot down these notes, little did he surmise that he would leave us with so many riddles for which no solution is as yet forthcoming.

PLATE XII



1. Obverse.

2. Reverse.

AN ANCIENT EGYPTIAN CD-ROM: ASHMOLEAN MUSEUM HO 1256
(pp. 93–101)

ARCHAISM AND KINGSHIP: A LATE ROYAL STATUE AND ITS EARLY DYNASTIC MODEL*

By JOHN BAINES *and* CHRISTINA RIGGS

Publication of British Museum EA 941, a Late Period or early Ptolemaic royal statue in travertine whose model is the Early Dynastic statue of Djoser (Cairo JE 49158) from the *serdab* on the north side of his Step Pyramid, or another statue of the same type. We present the British Museum statue, compare it with the Djoser statue, and argue for the former's likely dating and Saqqara provenance. Both statues are significant for their iconography of divine kingship and mortuary transfiguration.

THE touring exhibition *Cleopatra of Egypt: From History to Myth*,[1] organized by the British Museum, has returned a very unusual travertine statue fragment of a king (pls. XIII, 1–2 and XIV, 1–3; British Museum EA 941) to public display twenty years after it was relegated to storage in part because of doubts about its authenticity.[2] The statue's authenticity is supported both by its early acquisition, since it was donated to the Museum by Queen Victoria in 1854 after she had received it as a gift from the British consul in Egypt, and by the rarity of its iconography and material. The king represented on the British Museum statue adopts the pose and combination of nemes and tripartite head-dresses which are otherwise unique to the surviving limestone *serdab* statue of Djoser from the Step Pyramid at Saqqara (compare pls. XIII, 1–2 with XIII, 3–4 and XIV, 3 with XIV, 4; discussed below). Now that this statue fragment's standing has been re-established,[3] its archaizing iconography can be profitably explored. The link between the statue and its plausible model, the Djoser statue, helps to suggest a date range and hypothetical provenance, as well as raising questions about motivations of Late Period archaism and the meaning of the Djoser statue itself.

British Museum EA 941

Although the catalogue entry in the *Cleopatra* exhibition catalogue describes EA 941 as a 'bust', it is the upper portion of a roughly life-size statue, preserved to chest level. A break

* We are most grateful to Vivian Davies, Richard Parkinson, Tania Watkins, and Evan York for help with work on BM EA 941 and for permission to publish. During the writing of this article we learned that Biri Fay and Edna R. Russmann had made the same basic observation as we had about this statue. We are pleased to have their support on the point and thank them very much for their collegiality over publication. We should also like to thank Lisa Montagno Leahy and the referees for their comments.

[1] Catalogue: S. Walker and P. Higgs (eds), *Cleopatra of Egypt: From History to Myth*, exhibition catalogue, British Museum (London, 2001). Exhibition venues were Rome (Palazzo Ruspoli), London (British Museum), and Chicago (Field Museum of Natural History).

[2] British Museum EA 941, height 61 cm, width 43 cm, depth 25 cm. S.-A. Ashton, *Ptolemaic Royal Sculpture from Egypt: The Interaction between Greek and Egyptian Traditions* (Oxford, 2001), 20, 84–5 (no. 4, attributed to Ptolemy II); Walker and Higgs, *Cleopatra of Egypt*, 42–3 (no. 5, attributed to Ptolemy II; catalogue entry by Ashton); J. A. Josephson, *Egyptian Royal Sculpture of the Late Period 400–246 B.C.* (Mainz, 1997), 30–1 (attributed to Nectanebo II); E. A. W. Budge, *Egyptian Sculptures in the British Museum* (London, 1914), pl. 53 ('Ptolemaic').

[3] For additional arguments for authenticity, see Ashton, *Ptolemaic Royal Sculpture from Egypt*, 20.

at the bottom is invisible in the mounting, but the Museum's earlier restoration of the statue's right arm and right-side wig lappet was removed for the recent exhibition, revealing the full extent of a roughly diagonal break parallel with the grain of the stone (pl. XIV, 1). At the back (pl. XIV, 3), this break merges with the bottom of the whole piece, while the bottom line at the front belongs to a second fracture.[4] The head of the uraeus, some of the chin, the front of the false beard, and the left edge of the nemes have sustained some damage. The preserved part of the statue is otherwise in very good condition, although the surface is dull in colour and appears dirty.[5] Because of the position of the breaks, there is no means of establishing from the piece itself whether it was a seated or a standing statue. However, both the Djoser statue and other cloaked royal statues, excepting those that are integrated structurally into architecture, adopt a seated pose.[6] Although EA 941 could have had a standing form, with the feet together and enveloped by the cloak, a seated pose seems more likely, and more in keeping with the angled position of the statue's right arm. The present mounting places the back of the statue in a vertical line, but the torso may originally have leaned slightly backwards in relation to its lower body and postulated throne, as the Djoser statue does more markedly. The British Museum statue has an uninscribed back pillar, the top of which is approximately level with the armpit (pl. XIV, 3). The presence of a back pillar does not argue for or against a seated pose for the statue. Further, the lack of inscription on the back pillar does not imply that the area is unfinished. The entire surface is uniformly smoothed to the same degree; while an inscription could have been planned for incision into the finished surface, we see no special reason to posit incompletion here. Other statues of the late dynastic and Ptolemaic periods have uninscribed back pillars but an otherwise finished appearance,[7] and if EA 941 exactly paralleled the Djoser statue in this respect, any inscription would have been confined to the front of the plinth.

Only one other piece of Late Period or Ptolemaic royal statuary known to us is carved from travertine,[8] and that is a statuette of the Twenty-Fifth Dynasty that is not comparable

[4] The current bottom of the statue is made up from modern fill to create a horizontal surface for the mount. Josephson, *Egyptian Royal Sculpture of the Late Period*, pl. 11a, reproduces the statue with the restored arm and lappets in place but without the present mounting. Recent surface cleaning has also removed the inventory number '941' formerly painted below the right wrist.

[5] The degree of dirt or patination is evident in the contrast with the colour of the newly exposed break, which is striking even if the effect of polishing the finished surfaces may have been to darken them slightly. The surface was lightly cleaned for the recent exhibition and a fine polish was applied; there may also have been ancient polish. Ashton, *Ptolemaic Royal Sculpture from Egypt*, 84, states that the surface of the right arm is unfinished, but its present condition is more likely to derive from decay of the stone while in the ground, since it is close to the break, which was probably caused by decay.

[6] Compare, for example, the statues of Khasekhem in the Ashmolean Museum (E. 517) and Cairo Museum (JE 32161): J. E. Quibell, *Hierakonpolis*, I (ERA 4, London, 1900), pls. xxxix–xli; A. J. Spencer, *Early Egypt: The Rise of Civilisation in the Nile Valley* (London, 1993), 68; J.-P. Corteggiani, *The Egypt of the Pharaohs at the Cairo Museum* (London, 1987), 29–30; and the Deir el-Bahri statue of Nebhepetre Mentuhotep, Cairo JE 36195, PM II^2, 382–3: e.g. K. Lange and M. Hirmer, *Egypt: Architecture, Sculpture, Painting*^{4} (London, 1968), pls. xi (colour), 81.

[7] Such as an over life-size royal statue, perhaps early Ptolemaic (British Museum EA 1641, in Walker and Higgs, *Cleopatra of Egypt,* 40–1, no. 3) and another, early or mid-Ptolemaic royal statue in New Haven (Yale University Art Gallery 1.1.1953: B. V. Bothmer, *Egyptian Sculpture of the Late Period, 700 B.C. to A.D. 100*, reprint with addenda (New York, 1969), 41–2, figs. 270–1 [no. 109]; G. D. Scott, *Ancient Egyptian Art at Yale* (New Haven, 1986), 165–7 [no. 94]).

[8] Formerly known generally as (Egyptian) alabaster or calcite. See e.g. B. G. Aston, J. A. Harrell, and I. Shaw, 'Stone', in P. T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge, 2000), 59–60, on this stone and its classification and terminology. The matter is still disputed; see e.g. T. De Putter, 'Aperçu de la géologie de l'Egypte et des régions limitrophes', in C. Karlshausen and T. De Putter (eds), *Pierres égyptiennes ... chefs-d'oeuvre pour l'éternité* (Mons, 2000), 15–24.

with BM EA 941.[9] The rarity of the stone in this period suggests that it was specially selected for this statue, perhaps for an antiquarian look. The sculptor could conceivably have reused a large existing block or statue. Aston, Harrell, and Shaw[10] record only one source for travertine that may have been exploited in the Late Period, a quarry in Wadi Umm Argub in Middle Egypt, but it is very difficult to assign workings to precise periods and other sources are no doubt possible. The method of carving and polishing the statue cannot now be easily assessed because the ancient surface is probably much altered by exposure to the air, but the sculptors may have exploited the stone's colour and graining, as was done with hard, dark stones in the Late and Ptolemaic periods. The final effect would have depended on whether the statue was painted; it is possible that paint was used to pick out salient details only, rather than to colour the whole.[11]

The statue fragment represents a king wearing an enveloping cloak; a very long, squared-off false beard; and a tripartite wig partly covered by a nemes head-dress. The nemes leaves a narrow area of the forehead revealed, and the top of the head is moderately bulky, with its sides defined by the flare of the nemes sides. The uraeus, which sits half way up the front band of the nemes, has tightly coiled, symmetrical single loops; its body extends back in a straight line, bisecting the top of the head. The front band of the nemes is separated from the forehead by a curve that could be mistaken for a channel; the band bears no surface detail and ends in wide tabs at the mid-point of the ears. The side panels and lappets of the nemes are relatively narrow, as is its rear tail, or 'queue'. The tail merges into the top of the back pillar, without any line between them.[12] The nemes sits lightly over a tripartite wig that is as long as the nemes at the back and slightly longer than it at the front. Something of the wig's bulk is conveyed by how it projects beyond the body by about three centimetres, below which the small of the back forms an elegant concave curve. The nemes is also raised about three centimetres above the shoulders, whereas on other statues it almost always sits directly on the shoulders. The wig's bulk is further evident in the inner lines of the front lappets, which slope down toward each other, creating a slightly flaring shape.

The straight, squared-off false beard is longer than is generally found on royal statuary; it ends slightly above the ends of the nemes and about three centimetres above the bottom edge of the wig lappets. The horizontal waves of the beard are largely lost, but enough of them remains for certain identification. When the beard is viewed in profile (see pl. XIII, 2), a definite angle on either side demarcates it from the negative space behind. A statue of the same general period from Tanis in the Orabi Museum in Zagazig offers a parallel for the length of the beard and the way it is set off from the negative space behind. Beards are very

[9] P. Pamminger, 'Features of the Past: A Royal Statuary and Its Secret', *RdE* 51 (2000), 153–73, esp. 161, publishing a piece in a private collection. Ashton, *Ptolemaic Royal Sculpture from Egypt*, 20, notes the stone's rarity in the Late Period but does not comment further. A referee kindly points to a travertine statue of the seventh century Chief Lector Priest Petamenope from the Karnak Cachette (Cairo CG 48620: J. A. Josephson and Mamdouh Mohamed Eldamaty, *Statues of the XXVth and XXVIth Dynasties* (CG; Cairo, 1999), 44–8 with pl. 20; F. Tiradritti, *The Treasures of the Egyptian Museum* (Cairo, 1999), 364). This is noteworthy for the association of travertine with archaism, since the Petamenope statue is clearly inspired by Old Kingdom styles of seated nonroyal statuary, although such pieces were not normally made of travertine.

[10] In Nicholson and Shaw (eds), *Ancient Egyptian Materials and Technology*, 14.

[11] See e.g. P. Reuterswärd, *Studien zur Polychromie der Plastik*, I: *Ägypten* (Stockholm, 1958), whose research focused on partial painting.

[12] Contrast the early Ptolemaic (?) royal statue British Museum EA 1641 (see n. 7), which has an altogether more three-dimensional, tubular nemes tail with a concertina-like surface modelling.

rare in first millennium royal statuary, so that both the beard's presence and its length are probably archaizing elements.[13]

The king wears a garment whose presence is indicated by a slight ridge at the neckline and by the sleeve, or textile edge, from which his clenched right hand emerges and which is only articulated over the wrist area, merging within a few millimetres into a completely smooth surface above and below. The right arm is held at a strongly rising angle and the fist is empty. There is a boss of stone beneath the otherwise well carved and finished thumb, forming a small 'buttress' that tapers into the fist. The boss is separated from the thumb itself by a carved line, which demonstrates that the detail is not unfinished but rather is a very unusual instance of negative space. The slender left arm is scarcely separated from the body below the armpit, and no other detail of flesh is discernible on the preserved torso areas. These features show that the statue wears an enveloping cloak over an undifferentiated body.

The face is broad at the top and rounded, rather than shaped to give it an individual character. The eyes, which have marked inner canthi and a light, tapering cosmetic line, are set close to the nose and tilt slightly up toward the outside, nearing the eyebrows, which sweep down at the end. The right eye is very slightly higher and further from the nose than the left. The pupils are not carved; perhaps they were delineated in paint. The flat, almost straight centre of the brow, with a distinct outer curve, is typical of much Late Period and Ptolemaic statuary and offers no specific dating criterion. Similarly, the deep areas beneath the eyes and the salient cheeks—most clearly visible in profile—are common to works from several centuries. The nose is straight and quite large with a rounded tip; the nostrils are tiny, circular, flat-bottomed depressions. The mouth is relatively small, with flaring lips slightly upturned in a smile, and the naso-labial furrow is scarcely marked. Ashton and Josephson characterize the mouth corners as having 'drill holes', but no drilling marks are evident; rather, the corners are set within thumbprint-sized, curved depressions. The damaged chin was quite prominent, emerging from a rounded, fleshy jawline. The neck appears broad and thick and is relatively short. It curves forward toward the negative space behind the beard, so that the planes that circumscribe it act as a sculptural transition as well as modelling a body part. The ears are positioned rather high and have neatly carved struts, or negative space, between them and the nemes behind. Ashton interprets this feature, which parallels the treatment of the thumb, as showing that the statue is unfinished,[14] but nothing else in its workmanship or appearance supports this and we suggest another explanation below.[15]

It is notoriously difficult to identify representations of specific rulers in Late Period and Ptolemaic royal statues, in part because there was much use of earlier models: fourth century kings continued the styles of Saite kings, while early Ptolemies emulated the art of the

[13] No. 1411; see K. Myśliwiec, 'A Lower Egyptian Sculptor's "School" of the Late Dynastic – Early Ptolemaic Period', in H. I. H. Takahito Mikasa (ed.), *Cult and Ritual in the Ancient Near East* (Bulletin of the Middle Eastern Culture Center in Japan 6; Wiesbaden, 1992), 61–90. The two pieces differ otherwise in a number of ways. For the rarity of beards on later statuary, see ibid. 72–3. Comparably long beards with nemes occur on clearly mortuary statues, such as the group of Senwosret I from his mortuary temple at Lisht: e.g. Lange and Hirmer, *Egypt*, pls. 86–7.

[14] In Walker and Higgs, *Cleopatra of Egypt*, 42.

[15] A *JEA* referee remarks that this treatment is common in Late statuary. Few royal pieces are published in photographs that make it possible to check the point. Among easily accessible material, a sphinx of Nectanebo I with a nemes in the approach to the Luxor Temple (no doubt among many of this group) shows a very similar detail: J. A. Josephson, *Egyptian Royal Sculpture of the Late Period 400–246 B.C.* (SDAIK 30; Mainz, 1997), pl. 3a.

last Egyptian kings in order to suggest continuity with indigenous rulership.[16] Scholars tend to assume that any particular statue should be identified by facial type with a single king, yet this was not necessarily the main priority of the patron or the sculptor, whose prime concern may have been to create a work that was in keeping with a facial, bodily, and/or iconographic ideal. British Museum EA 941 has been attributed by Josephson to Nectanebo II and by Ashton to Ptolemy II Philadelphus. One of Ashton's key parallels is the colossal granite statue of Ptolemy II in the Vatican,[17] but the overall appearance of this work is very different. The other comparative pieces that Ashton cites are sphinxes, yet the attribution of sphinxes of many periods is often especially problematic, since they can have a rather stereotyped character concerned more with creating an architectural 'scene' than with presenting a particular ruler's individuality.

The nemes tail and back pillar area of the British Museum statue also highlight some of the difficulties surrounding attribution and identification. Both this sector and the general leanness of bodily form are quite similar to a Ptolemaic royal statue in the Yale University Art Gallery,[18] but nothing else about the two statues is similar, and such features are generally not reliable dating indicators. Josephson's dating comparanda for EA 941 are more satisfactory than those of Ashton, but many of his points could apply as well to Nectanebo I as to Nectanebo II. For example, the numerous sphinxes inscribed for Nectanebo I in the alley leading toward the Luxor Temple[19] share a facial type whose generic appearance is close to that of British Museum EA 941. Like the Vatican sphinxes that Ashton assigns to Ptolemy II, though, the Luxor Temple sphinxes have an idealizing rather than individualizing character. Only their inscriptions —which were probably present on almost all completed works—supplied the necessary identification.

Given that only the torso of EA 941 is preserved, it is impossible to say whether the complete statue was once identified as a specific king by means of an inscription on its plinth, as on the Djoser statue, or by some other feature of its unknown original setting. Comparative art-historical analyses like those of Ashton and Josephson are valuable but not conclusive on the question of which king the statue might represent. We opt not to assign the statue specifically, but our interpretation of its provenance, iconography, and use, presented below, may favour a fourth century date.

The *serdab* statue of Djoser as a model type for British Museum EA 941

The iconographic elements of the British Museum statue can be summarized as consisting of: uraeus; divine wig; nemes over wig; very long straight beard; hand raised and resting at an acute angle on the chest with empty clenched fist; and undifferentiated cloak with no further bodily detail or decoration on the surfaces preserved. Apart from the uraeus, which is not standard on third millennium royal statuary in the way in which it later was, and one feature of the cloak (discussed below), this enumeration applies equally well to the statue of Djoser from the sealed chamber or *serdab* in the court next to the mortuary temple on the

[16] See A. Leahy, 'Saite Royal Sculpture: A Review', *GM* 80 (1984), 59–76, for a valuable treatment for the first half of the Late Period.

[17] *Ptolemaic Royal Sculpture from Egypt*, 94 [no. 6], with references; thought to be originally from Heliopolis.

[18] See n. 7; dated by Bothmer to 220–180 BC.

[19] See M. Abd el-Razik, 'Study on Nectanebo Ist in Luxor Temple and Karnak', *MDAIK* 23 (1969), pls. xliii, xlv.b, xlvi.a.

north side of the Step Pyramid at Saqqara (pls. XIII, 3–4; XIV, 4; XV, 1).[20] The nemes over the wig is unique to this statue, while the rising angle of the fist disappeared from royal statuary no later than the reign of Khufu.[21]

The *serdab*, with the statue of Djoser inside, lacked its roof when it was excavated in the 1920s, but the excavators identified limestone roof blocks painted red on the underside to resemble wood.[22] The front wall of the *serdab* had two circular holes drilled into it from the inside of the chamber, and in front was a small area with no trace of a stone roof, defined by two screen walls carved to represent open doors.[23] Although the *serdab* was not bonded to the side of the pyramid, a 26 cm cut in the pyramid casing stones was apparently designed to receive the king's statue.[24] The *serdab* had been entered by whoever removed the statue's inlaid eyes, perhaps in the Old Kingdom or First Intermediate Period.[25] No further information on the find circumstances is published, nor does the excavation report offer a precise dating of post–Early Dynastic modifications to the site.

The area around the neighbouring mortuary temple yielded a number of fragments of other statuary in 'alabaster' and limestone, and the lower portion of an enthroned statue, very similar in type to the *serdab* statue, was recovered from the limestone chips heaped against the east face of the pyramid.[26] The presence of this statue fragment led the excavators to hypothesize that a second, destroyed *serdab* once stood against the pyramid's east face, but no other evidence supports this. It is not clear where any of the statues from which these fragments derive had originally been set up. The court in front of the *serdab* was a fairly large open space to which statuary from the relatively cramped mortuary temple, against the pyramid's north face, could have been moved for breaking up, but there is no indication of where in the temple the pieces might have stood.

Since so many features of the Djoser *serdab* statue and British Museum EA 941 coincide, and since no later parallel for the iconography of the Djoser statue is known, the resemblance between the two can hardly be coincidental. The later piece must depend on the earlier, or else on a similar model of roughly the same date, and the most parsimonious

[20] Cairo JE 49158; height 142 cm. PM III^2, 414; C. M. Firth, 'Excavations of the Department of Antiquities at the Step Pyramid, Saqqara (1924–1925)', *ASAE* 25 (1925), 149–50; C. M. Firth and J. E. Quibell, *The Step Pyramid* (Cairo, 1935), 9, 49–51, pls. 24 (from above), 28 (closer view from above, and from in front), 29 (four views), 30 (details of head area). Photographs of the statue have been widely reproduced, e.g. Lange and Hirmer, *Egypt*, pls. 16–17.

[21] The arm rises more sharply on British Museum EA 941 than on the Djoser statue, evidently because of the vast size of the latter's beard, which overlapped the forearm. For instances of arm poses on Old Kingdom statuary see, for example, material collected in W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom*^{2}, (London, 1949); J. Vandier, *Manuel d'archéologie égyptienne*, III*: Les grandes époques, la statuaire* (Paris, 1958); *Egyptian Art in the Age of the Pyramids*, exhibition catalogue, The Metropolitan Museum of Art (New York, 1999).

[22] Firth and Quibell, *The Step Pyramid,* 9.

[23] Ibid. 51.

[24] Ibid. 50.

[25] M. Lehner, *The Complete Pyramids* (London, 1997), 155, notes reused blocks from the Step Pyramid complex in the late Fifth Dynasty Wenis Causeway, which suggests that, despite the remarkable respect generally shown to Djoser's monument, this did not extend to its stonework. Firth, *ASAE* 25, 152 with n. 1, noted similarly that the stonework was not spared and that the evidence of copper tools left behind over the site favoured relatively early periods for the destruction; see also Firth and Quibell, *The Step Pyramid*, 88. On later uses of the complex, see also J. Malek and D. Magee, 'A Group of Coffins Found at Northern Saqqara', *BSEG* 9–10 (1984–85), 165–89.

[26] See Firth and Quibell, *The Step Pyramid*, 9, 129–30 (description of plate), pl. 95. Fragment no. 2 on pl. 95 is the Djoser-like piece. No findspot is indicated for the other fragments, but the excavators suggested that fragment no. 2 and a torso fragment with clenched right fist (no. 1) might have come from the same statue. All the fragments were of limestone except no. 15, a plaited beard fragment described as 'porphyry'.

explanation is that EA 941 derives directly from the Djoser statue. While the archaeological evidence from the Step Pyramid is not decisive, it does permit such a possibility. The close connection between the two statues may favour Saqqara as the provenance of EA 941. The statue's arrival in Britain by 1854 is in accordance with this hypothesis, since Saqqara was heavily exploited in the first half of the nineteenth century.

One obvious difference between the two statues is their material: Djoser is limestone, while the British Museum statue is travertine. Travertine was, however, a common stone for royal statuary in the Fourth Dynasty and later Old Kingdom, so that its use for EA 941 fits with an archaizing intent. In addition to valuing the travertine for its scarcity, the sculptor or patron of the Late statue may have associated this stone with works of the distant past.

Despite the congruence in the iconography of the Djoser and British Museum statues, they are far apart in style, each being generally typical of its own time. The Late Period work does not attempt to copy the Early Dynastic one; rather, it reuses the same repertory of elements. It diverges from its model in three notable respects. First, EA 941 has a back pillar, whereas the Djoser statue has a gap between the massive wig and the high throne back beneath, with the two elements almost on the same alignment. Back pillars were virtually universal in the first millennium and this discrepancy is unlikely to have any special meaning. Similarly, after the Old Kingdom kings were almost never shown without a uraeus, so that the presence of the uraeus on EA 941—the second difference—may have been seen as mandatory for a royal image in the first millennium. Third, the Late statue lacks both the partly exposed shoulder blades and the ridge in the garment at the upper back of the Djoser statue. The former element, which occurs on some early statues and reliefs and is associated with the *sed*-festival,[27] may have been rare in the Late Period and thus was overlooked or altered.[28] Furthermore, the Late statue seems to have reinterpreted the garment form as quasi-'mummiform', a much more common sort of 'attire' for the body—for example, of Osiris—in first millennium representation than in the third millennium. The body of the Djoser statue lends itself easily to such a mummiform reinterpretation, since it has no garment details below the arms while its toes, though separately modelled, are not carved with sharp details and are painted white, so that they should be understood as being covered by the garment. We return below to the significance of this garment and the undifferentiated body form.

Stylistically, the Djoser statue has heavy features with prominent mouth and lips and a generally rounded modelling of the head and body. This bulkiness, evident notably in the wig, has parallels in Third Dynasty nonroyal statuary.[29] Because the inlaid eyes were gouged out—probably long before the Late statue was made—it is not easy to evaluate the treatment of the face, but the head shows clear affinities with representations of Djoser in relief, notably in the galleries under the Step Pyramid and South Tomb.[30] There is a black mous-

[27] Notably the Early Dynastic ivory statuette of a king in the British Museum, EA 37996: A. J. Spencer, *Catalogue of Egyptian Antiquities in the British Museum, V. Early Dynastic Objects* (London, 1980), 76, pl. 55 [no. 483].

[28] The ridged cloak is common in the festival hall of Osorkon II/III from Tell Basta: E. Naville, *The Festival-Hall of Osorkon II in the Great Temple of Bubastis* (MEEF 10; London, 1892), pls. x, xi, xx, xxi (2 examples), xxv (2), xxvi (2); the cloak form there, as earlier, is either mid-calf or knee-length.

[29] For nonroyal statuary, see M. Eaton-Krauss, 'Two Masterpieces of Early Egyptian Sculpture', *OMRO* 77 (1997), 7–21; and M. Eaton-Krauss, 'Non-Royal Pre-Canonical Statuary', in N. Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire* (BdE 120; Cairo, 1998), 209–25.

[30] Firth and Quibell, *The Step Pyramid*, pls. 15–17 (pyramid), 40–2 (South Tomb), 44 (details of face). Likewise, the figure of a deity on a shrine from Heliopolis: A. M. Donadoni Roveri and F. Tiradritti, *Kemet: alle sorgenti del tempo*,

tache, which is paralleled in relief but not paint on the two underground reliefs sufficiently preserved for the detail to be seen.[31] The chinstrap is clearly marked; this feature was long obsolete by the Late Period and is absent from the Late statue. Another feature of the Djoser statue that may be typical of earlier periods is the treatment of its ears. These are pressed forward and outward by the nemes and appear almost to be in strong relief rather than modelled in three dimensions (see pl. XIII, 3);[32] their rather inexactly applied, possibly secondary colour (see below) sets them off from the nemes itself. This vivid treatment of the nemes and wig as 'crowding' a natural feature of the body contrasts strongly with the Late statue, while also placing some emphasis on the ears themselves.

Traces of yellow paint on the face were reported by William Stevenson Smith.[33] This would be a very unusual feature—one would normally expect red—that could have a range of symbolism, from the radiance later associated with the nemes, to age, as is known on a number of Old Kingdom statues representing distinctively aged men.[34] On inspection of the original in the Cairo Museum, this detail is not clear, but yellow flesh colour is certainly preserved on the exposed left shoulder,[35] so that the presence of yellow colour on the original is assured; the right shoulder has lost all colour. The face appears to have alternating bands of red and yellow paint that have merged into one another, and may be the product of an original yellow overpainted with red; since yellow can discolour to red but not vice versa, some original presence of yellow is likely. This posited overpainting fits with the appearance of the moustache, of which the visible black painted parts, which are on the statue's right side, seem to emerge under a thick layer of red overpainting. Other surviving details of colour are red on the right hand, black elements on the wig (there seems to be no colour preserved on the nemes), and black on the front of the beard, leaving the areas behind as negative space. Unlike the rest of the statue's surface, the inscription on the front of the plinth has lost all trace of colour and appears to have little of the plaster underlayer; this loss could be due to repeated copying, either in antiquity or since its rediscovery in the 1920s, or conceivably to how it lay in the ground. Yellowish patination—not paint—on the shoulders, down the back of the statue, and on the throne at the back suggests that the back areas were open to the sky for long periods, either after the inlaid eyes were removed or in the Late Period, and hence were presumably accessible to view.

Several of the surface details just described strongly suggest that the Djoser statue was repainted long after it was first carved and completed. The possible replacement of yellow on the face with red and the overpainting of the moustache might fit a Late Period date for such restoration, since at that time those features would have seemed unusual and perhaps anomalous. A final relevant detail here is the presence of small areas of plaster on the damaged right profile of the nemes. These could only have been deposited after the damage occurred, and so provide strong evidence for a secondary treatment of the statue at a later

---

exhibition catalogue (Milan, 1998), 260–1 [nos. 39–41]. The late Third Dynasty relief of Horus Qahedjet in the Louvre retains a similar facial type: *Egyptian Art in the Age of the Pyramids*, 177–8 [no. 9]. On all these figures the body is quite lean and taut; it cannot be compared directly with the undifferentiated form of the *serdab* statue.

[31] Firth and Quibell, *The Step Pyramid*, pls. 16, 42.

[32] Still clearer in Lange and Hirmer, *Egypt*, pl. 17.

[33] *A History of Egyptian Sculpture*[2], 14, with no further comment.

[34] H. G. Fischer, 'Varia Aegyptiaca', *JARCE* 2 (1963), 17–22 ('1. Yellow-skinned representations of men in the Old Kingdom'). On the solar radiance of the nemes, see further n. 63; when painted, the nemes is also normally yellow or gold, as in the shrine of Sety I at Abydos (cited in n. 69).

[35] Visible as a darker patch in the black and white photograph in Lange and Hirmer, *Egypt*, pl. 17.

date. Strikingly, the eye sockets with their disfiguring damage caused by the removal of the inlays do not appear to have been restored in later times.

The overall form of the seated king leans slightly backward, as is again paralleled from the same period.[36] In view of the great importance of thrones in other contexts,[37] it is likely that the throne type contributes to the meaning of this work. The form of the throne is similar to that on the statues of Khasekhem (see n. 6), with a back rising to a little below the occupant's shoulder blades, distinctive sides carved in relief next to the occupant's lower body, and forward-sloping legs with a curve at the angle from the seat of the throne. The throne back of Khasekhem's Cairo schist statue has a flat, rectangular compartment above seat level, while those of his Ashmolean limestone statue and the Djoser statue are simplified into a single rectangle with a raised border that has the same overall shape.[38] The thrones of all three statues lean back, although Khasekhem's body is vertical with if anything a slight forward tilt, notably on the Cairo statue.

In contrast with the Djoser statue, what survives of the Late statue is very lean and, especially in profile, gives the impression of a flattened cylinder, regardless of its present mounting. Whereas the double-layered head-dress appears reasonably three-dimensional when viewed frontally, in profile (pls. XIII, 2; XIV, 1) the back of the wig is thin, while the nemes is little more than a skin over it. The back pillar, too, is relatively unsubstantial, even though the back of the wig sits within its profile. It is as if the iconographic elements are applied almost enumeratively, without the desire to give them a fully plastic form. The sculptor of the Late statue may also have been limited by the size of the available block of travertine. Thus, whereas the Djoser statue is fully realized in the round and can be meaningfully viewed from all angles—although such viewing was not possible where it was set up—the Late statue seems designed essentially to be seen from in front. Subjectively, its verticality and anonymous features are more like scene-setting than an evocation of a person. These aspects of its composition might reflect the original function or location of EA 941, or they might simply signal that the sculptor had mastered, or been commissioned to work in, a style of this sleek, idealizing character.

Archaism at Saqqara in the Late and early Ptolemaic Periods

The context of the Djoser statue by the Step Pyramid suggests that it could have been accessible for viewing in the Late Period. The excavators noted evidence of restoration in the pavement of the mortuary ritual area to which the *serdab* belonged;[39] although they did not suggest a date for the restoration, the Late Period is very plausible. The pyramid complex had already been the object of antiquarian visits in the New Kingdom,[40] but interest in the site became particularly intense from the Twenty-sixth Dynasty onward. Copy grids visible on two of the three reliefs of Djoser in the galleries under the Step Pyramid are

[36] E.g. H. Sourouzian, 'Concordances et écarts entre statuaire et représentations à deux dimensions des particuliers de l'époque archaïque', in Grimal (ed.), *Les critères de datation*, 304–52, figs. 28a–b, 29a–b, 30, 31, 32a–b, 33a–b, 34a–b.

[37] See, for example, J. Baines, 'Trône et dieu: aspects du symbolisme royal et divin des temps archaïques', *BSFE* 118 (1990), 5–37, with references.

[38] We have checked this detail on the originals of all three statues.

[39] Firth and Quibell, *The Step Pyramid*, 49.

[40] Indicated by graffiti, e.g. B. G. Gunn, in Firth and Quibell, *The Step Pyramid*, 77–85, with pl. 3; D. Wildung, *Die Rolle ägyptischer Könige im Bewusstsein ihrer Nachwelt*, I: *Posthume Quellen über die Könige der ersten vier Dynastien* (MÄS 17; Berlin, 1969), 66–72.

probably from the Late Period,[41] when the underground areas were made accessible by the excavation of a large gallery along the south side of the pyramid.[42] The Late Period also saw an increased concentration of tombs and burials in the area, some burials or monuments being placed within the enclosure wall.[43] Additionally, priests of Djoser are known from around the end of the Twenty-Sixth Dynasty or the Persian Period,[44] and motifs of the king were reused on votive material dedicated elsewhere at the site. One example of this is a bronze base for a statuette of Ptah, which was excavated in the Sacred Animal Necropolis at North Saqqara in 1968–9.[45] On the back of the base is the Horus name Netjerikhet (pl. XV, 2, 3), and on the two sides are the Souls of Pe and Nekhen (pl. XV, 4, for right side). The base is thus a pastiche of Third Dynasty and later motifs combined in a novel way, since Horus names are not normal in such a context. The form of the name is not the same as on the Djoser statue under discussion here, and so probably demonstrates that other examples of Djoser's titulary were recovered from the Step Pyramid complex in the Late Period.[46]

There was a vast amount of building throughout Saqqara in the Late and early Ptolemaic Periods. To the southeast of the Step Pyramid enclosure, on the site of the later monastery of Apa Jeremias, a temple-like complex was built around a Late Period tomb, with statue or shrine chapels whose walls were carved in Old Kingdom style.[47] The last three native dynasties saw extensive rebuilding at Saqqara: Nectanebo I probably reconstructed the Serapieion, since his cartouches appear in a pylon of its enclosure wall, and Nectanebo II is identified in the Apis temples and on some sphinxes along the Serapieion Way.[48] At North Saqqara, where the Sacred Animal Necropolis attests to the importance of animal cults, fourth century rulers, including Nectanebo II, undertook the wholesale remodelling of the desert escarpment for the Anubieion and Bubastieion complexes and the numerous service annexes that these required.[49] Part of the Anubieion complex included the area around the

[41] Firth and Quibell, *The Step Pyramid,* pls. 15–16. For comparable evidence from Abusir, see J. Baines, 'The Destruction of the Pyramid Temple of Sahure', *GM* 4 (1973), 9–14. The reuse of motifs from the Abusir reliefs in a monument of the reign of Amasis shows that those grids cannot be later than the mid-sixth century.

[42] For both of these points, see Firth and Quibell, *The Step Pyramid*, 90–1, pls. 12, 22 h–z. The Late Period underground gallery is illustrated in M. Verner and M. Zemina, *Forgotten Pharaohs, Lost Pyramids: Abusir* (Prague, 1994), 29.

[43] See Malek and Magee, *BSEG* 9–10, 168–71; they also suggest that the two leonine embalming tables (Cairo CG 1321–2), found by Mariette in subterranean galleries in the northwest part of the enclosure, date to the Late Period and relate to embalming practices in the vicinity.

[44] Wildung, *Die Rolle ägyptischer Könige.* The cult appears to have been located in the area of the Bubastieion, so perhaps not in the Step Pyramid complex itself. Since the priest Ahmose, the principal evidence for the cult, was also a priest of King *Δsr-jtt*, presumably the successor of Djoser who would have been known from king lists but perhaps from little or nothing else, these priesthoods may have been cultural statements as much as cultic realities.

[45] Unpublished; photographed on site in 1969–70; precise dimensions not available but 5–7.5 cm wide. Found among the many deposits of bronze votive statuettes on the North Temple Terrace. The archaeological context and comparison with other bronzes from the finds favour a fourth century date. We are very grateful to Harry Smith and Sue Davies for their interest, and to the EES for permission to illustrate this piece. H. S. Smith, 'Saqqara: Late Period', *LÄ* V, 417 with n. 33, suggests that a figure of Amun on a bronze plaque found on the site in 1966 copies the facial features of Djoser: see W. B. Emery, 'Preliminary Report on the Excavations at North Saqqâra, 1966–7', *JEA* 53 (1967), pl. xxvi, 4.

[46] The form is also different from that on the statue base with the names of Djoser and Imhotep (Firth and Quibell, *The Step Pyramid*, pl. 58), so that the source would probably have been different again.

[47] J. E. Quibell, *Excavations at Saqqara (1908–9, 1909–10): The Monastery of Apa Jeremias* (Cairo, 1912), 30–4.

[48] Smith, *LÄ* V, esp. 418; J. P. Lauer and C. Picard, *Les statues ptolémaïques du Sarapieion de Memphis* (Paris, 1955), 23–7.

[49] See, for example, the excellent summary of Smith, *LÄ* V, 412–28; also D. G. Jeffreys and H. S. Smith, *The Anubieion at Saqqâra*, I (MEES 54; London, 1988); G. T. Martin, *The Sacred Animal Necropolis at North Saqqâra: The Southern*

Teti pyramid, where Quibell excavated the mud-brick 'Bes chambers', a series of rooms used in the Ptolemaic Period (if not earlier) which contained bronze situlae and limestone votive figures.[50]

Almost any of these buildings at Saqqara might have contained royal statuary—the paucity of surviving material must be in part testimony to the thoroughness of later destructions—but it is not clear whether any particular area among them would suitably have been adorned with a life-size statue that recreated an archaic iconography. Finds from these areas range from the Twenty-sixth Dynasty to the end of the Ptolemaic Period and so do not offer any guide to a close dating of what may have been set up, and where. One hypothetical location for the British Museum statue would be somewhere in installations for the cult of the deified Imhotep, which presumably existed at North Saqqara. The statue's connection with Djoser would have been fitting if, as seems likely, it was known at the time that Imhotep had lived in his reign.[51] A connection with Imhotep might also have motivated the use of Djoser's Horus name on the bronze statuette base of Ptah (pl. XV, 2–3), since Imhotep as a god was said to be the son of Ptah.

Within the Step Pyramid complex itself, EA 941 could have formed part of a restoration programme like that observed around the *serdab*; alternatively, the statue could be a more indirect product of the Djoser statue's accessibility during or in the wake of such work. If the Late statue was erected as part of a restoration programme, this implies that there was a more thoroughgoing revival than has otherwise been proposed. It is conceivable that the area around the *serdab* and mortuary temple was 'landscaped' with both recent and older statuary. Some of the numerous unfinished statues found in the complex might belong to this phase, rather than to the original monument, or might be older works that were re-erected to create an imposing setting, as some of them have been in the modern refurbishment.[52] The mortuary context of the Djoser statue makes it tempting to consider that EA 941 also had a mortuary connection, but there is no obvious place for this at Saqqara—although one could imagine the existence of a chapel for a statue cult within a larger temple complex—while little is known about the burials and cults of Late Period kings.

The physical appearance of EA 941 may be significant in considering how and where the piece was originally used. The statue appears to be unique in being a 'travesty' in which a three-dimensional royal representation was created with the iconography of a bygone age: its key features have no continuity with the immediate past, nor are they an innovation. At the same time, the statue does not copy an older style, unlike some nonroyal Late Period pieces that imitate Early Dynastic or Old Kingdom works.[53] Instead, EA 941 uses a contemporary style to revive the rare model typified by Djoser's *serdab* statue. Some of the

---

Dependencies of the Main Temple Complex (MEES 50; London, 1981); and G. T. Martin, *The Tomb of Hetepka and Other Reliefs and Inscriptions from the Sacred Animal Necropolis, North Saqqâra, 1964–1973* (EES Texts from Excavations 4; London, 1979), especially Nectanebo II material at pp. 88–9, pls. 65–74.

[50] J. E. Quibell, *Excavations at Saqqara, 1905–1906* (Cairo, 1907), 12–14, pls. 26–9 and frontispiece.

[51] D. Wildung, *Imhotep und Amenhotep: Gottwerdung im alten Ägypten* (MÄS 36; Munich and Berlin, 1977), 88–9, rejects the traditional emendation of the text of Manetho to mention Imhotep as living in the reign of Djoser. The Famine Stela on Sehel Island mentions Imhotep, but in a clearly Late context, and so does not help with this question: P. Barguet, *La Stèle de la Famine, à Séhel* (BdE 24; Cairo, 1953), 16 with nn. 3–4.

[52] E.g. the architectural statues presumably representing Djoser, with a short cloak, massive wig, and very long beard: Firth and Quibell, *The Step Pyramid*, pl. 66; Verner and Zemina, *Forgotten Pharaohs*, 30.

[53] Such as a square relief imitating the form of a slab stela: Bothmer, *Egyptian Sculpture of the Late Period*, 8, fig. 50 [no. 24].

characteristics of the Late statue seem designed to give it an old-fashioned feel, such as the idiosyncratic negative space supporting the ears and thumb, which exaggeratedly evokes the widespread use of negative space in early statuary; for the ears it may also evoke indirectly the pressing forward we have noted on the Djoser statue.[54] We have commented on the exceptional choice of travertine in connection with archaism; the apparent singularity of this material meant that the statue would not integrate easily into any contemporary setting. The pastiche-like quality of the statue's archaism is all the more striking since the very existence of EA 941 implies that the Djoser statue (or a near-identical statue of this type) was accessible. Close copying may have been avoided in order to distance the Late statue from its model, for reasons that cannot be known. In royal representations of any period, iconography seems to have been more easily transferable than style.

The relationship between the model and the later piece should also be considered in the context of broader patterns in Late Period and subsequent artistic development. The British Museum statue highlights the difficulty in some artistic domains of distinguishing a Twenty-sixth Dynasty style from a fourth century one, or a Late Period style from an Egyptian-form Ptolemaic one, because in all these periods kings were shown in a range of facial types, from the individual to the generic. If EA 941 is, as we tentatively suggest, a work of the fourth century (perhaps the Twenty-ninth or Thirtieth Dynasty), it fits well with contemporaneous relief material, in particular in its marriage of disparate iconography and style. The fourth century was a time of large-scale and innovative work on temples, like the unparalleled granite construction at Behbeit el-Hagar,[55] and reliefs on monuments like naoi show a great interest in the diversity of sculptural forms.[56] Nonroyal reliefs of this time also evince a taste for new combinations of features while building on Twenty-sixth Dynasty trends.[57] An increased 'mannerism'[58] is evident in stylistic quirks that create visual patterns but do not contribute to the superficial meaning of a scene. Toward the end of the fourth century and into the Ptolemaic Period, less of such 'mannerism' is evident. Instead, artistic developments continue Late styles organically rather than creating deliberately eclectic mixes, the tomb of Petosiris at Tuna el-Gebel being one possible exception and a special case.[59] In their Egyptian portrait sculpture, the early Ptolemies likewise continued Late Period styles, and EA 941 may be Ptolemaic, as Ashton and others have suggested.

The dissimilar treatment of iconography and style on the British Museum statue may seem, to modern observers, to create a mismatch between these dimensions of meaning. In this respect, the statue and other eclectic works can be compared with the adoption of Egyptian iconography in different stylistic and representational modes in the Egyptianizing works of Roman Imperial times.[60] The visual and conceptual distance between the Egyp-

[54] The tip of the thumb is lost from the Djoser statue, so no comparison is possible there.

[55] C. Meeks-Favard, *Le Temple de Behbeit El-Hagara: Essai de reconstitution et d'interprétation* (SAK Beiheft 6; Hamburg, 1991).

[56] Notably in the naos of Saft el-Hinna, Cairo CG 70021: G. Roeder, *Naos* (CG; Leipzig, 1914), pls. 17–33.

[57] Full collection of material: L. M. Leahy, 'Private Tomb Reliefs of the Late Period from Lower Egypt' (DPhil dissertation, University of Oxford, 1988).

[58] Cf. previous note; for examples, see e.g. Bothmer, *Egyptian Sculpture of the Late Period*, nos. 74, 82, 87; G. Maspero, *Le Musée Egyptien: Recueil des monuments et de notices sur les fouilles d'Egypte*, II (Cairo, 1907), pls. xxxii–xlii (mixed Saite and fourth century reliefs).

[59] G. Lefebvre, *Le tombeau de Petosiris* (Cairo, 1923–4).

[60] See, for example, material in G. Botti and P. Romanelli, *Le sculture del Museo Gregoriano Egizio* (Vatican City, 1951); A. Roullet, *The Egyptian and Egyptianizing Monuments of Imperial Rome* (EPRO 20; Leiden, 1972).

tianizing works and their models was great, but the temporal distance between EA 941 and Djoser was greater. Underlying both instances, however, is the fact that the designers separated 'content' from 'style'. For the Djoser and the British Museum statues, the artistic style corresponds to the period in which each was produced; the shared content is a particular iconography of divine kingship.

Significance of the statues' iconography

Because rather little Late Period royal statuary is preserved, and its use is poorly documented, the British Museum fragment cannot easily be compared with other works or their functions. In order to supply a context, we review symbolic aspects of the iconography, which are best considered in relation to their original use in the Early Dynastic Period. This section therefore focuses principally on the Djoser statue.

As the focal element abutting the Step Pyramid in the large court next to the mortuary temple, the Djoser statue must have had an overriding importance in its original setting. The iconography, which is a hybrid of divine and royal, fits with its role. Its most distinctive features are the divine wig covered by the nemes, the unusual beard, and the treatment of the body, all contributing to a massing of attributes that is hardly attested again in statuary until the later Eighteenth Dynasty.[61] Traces of yellow paint on the skin are also significant, and in sharp contrast with the red paint typically used for men. The fusion of iconographic elements in the Djoser statue gives it a depth of meaning that has no clear parallels except in British Museum EA 941, although the lost repertory of cult statues may have included forms that similarly condensed meanings by overlaying attributes.

The placement of the nemes over the divine wig makes the nemes superficially salient but also draws attention to the divine wig by not covering it completely, in an interplay of forms that is scarcely exploited in the more schematic Late statue. Presumably, an actual nemes head covering was designed for use with other, less voluminous head-dresses. On the Djoser statue, the tripartite wig represents the king's divine status, which emerges, as it were, to overwhelm the royal status signified by the nemes. Although the nemes was common on royal statuary from the time of Djoser onward, all the well provenanced Old Kingdom examples come from mortuary complexes and so cannot show whether the symbolism of the nemes related more to terrestrial kingship or, as is attested in the Coffin Texts, had primarily celestial meanings.[62] There is, however, no reason to think that celestial associations would be less significant for the living than for the deceased king. Moreover, the nemes was later widespread on statues of kings in non-mortuary contexts, so that a reading of its symbolism as relating to kingship in general is more plausible than one limiting it to the deceased king. In anthropomorphic statuary larger than a miniature size, the nemes was normally worn in conjunction with kilts and was seldom depicted with the cloak of the

[61] We have in mind the proliferation of attributes, such as combinations of wig and crowns, on statuary and reliefs of Amenhotep III. See A. P. Kozloff and B. M. Bryan, *Egypt's Dazzling Sun: Amenhotep III and His World*, exhibition catalogue, the Cleveland Museum of Art (Cleveland, 1992), with references; examples in statuary (much of it small) are nos. 12, 13, 15, 20, 21.

[62] K. Goebs, 'Untersuchungen zu Funktion und Symbolgehalt des *Nms*', *ZÄS* 122 (1995), 154–81. The findspots of a statue of Neuserre from Karnak (B. V. Bothmer, 'The Karnak Statue of Ny-user-ra (Membra Dispersa IV)', *MDAIK* 30 (1974), 165–70) and another perhaps of him from Byblos (id., 'A Bust of Ny-user-Ra from Byblos, in Beirut, Lebanon', *Kêmi* 21 (1971), 11–16), are quite likely to be secondary. Nonetheless, we do not mean to deny that the nemes may have occurred on statuary in temple contexts, for example, but only to say that no definite examples have been found.

Djoser statue. The divine wig, by contrast, is very rare in royal iconography and conveys a clear message of deification.[63]

The beard is perhaps the most striking attribute of the Djoser statue. It is damaged and its precise shape cannot be reconstructed, but it appears to have been longer than almost any example now known, divine or royal, and significantly longer than that of the Late statue;[64] the broken projection down onto the arm (pl. XIII, 4) cannot have been only a prop or a piece of negative space. The horizontal waves of the surviving part are those of a royal beard, whereas a divine beard normally has indications of a plaited texture. The beard's enormous size suggests that it not only merged royal and divine qualities but also had a special, presumably divine, significance. A very remote parallel for associating divinity with a long beard might be the snake's beard in the *Shipwrecked Sailor*, which is said to be two cubits long (cols. 63–4), equivalent to one-fifteenth of the snake's stated body length.

Another fusion of royal and divine elements is the Djoser statue's enveloping cloak with a shoulder ridge. This seems to combine two garments that would separately symbolize the revivification enacted in the *sed*-festival (the ridged cloak) and deification (the enveloping cloak). Elsewhere, the cloak with the ridge is worn shorter, to the knee or mid-calf, and is generally depicted on standing or moving figures.[65] Other short cloaks worn by Early Dynastic or Old Kingdom rulers lack this ridge and can have more surface details, as on the two statues of Khasekhem, which depict the king enthroned above his defeated enemies.[66] The length of Djoser's cloak and its uniform surface—interrupted only for the emergence of his hands and the articulation of the toes under the garment—points to its additional significance as a mark of the king's deification. Already in the Early Dynastic Period, this enveloping cloak form may have looked back, within a different treatment of the body, to the unarticulated and undifferentiated bodies of ancient deities.[67]

Undifferentiated body types like Djoser's have often been characterized as 'mummiform', but there is no reason to believe that the artificially created shape of a mummified body influenced their iconography. The opposite is more likely to be the case: the ideal shape of a mummy, exemplified by the hieroglyph determining an image or statue (*twt*), reflects the symbolism of the undifferentiated, divine body. To be mummified was to aspire to certain god-like qualities and status, and the undifferentiated body as mummy was eventually exploited in nonroyal contexts, for coffins, shabtis, and depictions of funerary deities.[68] Cloaked bodies in general could have had some association with divine, undifferentiated physiques, since the garment revealed only the contours of the body, whether worn by a ruler or, for example, by a Middle Kingdom official. For royal representations, the undifferentiated body appears chiefly on colossi integrated into architecture, as in the second court of the temple of Ramesses III at Medinet Habu, where it contrasts with a differentiated body in

[63] Another example is the wooden *ka*-statue of Awibre Hor (PM III², 888–9). Apart from the nude genitals, originally covered with a penis sheath, this statue has essentially the same iconography as relief representations of the royal *ka*, which have a more strongly divine character than general royal iconography; see further L. Bell, 'Luxor Temple and the Cult of the Royal Ka', *JNES* 44 (1985), 251–94.

[64] A comparable beard appears on the unfinished architectural statues from the Step Pyramid complex; see n. 52.

[65] Good examples of standing figures include the unfinished engaged statues found in the Step Pyramid complex; see n. 52. An early instance of moving figures is an Early Dynastic practice piece from North Saqqara: Spencer, *Early Dynastic Objects*, no. 16, pls. 8–9. See also nn. 27, 28.

[66] See n. 7.

[67] See e.g. E. Hornung, *Conceptions of God in Ancient Egypt: The One and the Many*, trans. J. Baines (Ithaca, NY, 1982), 109 fig. 10; note the figure of Ptah illustrated there, with a similar shoulder ridge to the Djoser statue.

[68] See generally J. H. Taylor, *Death and the Afterlife in Ancient Egypt* (London, 2001), 31–2, 60–3, 214–17.

the first court. In the shrine of Sety I in the Osiris complex of his temple at Abydos, relief figures of the king are strongly divinized and wear a white garment that envelops the feet.[69]

In these later examples, both royal and nonroyal, the undifferentiated body seems to signify enhanced or divine status. The same symbolism is well suited to Djoser's *serdab* statue, whose function was to mediate between his deified spirit self and the cult presented to him in the mortuary temple. One aspect of this function, and indeed of any mortuary cult, was the receiving of offerings, and the seated posture of the statue reinforces this. Djoser's closed right fist is raised to his chest while the other hand lies flat on his thigh, a pose which is very similar to the pose of tomb owners represented on Early Dynastic and Old Kingdom offering table scenes.[70]

The overall significance of the iconography may be that the king's deified self meets his human self at a point of transformation and transition between this world and the next. The tripartite wig, the length of his beard, and the enveloping cloak mark his divinity, while the nemes, the shape of the beard, and the ridged edge of the cloak convey royal, human qualities. The nemes and his yellow flesh also suggest the king's solar radiance, and the latter perhaps age as well.[71] In this form, Djoser was renewed perpetually through the enactment of the cult.

The decoration of the shrine of Sety I in the Osiris complex at Abydos again offers a useful comparison here;[72] like Djoser's *serdab*, it provided a secondary cult place for the deified king. In the shrine reliefs, different figures of Sety I are shown with the nemes, with a divine wig and beard, with an overlong royal beard, and with a long enveloping cloak over an undifferentiated body. These traits are not fused in the manner of the Djoser statue, since the plurality of figures conveys meaning as a group, but the iconographic strategy of the shrine is closely comparable to that of the statue, representing the posthumous deification of the king.

In the Late Period, the meanings of the Djoser statue would have been more apparent than they are to modern viewers, and they would also have been interpreted more freely and creatively than can now be done. At the least, it is likely that the iconography of divinization in the Djoser statue provided part of the stimulus to create the Late statue, British Museum EA 941. As a royal figure immanently deified in conjunction with a mortuary cult, the statue of Djoser stood apart from the statuary of succeeding periods, and thus may have offered a powerful statement that was worth reviving in a new context.

We suggest that the Djoser statue was rediscovered between the Twenty-sixth and Thirtieth Dynasties and, either directly or through an identical type, served as the model for British Museum EA 941. The style of EA 941 suggests a date toward the end of that timespan, but a number of dates are possible, including an early Ptolemaic attribution. The statue's idealizing facial type may have more to do with the king's aspiration to divinity than with

[69] A. M. Calverley and M. F. Broome, *The Temple of King Sethos I at Abydos*, III (London, 1938), pls. 35–41.

[70] E.g. one of the Third Dynasty wooden reliefs of Hesire: W. Wood, 'A Reconstruction of the Reliefs of Hesy-Re', *JARCE* 15 (1978), pl. i; Lange and Hirmer, *Egypt*, pls. 18–19. On the Hesire reliefs and most slab stelae, right-facing figures raise their left hands, rather than right. This difference from statuary may be due to compositional constraints in two dimensions; for nonroyal statues also raising the right hand, see Sourouzian, in Grimal (ed.), *Les critères de datation*, figs. 46a–b (Metjen), 48 (Rahotep).

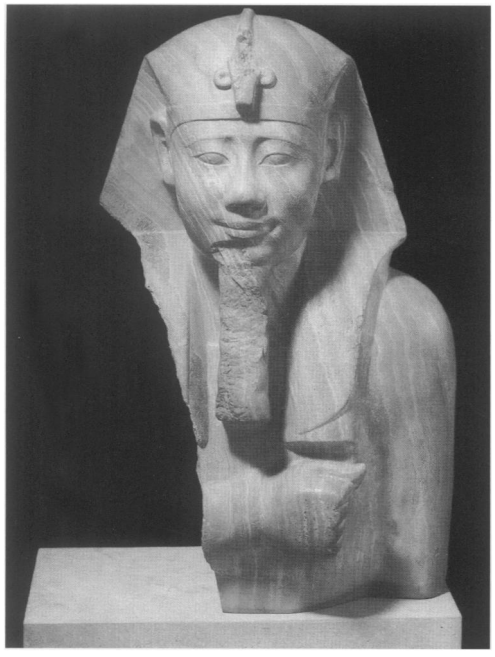
[71] For yellow colour and age, see n. 34.

[72] Reference in n. 69. It is not possible to give an analysis of this shrine here. The royal cult area in the temple of Ramesses III at Medinet Habu has some comparable features; see The Epigraphic Survey, *Medinet Habu*, VI (OIP 84; Chicago, 1963), pls. 447–51.

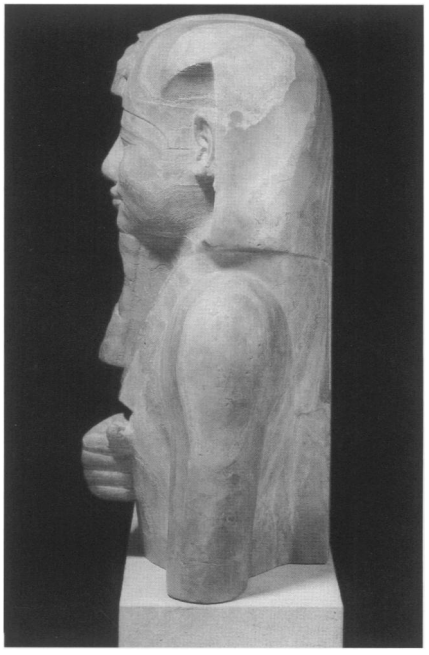
physical identification as a particular ruler. The iconographic affinity with the Djoser statue argues for the Late statue's having been erected at Saqqara, perhaps as part of a Late Period refurbishment of the Step Pyramid complex or within one of the animal cult installations. Why a deified royal image was created and set up is uncertain; while cults of kings from earlier periods were revived in the Late Period,[73] the case for a local mortuary cult of recent ones is less clear.[74] Yet although the Late statue's ultimate purpose remains open to question, its significance is without doubt, for it is a singular object which revives, in contemporary visual style, an archaic and portentous iconography of kingship.

[73] E. Otto, 'Zwei Bemerkungen zum Königskult der Spätzeit', *MDAIK* 15 (1957), 192–207; Wildung, *Die Rolle ägyptischer Könige*.

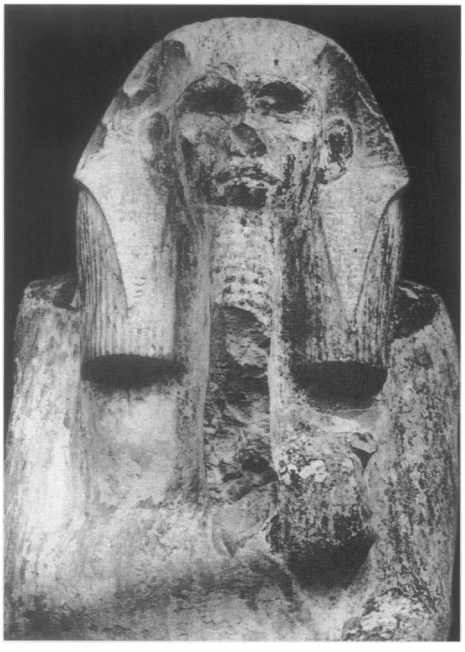
[74] The arguments of Dieter Kessler in this respect are not persuasive: *Die heiligen Tiere und der König*, I: *Beiträge zu Organisation, Kult und Theologie der spätzeitlichen Tierfriedhöfe* (ÄAT 16; Wiesbaden, 1989).



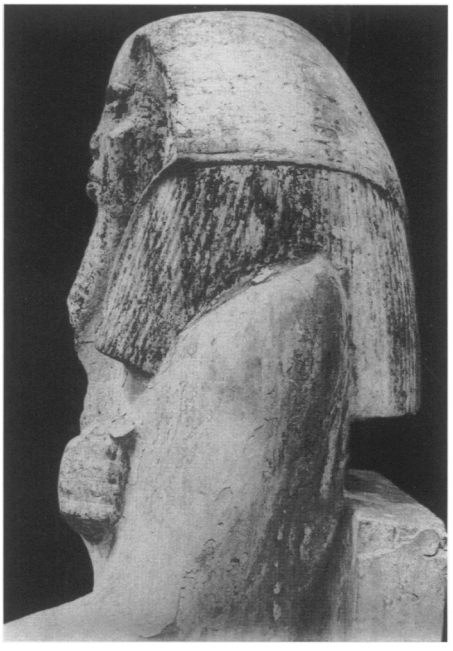
1. Front view of British Museum EA 941 (courtesy of The British Museum).



2. British Museum EA 941, left side (courtesy of The British Museum).



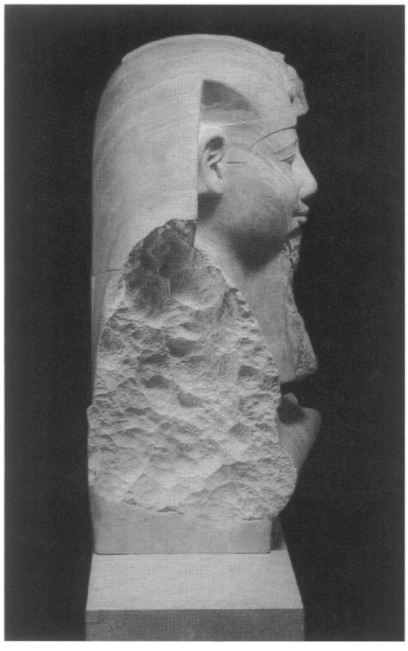
3. Front view of the *serdab* statue of Djoser (Firth and Quibell, *The Step Pyramid,* pl. 30).



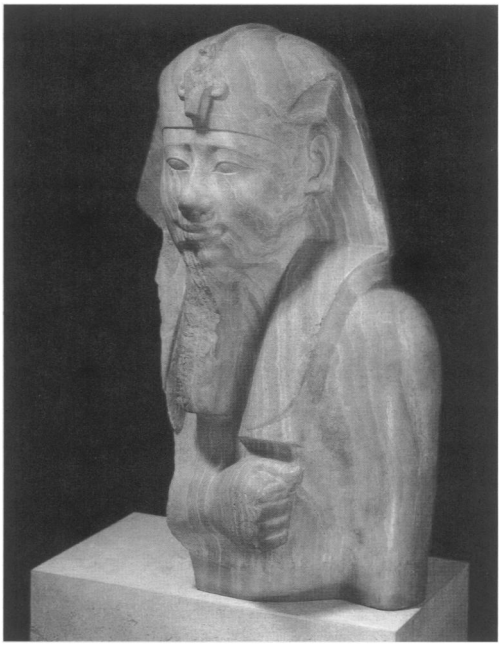
4. The statue of Djoser, left side (Firth and Quibell, *The Step Pyramid,* pl. 30).

ARCHAISM AND KINGSHIP: A LATE ROYAL STATUE AND ITS EARLY DYNASTIC MODE (pp. 103–18)

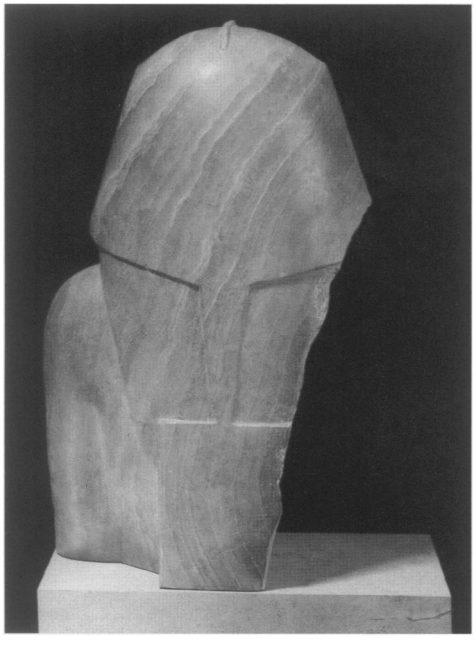
PLATE XIV



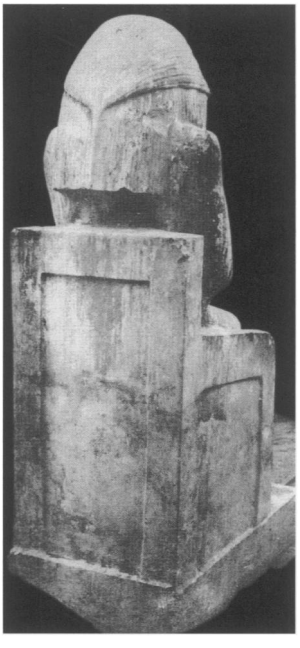
1. British Museum EA 941, right side (courtesy of The British Museum).



2. British Museum EA 941, viewed from the left at an angle (courtesy of The British Museum).

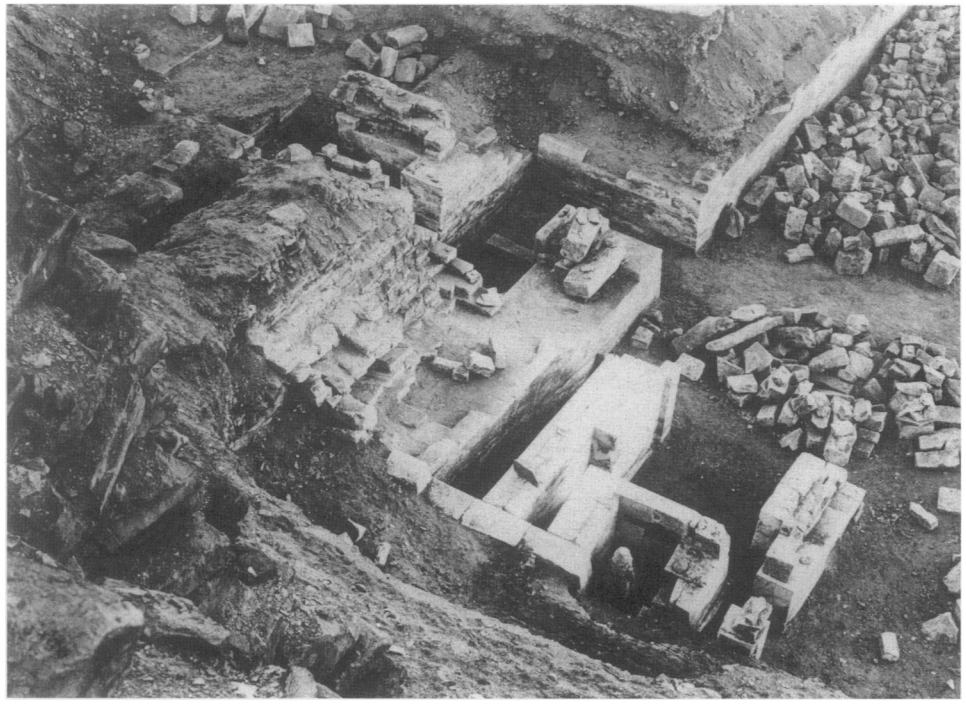


3. British Museum EA 941, back (courtesy of The British Museum).



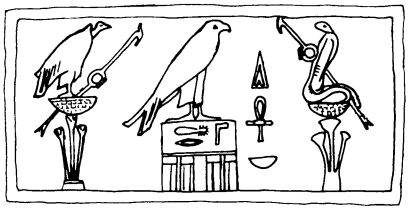
4. The statue of Djoser, back (Firth and Quibell, *The Step Pyramid,* pl. 29, 4).

ARCHAISM AND KINGSHIP: A LATE ROYAL STATUE AND ITS EARLY DYNASTIC MODE (pp. 103–18)



1. The Djoser statue *in situ* (from Firth and Quibell, *The Step Pyramid,* pl. 24).

2. Back of a bronze base for a statuette of Ptah, from North Saqqara (authors' photograph; reproduced by permission of the EES).



3. Line drawing of the design on the back of the statuette base (authors' drawing).

4. Right side of the statuette base (authors' photograph; reproduced by permission of the EES).

ARCHAISM AND KINGSHIP: A LATE ROYAL STATUE AND ITS EARLY DYNASTIC MODE (pp. 103–18)

LAMPS FROM THE SACRED ANIMAL NECROPOLIS, NORTH SAQQARA AND THE MONASTERY OF APA ANTINOS*

By DONALD M. BAILEY

Some 33 lamps were recorded from the excavations of the Egypt Exploration Society at North Saqqara (1964–76). They were found in the Baboon, the Falcon and the Mother of Apis Catacombs, in the associated temple site and in the monastic establishment eventually built above the latter. Several lamps were contemporary with the primary usage of the temple and catacombs, and are of Ptolemaic and perhaps of early Roman Imperial date. Late Roman lamps come only from the monastery and its cemetery area, except one found in the entrance of the Mother of Apis Catacomb. The monastery was doubtless deserted before Fatimid times and the several lamps recovered of that and subsequent periods were left behind in the three catacombs by medieval explorers.

THE Egypt Exploration Society excavations on the site of the Sacred Animal Necropolis and the Monastery of Apa Antinos in North Saqqara in 1964 –76 yielded 33 ancient lamps among the other objects found. Most of the lamps are known to me only from photographs of varying quality made during the excavations. Only a few lamps reached Britain as a result of EAO divisions, and I have been able to see all but one of these. Those I have examined are Lamps **1** and **16**, in the Department of Ancient Egypt and Sudan of The British Museum, and **2** and **12** in the Petrie Museum of Egyptian Archaeology, University College London as well as Lamp **7** in the Royal Museum, Edinburgh, and Lamps **10** and **30** in the Fitzwilliam Museum, Cambridge. Lamp **11** is in the Bolton Museum and Art Gallery, and this I have not seen. The remaining lamps are presumably in SCA/EES magazines at Saqqara. The lamps date between the Ptolemaic and medieval periods, Fatimid and Ayyubid, with some perhaps as late as Mamluke times. There is a wide chronological gap between the latest Roman lamp, of fifth- or sixth-century date, and the medieval lamps, the main forms of which began to be manufactured in the eleventh century and continued to be made

* I must thank Harry Smith for asking me to write up these ancient lamps. His knowledge of the Sacred Animal Necropolis is unrivalled and he has guided me through the intricacies of the excavated areas and their publication so far. He and Sue Davies have read my text and obviated errors that I had included; for this I am most grateful. In particular, footnotes 10–13 and the text to which they relate are overwhelmingly their work. I am indebted also to the following curators for showing me lamps in their care and, in some cases, for supplying photographs: Lucilla Burn, Julie Dawson and Louise Jenkins (Fitzwilliam Museum, Cambridge); Elizabeth Goring and Lesley-Ann Liddiard (Royal Museum, Edinburgh; the photograph of Lamp **7** is published courtesy of the Trustees of the National Museum of Scotland); Stephen Quirke (Petrie Museum, London); Jeffrey Spencer (The British Museum, London). I am grateful also to Angela Thomas (Bolton Museum and Art Gallery) for sending me full details of Lamp **11** and supplying a photograph. Most of the photographs in the plates have been printed with great care by Paolo Scremin from the often extremely unsatisfactory negatives taken so many years ago during the excavations at Saqqara: bad photographs are better than no photographs, and Mr Scremin has worked wonders.

for a considerable period after that. Most of the lamps were made in Egypt: Lamp **15** is an import, almost certainly from Asia Minor, and perhaps made in Ephesus; Lamp **17** may be an import, rather than Egyptian.

The Ptolemaic lamps **1–9** are of various shapes; none is likely to be earlier than the second century BC, and some may extend into the early first century AD. Lamps **10–14** fall into a category of neo-hellenistic lamps, their shape based upon Ptolemaic examples, but probably not made until the second half of the first century AD or perhaps a little later, and then produced throughout the second century and probably later. Lamp **15** is a late Hellenistic/early Roman import, probably from Asia Minor, **16** is based upon Italian lamps of the beginning of the first century AD, **17** is copied from an Italian shape devised in the early first century AD, and although it may be Egyptian, is more probably an import from Asia Minor, and **18** is a Late Roman lamp of the end of the fourth century AD. Lamps **19–20** are closely similar frog-type lamps of the third century AD or a little later, and the fragments **21–25** are all late frog-type lamps of the fifth century AD; probably all, like **21**, had a raised but useless stub-handle at the rear.[1] Some lamps of this general shape have been dated rather earlier than this (see the *comparanda* in the catalogue entries), and a start in the late fourth century is possible. The available photograph conceals rather than reveals details of Lamp **26**, but a Late Roman date, probably before the Arab conquest, is likely. The vitreous-glazed wheelmade lamps **27–33** are medieval products and were almost certainly made in the potteries of Fustat, where wasters have been found. Useful discussions of these lamps are those of Wladyslaw Kubiak, stemming from his excavation work at Fustat with the expedition of the American Research Center in Egypt, and of Mutsuo Kawatoko concerning those from the excavations of the Middle Eastern Culture Center in Japan, also at Fustat.[2] All fall either within Kubiak's Type G or Type I (the main differences being the shape of the handles and the shape of the nozzles viewed vertically, features distinctly missing physically or not to be seen in the available photographs of the Saqqara material), and within Kawatoko's Types 5 and 6, and were made from some time in the eleventh century AD through the fourteenth and perhaps into the fifteenth century, a very long-lived type.

Very few lamps found in Egypt have a good archaeological context, and it is only in recent years that dating for some of the material presented here has been possible. For example, the Polish excavations at Athribis directed by K. Myśliwiec have produced reliable Ptolemaic dates for much of the pottery and many of the terracottas and lamps found there (see *inter alia* the reference in the entry for Lamp **1**). The neo-hellenistic lamps **10–14**, the so-called 'monkey in a palm-tree' lamps (as the late Loukas Benaki so aptly called them), have been shown, by versions found at Mons Claudianus and Mons Porphyrites, to be, at those sites, of the late first and second centuries AD. Material from these two sites can be found as yet only in preliminary reports.[3] At Akoris an example of these lamps came from a context dated from the second century to the first half of the third century AD.[4] The

[1] See D. M. Bailey, *Excavations at el-Ashmunein,* V. *Pottery, Lamps and Glass of the Late Roman and Early Arab Periods* (London, 1998), 140.

[2] W. B. Kubiak, 'Medieval Ceramic Oil Lamps from Fustat', *Ars Orientalis, the Arts of Islam and the East* 8 (1970), 1–18: for wasters see pl. 3, fig. 14; M. Kawatoko, 'Oil Lamps from al-Fustat', *Orient* 23 (1987), 25–53.

[3] K. Knowles, 'The Pottery Lamps', in D. P. S. Peacock and V. A. Maxfield (eds), *Archaeological Reports from Mons Claudianus* (Southampton and Exeter, 1990), 11, fig. 7, 2; D. M. Bailey, 'Lamps and other Small Finds', in D. P. S. Peacock and V. A. Maxfield (eds), *The Roman Imperial Porphyry Quarries, Gebel Dokhan, Egypt* (Southampton and Exeter, 1996), 22, (1997), 25, (1998), 21–2, fig. 7, La 128.

[4] H. Kawanishi et al., *Akoris. Report of the Excavations at Akoris in Middle Egypt 1981–1992* (Kyoto, 1995), 268–70, fig. 146, 7, pl. 86, 1.

best recent discussion of this type of lamp and its dating is that by Jolanta Młynarczyc:[5] although examples from Alexandria have been found in deposits of the second half of the first century AD, there are some from contexts of the third and the fourth century AD. When publishing similar lamps in The British Museum's collections, I suggested a third- to fourth-century dating, although I listed several to which the excavators gave earlier dates, similar dates and later dates.[6] After a visit to Mons Claudianus in 1989, I became convinced that my dating was too late, at least for the earliest appearance of these lamps, and in 1991 published a retraction.[7] As mentioned above, the medieval lamps **27–33** have been placed on a firm but wide chronological footing by the work of W. B. Kubiak and M. Kawatoko.

In the present publication, when dating *comparanda*, 'dated to' means the suggestion of the author who gives the date—it is not necessarily accurate. 'From a context of' is the suggestion of the archaeologist who dated the context—some contexts are better than others, some are dated more accurately than others; many contexts have residual material. The catalogued lamps here fall into the 'dated to' category: their contexts, as far as I can tell, are not helpful chronologically. With *comparanda* it is the shapes that are referred to, and not necessarily the fabric. When the terms 'left' and 'right' are used they describe the viewer's left and right, looking at the lamp with its nozzle pointing down. Several references are made to Petrie's Roman Ehnasiya publication of 1905.[8] Very few lamps there illustrated by Petrie have a known provenance, only those with a letter painted on them being certainly from Herakleopolis Magna. He purchased lamps promiscuously whenever they were offered to him to build up his classification. The bulk of them are in the Petrie Museum, London, and the Royal Ontario Museum, Canada, with a few in The British Museum and in the Oriental Institute, Chicago; there may be others elsewhere.

At North Saqqara lamps were found in the Baboon Catacomb (**1**, **3–5**, **7**, **8**, **10**, **11**, **13**, **16**, **32**, **33**); the Falcon Catacomb (**6**, **14**, **17**, **29**, **30**); the Mother of Apis Catacomb (**15**, **27**, **28**, **31**); Sector 2, entrance to the Mother of Apis Catacomb (**20**); Sector 3 (**2**, **9**, **12**, **19**, **22–24**, **26**); Sector 7 (**25**); Sector 9 (**18**, **21**). For the positions of these findspots, see the plans published by Sue Davies and Harry Smith in 1997,[9] and see *JEA* 85 (1999), 46, fig. 1a. In 1968 W. B. Emery found mud-brick buildings and a church in Sector 3 (his Level 1 = Smith, Davies and Frazer's Phase IV), which he removed in the subsequent season in order to expose the sanctuaries of the temple site below.[10] This village and church have now been identified from a papyrus letter of the early fifth century AD and contemporary ostraca found on the site as a *koenobion* named for Apa Antinos.[11] The period of occupation of the monastery and its cemetery (which lay in Sector 7 outside the south wall of the temple enclosure) was estimated by Alan B. Lloyd on the basis of the inscriptional, numismatic and archaeological evidence available to him in 1979 to have lasted from the first half of the fifth century to the middle of the sixth century AD, dates which more recent studies have broadly

[5] *Alexandrian and Alexandria-Influenced Mould-Made Lamps of the Hellenistic Period* (Oxford, 1997), 100–4.

[6] D. M. Bailey, *A Catalogue of the Lamps in the British Museum,* III. *Roman Provincial Lamps* (London, 1988), 226, Q 2100-22.

[7] In 'Aspects of the Dating of Certain Egyptian Lamps', *Bulletin de Liaison du Groupe International d'Étude de la Céramique Égyptienne* 15 (1991), 41–2; see also Bailey, *El-Ashmunein* V, 140, concerning Lamps X 4–5.

[8] W. M. F. Petrie, *Roman Ehnasya (Herakleopolis Magna) 1904* (EEF Special Publication; London, 1905).

[9] S. Davies and H. S. Smith, 'Sacred Animal Temples at Saqqara', in S. Quirke (ed.), *The Temple in Ancient Egypt. New Discoveries and Recent Research* (London, 1997), 117, fig. 3, 119, fig. 4.

[10] W. B. Emery, 'Preliminary Report on the Excavations at North Saqqâra, 1968', *JEA* 55 (1969), 34 and pl. xi; idem, 'Preliminary Report on the Excavations at North Saqqâra, 1968–9', *JEA* 56 (1970), 5–6 and pl. ii.

[11] J. Gascou and R. Pintaudi, *P. Bingen* 121–6 (Leuven, 2000), 511–20 and pls. 76–7.

confirmed.[12] The temple site was probably abandoned some considerable time before its occupation by the monks, as is suggested by a variety of considerations.[13]

Of the lamps found in the Baboon Catacomb, **1**, **3–5**, **7** and **8** are Ptolemaic, and presumably were all deposited when the gallery was in use for interments. Lamps **10**, **11**, **13** and **16** are of the first two centuries AD, and most were probably abandoned there by plunderers; Lamp **16** may perhaps be early enough to have been left in the catacomb when it was in use. Lamps **32** and **33** were no doubt left behind in the Baboon Catacomb by medieval explorers. Similarly, Lamp **6** (Ptolemaic) was employed during the primary use of the Falcon Catacomb, whereas **14** and possibly **17** (of the first two centuries AD), may have been left by plunderers, and the medieval lamps **29** and **30** are relics of much more recent exploration, of about a millennium later. Again, however, Lamp **17** may be early enough to have been from the Falcon Catacomb before it was forsaken. The material from the Mother of Apis Catacomb includes one Ptolemaic/early Roman Period lamp, **15**, no doubt left behind before the catacomb was abandoned, a Late Roman lamp, **20**, dropped in the entrance, probably by an early explorer, rather before the time the Monastery of Apa Antinos was flourishing, and Lamps **27**, **28** and **31** which belonged to medieval searchers; Lamps **15** and **31** shared the same vault, although they are more than a thousand years apart in date. Sector 3, the Nectanebo II Temple (Smith and Davies' 'Sanctuary A') and the much later Monastery of Apa Antinos, yielded the Ptolemaic lamps **2** and **9**, both presumably from the temple site, Lamp **12**, of the late first and second century AD, and the Late Roman lamps **19**, **22–24** and **26**, the last four no doubt from the monastery. The possibility must be borne in mind that the Ptolemaic lamps **2** and **9** and the Roman lamps **12** and **19** may have been found intact on the site and used by the inhabitants of the *koenobion*: usable found objects are to be expected on complex sites. The Late Roman lamp **25** was found in Sector 7, the cemetery area of the monastery, and **18** and **21**, also of Late Roman date, were found in a dump of waste material in Sector 9, which was probably deposited in about the fifth century AD; these may also derive from the monastic settlement.[14]

[12] A. B. Lloyd, 'Section G. Coptic and Greek Inscriptions and Sealings', in G. T. Martin, *The Tomb of Ḥetepka and other Reliefs and Inscriptions from the Sacred Animal Necropolis, North Saqqâra 1964–73* (EES Texts from Excavations 4; London, 1979), 102–20, particularly 102–4. The Coptic cemetery is published by G. T. Martin, *The Sacred Animal Necropolis at North Saqqâra. The Southern Dependencies of the Main Temple Complex* (EES Excavation Memoir 50; London, 1981), 69–87. The Greek letter referred to above in n. 11 tends to confirm an early fifth-century date for the foundation of the *koenobion*, as does Roger Bland's study of a small hoard of Roman gold *solidi* of the fourth century AD found in the wall of one of the houses of the settlement (to be published in Smith, Davies and Frazer, *The Main Temple Complex* as Appendix A). The date of the end of the monastic occupation is less certain, but it is unlikely to have been later than the seventh century AD.

[13] The latest regnally-dated interment in the sacred animal catacombs was that of a Mother of Apis in Year 11 of Cleopatra VII (41 BC): H. S. Smith, 'The Death and Life of the Mother of Apis', in A. B. Lloyd (ed.), *Studies in Pharaonic Religion and Society in Honour of J. Gwyn Griffiths* (EES Occasional Publications 8; London, 1992), 216. Although animal burials may have continued after this, it is unlikely that they did so for many decades, for at this site, as at the Sarapieion, there are no relevant inscriptions and a dearth of other material of the early Roman Imperial period. The Christian buildings were in the main built directly over the pharaonic sanctuaries, but these latter had been stripped of all their stonework and mostly dismantled before this took place, while at other places there were deposits of wind-blown sand and debris between the ruined temple buildings and the monastic settlement (H. S. Smith, 'Preliminary Report on Excavations in the Sacred Animal Necropolis, Season 1974–1975', *JEA* 62 (1976), 14 and pl. v, 1; D. J. Thompson, *Memphis under the Ptolemies* (Princeton, 1988), 275). A gap in occupation from at least the end of the first century AD to the beginning of the fifth century AD seems indicated.

[14] H. S. Smith and D. G. Jeffreys, 'The Sacred Animal Necropolis, North Saqqâra: 1975/6', *JEA* 63 (1977), 24.

Catalogue

1. H5-1321 [3073]; British Museum EA 67224 (pl. XVI, 1)
Mouldmade lamp: double-convex body with sharp carination; plain shoulders; filling-hole surrounded by two heavy mouldings decorated with rays and a band of egg-and-dart pattern. Long nozzle with splayed curved tip, defined from the shoulders by short voluted ridges; the ridged top extends as volutes onto the body. Between the ridges is a bound torch with a divided flame at the body end. Plain lug on right-hand shoulder, a dolphin lug on the other. Slightly raised oval base with incuse *beta*.
Brown Nile silt with some mica; dull red-brown slip on upper side and partway down the underside.
L. 11.5 cm
Probably second century BC
Provenance: Baboon Catacomb, debris
Comparanda: close: Petrie, *Roman Ehnasya*, pl. lx, V20 (= J. W. Hayes, *Ancient Lamps in the Royal Ontario Museum,* I. *Greek and Roman Clay Lamps* (Toronto, 1980), pl. 14, 146; dated to the second to early first century BC). Near: Petrie, *Roman Ehnasya*, pl. lxixA, V19; M. L. Bernhard, *Muzeum Narodowe w Warszawie, Lampki Starożytne* (Warsaw, 1955), pl. xxi, 107, from Edfu, dated first century BC/AD; Hayes, *Ancient Lamps, Ontario*, pl. 10, 91, dated to the first century BC. Near in many details: K. Myśliwiec, 'Les ateliers d'Athribis ptolémaïque', *Archeologia* 47 (1996), pl. xvi, 1, from Athribis, dated to the first half of the second century BC.
Bibliography: D. M. Bailey, *A Catalogue of the Lamps in the British Museum,* II. *Roman Lamps Made in Italy* (London, 1980), pl. 103, Q 556 *bis* (top view and *beta* underneath), dated probably to the first century BC; to be listed in Sue Davies, *The Sacred Animal Necropolis at North Saqqara. The Mother of Apis and Baboon Catacombs. The Archaeological Report* (London, Egypt Exploration Society; in preparation), as Baboon Catacomb Object BCO-22.

2. H5-995 [2747]; Petrie Museum UC 30723 (pl. XVI, 2)
Mouldmade lamp: double-convex body, the shoulder lobed and defined from the nozzle by voluted ridges; petals radiate from the filling-hole. Long, round-topped nozzle with rounded tip; on the nozzle-top, extending from the petalled border of the filling-hole, is a stylised palmette with parallel stalks. Base-ring with incuse broken-barred *alpha*.
Pale brown clay with no apparent mica: perhaps a mixture of Nile silt and marl.
L. 7.9 cm
Probably first century BC
Provenance: Sector 3, debris
Comparanda: close: Młynarczyc, *Alexandrian Mould-Made Lamps*, fig. 150, from Ras el-Tin, Alexandria, with the contexts and comparative material indicating a date of the first century BC into the first century AD. Near: Petrie, *Roman Ehnasya*, pl. lx, V56; pl. lxi, U55, L55; L. A. Shier, *Terracotta Lamps from Karanis, Egypt* (Ann Arbor, 1978), pl. 11, 14–16, from Karanis, the last from a late first-century AD context.

3. H5-1291 [3043] (pl. XVI, 3)
Mouldmade lamp: double-convex body, radiating rays on shoulder; plain lug on left-hand shoulder; the filling-hole area is plain. Slightly splayed nozzle with curved tip. Base form unknown.
Nile silt, colour unknown.
L. 8.1 cm
Second to first century BC
Provenance: Baboon Catacomb, debris
Comparanda: near: Petrie, *Roman Ehnasya*, pl. lx, V62–3; Shier, *Terracotta Lamps*, pl. 13, 40, pl. 14, 41 and 44, both, presumably residual, from contexts at Karanis of the late third century to the early fourth century AD; Hayes, *Ancient Lamps, Ontario*, pl. 16, 157, 164–7, dated between the late second century BC and the early first century AD; D. M. Bailey, *A Catalogue of the Lamps in the British Museum*, I. *Greek, Hellenistic, and Early Roman Pottery Lamps* (London, 1975), pl. 108, Q 552, perhaps from Tanis, dated to the second century BC, perhaps into the first century BC.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-14.

4. H5-1322b [3074] (pl. XVI, 4)
Mouldmade lamp: double-convex body, 'Cnidian' leaves and large studs on shoulder; the filling-hole area is plain. The nozzle is largely lost but was defined from the body by ridges and volutes. Base form unknown, but probably has an incuse *alpha*.
Nile silt, colour unknown.
L. 5.6 cm
Late second to first century BC
Provenance: Baboon Catacomb, debris
Comparanda: near: Petrie, *Roman Ehnasya*, pl. lix, O38 and pl. lvii, W2 (but with handle); Shier, *Terracotta Lamps*, pl. 11, 13, from a context at Karanis of the mid-third century AD; Hayes, *Ancient Lamps, Ontario*, pl. 17, 172–3, dated to the late second to first century BC; Młynarczyc, *Alexandrian Mould-Made Lamps*, fig. 133, probably made in Alexandria and dated to about the late second or early first century BC.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-23b.

5. H5-1242 [2994] (pl. XVI, 5)
Mouldmade lamp: double-convex body with a largely plain shoulder and a plain filling-hole area with a raised rim; pendent from this rim are two small relief rings, one on each side of the nozzle. Short splayed nozzle set off from the shoulder by a ridge on each side. Form of base unknown, but probably circular and slightly raised.
Probably Nile silt, colour unknown.
L. 8.0 cm
Second to first century BC
Provenance: Baboon Catacomb, debris
Comparanda: The shape reflects wheelmade Cnidian lamps of R. H. Howland, *The Athenian Agora*, IV. *Greek Lamps and their Survivals* (Princeton, 1958), Type 40A, of the second into the early first century BC. Near: Petrie, *Roman Ehnasya*, pl. lix, O88; A. Adriani, *La Nécropole de Moustafa Pacha: Annuaire du Musée Gréco-Romain (1933–34–1934–35)* (Alexandria, 1936), 150, fig. 71, 4, from Tomb 4 at Mustapha Pasha, Alexandria, dated to the second century BC; Bailey, *British Museum* I, pl. 109, Q 564, dated to the first century BC; Shier, *Terracotta Lamps*, pl. 11, 12, from Karanis.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-7.

6. H5-2121 [4165] (pl. XVI, 6)
Mouldmade lamp: double-convex body with a largely plain shoulder, decorated with a raised stud on each side, and set off from the short splayed nozzle by curved lines terminating in simple volutes; these lines extend from a relief device on the nozzle-top close to the raised edge of the plain filling-hole area. Form of base unknown, but probably circular and slightly raised.
Nile silt, fired red, with remains of red slip.
L. 7.7 cm
Second or first century BC
Provenance: Falcon Catacomb, debris
Comparanda: near those of Lamp **5**.
Bibliography: to be published in Sue Davies and H. S. Smith, *The Sacred Animal Necropolis at North Saqqara. The Falcon Complex and Catacomb. The Archaeological Report* (London, Egypt Exploration Society; forthcoming), in Section 6, as Falcon Catacomb Object FCO-59.

7. H5-1523 [3352]; Royal Museum (National Museums of Scotland) A.1971.152 (pl. XVI, 7)
Mouldmade lamp: double-convex body, plain shoulder with flattened lug on left-hand side, its upper edge outlined by a curved ridge; plain filling-hole area. Splayed nozzle with curved tip, defined from body by a raised curving ridge and groove. Raised circular base, flat below.
Light brown clay with some mica, perhaps a marl/silt mix.
L. 6.5 cm
Late second–first century BC
Provenance: Baboon Catacomb, debris

Comparanda: close: Bailey, *British Museum* I, pl. 109, Q 562, dated probably to the first century BC; Młynarczyc, *Alexandrian Mould-Made Lamps*, fig. 122, probably made in Alexandria, with comparative material from contexts of the late second century and first century BC, perhaps continuing into the first century AD.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-122.

8. H5-1322a [3074] (pl. XVI, 8)
Mouldmade lamp: double-convex body, shoulder plain, except for a band of narrow cabling extending from small lugs on each side; plain filling-hole area. Slightly splayed nozzle with curved tip; its flat top is crossed by two grooves, from which a voluted ridge extends to each shoulder. Base form unknown.
Nile silt, colour unknown.
L. approx. 8.1 cm
Second half of the second century BC
Provenance: Baboon Catacomb, debris
Comparanda: close, probably same mould-series: Bailey, *British Museum* I, pl. 113, Q 595, dated to the second half of the second century to first half of the first century BC; E.-M. Cahn-Klaiber, *Die antiken Tonlampen des Archäologischen Instituts der Universität Tübingen* (Tübingen, 1977), no. 95, acquired in Alexandria, and dated to the end of the second to the beginning of the first century BC; Młynarczyc, *Alexandrian Mould-Made Lamps*, fig. 79, dated to the second half of the second century BC and probably made in Alexandria; A. Leonard et al., *Ancient Naukratis. Excavations at a Greek Emporium in Egypt*, I. *The Excavations at Kom Ge 'if* (no place of publication, 1997), 289, fig. 7.1, pl. 7.6, from a context of the late second to early first century BC.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-23a.

9. H5-992 [2744] (pl. XVI, 9)
Mouldmade lamp: double-convex body, shoulder decorated with three cardinally placed wide bands of rows of raised points; plain filling-hole area. Slightly splayed nozzle with curved tip, decorated with a series of raised points; a voluted ridge extends onto each shoulder. Base form unknown.
Nile silt, colour unknown.
L. approx. 7.4 cm
First century BC
Provenance: Sector 3, debris
Comparanda: near: Petrie, *Roman Ehnasya*, pl. lx, V58; Bernhard, *Lampki Starożytne*, pl. xxi, 105–6, dated to the second to first century BC (106 was excavated at Edfu); Bailey, *British Museum* I, pl. 108, Q 551, dated to the second century BC, perhaps into the first century; Młynarczyc, *Alexandrian Mould-Made Lamps*, fig. 141, where the type into which it falls is dated mainly to the late second century to the first century BC, perhaps even extending into the first century AD.

10. H5-1322d [3074]; Fitzwilliam Museum E.18.1971 (pl. XVI, 10)
Mouldmade lamp: double-convex body, shoulder decorated with back legs of animal at rear and 'wings' of serrated ridges, one on each side; on the top of the nozzle adjacent to the filling-hole area is a small-scale animal's head. Short splayed nozzle with a curved tip, the top flanked by voluted ridges. Raised circular base, flat below; in the centre is an incuse broken-barred *alpha*.
Light brown clay with a little mica, a pale Nile silt or a silt/marl mix.
L. 7.0 cm
Late first to second century AD
Provenance: Baboon Catacomb, debris
Comparanda: For Lamps **10–14**, see generally Młynarczyc, *Alexandrian Mould-Made Lamps*, 100–4, Type S, with a full discussion of the dating possibilities; the several illustrated in Bailey, *British Museum* III, pls. 46–7, Q 2100–22, are largely dated too late. Lamps such as these are amongst the most widely distributed Roman lamps in Egypt. Examples in The British Museum come from Thebes, Armant, Ehnasiya, Naukratis (including a mould) and Buto. Others mentioned in *comparanda* in The British Museum catalogue, excluding those referred to here for our Lamps **10–14**, come from Upper Egypt: Edfu, el-Kab, Armant, Karnak, Medinet Habu, Coptos, Qau el-Kebir, Abydos, Hermopolis Magna,

Antinoopolis, Helwan; from the Fayum: Medinet Quta, Narmouthis; from Lower Egypt: Athribis, Terenuthis, Bubastis, Alexandria; and from Douch in the Kharga Oasis. Near: Petrie, *Roman Ehnasya*, pl. lxiv, E13 and E19; Shier, *Terracotta Lamps*, pl.17, 80, from Karanis, found in a context of the late third to early fourth century AD; S. Sidebotham, 'Roman Lamps', in D. S. Whitcomb and J. H. Johnson, *Quseir al-Qadim 1980. Preliminary Report* (Malibu, 1982), 249, pl. 60ee (= 256, no. 31), a surface find from Myos Hormos, not likely to be much later than the end of the second century AD.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-23d.

11. H5-1322c [3074]; Bolton Museum and Art Gallery A.3.1972 (pl. XVII, 11)
Mouldmade lamp close to **10** in shape and decoration: the 'wings' are more emphatic; it also has an animal's head, placed as that on **10**; row of chevrons between nozzle ridges. Slightly raised circular base, flat below, with an incuse broken-barred *alpha*.
Buff-pink marl clay.
L. 8.0 cm
Late first to second century AD
Provenance: Baboon Catacomb, debris
Comparanda: near: Petrie, *Roman Ehnasya*, pl. lxiv, E27, E30-32, and E36 from House G at Herakleopolis Magna (W. M. F. Petrie, *Ehnasya 1904* (MEEF 26; London, 1905), 27, dates House G to the third century AD); Shier, *Terracotta Lamps*, pl.17, 81, found at Karanis in a context of the late third to early fourth century AD; W. R. Johnson, 'Roman Pottery', in D. S. Whitcomb and J. H. Johnson, *Quseir al-Qadim 1978. Preliminary Report* (Cairo, 1979), 103, pl. 35, l, probably of first or second-century date, excavated at Myos Hormos; W. Selesnow, *Liebighaus—Museum alter Plastik, Bildwerke der Sammlung Kaufmann*, II. *Lampen aus Ton und Bronze* (Melsungen, 1988), pl. 12, 76, dated to the second century AD.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-23c.

12. H5-988 [2740]; Petrie Museum UC 30724 (pl. XVII, 12)
Mouldmade lamp: close to **10–11** in shape, but upper side and rear lost. Splayed nozzle with curved tip. Raised base with incuse broken-barred *alpha*.
Pale reddish-brown Nile silt, with mica; traces survive of a matt red slip.
L. 6.4 cm
Late first to second century AD
Provenance: Sector 3, debris

13. H5-1327 [3079] (pl. XVII, 13)
Mouldmade lamp near to **11** in shape and decoration: the nozzle is longer. Base form unknown. Slight damage to the left-hand side.
Nile silt, colour unknown.
L. approx. 7.2 cm
Late first to second century AD
Provenance: Baboon Catacomb, debris
Comparanda: close: M. Michelucci, *La collezione di lucerne del Museo Egizio di Firenze* (Florence, 1975), pl. xi, 152; Cahn-Klaiber, *Die antiken Tonlampen, Tübingen*, no. 123, from Alexandria, dated to the end of the first century BC to the first century AD.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-24.

14. H5-2122 [4166] (pl. XVII, 14)
Mouldmade lamp close to **13** in shape and decoration. Base form unknown, but probably circular, slightly raised, and flat underneath.
Nile silt, fired red with traces perhaps of a red slip.
L. 7.5 cm
Late first to second century AD
Provenance: Falcon Catacomb, debris

Bibliography: to be published in Davies and Smith, *The Falcon Complex and Catacomb*, forthcoming, in Section 6, as Falcon Catacomb Object FCO-60.

15. H5-2572 [4849] (pl. XVII, 15)
Mouldmade lamp of Howland Type 49A,[15] with a sharply carinated body and round-tipped nozzle, and a separately made applied collar around the filling-hole area. A field-drawing shows that the nozzle-top has a beribboned thyrsos in relief; similar thyrsoi decorate the shoulder near the nozzle on each side, with plant tendrils and raised points extending towards the rear. An applied loop handle is lost; the base form is unknown, but is probably flat and of a pointed-oval shape.
The fabric is almost certainly a reduced grey colour, with a grey metallic slip. Although examples of this type were made in Greece, where a few moulds have been found, including examples from Thasos and Corinth,[16] an origin in Asia Minor is much more likely, with Ephesus being a strong probability, whence several moulds are known[17] and large quantities of the lamps have been found; moulds are also known from Cyprus and Pergamon.[18]
L. 11.8 cm
First century BC into the first quarter of the first century AD
Provenance: Mother of Apis Catacomb, Vault 3, debris
Comparanda: Despite there being an enormous variety of shoulder decorations on this type of lamp, nothing close to the relief-patterns has been noted, but several published examples of the lamp type are illustrated in Howland, *Greek Lamps*, pl. 49, Bailey, *British Museum* I, pls. 31–9, and H. Williams, *Kenchreai, Eastern Port of Corinth*, V. *The Lamps* (Leiden, 1981), pls. 1–2. For examples found in Egypt, see Michelucci, *Lucerne*, no. 43, and several from Suez: B. Bruyère, *Fouilles de Clysma-Qolzoum (Suez), 1930–1932* (FIFAO 26; Cairo, 1966), pls. xviii and xxx.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Mother of Apis Catacomb Object MCO-23.

16. H5-1392 [3190]; British Museum EA 68031 (pl. XVIII, 16)
Mouldmade lamp of Broneer Type XXI,[19] with two voluted nozzles, broken, with air-holes. Discus plain, within complex mouldings. Ivy-leaf-shaped handle-ornament above a ring-handle; on its face is a standing figure of Psyche with butterfly wings, draped and holding an inverted torch. Raised base, sunk within: ring-and-dot pattern at centre.
Buff marl clay with traces of a red-brown slip.
L. 17.0 cm
Early first century AD
Provenance: Baboon Catacomb, Upper Gallery, debris
Comparanda: Nothing close to this Egyptian version of the type has been traced, but its wide flat discus, multiple framing rings and prominent volute-spines indicate a date very early within the first-century spread of the type.
Bibliography: Bailey, *British Museum* III, pl. 34, Q 1917 (ring-and-dot pattern shown on fig. 143), dated to the early first century AD; to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-65.

17. H5-1777 [3727] (pl. XVII, 17)
Mouldmade lamp of Loeschcke Type IV,[20] with a round-tipped voluted nozzle, Loeschcke Shoulder-form IVb. Scallop-shell on discus. Base form unknown, but is probably circular and slightly raised. Fabric and colour unknown. Possibly Egyptian, probably an import.
L. 11.1 cm
First century AD

[15] Howland, *Greek Lamps*, 166–9.
[16] Bailey, *British Museum* I, 90.
[17] F. Miltner, *Forschungen in Ephesos*, IV/2. *Das Cömeterium der Sieben Schläfer* (Vienna, 1937), pl. xiv, 359–60; Bailey, *British Museum* I, pls. 34, Q 181–2 and 38, Q 203.
[18] Bailey, *British Museum* I, 90–1.
[19] O. Broneer, *Corinth* IV/2. *Terracotta Lamps* (Cambridge, MA, 1930), 73–6.
[20] S. Loeschcke, *Lampen aus Vindonissa* (Zurich, 1919), 37–40.

Provenance: Falcon Catacomb, debris
Comparanda: Nothing really close to this very common lamp type of empire-wide distribution, combined with its frequently found decoration, has been noted. Near: Bailey, *British Museum* III, pl. 75, Q 2674, from Cnidus, where it was made, dated *c.* AD 70–120. Our lamp, however, may be from early within the first century AD.
Bibliography: to be publishe d in Davies and Smith, *The Falcon Complex and Catacomb*, forthcoming, in Section 6, as Falcon Catacomb Object FCO-15.

18. 75/6-90 [6464] (pl. XVIII, 18)
Mouldmade lamp, a late form of Loeschcke Type VIII,[21] with simplified nozzle volutes and a notched handle, probably unpierced; the shoulders are plain. On the discus is a Monogrammed Cross; there was probably originally only one filling-hole, but three extra have been broken through by an impatient owner. Base form unknown, but is probably like that of some of the *comparanda* quoted, slightly raised and flat underneath.
Nile silt of a buff-pink colour.
L. 9.5 cm
Late fourth century AD, probably made in Alexandria
Provenance: Sector 9, Grid 7/10 - O/P
Comparanda: close: Bailey, *British Museum* III, pl. 44, Q 2066, dated to the fourth century AD, and 28–9 for many further examples, those with provenances coming from Achmim, Alexandria, Athribis, Canopus, the Fayum and Suez; see also C. Lyon-Caen and V. Hoff, *Musée du Louvre, Catalogue des lampes en terre cuite grecques et chrétiennes* (Paris, 1986), 122, no. 149, from Alexandria, dated third–fourth century AD, Selesnow, *Lampen*, pl. 33, 243, from Alexandria, dated fourth–fifth century AD, and the many references in Hayes, *Ancient Lamps, Ontario*, 120, no. 474, dated AD 350–450. Examples with good archaeological contexts include J. Młynarczyc, 'New Data on the Chronology of Late Roman Lamps in Alexandria', *Études et Travaux* 17 (1995), 141, fig. 2b and 170, fig. 14: she discusses many examples of this lamp found in Alexandria, some from a workshop in the Great Sarapieion, others from a deposit at Kom el-Dikka; the first context she dates between about AD 350 and 391, the second to the end of the fourth century AD or the beginning of the fifth (173–4). Also E. D. Oren, 'Excavations at Qasrawet in North-western Sinai, Preliminary Report', *Israel Exploration Journal* 32 (1982), pl. 29c, two examples from a Late Roman fortified settlement at Qasrawet in north-west Sinai: he dates these to the abandonment of this *castrum* at the end of the fourth century AD (209).
Bibliography: to be listed in H. S. Smith, Sue Davies and K. J. Frazer, *The Sacred Animal Necropolis at North Saqqara. The Main Temple Complex. The Archaeological Report.* (London, The Egypt Exploration Society; in preparation), in Christian and Islamic Object Catalogue as CIO-79.

19. H5-1891 [3853] (pl. XVIII, 19)
Mouldmade lamp of frog-type, with a sharply carinated body, and wreath of palm-branches on top extending from a ring-and-dot pattern to encircle the filling-hole area; half ring-and-dot near wick-hole; nozzle set off from the body by a groove on each side. Base form unknown.
Probably a marl clay, colour unknown.
L. 8.5 cm
Third–fourth century AD
Provenance: Sector 3, south-east corner, debris
Comparanda: close: Petrie, *Roman Ehnasya*, pl. lxv, P82; Shier, *Terracotta Lamps*, pl. 22, 158, from a context at Karanis of the early second to mid-third century AD; A. Osborne, *Lychnos et Lucerna* (Alexandria, 1924), pl. 1, 99; Kawanishi, *Akoris*, 215, fig. 146, 11, from Akoris: frog-lamp of Group C (see 269, fig. 166), dated by contexts, 270–1, to the mid-fourth century AD. Near: Petrie, *Roman Ehnasya*, pl. lxv, P86; G. Roeder (ed.), *Hermopolis 1929–1939* (Hildesheim, 1959), pl. 78p, from Hermopolis Magna; Michelucci, *Lucerne*, pl. xiv, 203; Selesnow, *Lampen*, pl. 15, 103, dated fourth century AD.
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-49.

[21] Loeschcke, *Vindonissa*, 49–55.

20. H5-2544 [4813] (pl. XVIII, 20)
Mouldmade frog-type lamp very close indeed to **19**, as the field-drawing shows: probably from the same mould-series.
Fabric unknown, but probably a marl very white in colour: it is described as limestone on the field drawing.
L. 8.6 cm
Third–fourth century AD
Provenance: Sector 2, entrance to Mother of Apis Catacomb
Comparanda: see Lamp **19**.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Mother of Apis Catacomb Object MCO-4, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-57.

21. 75/6-2 [6362] (pl. XVIII, 21)
Fragment of mouldmade lamp of late frog-type: raised rear stub-handle, rear shoulders and rim round filling-hole. Handle decorated with gadroons; relief targets on shoulders; two small incuse circles on rim.
Probably a marl clay, colour unknown.
W. 4.8 cm
Late fourth to fifth century AD
Provenance: Sector 9, Grid 2 - C/D
Comparanda: close: Bailey, *El-Ashmunein* V, pl. 88, X 41 and X 47, from Hermopolis Magna, dated to the fifth century AD but from much later contexts. Near: Petrie, *Roman Ehnasya*, pl. lxviii, Y25-45 (Y25 is from Herakleopolis Magna, from House D, dated by Petrie, *Ehnasya*, 27, to the fourth century AD); Bruyère, *Clysma-Qolzoum*, pl. xxxv, 8.5, from Suez; L. Guerrini, 'Lucerne', in S. Donadoni et al., *Antinoe (1965–1968)* (Rome, 1974), pl. 41, nos. 29 and 33, from Antinoopolis, dated to the fifth century AD; Shier, *Terracotta Lamps*, pl. 30, 258, found at Karanis in a context given a late third- or early fourth-century date; Selesnow, *Lampen*, pl. 19, 135, dated to the fifth century AD; Kawanishi, *Akoris*, 217, fig. 148, 4, pl. 87, 4, from Akoris: frog-lamps of Group D (see 269, fig. 166), dated by contexts, 270, to the mid- and late fourth century AD.
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-70.

22. H5-993 [2745] (pl. XVIII, 22)
Fragment of mouldmade lamp of a late frog-type near **21** and also of Akoris Group D:[22] only the upper left-hand shoulder remains, together with the wick-hole and part of the filling-hole area with an edge of the filling-hole. Shoulder-decoration: between two raised lines, heavy cabling divided by a raised ring-and-dot between two transverse lines.
Probably a marl clay, colour unknown.
L. 8.7 cm
Late fourth to fifth century AD
Provenance: Sector 3, debris
Comparanda: close: Guerrini, in Donadoni et al., *Antinoe*, pl. 41, no. 30, from Antinoopolis; Kawanishi, *Akoris*, 217, fig. 148, 3, pl. 88, 2, from Akoris, which is decorated with a human head near its stub-handle, from a context of the end of the fourth century AD. Near: Petrie, *Roman Ehnasya*, pl. lxviii, Y65.
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-25.

23. H5-1731 [3681] (pl. XVIII, 23)
Mouldmade lamp of late frog-type: only the underside survives: it is probably of the same type as **21** and **22**. Slightly rounded undefined base with incuse marks: a longitudinal line with twin volutes, below which is a simple target.
Probably a marl clay, red in colour.

[22] Kawanishi, *Akoris*, 269–71.

L. 8.7 cm
Late fourth to fifth century AD
Provenance: Sector 3, south-east corner east of East Main Enclosure Wall, debris
Comparanda: No exactly similar maker's mark has been noted, but its flamboyance reflects those on frog-type lamps of the suggested date. Shier, *Terracotta Lamps*, pl. 31, no. 260, from Karanis, has the same device as ours in addition to others; and see pl. 33, no. 286: like those referred to in the *comparanda* of Lamp **24**, these Karanis lamps are dated too early.
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-46.

24. H5-1732 [3682] (pl. XVIII, 24)
Fragment of mouldmade lamp of late frog-type, probably much like **21–23**: only part of the underside survives, with incuse marks: double groove terminating in a circle; above is a curved line and a single point, below the start of a semicircular (?) groove.
Probably a marl clay, buff in colour.
L. approx. 6.5 cm
Late fourth to fifth century AD
Provenance: Sector 3, south-east corner east of East Main Enclosure Wall, debris
Comparanda: no similar maker's mark has been noted, but several marks from Karanis have some comparable features: Shier, *Terracotta Lamps*, 102, nos. 248–50, 106, nos. 269–70, pl. 31, no. 263. These lamps are all from contexts dated to the late third century or early fourth century AD, reflecting the squeezed chronology suggested by the excavators. For a more accurate assessment of the dates of Late Roman Karanis, see Pollard, followed by Whitehouse.[23]
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-47.

25. [1372B] (pl. XVIII, 25)
Fragment of mouldmade lamp of late frog-type, probably much like **21–24**: only the underside survives, in great part, with incuse marks: two voluted lines rising from a 'base-line'; on one side is a reversed 'C' and on the other a damaged mark including a short upright.
Probably a marl clay, buff in colour.
L. 7.0 cm
Late fourth to fifth century AD
Provenance: Sector 7, a surface find in the cemetery area of the monastery
Comparanda: No closely similar maker's mark has been found, but like **23** and **24**, some lamps from Karanis have some comparable features on their undersides: Shier, *Terracotta Lamps*, 108, no. 277, 112, no. 292: these, like the Karanis *comparanda* for **23** and **24** come from contexts that are dated too early; see also Petrie, *Roman Ehnasya*, pl. lxxiv, nos. 271–3, 276, for marks of a similar nature. The only one of these lamps actually found at Herakleopolis Magna is no. 273, from House D there, from which came a coin of the middle of the fourth century AD and pottery that could date rather later (Petrie, *Ehnasya*, 27). See also the mark below a late frog-type lamp from Hermopolis Magna: E. Brunner-Traut, 'Einzelne Fundstücke, Öllampen', *MDAIK* 9 (1940), 69, fig. 3.
Bibliography: Martin, *The Sacred Animal Necropolis at North Saqqâra. The Southern Dependencies*, 100 and pl. 5, no. 1372B; the mark is impressed from the mould and not incised, and is unlikely to be a Christian monogram.

26. H5-994 [2746] (pl. XVIII, 26)
Mouldmade lamp with unpierced handle, possibly applied. Carinated body with, except for a raised curved cabled or segmented line on each side, apparently plain shoulders; raised rim round filling-hole, seemingly outlined by short relief rays. Base form unknown.
Fabric and colour unknown.
L. 8.6 cm

[23] N. Pollard, 'The Chronology and Economic Condition of Late Roman Karanis: an Archaeological Reassessment', *JARCE* 35 (1998), 147–62; D. Whitehouse, 'The Date of the Glass from Karanis', *Journal of Glass Studies* 41 (1999), 168–70.

Late Roman, probably fifth–sixth century AD
Provenance: Sector 3, debris
Comparanda: Nothing really like this has been traced, but the body shape is near that of several lamps of Middle Egyptian manufacture; these occasionally have segmented-line decoration, but normally have an applied loop handle, unlike ours, and their filling-hole areas tend to be rather larger: Guerrini, 'Lucerne', pl. 43, 47–8, from Antinoopolis, dated probably to the fifth–sixth century AD; Shier, *Terracotta Lamps*, pls. 43–4, 410–12, from a context at Karanis dated (no doubt too early) to the late third and early fourth century AD; Kawanishi, *Akoris*, 218, fig. 149, 3, from Akoris: post-frog type lamps of Group B (see 269, fig. 166), dated presumably later than the fourth century AD; Bailey, *El-Ashmunein* V, pl. 90, X 90, from Hermopolis Magna, and a date for **26** in the fifth or, more likely, the sixth century AD is probable.
Bibliography: to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-26.

27. H5-2551 (4820) (pl. XIX, 27)
Wheelmade lamp of Kubiak Type G or I,[24] with a long applied nozzle, broken at its tip, and an applied ring-handle, lost. Rounded body with drawn-up funnel-like filling-hole; the flaring rim broken away; base-ring.
Probably a yellow or whitish-buff calcareous clay, as described by Kubiak, *Ars Orientalia* 8, 12 and 14, coated overall with a green vitreous glaze.
L. 11.5 cm
Eleventh century AD, through the fourteenth century and perhaps even later; a very long-lived shape which, except for some individual examples from useful contexts, is difficult at present to date closely; probably made at Fustat.
Provenance: Mother of Apis Catacomb, debris
Comparanda: Lamps of this general shape are common in many areas of the medieval Arab world, from the Levant to Spain, but the examples from Saqqara are so manifestly Egyptian that only relevant references are given here. These lamps have been found in thousands at Fustat, but, except for the work of Kawatoko (*supra*, n. 2), proportionally very few examples of the type have been published, from Fustat or elsewhere: it is probable, however, that Kubiak's typology (*supra*, n. 2) is a distillation of a great many examples. Published examples include Petrie, *Roman Ehnasya*, pl. lxix, N60, no provenance, dated perhaps to the tenth century AD (too early); Kubiak, *Ars Orientalis* 8, pl. 2, figs. 10 and 12, pl. 3, figs. 13–14, from Fustat, found in contexts of Fatimid to Mamluke times; Michelucci, *Lucerne*, pl. xxv, 422, no provenance, but with other references all dated too early; D. S. Whitcomb, 'Islamic Pottery', in Whitcomb and Johnson, *Quseir 1978*, 117, pl. 38t, from Quseir el-Qadim, found in an Ayyubid context of the late twelfth to thirteenth century AD; Kawatoko, *Orient* 23, 50–1, figs. 8–9: most of ours (Lamps **27–33**), with their well-defined bases, fall into his Types 5 and 6, and come from Fatimid to early Mamluke contexts at Fustat; G. T. Scanlon, 'Fayyumi Pottery: a Long-lived Misnomer in Egyptian Islamic Ceramics. Type I', in N. Sweilim (ed.), *Alexandrian Studies in Memoriam Daoud Abdu Daoud* (Alexandria, 1993), pl. lxv, fig. 13 and pl. lxxii, fig. 22, from an eleventh-century Fatimid context at Fustat; Kawanishi, *Akoris*, 221, fig. 151, 4, pl. 89, 8, from a disturbed fill in a shaft at Akoris, with (272) a suggested late Fatimid date; I. Abdel Rahman, 'Excavations of Fustat, Season 88', in R.-P. Gayraud (ed.), *Colloque international d'archéologie islamique* (Cairo, 1998), 64, figs. 3–4, from Fustat, of Fatimid date. Selesnow, *Lampen*, pl. 54, 417–21 appear to be coarse examples of Kubiak Type I, but there are no side views or profile drawings. They have no provenances (much of this Frankfurt material came from Egypt with the C. M. Kaufmann collection) and their glazes are described as red-brown; they are dated to the eighth–ninth century AD, again too early. For their glaze colour see Lamp **29** below, which also is stated to have a red glaze.
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Mother of Apis Catacomb Object MCO-11, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-58.

[24] Kubiak, *Ars Orientalis* 8, 11–15.

28. H5-2557 [4826] (pl. XIX, 28)
Wheelmade lamp close to last in shape, manufacturing detail, damage and probably in fabric; the vitreous glaze is green.
L. 11.0 cm
Date as last; probably made at Fustat
Provenance: Mother of Apis Catacomb, Axial Gallery near Vault 4, debris
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Mother of Apis Catacomb Object MCO-17, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-59.

29. H5-1978 [3982] (pl. XIX, 29)
Wheelmade lamp close to **27–28** in shape and manufacturing detail; the mouth and nozzle are almost wholly lost, as is the handle.
Fabric probably as **27**, but the vitreous glaze is red.
H. 5.0 cm
Date as **27–28**; probably made at Fustat
Provenance: Falcon Catacomb, south end of Axial Gallery, debris
Bibliography: to be published in Davies and Smith, *The Falcon Complex and Catacomb*, forthcoming, in Section 6, as Falcon Catacomb Object FCO-58, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-50.

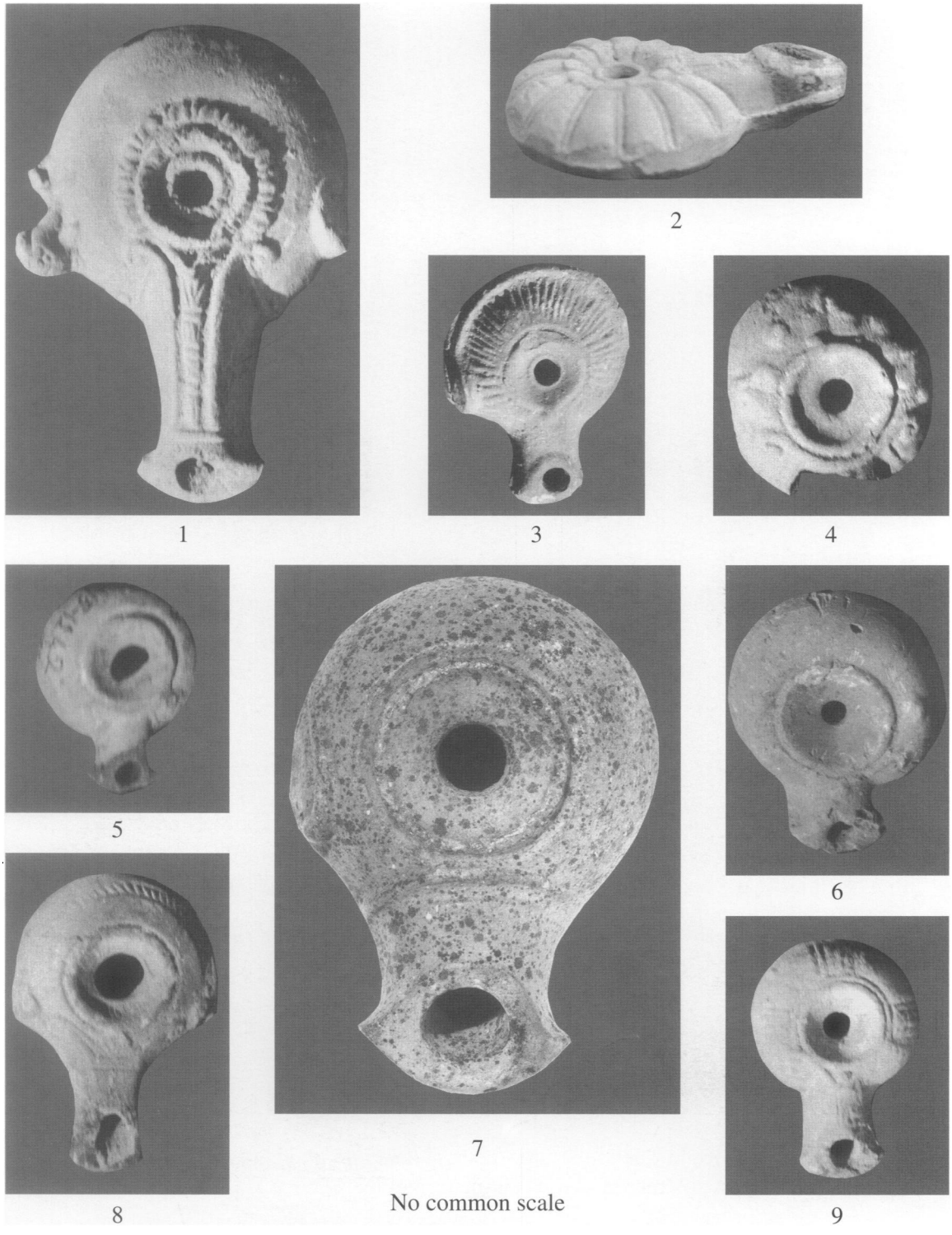
30. H5-2788 [5151]; Fitzwilliam Museum E.82.1975 (pl. XIX, 30)
Wheelmade lamp close to **27–29** in shape and manufacturing detail, the upperside and most of the nozzle lost; raised base-ring, concave below, with two internal concentric grooves.
Yellow-buff clay, the outside coated with a turquoise glaze over a green glaze, running down to the base: part of the underbody and below the base are not intentionally glazed, but a thin green glaze has formed on the surface; the inside has a green glaze, with a run of turquoise glaze from the nozzle. The lamp was upright for the glost firing and part of a stilt remains attached by glaze to the base-ring.
L. 9.4 cm
Date as Lamps **27–29**; probably made at Fustat
Provenance: Falcon Catacomb, Gallery 27, debris
Bibliography: to be published in Davies and Smith, *The Falcon Complex and Catacomb*, forthcoming, in Section 6, as Falcon Catacomb Object FCO-508, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-67.

31. H5-2573 [4850] (pl. XIX, 31)
Wheelmade lamp near **27–30** in shape and manufacturing detail; much of the mouth and the handle survive: this may be of Kubiak Type I, rather than Type G (see Lamp **27**).
Fabric probably as **27**; the vitreous glaze is green.
H. 8.7 cm
Second half of the twelfth through the fourteenth century AD; probably made at Fustat
Provenance: Mother of Apis Catacomb, Vault 3, debris
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Mother of Apis Catacomb Object MCO-24, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-61.

32. H5-1377 [3175] (pl. XIX, 32)
Wheelmade lamp near **27–30** in shape, manufacturing detail, fabric and damage: however, the nozzle is faceted on its upper edges: perhaps of Kubiak Type G, rather than Type I (see Lamp **27**).
Fabric probably similar to that of **27** above; the vitreous glaze is green.
L. 11.9 cm
Eleventh to early twelfth century AD; probably made at Fustat
Provenance: Baboon Catacomb, Upper Gallery, debris
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-58, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-37.

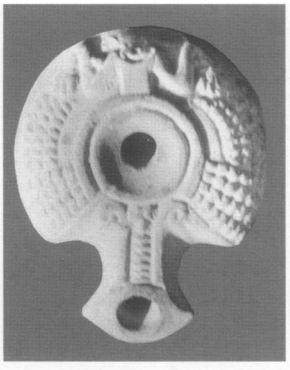
33. H5-1331 (3083) (pl. XIX, 33)
Wheelmade lamp with long tapering applied nozzle, and an applied ring-handle, broken away. Rounded body with drawn-up funnel-like filling-hole, almost entirely lost, and a base-ring: perhaps Kubiak Type G.
Fabric probably similar to that of **27** above; the vitreous glaze is green.
L. 14.7 cm
Date probably as Lamp **32**; probably made at Fustat
Provenance: Baboon Catacomb, bottom of stairs to Lower Gallery, debris
Bibliography: to be listed in Davies, *The Mother of Apis and Baboon Catacombs*, in preparation, as Baboon Catacomb Object BCO-25, and to be listed in Smith, Davies and Frazer, *Main Temple Complex*, in preparation, in Christian and Islamic Object Catalogue as CIO-35.

PLATE XVI

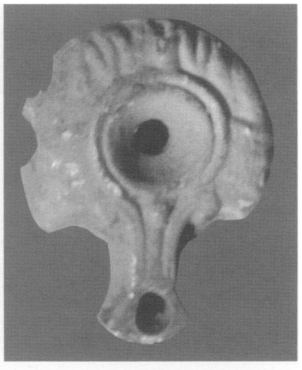


LAMPS FROM THE SACRED ANIMAL NECROPOLIS, NORTH SAQQARA AND THE MONASTERY OF APA ANTINOS (pp. 119–33)

10



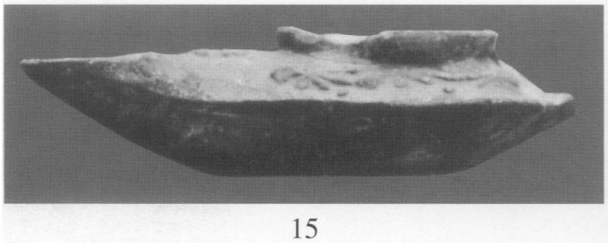
11



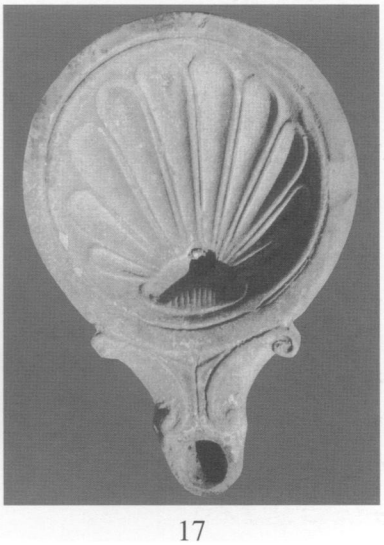
13

12

14



15

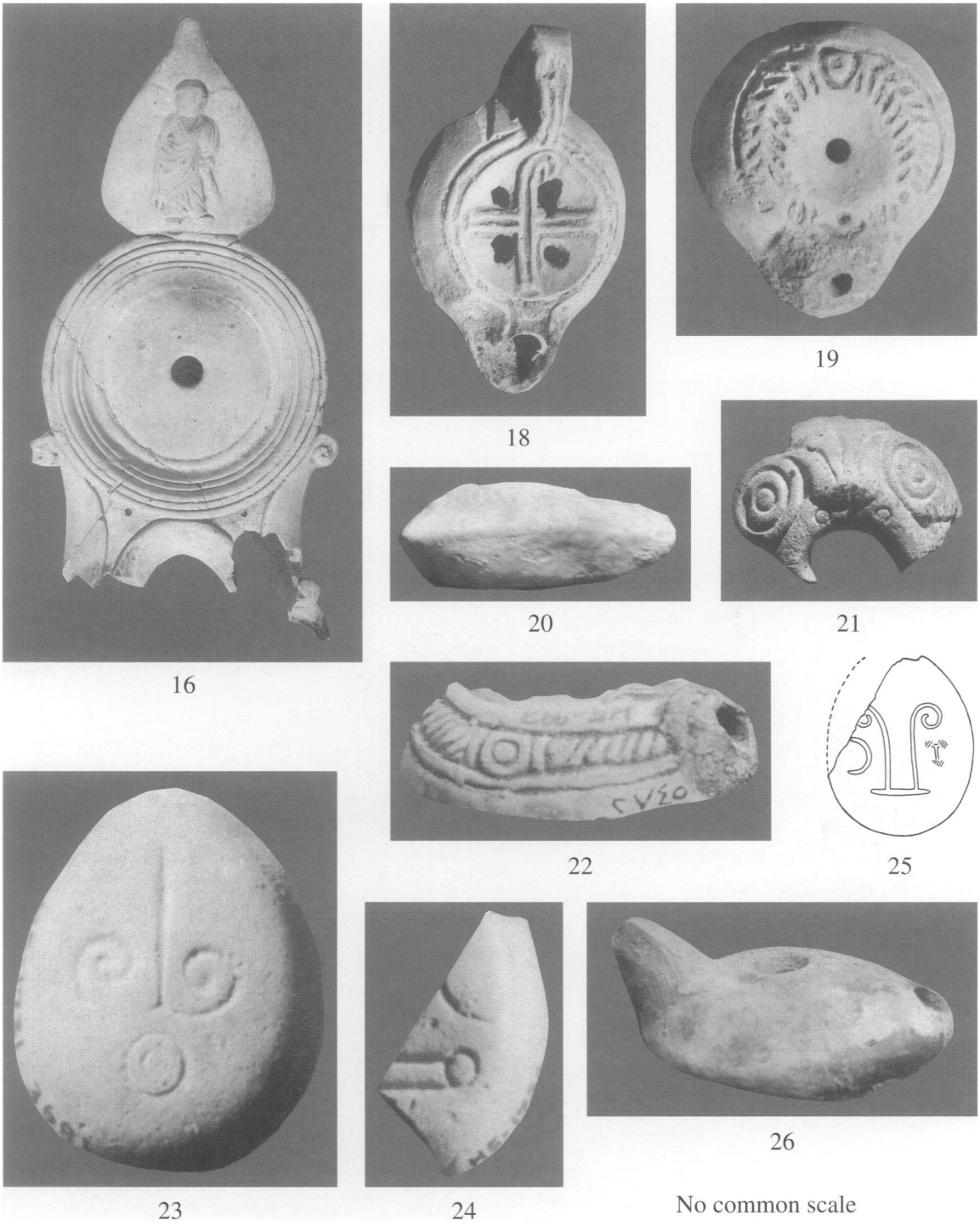


17

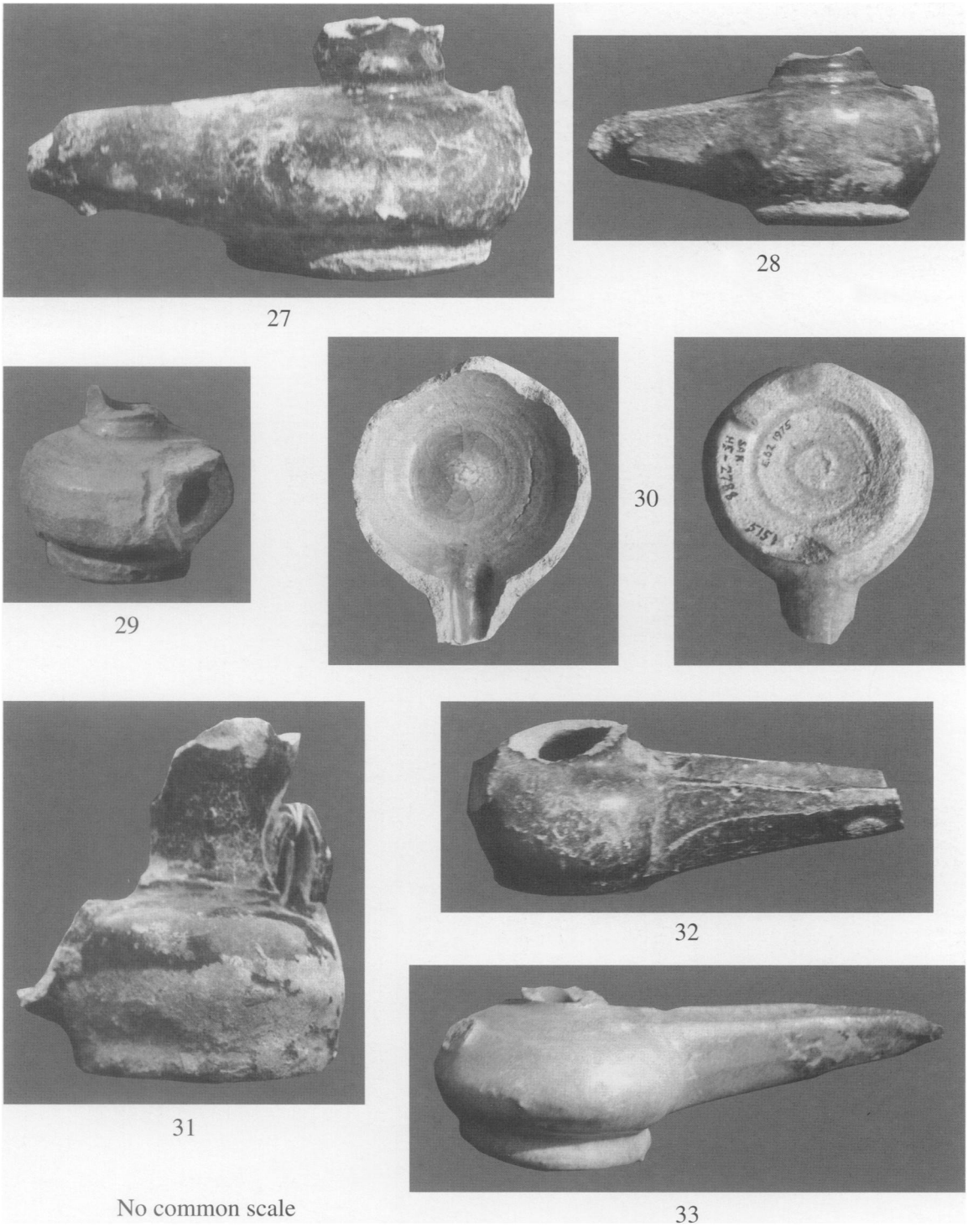
No common scale

LAMPS FROM THE SACRED ANIMAL NECROPOLIS, NORTH SAQQARA AND THE MONASTERY OF APA ANTINOS (pp. 119–33)

PLATE XVIII



LAMPS FROM THE SACRED ANIMAL NECROPOLIS, NORTH SAQQARA AND THE MONASTERY OF APA ANTINOS (pp. 119–33)



LAMPS FROM THE SACRED ANIMAL NECROPOLIS, NORTH SAQQARA AND THE MONASTERY OF APA ANTINOS (pp. 119–33)

THE ROMAN QUARRY AND INSTALLATIONS IN WADI UMM WIKALA AND WADI SEMNA

By S. E. SIDEBOTHAM, H. BARNARD, J. A. HARRELL *and* R. S. TOMBER*

A detailed surface survey of the gabbro quarry and related facilities in Wadis Umm Wikala and Semna indicates activity in the first to second or early third centuries AD. Surface pottery found associated with quarry faces, loading ramps, related huts, *skopeloi*, a putative temple, a main adminstrative building and nearby *hydreuma* attest to intensive operations here contemporary with periods of early exploitation of the larger quarries of Mons Claudianus and Mons Porphyrites farther north in the Eastern Desert. A lengthy Greek inscription of the early first century AD recovered here over a century ago records that the ancient name of the site was Ophites.

Introduction

In the summers of 1997–2000 the authors undertook the survey of the quarry and related settlement in the Wadi Semna–Wadi Umm Wikala area in the central part of the Egyptian Eastern Desert (fig. 1). This site has the next largest Roman quarry in the Eastern Desert after those of Mons Claudianus and Mons Porphyrites. The objective of this survey was to locate and map the various stone excavations along with the associated settlement and *hydreuma* (fortified well). Also included were smaller features such as slipways, working and loading platforms, cairns, graves and *skopeloi* (lookout posts). Diagnostic ceramic remains from the surface, mostly near installations and only occasionally from the quarries themselves, were drawn and studied (by R. S. Tomber). These studies determined that the extraction of gabbro from this quarry, and the occupation of the *hydreuma* and settlement, took place from the first century AD through the second or early third century AD.

The survey entailed the investigation of the visible features in Wadi Umm Wikala and the surrounding hills and valleys. No excavations were conducted. The positions of quarry workings, buildings and other archaeological features were marked on a Corona satellite photograph of the area, and their latitudes and longitudes were also established using the Global Positioning System.[1] These data were next combined (by J. A. Harrell) with a topographic map of the area to prepare a detailed site map (fig. 2).[2]

* S. E. Sidebotham, University of Delaware, USA; H. Barnard, University of California at Los Angeles, USA; J. A. Harrell, University of Toledo, USA; and R. S. Tomber, Museum of London, UK.

[1] Corona satellite photograph prepared from negative no. DS1107-1090DA096, taken 29 July 1969. Available from the United States Geological Survey, EROS Data Center, Sioux Falls, South Dakota. The ground resolution of this photograph is approximately six metres.

[2] The map used is sheet number NG36 K2c (*Jabal Simnah*), scale 1:50,000, published in 1989 by the Egyptian General Survey Authority, Cairo, in cooperation with FINNIDA, Finland. Neither this map nor the GPS-coordinates given by hand-held receivers were sufficiently accurate to produce the site map presented here and, hence, it was necessary also to use the Corona satellite photograph.

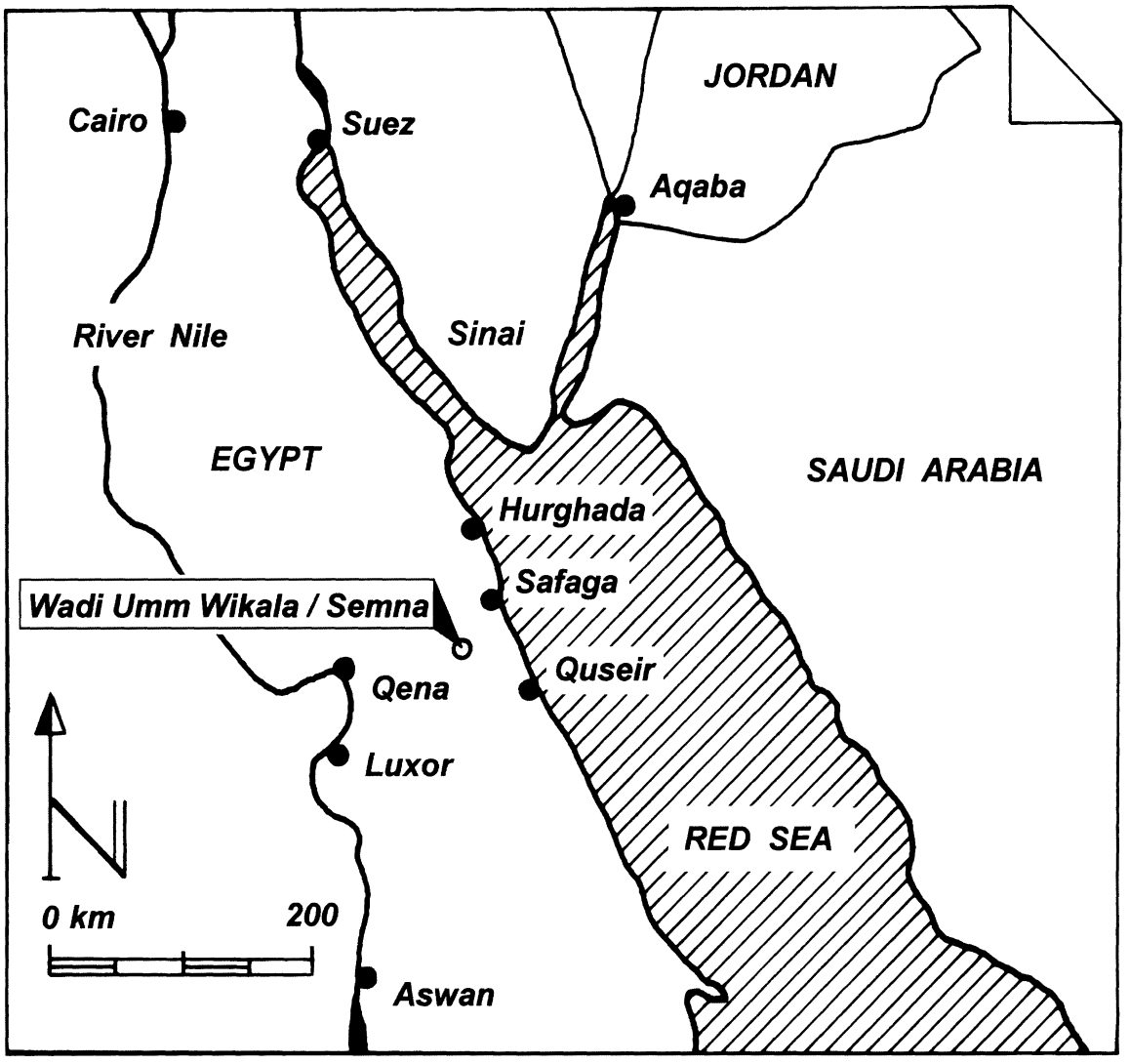


FIG. 1. The location of the Roman remains in the Wadi Umm Wikala and Wadi Semna in the Egyptian Eastern Desert.

Measured plans were drawn of the notable features (by H. Barnard) using a combination of survey techniques. Angles were measured with a Wild T16 theodolite, and distances were determined by steel tapes or tachometry (by S. E. Sidebotham and H. Barnard). Magnetic north was established with a Walkie bearing compass and appeared to be less than 2° east of true north. Other measurements recorded in the field were the widths of excavation areas and the dimensions of worked pieces of stone and tool marks (by S. E. Sidebotham, H. Barnard and J. A. Harrell). During the fieldwork, diagnostic pottery sherds were collected, noteworthy features were photographed (by S. E. Sidebotham) and the quarried stone and tool marks were studied (by J. A. Harrell). Off-site research included investigation of the ancient textual sources as well as the reports by previous investigators (by S. E. Sidebotham and J. A. Harrell).

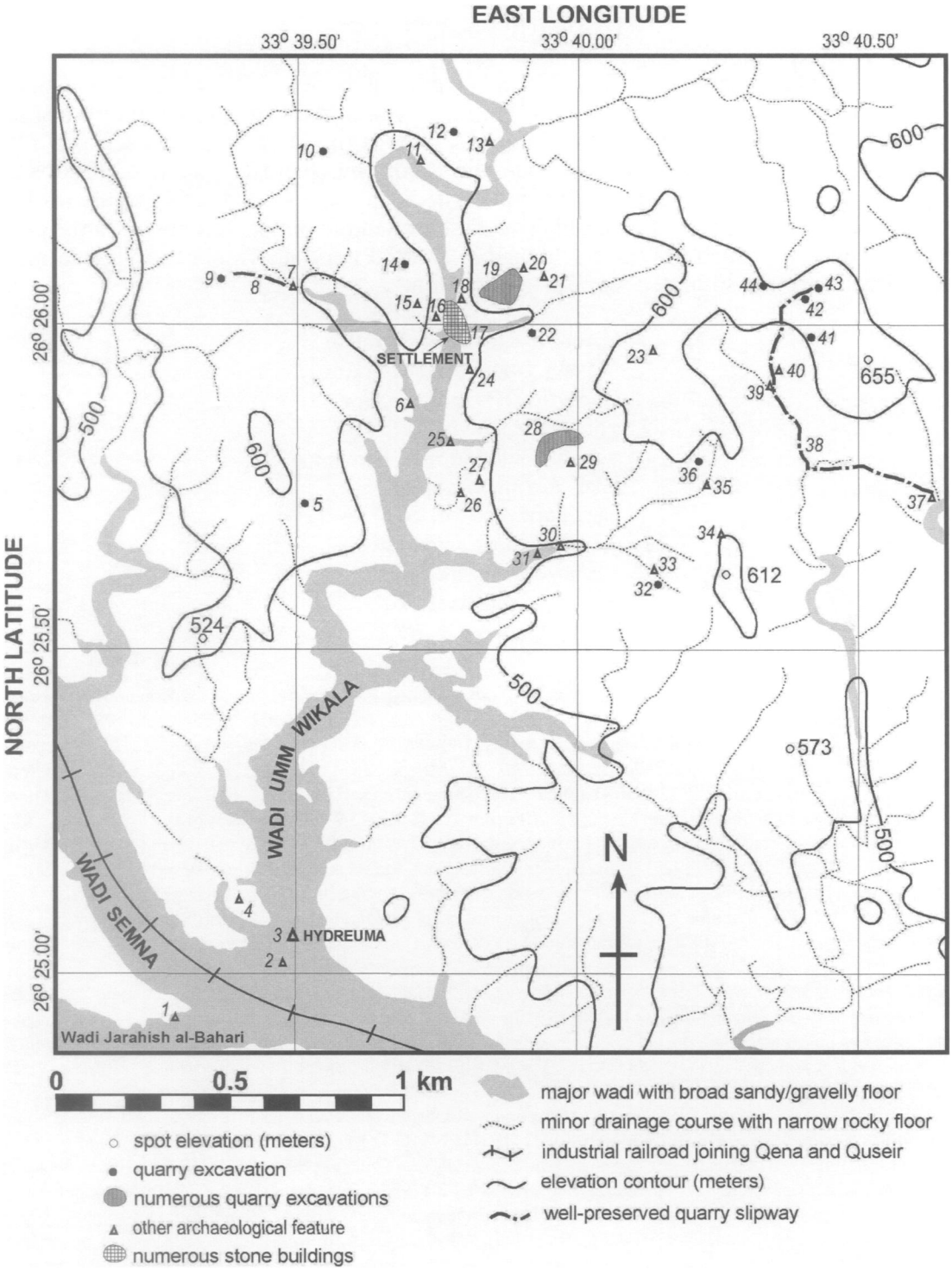


FIG. 2. Overall plan of Wadi Umm Wikala showing the position of various Roman features (see Table 1 for the key to the numbers).

Historical background

The installations and quarries in Wadi Umm Wikala (often incorrectly referred to as being in Wadi Semna) have been examined and, in many cases, published in a cursory fashion since the first half of the nineteenth century.[3] Previous investigators, however, provided little description of the installations or the quarry workings themselves and undertook no analysis of the ceramic evidence. An inscription dedicated to Pan and dating to the fortieth year of the reign of Augustus (AD 10/11) was first seen in the quarry settlement in the early twentieth century.[4] Much previous scholarship centred upon analysis of the above-mentioned Greek text, the so-called 'curator' inscription.

a) Ἔτους μ Καίσαρος, Παῦνι α,
Ἀγαθῇ Τύχηι· ἐπεὶ Ποπλίου
Ἰουεντίου Ῥούφου χιλιάρ-
χου τῆς τερτιανῆς λε-
γεῶν(ος) καὶ ἐπάρχου Βερνίκη-
ς καὶ ἀρχιμεταλλάρχου
τῆς ζμαράγδου καὶ βα-
ζίου καὶ μαργαρίτου καὶ
πάντων τῶν μετάλλων
τῆς Αἰγύπτου, ἀνέθηκε
ἐν τῶι Ὀφιάτηι ἱερὸν

[3] J. Burton, *Collectiones Aegyptiaca Add. Mss. 25, 626, 64v–65* dated 15–16 April, 1831; T. Barron and W. F. Hume, *Topography and Geology of the Eastern Desert of Egypt. Central Portion* (Cairo, 1902), 59, 86, 118–19, 221, 265; J. Lesquier, *L'Armée romaine d'Égypte d'Auguste à Dioclétien* (MIFAO 41; Cairo, 1918), 239, n. 5; 240–3, 429; J. Barthoux, *Chronologie et description des roches ignées du désert arabique* (MIE 5; Cairo, 1922), 141; F. W. Green, 'Notes on Some Inscriptions in the Etbai District. II', *PBSA* 31 (1909), 319, 332–3, pl. 55; F. Bisson de la Roque, 'Voyage au Djebel Shaïb', *Bulletin de la Société royale de Géographie d'Égypte* 11 (1922), 134, fig. 9 for plan of the *hydreuma* in Wadi Semna (though he does not indicate any towers) [cross referenced in G. W. Murray, 'The Roman Roads and Stations in the Eastern Desert of Egypt', *JEA* 11 (1925), 146]; D. Meredith, 'Roman Remains in the Eastern Desert of Egypt', *JEA* 38 (1952), pl. xv.4 (*castellum* in Wadi Semna near the railroad tracks), 106 and nn. 1–2; L. A. Tregenza, *Egyptian Years* (London, 1958), 155–174; C. Dubois, *Étude sur l'administration et exploitation des carrières marbres, porphyry, etc. dans le monde romain* (Paris, 1908); R. Klemm and D. D. Klemm, *Steine und Steinbrüche im alten Ägypten* (Berlin, 1993), 408–11.

[4] Green, *PBSA* 31, 322, pl. lv, 323; see also the contributions by R. Cagnat, 'Une inscription greque d'Égypte', *Académie des Inscriptions et Belles-lettres Comptes Rendus* (1910), 580–5; J. Couyat, 'Ports greco-romains de la Mer Rouge et grandes routes du désert arabique', op. cit., 539 (fig. 4), 541, and R. Cagnat and M. Besnier (eds), *L'Année épigraphique 1910* (Paris, 1911; reprinted Nedeln, Liechtenstein, 1968), 55, no. 207 [cf. Lesquier, *L'Armée romaine d'Égypte*, 239, n. 5, 240–3, 429]; L. A. Tregenza, 'A Latin Inscription from Wadi Semna', *Bulletin of the Faculty of Arts, Fouad I University* 12/2 (1950), 88; L. A. Tregenza, 'The Curator Inscription and Other Recently Found Fragments from Wadi Semna', *Bulletin of the Faculty of Arts, Fouad I University* 13/2 (1951), 39–46; Tregenza, *Egyptian Years,* 160–3 and pl. 7 (between pp. 172–3); A. G. Woodhead (ed.), *Supplementum Epigraphicum Graecum* XX (1964), 167, no. 670; E. Kiessling (ed.), *Sammelbuch griechischer Urkunden aus Ägypten,* VIII/2 (1967), 246, no. 10173; G. Geraci, 'Ricerche sul proskynema', *Aegyptus* 51 (1971), 66–7; Barron and Hume, *Topography and Geology*, 59, 86, 265; H. Cuvigny, 'Ulpius Himerus, procurateur impériale I. Pan 53', *BIFAO* 96 (1996), 91–101; S. H. Aufrère, 'Religious Perceptions of the Mine in the Eastern Desert in Ptolemaic and Roman Times', in O. E. Kaper (ed.), *Life on the Fringe. Living in the Southern Egyptian Deserts during the Roman and Early-Byzantine Periods. Proceedings of a Colloquium Held on the Occasion of the 25th Anniversary of the Netherlands Institute for Archaeology and Arabic Studies in Cairo 9–12 December 1996* (Leiden, 1998), 12–14.

Πανὶ θεῶι μεγίστωι
καὶ αὐτῶι Ποπλίωι Ἰουεντίῳ[ι]
Ἀγαθόποδι ἀπελευθ[έρωι αὐ]-
τοῦ καὶ ἐπιτρόπωι καὶ προ-
νοητοῦ καὶ εὐεργέτηι
πάντων τῶν μετάλλων
τῆς Αἰγύπτου.
b) Τὸ προσκύνημα Θολεμαί-
ου κουράτορος σπίρης Φλώ-
ρου κεντυρίας Βάσσου ὁ καὶ
ἐπιστήσας.
c) Το [προσ]-
κύ[νημ]-
α Μ[έρσι]
καὶ [Σω]-
τῆ[ρος]
ἀμφ[ο]-
τέρ[ων]
ἀρχ[ιτε]-
κτόν[ων]
οἱ καὶ [ἐπὶ]-
στήσ[αν]-
τες τὸ
ἔργον.

This inscription states: Year 40 of Caesar (= Augustus), the first (day of the month) of *Payni*, with good fortune, when Publius Iuventius Rufus was tribune of the III legion (Cyrenaica), prefect of Berenike and director general of the *smaragdus* mines, the *topazos* (mines), the pearl (fisheries) and all of the mines of Egypt, he had dedicated at Ophiates a sanctuary to Pan, the greatest god, for his own health, by Poplius Iuventius Agathopous, his freedman, procurator, administrator and benefactor of all the mines of Egypt. The act of adoration of Tholemaios, curator of the cohort of Florus, of the century of Bassus, and who was in charge (of the building). The act of adoration of Mersis and of Soter, the two architects who were also in charge of the work.[5]

It suggests that the ancient name of the quarry was probably Ophiate*s* (or Ophite*s*).[6] This is supported by the fact that at least six authors from the Roman Period describe a stone that they called *ophites* ('snakey') that resembles examples from the workings here (see next

[5] Translation by S. E. Sidebotham, with revisions by R. S. Bagnall and J. A. Harrell.

[6] A. Merlin (ed.), *L'Année épigraphique* 83 (1952), no. 249; A. Bernand, *Pan du désert* (Leiden, 1977), 118–28, especially 120–1, inscription no. 51, lines 10–11. A second century AD Latin inscription records a *praesidium* in the area as '*Eunicon ...*', but this may have nothing to do with the quarry itself (ibid. 129–32, no. 53, specifically line 6 of the text). The inscription dates to the reign of Antoninus Pius sometime between AD 150 and 152/153. See also Tregenza, *Bulletin of the Faculty of Arts* 12/2, 85–9; Cuvigny, *BIFAO* 96, 98–9, speculates that '*Eunicon...*' might refer to the station of Phoenicon (at al-Laqeita), on the Quseir-Nile road 34 km east of Coptos.

section).[7] Another fragment of a Greek inscription found in Wadi Umm Wikala dates to the reign of Tiberius.[8] A third inscription in Latin, three fragments of which survive, attests the presence of the *Cohors III Ituraeorum* at the quarry in AD 150-152/153.[9] There were also other military units stationed near the quarry in the first and second centuries AD.[10]

An inscription similar to the Wadi Umm Wikala 'curator' inscription was found in Wadi Hammamat, where there is another Roman quarry. This dates to early in the reign of Tiberius.[11] Yet another similar inscription, also from the reign of Tiberius, was recently found in one of the quarry settlements at Mons Porphyrites (Gebel Abu Dukhan), and a second one from the same site is probably also Tiberian in date.[12] These texts indicate that the Roman government organized quarrying and mining operations early in the Roman occupation of Egypt, from at least late in the reign of Augustus (according to Egyptian chronology 30 BC–AD 14) and early in the reign of Tiberius (AD 14–37). In addition to the quarry in Wadi Umm Wikala, other quarries in the Eastern Desert operated by the Romans from the first century AD onwards include, among others, Mons Porphyrites, Wadi Umm Balad, Mons Claudianus, Wadi Barud, Wadi Maghrabiya and Wadi Hammamat.[13] There was at the same time Roman activity at the '*smaragdus*' (= emerald or beryl) mines,[14] the '*topazos*' (= peridot) mine on St. John's Island,[15] the amethyst mines at Gebel Abu Diyeiba

[7] Pliny, *Natural History* 36.11.55–6; Lucan, *Pharsalia* 9.712–14 (cf. Dubois, *Étude sur l'administration*, 73); Statius, *Silvae* 1.5.35 and Martial, *Epigrams* 6.42.15 (cf. A. Schramm, 'Ophites', in G. Wissowa, W. Kroll and K. Mittelhaus (eds), *Paulys Real-Encyclopädie der Classischen Altertumswissenschaften* 18, pt. 1 (Stuttgart, 1942), cols. 658–9); see also the first century AD medical writer Dioscorides Pedanius (*De materia medica* 5.162) who described *ophites lithos* (cf. J. Berendes, *Des Pedanios Dioskurides aus Anazarbos Arzneimittellehre in Fünf Büchern* (Wiesbaden, 1902), 552 = 5.162); see also Dionysius Periegetes, *Geographical Description of the Inhabited World*, line 1013 in G. Bernhardy, *Dionysius Periegetes graece et latine cum vetustis commentariis et interpretationibus ex recensione et cum annotatione* (Hildesheim and New York, 1974), 55 (cf. E. H. Bunbury, *A History of Ancient Geography*, II (London, 1879), 480–90, and H. H. Tozer, *A History of Ancient Geography*[2], revised by M. Cary (Cambridge, 1935), 281–7).

[8] Tregenza, *Bulletin of the Faculty of Arts* 12/2, 85–9; Tregenza, *Egyptian Years*, 170–2 and pl. 8 (a) (between pp. 172–3); Bernand, *Pan du désert*, 128–9, no. 52 with bibliography; see also Tregenza, *Bulletin of the Faculty of Arts, Fouad I University* 13/2, 46–8.

[9] Bernand, *Pan du désert*, 129–32, no. 53; H. Cuvigny, *BIFAO* 96; V. A. Maxfield, 'The Deployment of the Roman Auxilia in Upper Egypt and the Eastern Desert during the Principate', in G. Alföldy, B. Dobson and W. Eck (eds), *Kaiser, Heer und Gesellschaft in der römischen Kaiserzeit. Gedenkschrift für Eric Birley* (Stuttgart, 2000), 430–1.

[10] Maxfield, in Alföldy et al. (eds), *Kaiser, Heer und Gesellschaft*, 430–1. These other units were the *Cohors Flori* in AD 11 and the *Ala I Thracum Mauretana* and *Cohors I Lusitanorum eq* in the second century AD.

[11] Dated 2 October AD 18: *Corpus Inscriptiorum Graecarum* III.4716 d[2]; cf. K. Fitzler, *Steinbrüche und Bergwerke im ptolemäischen und römischen Ägypten. Ein Beitrag zur antiken Wirtschaftsgeschichte* (Leipziger Historische Abhandlungen 21; Leipzig, 1910), 126–8, and Dubois, *Étude sur l'administration*, 68–9.

[12] Dated 23 July AD 18: cf. W. van Rengen, 'Epigraphy', in D. P. S. Peacock, V. A. Maxfield et al., *The Roman Imperial Porphyry Quarries Gebel Dokân Egypt Interim Report 1995*, (unpublished), 23–4; W. Van Rengen, 'A New Paneion at Mons Porphyrites', *CdE* 70 (1995), 240–5; V. A. Maxfield and D. P. S. Peacock, 'The Archaeology of an Industrial Landscape: An Interim Report on the Work of the Imperial Quarries (Mons Porphyrites) Project', in Kaper (ed.), *Life on the Fringe*, 185–8; D. P. S. Peacock, 'The Roman Period (30 BC–AD 395)', in I. Shaw (ed.), *The Oxford History of Ancient Egypt* (Oxford, 2000), 431.

[13] The stones quarried at these sites are the ornamental imperial porphyry (an andesite-dacite porphyry) at Mons Porphyrites, quartz diorite at Wadi Umm Balad and Wadi Barud, tonalite gneiss at Mons Claudianus, gabbro at Wadi Maghrabiya and both greywacke sandstone/siltstone and conglomerate at Wadi Hammamat.

[14] Based on surface ceramics mainly those in the Wadi Sikait, Wadi Nugrus and Umm Kabu areas, Roman activity at Mons Smaragdus seems to be limited to the first century AD.

[15] Peridot: Strabo (*Geography* 16.4.6) and Pliny (*Natural History* 37.32.107–9) both identify the source of '*topazos*' as an island in the Red Sea. This must be St. John's (Zabargad) Island because this is the only known source for peridot not only in the Red Sea but in the ancient world. See also: F. W. Moon, *Preliminary Geological Report on St. John's Island*

and Wadi al-Hudi, as well as numerous others. In addition, there is evidence for pearl fishing in the Red Sea.[16] This Roman government activity early in the first century AD, directed by Roman officials, styled *metallarchai* as recorded on the inscriptions noted above, probably initially reflected Ptolemaic organizational practices with regard to mining and quarrying.[17]

As noted earlier by Tregenza,[18] the 'curator' inscription from Wadi Umm Wikala makes no specific mention of gold mining activities, unless these are included under the catch-all phrase καὶ πάντων τῶν μέταλλων τῆς Αἰγύπτου.[19] This is odd as the inscription is very specific about the emerald and peridot mines as well as the pearl trade. These 'other mines' might include both mines and quarries extracting steatite, travertine (Egyptian alabaster), iron, copper, gold and other substances. If the phrase 'and all the mines of Egypt' excludes gold, this suggests that the curator was not directly in charge of gold mines but that these may have been, at least in the early Roman Period, operations that were leased out to private individuals by the state.[20] There is, based on present evidence, little indication of the status of the gold mining operations in the Eastern Desert in the early Roman Period.[21] Preliminary observations suggest that the gold mines were run by the state, using prisoners or slaves as cheap labour and housed in extremely primitive dwellings, whereas the rather nice buildings in the emerald mines seem more indicative of private ownership.

As a result of recent excavations at the Roman quarries of Mons Claudianus and Mons Porphyrites, much more is now known about numerous aspects of the Roman exploitation of these sites.[22] While such detailed fieldwork has not taken place at the Umm Wikala quarry, one may extrapolate to it some of the conclusions from the other two sites. As

---

(Red Sea) (Cairo, 1923); G. A. Wainwright, 'Zeberged: The Shipwrecked Sailor's Island', *JEA* 32 (1946), 31–8; P. Bancroft, 'A Great Gem and Crystal Mine St. John's Island, Egypt', *Lapidary Journal* 34 (10) (January 1981), 2138–46; S. M. Burstein (ed.) trans., *Agatharchides of Cnidus on the Erythraean Sea* (Hakluyt Society second series 172; London, 1989), 137–40.

16 Cf. J. Ogden, 'The Pearl in Classical Jewellery', *Jewellery Studies* 7 (1996), 37–42.

17 Aufrère, in Kaper (ed.), *Life on the Fringe,* 12–14.

18 Tregenza, *Bulletin of the Faculty of Arts* 13/2, 43.

19 Bernand, *Pan du Désert,* 120, no. 51, lines 9–10.

20 Cf. R. Shepherd, *Ancient Mining* (London and New York, 1993), 55.

21 There is precious little discussion of the status and organization of the gold mining operations in Roman Egypt. For recent fieldwork on some of the mines see R. Klemm and D. D. Klemm, 'Chronologischer Abriß der antiken Goldgewinnung in der Ostwüste Ägyptens', *MDAIK* 50 (1994), 206–17 for the Ptolemaic and Roman periods; C. Meyer, L. A. Heidorn, W. E. Kaegi and T. Wilfong, *Bir Umm Fawakhir Survey Project 1993. A Byzantine Gold-Mining Town in Egypt* (Oriental Institute Communications 28; Chicago, 2000). For a brief description of the Umm Howeitat Qibli gold mining settlement, see S. E. Sidebotham, 'Survey of the Hinterland', in S. E. Sidebotham and W. Z. Wendrich (eds), *Berenike 1997. Report of the 1997 Excavations at Berenike and the Survey of the Egyptian Eastern Desert, including Excavations at Shenshef* (Leiden, 1999), 368–9; see also S. E. Sidebotham and R. E. Zitterkopf, 'Survey of the Via Hadriana by the University of Delaware: the 1996 Season', *BIFAO* 97 (1997), 233, fig. 5 for a photograph of the southern part of Umm Howeitat Qibli.

22 D. P. S. Peacock and V. A. Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987-1993,* I. *Topography and Quarries* (Cairo, 1997); V. M. Brown and J. A. Harrell, 'Topographical and Petrological Survey of Ancient Roman Quarries in the Eastern Desert of Egypt', in Y. Maniatis, N. Herz and Y. Bassiakis (eds), *The Study of Marble and Other Stones Used in Antiquity — ASMOSIA* III (London, 1995), 221–34; S. E. Sidebotham, 'Newly Discovered Sites in the Eastern Desert', *JEA* 92 (1996), 182–92; D. P. S. Peacock and V. A. Maxfield (eds), *The Roman Imperial Porphyry Quarries—Gebel Dokhan, Egypt. Interim Report* (unpublished annual excavation reports, 1994–8); J. A. Harrell, V. M. Brown and L. Lazzarini, 'Two Newly Discovered Roman Quarries in the Eastern Desert of Egypt', in M. Schvoerer (ed.), *Archeomateriaux, Marbres et Autre Roches—Actes de la Conference International—ASMOSIA* IV (Bordeaux, 1999), 285–92; J. A. Harrell and L. Lazzarini, 'A New Variety of *Granito bianco e nero* from Wadi Barud, Egypt', in J. Herrmann,

indicated by the various inscriptions cited above, Roman military units were stationed at these quarries and Wadi Hammamat beginning in the first century AD, and so it is clear that the Roman government oversaw the work at these locations. At Mons Claudianus, military units are attested as late as the reign of Severus Alexander (AD 222–235).[23]

Description of the quarry stone

Petrology

Numerous geologists have previously commented upon the rock quarried in Wadi Umm Wikala.[24] In standard petrological nomenclature, this mafic plutonic igneous rock is classified as a gabbro,[25] but at times in the past it has been incorrectly identified as diorite. The rock has an overall dark greenish colour and consists of the following minerals: pale grey to white saussuritized plagioclase feldspar; medium green uralitized pyroxene; dark green to greenish black, secondary hornblende amphibole; and rare green chlorite, black magnetite, and minute patches and veins of colourless quartz and brown sericite. Although of somewhat different appearance, the Wadi Umm Wikala gabbro is petrologically very similar to another gabbro quarried by the Romans in the Eastern Desert, that coming from the recently discovered quarry at Wadi Maghrabiya.[26]

The original rock-forming minerals, principally plagioclase and pyroxene, are so severely altered by saussuritization (replacement by albite and zoisite) and uralitization (replacement by tremolite-actinolite) respectively, that the sub-varieties present and their precise proportions cannot be determined. This type of alteration is evidence of low-grade metamorphism and so such a rock can also legitimately be called a metagabbro. The gabbro occurs in two distinct textural varieties: one with grains between 1 to 4 mm across (medium-grained), and the other with grains up to 2 cm across (coarse-grained). The vast majority of the rock quarried in Wadi Umm Wikala is of the medium-grained variety.[27] The coarser gabbro occurs as patches and veins, typically less than 1 m across, within the medium-grained variety, and most of the former appears to have come from workings in the eastern half of the quarry.

N. Herz and R. Newman (eds), *Transactions of the 5th International Symposium of the Association for the Study of Marble and Other Stones in Antiquity—ASMOSIA* V (London, in press); J. A. Harrell and V. M. Brown, 'Rock Sawing at a Roman Diorite Quarry, Wadi Umm Shegilat, Egypt', in Herrmann et al. (eds), *ASMOSIA* V.

[23] Maxfield, in Alföldy et al. (eds), *Kaiser, Heer und Gesellschaft*, 428–31.

[24] Barron and Hume, *Topography and Geology*, 59, 221; J. Barthoux, *Chronologie et description des roches ignées du désert arabique*, 141; W. F. Hume, *Geology of Egypt,* II/2 (Cairo, 1935), 448; W. F. Hume, *Geology of Egypt,* II/3 (Cairo, 1937), 868; Klemm and Klemm, *Stein und Steinbrüche*, 408–11; Brown and Harrell, in Y. Maniatis et al. (eds), *ASMOSIA* III, 223–30.

[25] A. L. Streckeisen, 'Plutonic Rocks: Classification and Nomenclature Recommended by the IUGS Subcommission on the Systematics of Igneous Rocks', *Geotimes* 18/10 (1973), 26–30.

[26] Sidebotham, *JEA* 92, 181–92; Harrell, Brown and Lazzarini, in Schvoerer (ed.), *ASMOSIA* IV, 285–92.

[27] For colour photographs of polished slabs of both gabbro varieties, see H. Mielsch, *Buntmarmore aus Rom in Antikenmuseum Berlin* (Berlin, 1985), nos. 804, 805 and 807 on pl. 24; R. Gnoli, *Marmora romana* (Rome, 1988), figs. 109–10; M. C. Marchei, A. Sironi and R. Gnoli, 'Repertorio', in G. Borghini (ed.), *Marmi antichi* (Rome, 1989), figs. 80a–81a; Klemm and Klemm, *Steine und Steinbrüche*, pl. 16.4; P. Pensabene and M. Bruno, *Il marmoe il colore guide fotografica — I marmi della collezione Podesti* (Rome, 1998), pl. 64.

Ancient names and uses

The Romans exported gabbro from Wadi Umm Wikala and used it for columns, basins, pedestals, cornices and wall and pavement tiles. Many examples of its use are known, especially in Rome, Pompeii and Herculaneum, but also at other sites both within and outside of Italy.[28] Gnoli was the first to recognize that the Roman name for this rock was *ophites* and that the quarry was known by the same name.[29] No ancient textual source gives the quarry's name apart from Wadi Umm Wikala's 'curator' inscription. The quarry stone is mentioned by several writers from the Roman Period with two of these, Pliny the Elder (AD 23–79) and Lucan (AD 39–65), providing descriptions.[30]

In his *Natural History*, completed about AD 77, Pliny describes a stone he says comes from Egypt and is called *ophites* (= 'snakey') because of its resemblance to snake markings (*NH* 36.11.55–6).[31] He distinguishes two varieties of *ophites*: *marmor Tibereum* and *marmor Augusteum*. The former is now known to refer to the quartz diorite quarried by the Romans in the Eastern Desert at Wadi Barud.[32] Of the *Augusteum ophites*, Pliny says it was 'found in Egypt for the first time during the principate of Augustus' and that its markings 'curl over like waves so as to form coils'. He next recognizes yet two other varieties of *ophites*: *molle candid*, 'soft and light coloured', and *nigricantis durum*, 'hard and dark coloured' (*NH* 36.11.56). The soft variety may be a talc-rich rock called steatite (or soapstone) that the Romans are known to have quarried in the Eastern Desert. This rock typically does have contorted layering and so conforms well to Pliny's description of *marmor Augusteum*. The authors discovered a steatite quarry dating from the late first through early third centuries AD in Wadi Saqiyah, 11.5 km south of Wadi Umm Wikala. The rock from this quarry is actually a moderately dark greyish-green but in other localities, where the talc content is greater, the colour is much lighter. Although its markings are unlike those described for *marmor Augusteum*, the hard, dark variety of *Augusteum ophites* is clearly the gabbro from Wadi Umm Wikala, given the date of the 'curator' inscription and the name it provides for the quarry. Lucan's description of *ophites* in his *Pharsalia* strengthens this attribution. In this work Lucan says (*Pharsalia* 9.712–14) that 'the conchris (a type of snake), ... moves ever in a straight line—its belly is more thickly checkered and spotted than the Theban (= Egyptian) *ophites* with its minute patterns'.[33] This description fits well the appearance of the medium-grained Wadi Umm Wikala gabbro with its light-coloured plagioclase grains scattered amongst the much darker pyroxene and hornblende.

In Italy, during the Renaissance and Baroque periods, many Roman buildings were stripped of their decorative stones which were then reused in palaces and especially in churches. The Italian stonecutters who worked with these materials named the medium- and coarse-grained varieties of the Wadi Umm Wikala gabbro, respectively, *granito verde della sedia di San Lorenzo* ('green granite of the chair of Saint Lorenzo') and *granito verde della sedia*

[28] R. Gnoli, *Marmora romana*, 129–31, 154–8; Marchei et al., in Borghini (ed.), *Marmi antichi*, 232–5; Pensabene and Bruno, *Il marmoe il colore guide fotografica*, 11.

[29] *Marmora romana*, 129–31.

[30] See n. 7 and also Bernand, *Pan du désert*, 127.

[31] Translation from D. E. Eichholz, *Pliny—Natural History (v. 10, Books 36–37)* (Cambridge, 1962), 42–5.

[32] Harrell and Lazzarini, in Herrmann et al. (eds), *ASMOSIA* V; D. P. S. Peacock, 'The Quarries and Settlement of Tiberiane (Wadi Barud) Survey and Excavation', in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 274–83.

[33] Translation from J. D. Duff, *Lucan—The Civil War (Pharsalia; Books 1-10)* (Cambridge, 1962), 558–9.

di San Pietro ('green granite of the chair of Saint Peter'). These names come from well-known examples of the reuse of these stones: a slab in the pontifical chair in Rome's Basilica of Saint Lorenzo, and slabs on the pedestal of a bronze statue of Saint Peter in the Vatican's Basilica of Saint Peter.[34]

Description of the site

The centre of the main settlement at Wadi Umm Wikala was found at 26°N 26.0', 33°E 39.6' with an associated *hydreuma* 1.8 km to the south at 26°N 25.1', 33°E 39.9' (**17** and **3**, respectively, in fig. 2). Thirteen quarrying areas were identified, with either single or multiple abutting excavations. As well as these most obvious sites, numerous other features were discovered and mapped, including: quarry prospects, slipways, loading and work platforms, isolated huts, *skopeloi* and graves.

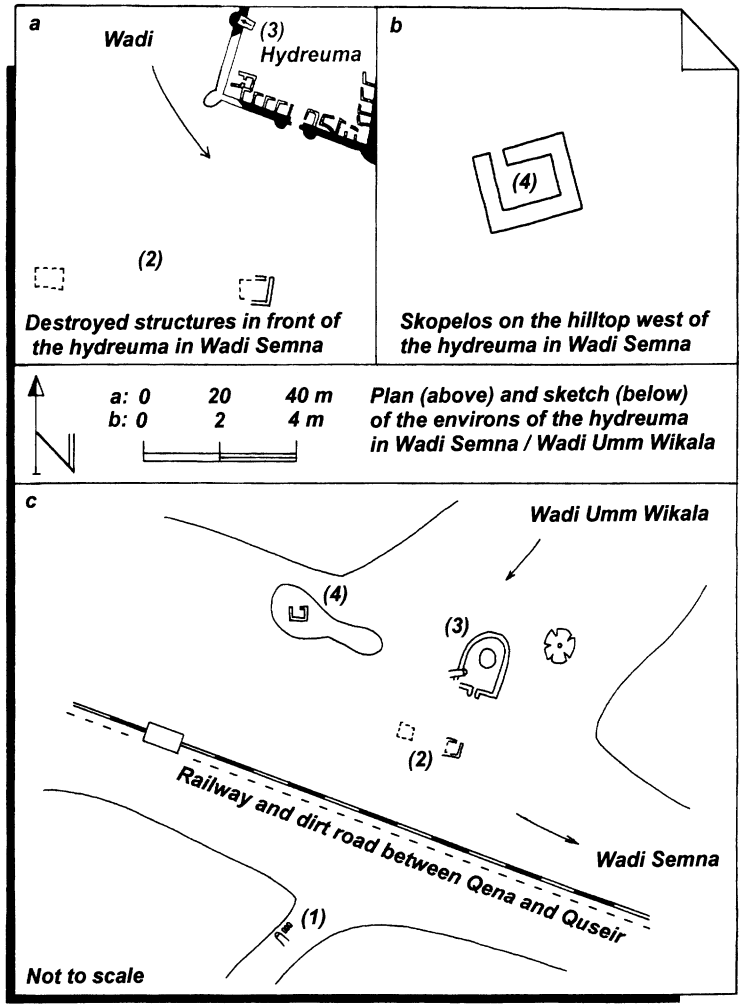


FIG. 3. Plan of part of the environs of the *hydreuma* (fig. 11) in Wadi Semna in the summer of 1997 (cf. fig. 2 and Table 1).

[34] Gnoli, *Marmora romana*, 154–8; Marchei et al., in Borghini (ed.), *Marmi antichi*, 232–5.

TABLE 1. *Description of the Numbered Archaeological Features Shown on the Site Map (fig. 2).*

Number	Description
1	cemetery with about fifteen graves
2	two stone buildings (fig. 3a)
3	*hydreuma* (fig. 11 and pls. XXII, 2 and XXIII, 2-XXV, 2)
4	*skopelos* (fig. 3b)
5	quarry excavation estimated to be 30-40 m across
6	cemetery with seven graves
7	platform (fig. 4a)
8	slipway
9	quarry excavation 13 m across and quarry prospect a few m across
10	two quarry prospects, each a few m across
11	quarry excavation 14 m across
12	quarry excavation 14 m across
13	platform with stone hut and stone cairns adjacent (fig. 6a)
14	quarry excavation 17 m across
15	*skopelos*
16	seven stone features, five cairns close together in a row plus two elaborately constructed skopeloi (fig. 4b)
17	quarry settlement, including a '*principia*', a 'shrine', two multi-room stone buildings and twelve stone huts (figs. 7-10 and pl. XX-XXIII, 1)
18	platform with many partially shaped stone blocks (pl. XXI, 2)
19	five quarry excavations with maximum dimensions ranging between 11 and 24 m across (one has a retaining wall and another has a revetted work platform) (pl. XX, 1)
20	stone cairn
21	conspicuous footpath
22	quarry excavation 8 m across
23	*skopelos* (on the highest hill summit in the map area with a good view in all directions)
24	single grave
25	platform with one stone hut and two stone cairns adjacent
26	platform with one stone hut adjacent (fig. 4c)
27	slipway
28	numerous quarry excavations with maximum dimensions ranging between 5 to 18 m across
29	*skopelos*
30	section of slipway
31	platform (fig. 5a and pl. XXII, 1)
32	quarry excavation 15 m across
33	platform with two stone huts adjacent and remnants of a slipway below (fig. 5c)
34	stone cairn
35	platform with a well-preserved hut and five stone cairns adjacent (fig. 5b)
36	quarry excavation 5 m across
37	platform (fig. 6c and pl. XXVI, 2)
38	slipway 1.5 to 2.5 m wide with reveted embankments (pl. XXVI, 2)
39	stone hut (fig. 6b and pl. XXV, 3)
40	two stone huts
41	quarry excavation 5 m across
42	quarry excavation 5 m across
43	quarry excavation 17 m across
44	quarry excavation 5 m across

Quarry excavations and associated features

The authors identified thirteen quarry excavations (**5**, **9**, **12**, **14**, **19**, **22**, **28**, **32**, **36** and **41–44**). Quarry prospects (e.g. **10**) are small sites of only a few metres across where the uppermost, weathered stone was removed to expose fresh material. That these were not developed into quarry excavations suggests that the gabbro was either too deeply weathered or too fractured to be of any use. All of the excavations are located on either the summits or upper slopes of the hills, and are up to 100 m above the wadi floor.

Immediately below each quarry excavation is a slipway down which the extracted blocks were lowered to the wadi floor. On the steeper slopes these are rough chutes worn into the hillsides, but on the gentler slopes and especially on the wadi floors these are built roadways up to a few metres wide. Their construction involved clearing the cobbles and boulders to the sides, occasionally cutting away the bedrock, depositing rubble fill in the low points to make a level surface, and building boulder revetments along the sides to contain and support the rubble fill. The means by which the stone blocks were moved can only be conjectured. On the steeper slopes, they would have been slid down under the pull of gravity and with the aid of guide ropes, and may have ridden a sledge. It is possible, of course, that they were simply tumbled down but this seems unlikely as this would have resulted in too many broken blocks. Upon reaching the gentler slopes, the blocks would have been carried on either a sledge or wheeled cart. The longest and best preserved slipway (**38**) is the one that starts at excavation **43**, runs past excavations **40–42** (with branch slipways coming from these sites), down a valley and over a low divide to platform **37**; in all, a distance of about 1 km (pl. XXVI, 1). Also notable is the prominent slipway below excavation complex **19**, which has a flight of steps beside it. Criss-crossing the quarry area are numerous footpaths used by the quarrymen (e.g. **21**). These are, for the most part, not constructed but simply worn into the hillsides by usage.

The site is remarkable in that there is an absence of quarry marks, which are incised or painted inscriptions on worked blocks, and a dearth of pottery, especially because both were numerous at Mons Porphyrites and Mons Claudianus. Only one possible quarry mark was seen by the authors and it is in the large debris pile below excavation complex **19**. This mark, which could also be a graffito, looks like a square capital C or a lunate *sigma*.

Associated with most excavations are platforms—built-up, level areas several metres across with two or three elevated sides supported by boulder revetments (**7**, **18**, **19**, **31**, **33**, **35** and **37**). Blocks of stone were brought here for rough shaping and to be loaded onto sledges or, more likely, wheeled carts. The end heights of the platforms are quite variable and range between 0.6 m (**33**) and 1.7 m (**35**). This is comparable to the range of platform heights at Mons Claudianus and must reflect the use of transport vehicles with different bed heights.[35] Some of the platforms (**18**, **25**, **31** and **37**) still have partially sculpted architectural elements on them and seem to have been used to stockpile blocks (pl. XXVI, 2). From those items found *in situ* on the platforms, it can be inferred that most stone products left the quarry in a semi-finished state. These were probably made to order[36] rather than mass-produced with standardized sizes and shapes. That the Romans would ship finished objects rather than rough blocks is understandable as the former were lighter and easier to handle

[35] D. P. S. Peacock, 'Routes and Transportation', in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 259–71 (esp. 260–1).

[36] K. D. White, *Greek and Roman Technology* (New York, 1984), 78.

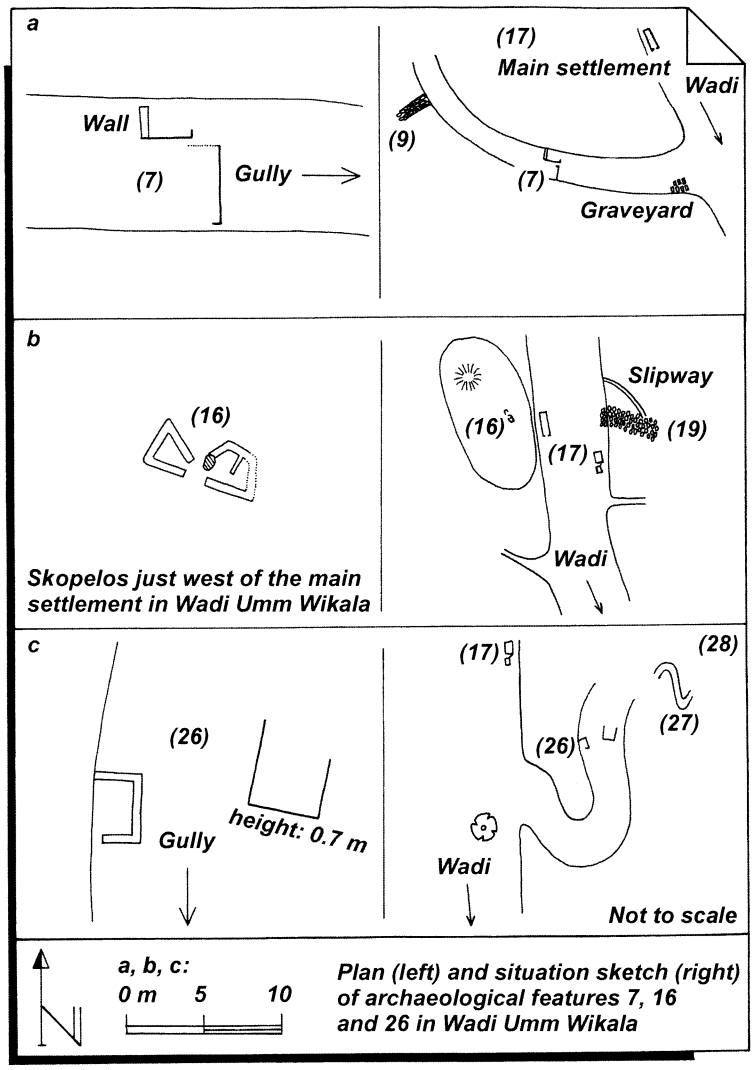


FIG. 4. Plan of some of the archaeological features west (**7** and **16**) and south (**26**) of the settlement in Wadi Umm Wikala (fig. 7, cf. fig. 2 and Table 1).

and, more importantly, they were known to be structurally sound. Most internal fractures and other flaws would become apparent during the first, rough shaping of the stone and so such work is best done close to the source to enable the immediate replacement of damaged objects.[37]

Next to some slipways and especially platforms (**13**, **19**, **25** and **35**) are cylindrical stone cairns similar to those found at Mons Porphyrites and Mons Claudianus.[38] These have been

[37] White, *Greek and Roman Technology* , 81–2, fig. 77; Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 199.

[38] E. H. Fahmy, *Notes on Gebel Dokhan Imperial Porphyry Quarries*, I (Cairo, unpublished manuscript, 1932), 11; Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 259–60.

TABLE 2. *Details on the Worked Stone Blocks left* in situ.

Platforms with worked stone blocks (numbers from fig. 2 and Table 1)	**Block shapes**	**Block dimensions (in m)**
18: associated with excavation **19** and the main settlement (17), with eight worked blocks on top of it (pl. XXI, 2)	rectangular	0.6 x 0.5 x 0.4 m high
	rectangular	0.4 x 0.4 x 0.2 m high
	rectangular	0.4 x 0.6 x 0.2 m high
	rectangular	0.5 x 0.4 x 0.4 m high
	rectangular	0.8 x 0.4 x 0.3 m high
	rectangular	0.8 x 0.3 x 0.3 m high
	cylindrical	diameter is 0.6 m; height is 0.3 m
	conical	diameter is 0.4-0.6 m; height is 0.3 m
25: associated with excavation complex **28**, with one worked block adjacent to it	conical	diameter at the narrow end is 0.3 m; exposed height is 0.4 m
31: associated with excavations **32** and **36**, with three worked blocks on top of it and one on the adjacent wadi floor (fig. 5a and pl. XXII, 1)	rectangular	1.3 x 0.4 x 0.3 m high
	rectangular	0.8 x 0.4 x 0.3 m high
	roughly shaped, perhaps an animal	1.5 x 0.7 x 0.4 m high
	circular basin (in the wadi)	outside diameter is 1.1 m; inside diameter is 0.9 m
37: associated with excavations **41-44**, with five worked blocks on top of it and one on the adjacent wadi floor (fig. 6c and pl. XXVI, 2)	rectangular	1.1 x 0.5 x 0.9 m high
	rectangular	1.1 x 0.6 x 0.8 m high
	rectangular	0.4 x 0.2 x 0.3 m high
	rectangular	1.5 x 0.5 x 0.8 m high
	rectangular	0.6 x 0.6 x 0.4 m high
	rectangular (in the wadi)	0.5 x 0.4 x 0.3 m high

interpreted as either piles of road material for repairing slipway and platform surfaces, or bollards for ropes used to steady or manoeuver heavy stone blocks. The cairns at all these sites, however, seem too insubstantial to support the pull of heavily loaded ropes and therefore most likely are reserve repair material. In excavation areas **19** and **41–44** crudely-made shelters were seen, just large enough for one man to sit in. They are like those found in the Roman quarries at Wadi Barud, Wadi Umm Huyut and Mons Claudianus.[39] They are either cool stores for water and food, or more likely, shelters used by the quarrymen to take a break out of the sun.

The tool marks most indicative of Roman quarrying in the Egyptian Eastern Desert are

[39] Cf. the structures type 1 (a–c) of Hitan Rayan as described in F. G. Aldsworth and H. Barnard, 'Survey of Hitan Rayan', in S. E. Sidebotham and W. Z. Wendrich (eds), *Berenike 1995. Preliminary Report of the 1995 Excavations at Berenike (Egyptian Red Sea Coast) and the Survey of the Eastern Desert* (Leiden, 1996), 420–6; see also Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 275–83 (esp. 278–9); Harrell, Brown and Lazzarini, in Schroerer (ed.), *ASMOSIA* IV, 285–92; Harrell and Lazzarini, in Herrmann et al. (eds), *ASMOSIA* V.

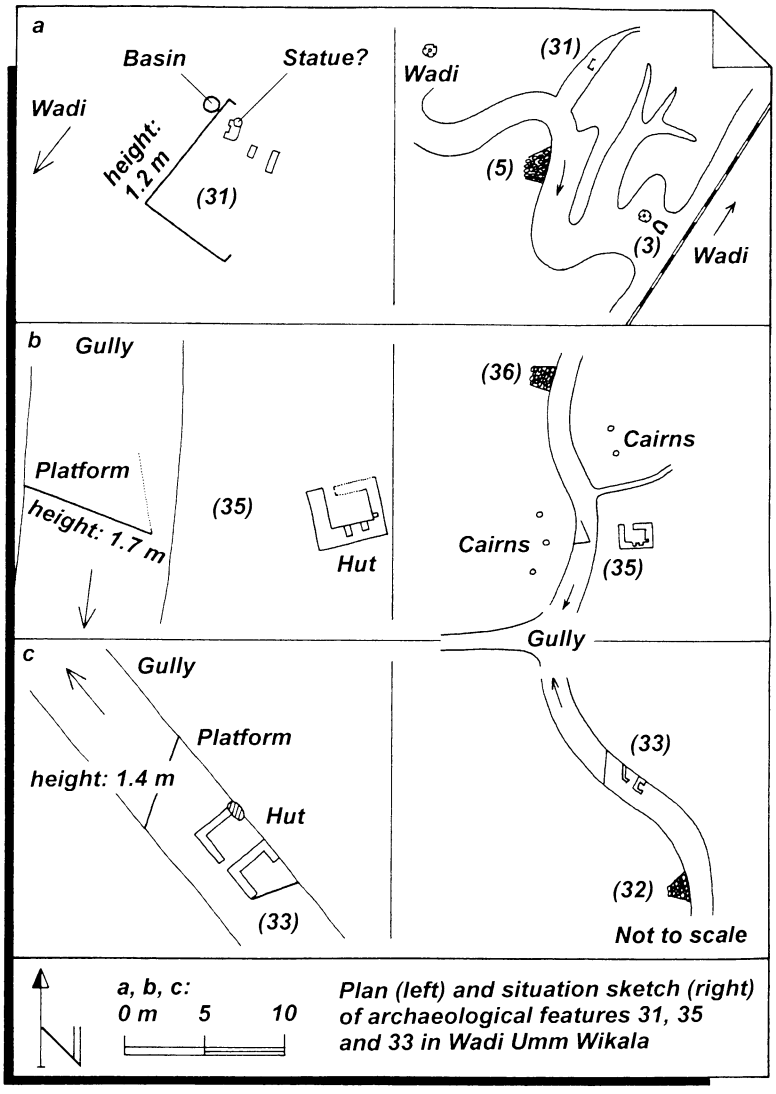


FIG. 5. Plan of the archaeological features **31**, **33** and **35** between the *hydreuma* (fig. 11) in Wadi Semna and the settlement in Wadi Umm Wikala (fig. 7, cf. fig. 2 and Table 1).

the wedge-shaped holes cut into the stone. When iron wedges were inserted into these holes and hammered, the stone split along the line of holes.[40] Although these are commonly seen on the quarry faces at some sites, such as Mons Claudianus,[41] they are rare at Wadi Umm Wikala. Here, blocks of stone were apparently removed from the quarry faces by hammering iron wedges into natural fractures instead of cut holes. The wedge holes were needed at

[40] M. Waelkens, P. De Paepe and L. Moens, 'Patterns of Extraction and Production in the White Marble Quarries of the Mediterranean—History, Present Problems and Prospects', in J. C. Fant (ed.), *Ancient Marble Quarrying and Trade* (Oxford, 1988), 81–116 (esp. 103–6).

[41] Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 177–255 (esp. 190–200).

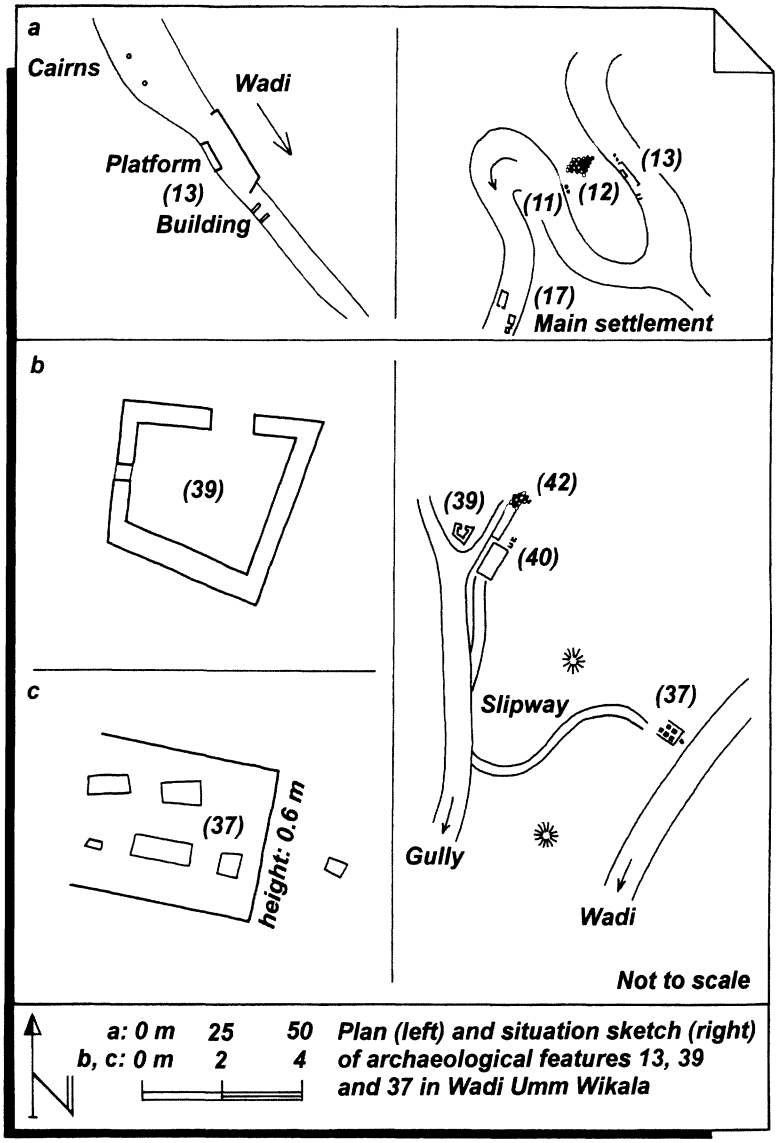


FIG. 6. Plan of some of the archaeological features north (**13**) and east (**37** and **39**) of the settlement in Wadi Umm Wikala (fig. 7, cf. fig. 2 and Table 1).

Mons Claudianus because the bedrock there has relatively few fractures. Visible at Wadi Umm Wikala are places along the edges of the natural fractures where chips of stone were removed when wedges were driven into the rock. Once a block of stone was detached from the bedrock, it would have been manoeuvered away from the quarry face with levers, probably wooden poles, and ropes.

The vast majority of wedge holes seen at Wadi Umm Wikala are on loose blocks found on the platforms. In these places, it is clear that wedging was being used to trim the blocks preparatory to shaping them, with picks and chisels, into their final forms. Such wedge holes are typically 8–16 cm long by 5–6 cm wide at their tops, 8 cm deep, and separated by 12–20 cm. Another method of splitting blocks was also employed at the quarry. It is re-

ferred to as the '*pointillé* technique' and involves the use of a pointed chisel to cut a line of closely spaced (3–4 cm) pits that are 1–2 cm across and a few millimetres deep.[42] By sequentially hammering the chisel into each pit along the line and repeating this a number of times, the stone was split along the line of pits. This technique is effective only when the stone is brittle, relatively fine-grained and compositionally uniform. For this reason it is seen mainly in the medium-grained gabbro at Wadi Umm Wikala. For some blocks both the wedging and *pointillé* techniques were used together, and in such cases widely spaced wedge holes are joined by a line of closely spaced pits. The wedges were apparently being used to complete the initial splitting caused by the *pointillé*. Good examples of all the tool marks can be seen on the partially worked blocks on platform **18**.

Apart from the features directly related to the quarry activities, the authors also identified several isolated huts (**13**, **25**, **33**, **35**, **39**, **40** and **42**) and numerous cairns and *skopeloi* on the upper slopes and summits of hills (**4**, **15**, **16**, **20**, **23**, **29** and **34**). Most *skopeloi* are small circles of stone, less then 2.0 m across by 0.5 m high. Some are more elaborate, such as **4** and **16** in figure 2. From each *skopelos*, other *skopeloi* or excavation areas were visible, allowing the transmission of visual signals.[43]

There are also a number of individual graves and small cemeteries scattered around the area (**1**, **6** and **24**), all of which have been robbed. These graves consist of piles of stone, resembling cairns, typical of those found throughout the Egyptian Eastern Desert.[44] The cemetery of about fifteen graves in Wadi Jarahish al-Bahari across the railway (**1** in fig. 2) had a few human bones and ancient potsherds on the surface.

The main settlement in Wadi Umm Wikala

The largest concentration of buildings (fig. 7) found during the survey is at site **17** in fig. 2. A single large building on the west side of the narrow wadi, with a cistern made of fired bricks, is identified as the *principia*. Directly west and south of this are stone working areas and small huts. On the east side of the wadi, directly opposite the *principia*, are the remains of what may have been a shrine. South of this, across a small gully, are two multiple-roomed buildings. The southernmost portions of these have been washed away by the occasional flash floods which, after brief periods of heavy rain, pass through the wadi. Immediately above and to the northeast of the putative shrine is excavation complex **19** with a large slipway, accompanied by a flight of steps, leading down to a platform (**18**) on the east side of the wadi. Above and to the west of the *principia* lie a row of five *skopeloi* or cairns and an isolated feature that appears to be a more elaborate *skopelos* (**16**).

The *principia* itself has overall measurements of 36.5 m N–S × 11.5 m E–W with a rather narrow gate 0.8 m wide in the southern wall (fig. 8 and pls. XX, 3 and XXI, 1–3). The exterior perimeter wall has a maximum preserved height of 3.4 m with a thickness of 0.8–1.1 m. Internal walls have a maximum preserved height of 1.9 m and are 0.5–0.6 m thick. The average dimensions of the internal rooms are 2.4 m × 1.8 m. Overall, the edifice is

[42] Waelkens et al., in Fant (ed.), *Ancient Marble Quarrying*, 106.

[43] Cf. R. E. Zitterkopf and S. E. Sidebotham, 'Stations and Towers on the Quseir-Nile Road', *JEA* 75 (1989), 186–7; Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 254–5.

[44] Aldsworth and Barnard, in Sidebotham and Wendrich (eds), *Berenike 1995*, 411–40; H. Barnard 'Human Bones and Burials', and F. G. Aldsworth and H. Barnard, 'Survey of Shenshef', both in S. E. Sidebotham and W. Z. Wendrich (eds), *Berenike 1996, Report of the Excavations at Berenike (Egyptian Red Sea Coast) and the Survey of the Eastern Desert* (Leiden, 1998), 3–10, 389–401 and 427–43.

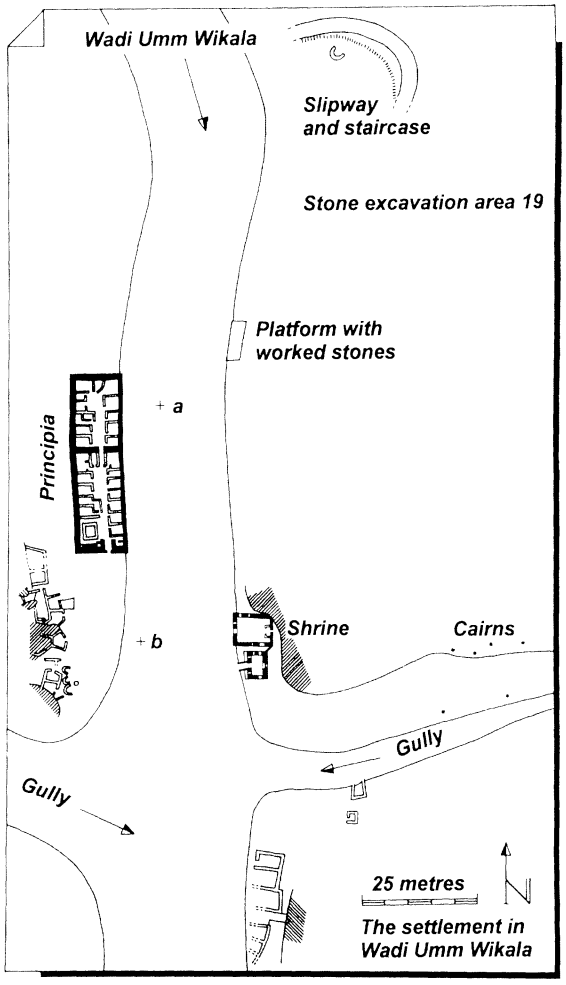


FIG. 7. The remains of the Roman quarry settlement in Wadi Umm Wikala in the summer of 1998 (see figs. 8 and 9 for details, cf. pl. XX, 1). The instrument positions a and b are 50 m apart.

constructed of cobbles and small boulders bonded with a mud mortar. Differences in construction method, stone sizes and wall abutment patterns suggest that the *principia* had at least two, and possibly three, major building phases. While the ceramic evidence gathered on the surface did not assist in determining the relative chronologies of various portions of the building, based upon the architectural remains it is clear that the southern part of the edifice, containing the cistern, was the earliest. This part was constructed of large stones while the northern parts of the building, abutting the southern part, were constructed of somewhat smaller stones. The third phase of construction, probably limited to minor alterations and repairs of interior rooms, was carried out in a rather haphazard method, using small stones and resulting in narrow, unstable walls.

After entering the *principia* from the south, an abrupt turn to the west (left) leads to a finely constructed cistern with internal dimensions of 2.5 m N–S × 2.2 m E–W × 1.6 m deep (pl. XXI, 3). It was built of cobbles, set into a crevice cut into the bedrock, and lined with kiln-fired bricks (0.30 m × 0.15 m × 0.10 m). The latter were covered with waterproof

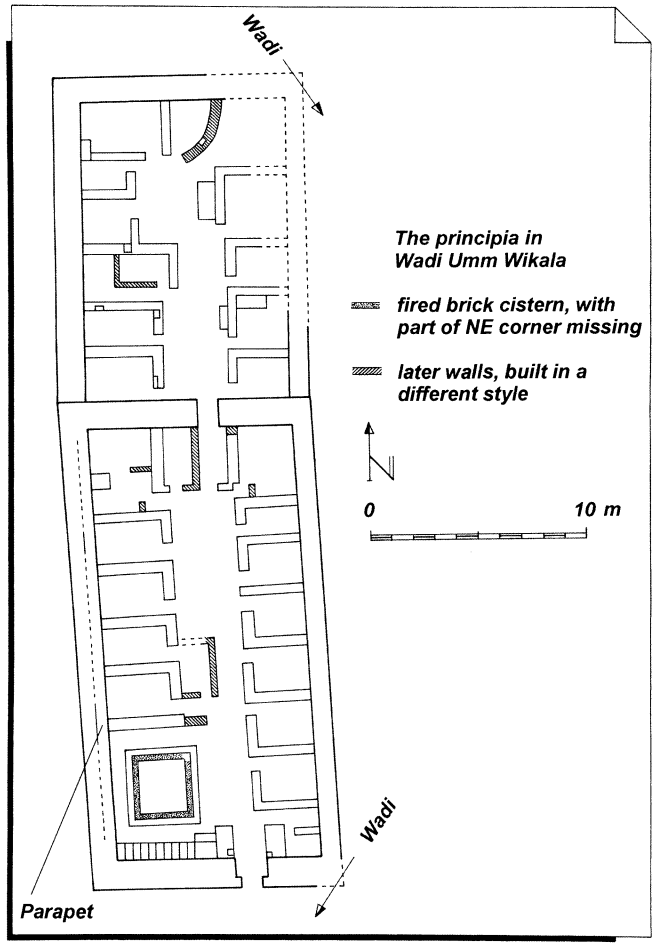


FIG. 8. The *principia* in the western part of the settlement in Wadi Umm Wikala (fig. 7, pl. XX, 3) with a cistern in the southern, older part (pl. XXI, 3).

hydraulic (sandy lime) plaster. The northeastern corner of the cistern has been torn out, perhaps by robbers. There is a ledge toward the top of the cistern that probably accommodated some type of covering to reduce the effects of evaporation as well as to minimize the amount of debris falling into it.

The southwestern corner of the *principia* preserves a staircase of twelve steps along the southern interior face of the perimeter wall. This leads up to a corner bastion and a parapet running along the full length of the older part of the west wall and possibly originally along the other walls. Each step measures 0.7 m wide × 0.3 m deep. This staircase is immediately south and in the same room as the cistern. No signs of a second storey or towers were noted. The latter would have been irrelevant given that the *principia* is closely overlooked by high hills on both the east and the west.

Right and left of the gate, two niches, with average dimensions of 0.2 m wide × 0.4 m high × 0.3 m deep, are built into the walls directly inside the *principia*. From the gate, a straight corridor with rooms on either side leads to a later opening in the former north wall of the *principia*. East of this corridor are eight rooms, six to the west, including the large

room with the cistern and staircase. The room formerly at the end of the corridor was remodelled when an opening was made in the northern wall to give access to the newly built northern extension of the *principia*. During the same or an even later phase, a sixteenth room was built protruding into the corridor from the west, while other rooms were subdivided into smaller ones. Apart from the two niches associated with the gate, no remarkable architectural details in the southern part of the *principia* were observed.

The layout of the northern, later part of the *principia* is less regular than the southern. The perimeter walls are clearly built against the already standing northern wall of the original *principia*, in which a gate has been constructed to allow access between the northern and southern sections of the enlarged *principia*. The western and probably also the eastern walls of the later extension are not precisely aligned with the original building, but deviate slightly to the east and are also somewhat narrower. A total of twelve rooms is preserved, but one or two more may have existed in the northeastern part which has been destroyed by floods. Architectural details include five niches, four benches and a rounded wall abutting the interior face of the northern wall.

The functions of the 28 rooms in the *principia* are not readily evident, apart from the room with the cistern. They most likely housed high-ranking military officials responsible for the security of the operation, and also administrators in charge of work in the quarry and the distribution of food and water. Some rooms were undoubtedly used for storage of food and supplies. It was noted, however, that the floors of two rooms seemed to have been covered with stone chips during antiquity, suggesting a kind of flooring or maybe the remains of stone working within the *principia*.

Immediately west of the *principia* lies an area in which stone cutting or carving was performed, but without any of the products *in situ*. South of this area are the remains of about twelve horseshoe-shaped, one-room huts with an average internal diameter of 2.6 m (pl. XX, 2). The thickness of the walls ranges from 0.5—0.6 m and the maximum extant wall height is 1.5 m.[45] South of these huts, in a gully entering the wadi from the west, seven graves and some pottery were discovered (**6** in fig. 2).

On the east side of the wadi, opposite the *principia*, is a building that appears to have been a shrine (fig. 9 and pls. XXII, 3 and XXIII, 1). It was apparently in a room of this building that the 'curator' inscription dedicated to Pan was seen by both Green and Couyat-Barthoux in the early twentieth century.[46] Thus, one may with some confidence associate at least one of these rooms with a Paneion. The complex consists of two rooms, separated by a narrow corridor, 0.7–0.8 m wide, running east to west and perpendicular to the wadi below. The northern room measures 5.3 m N–S × 5.9 m E–W, and the southern room 4.3 m N–S × 2.3 m E–W. The door between the northern room and the corridor, originally 1.1 m wide × 1.8 m high, was blocked halfway up in antiquity, turning it into a large window 1.1 m wide × 0.9 m high (pl. XXIII, 1). It is unclear how one entered the room after this blockage, but there may have been a door closer to the southwestern corner of the room, either in the southern or the eastern wall. No trace of this could be found as this part of the building has been heavily disturbed by floods that have undercut and partially collapsed the wall. The northwestern corner, however, is still standing to an impressive height of 5.4 m (fig. 10 and pl. XXII, 3). Apart from the large secondary window in the southern wall, there are five

[45] Peacock, in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 233–40 (with figs. 6.66–6.73).

[46] Tregenza, *Bulletin of the Faculty of Arts* 13/2, 41.

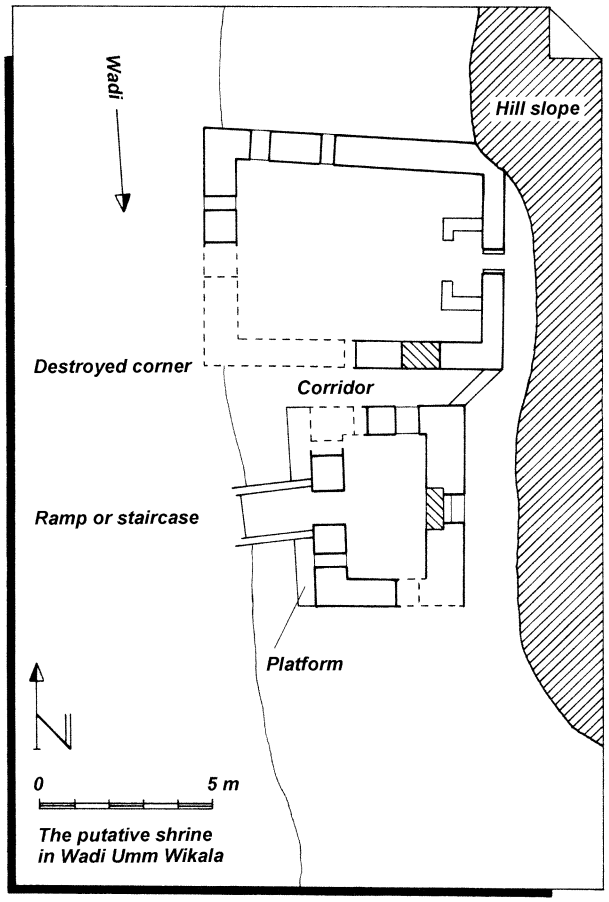


FIG. 9. The putative shrine in the eastern part of the settlement in Wadi Umm Wikala (fig. 7) consisting of two rooms separated by a narrow corridor with only a blocked doorway leading into it (pl. XXIII, 1).

narrower windows, typically 0.4 m wide × 0.5 m high. Along the eastern wall, and protruding into the room, is a large cubicle, 2.0 m × 0.9 m, with a narrow opening 0.5 m wide, in the back allowing access to another small corridor defined by the natural face of the hill.

The southern room of this putative shrine is better preserved, due to the fact that it was built on an artificial terrace and a little further away from the wadi edge. A ramp or a number of dilapidated steps, 1.2 m wide, lead up to this terrace and the door, 1.0 m wide, in the western wall. A niche, 0.8 m × 0.7 m × 1.1 m high, was built into the eastern wall, directly opposite the door. One of the covering slabs of this niche is still *in situ*. No remains of roofing were observed. Four windows can be identified, and are similar to those in the northern room. The walls of both rooms are about 0.6 m thick.

South of the 'shrine', across a gully feeding into the main wadi from the east, are two multi-roomed buildings with overall dimensions of 24.9 m N–S × 6.3 m E–W. These features were larger in antiquity, with areas on the southern and western sides that have been clearly washed away by wadi floods. The northernmost edifice has three rooms and the southern at least three. Typical room size is 4.5 m × 2.5 m and the maximum extant wall height is 0.9 m. Wall thickness averages 0.5–0.6 m.

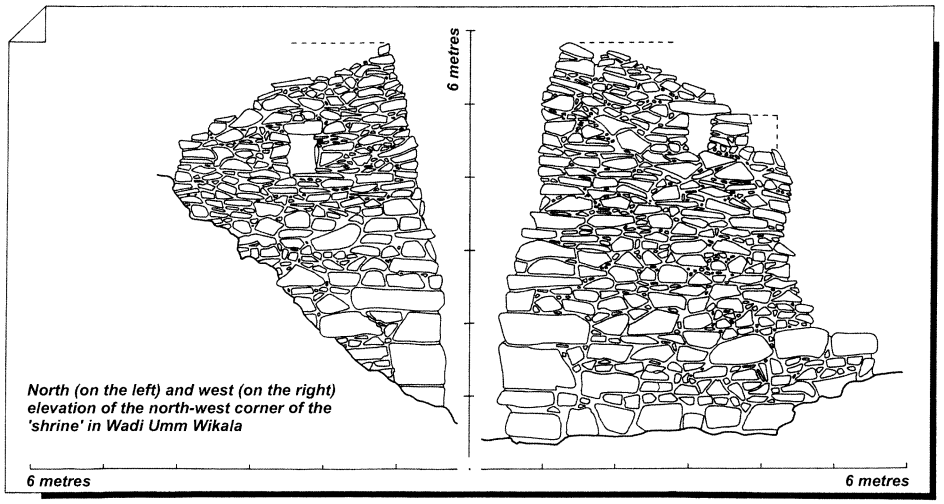


FIG. 10. Elevation of the northwest corner of the putative shrine in Wadi Umm Wikala (fig. 9, pl. XXII, 3).

The hydreuma *in Wadi Semna*

A large fortified well or *hydreuma* is situated at the point where Wadi Umm Wikala debouches into Wadi Semna, and just north of the industrial railway that runs between Qena and Quseir through this wadi (**3** in fig. 2, also fig. 11 and pl. XXIII, 2). Due to its relatively easy access, this *hydreuma* has received more attention from previous investigators than the more difficult to reach settlement and quarries. Brief descriptions and plans have appeared in a number of publications.[47] Between August 1998 and June 1999 unknown persons destroyed the interior, the gate and part of the curtain wall of this ancient and until then well-preserved *hydreuma* by removing the stones with heavy construction machinery, most likely a front-end loader, in order to use the stones elsewhere. In August 1997, just before this destruction took place, the authors prepared a detailed plan of this building and took numerous photographs. It appeared to combine a semicircular configuration on the north side with a rectilinear south side for which a parallel can be found in Wadi Abu Greiya (ancient Vetus Hydreuma),[48] the first stop on the Roman road linking the harbour at Berenike to the Nile Valley.

The overall dimensions of the *hydreuma* in Wadi Umm Wikala are 56.0 m N–S × 43.8 m E–W. Built of stacked cobbles and small boulders, the walls were 1.8–2.2 m thick with a previously extant wall height of 3.6 m. There were six semicircular towers, 3.6 m in average diameter, with the towers left and right of the gate being smaller than the others. A seventh tower may have existed at the southwestern corner of the *hydreuma* which by 1997 had been completely washed away by wadi floods.

The only entrance to the *hydreuma* was a gate in the centre of the south wall which

[47] See n. 4 and Bisson de la Roque, *Bulletin de la Societé royale de Geographie d'Égypte* 11, 134–5.

[48] This *hydreuma* is located at 24°N 03.7', 35°E 17.9' and measures 71.5 m NE–SW × 30.5 m NW–SE with walls 2.1–2.2 m thick. A brief description can be found in Sidebotham, in Sidebotham and Wendrich (eds), *Berenike 1997*, 349–59. Excavations took place here in the winter of 2001, as part of the Berenike Project, and will continue in 2002. Publication of the excavation results is pending.

measured 2.3 m wide (pl. XXIII, 3). It was flanked by two semicircular towers, the eastern one of which had a narrow and curved staircase of fourteen steps, 0.4 m deep × 0.8 m wide, leading up to it from the courtyard within the *hydreuma* (pl. XXII, 2). Another, much wider and straight staircase of sixteen steps, 0.3 m deep × 1.1 m wide, was associated with the tower halfway along the western wall (pl. XXV, 1). There was no obvious extant parapet. Directly inside the gate, two niches, 0.5 m high × 0.4 m wide × 0.6 m deep, were built into the wall. At some point in antiquity, the gate was narrowed to about half its original size and a low, narrow wall was built in front and to the east of it, leaving only a narrow access from the west. The first room east of the gate and west of the staircase leading up to the south wall preserved the only other two niches found in the *hydreuma* (pl. XXIV, 2).[49] This room may have functioned as a guardhouse. The outlines of a small room were noted extending from the north wall of this putative guardroom. This was, most likely, a later addition and not very well preserved.

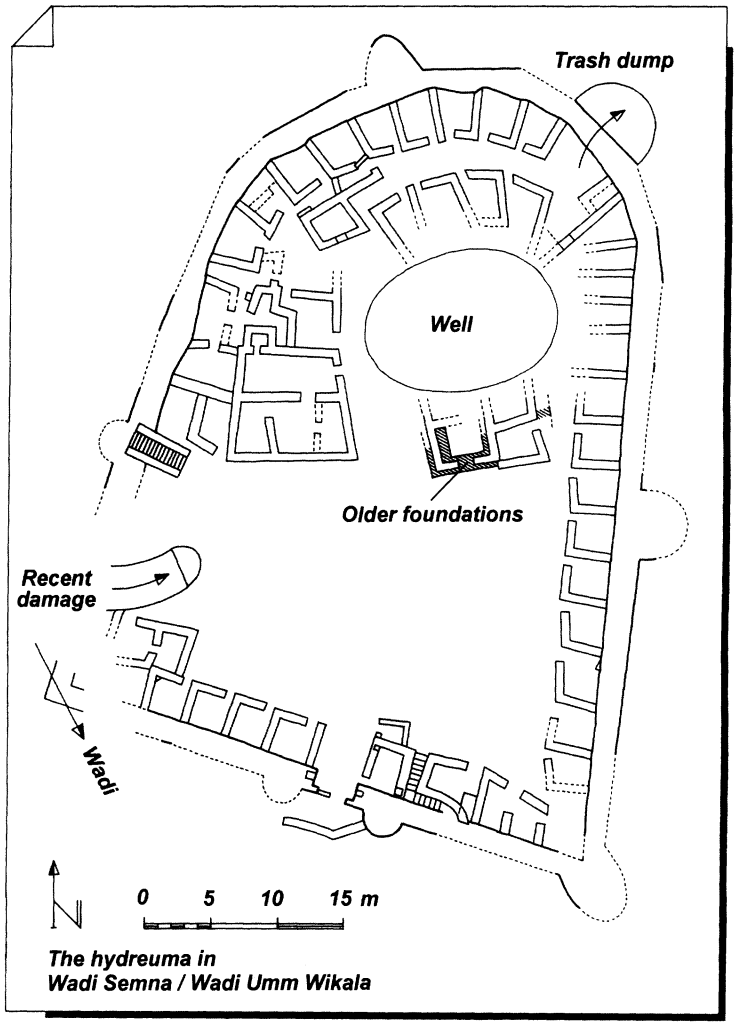


FIG. 11. The *hydreuma* at the confluence of Wadi Umm Wikala and Wadi Semna in the summer of 1997 (pls. XXII, 2 and XXIII, 2–XXV, 2). Most of the internal walls of this structure are now lost.

[49] Until the destruction of the *hydreuma*, its niches were inhabited by a family of hyraxes (*Procavia capensis*).

The southern interior part of the *hydreuma* was a large, open area flanked by a single row of rooms built along the perimeter wall (pl. XXIV, 3). Most of these 21 rooms had the same layout of an L-shaped wall leaving a door opening toward the central courtyard. The average size of these rooms was 2.9 m × 2.9 m and the walls were 0.5–0.6 m thick with a maximum preserved height of 1.9 m. One of them preserved a stone shelf built into a corner.

The northern, semicircular part of the *hydreuma* was completely built up around a large central depression that once must have served as a well, but is dry at present and partly filled with wind-blown sand and debris from structures that have collapsed into it (pl. XXV, 2). The presence of this well gives a clear *raison d'être* for the *hydreuma*: that of a guarded place where travellers and workers could find water, food and shelter. Abutting the semicircular perimeter wall were another twenty rooms with the same layout as the rooms around the courtyard. One of them had the lintel over the door, 1.2 m × 0.3 m × 0.2 m high, still *in situ* at an estimated level of 1.6 m above the ancient floor surface. North of the collapsed well, six or seven rooms must have existed, similar in design to the rooms along the wall and separated from them by a curved corridor parallel to the north wall of the *hydreuma*. By the summer of 1997, the walls of these rooms had partly fallen into the ever-widening ancient well. At the eastern end of the corridor, there was a sizable open area associated with a large midden outside the *hydreuma*. Dredgings from the well as well as refuse from the *hydreuma* were probably deposited here.

South and southwest of the well were two multi-roomed buildings that appeared to be isolated from the rest of the *hydreuma*. They had a different plan from the other rooms abutting the northern end of the *hydreuma*. The structure south of and very close to the well was badly eroded by its collapse. It preserved four rooms that seemed to have been built on older foundations, perhaps from an earlier building guarding the well and predating the latest phase of the *hydreuma*. Given these facts, this building was most likely the place where the water from the well was hauled, measured and distributed. There is, however, no conclusive evidence for this interpretation. The building farther to the west was much better preserved. It measured 8.2 m N–S × 8.0–10.0 m E–W, being wider towards the south. It comprised three rooms in the southern half and one large room taking up the whole of the northern half. In the eastern wall of this large room was the only door into the building, while a closet-like extension toward the north was preserved in the northwestern corner. This extension seems to have been protected by another wall toward the north, leaving a room with a peculiar shape and a door toward the east. All walls were slightly wider than those of the surrounding rooms. This building may have been a storage facility for valuable or important items and supplies.

Approximately 75 m south of the *hydreuma*, between the gate and the railway, are the remains of two buildings, both seriously damaged by wadi floods and robbing (**2** in fig. 2). Of the building to the east, directly in front of the gate of the *hydreuma*, only the southeastern corner was still standing two to three courses high in the summer of 1997. About 50 m to the west, a pile of disturbed stones and robber pits signified the remains of a second building that was completely destroyed. About 150 m due west of the *hydreuma*, on the summit of a small hill, are the remains of a *skopelos* measuring 1.1 m N–S × 1.6 m E–S (**4** in fig. 2). There is an entrance in the north wall. The maximum preserved height is 0.6 m and the walls are 0.5 m thick.

The ceramic finds

The pottery collected in Wadi Semna and Wadi Umm Wikala is entirely early Imperial Roman in date (first through second or early third centuries AD) as reflected by the illustrated sherds (figs. 12–14). The entire range of ware groups is present, from fine table and cooking wares to transport amphorae. Thus, the assemblage is essentially domestic, but like other small fortified sites and quarry settlements in the Eastern Desert, such as Mons

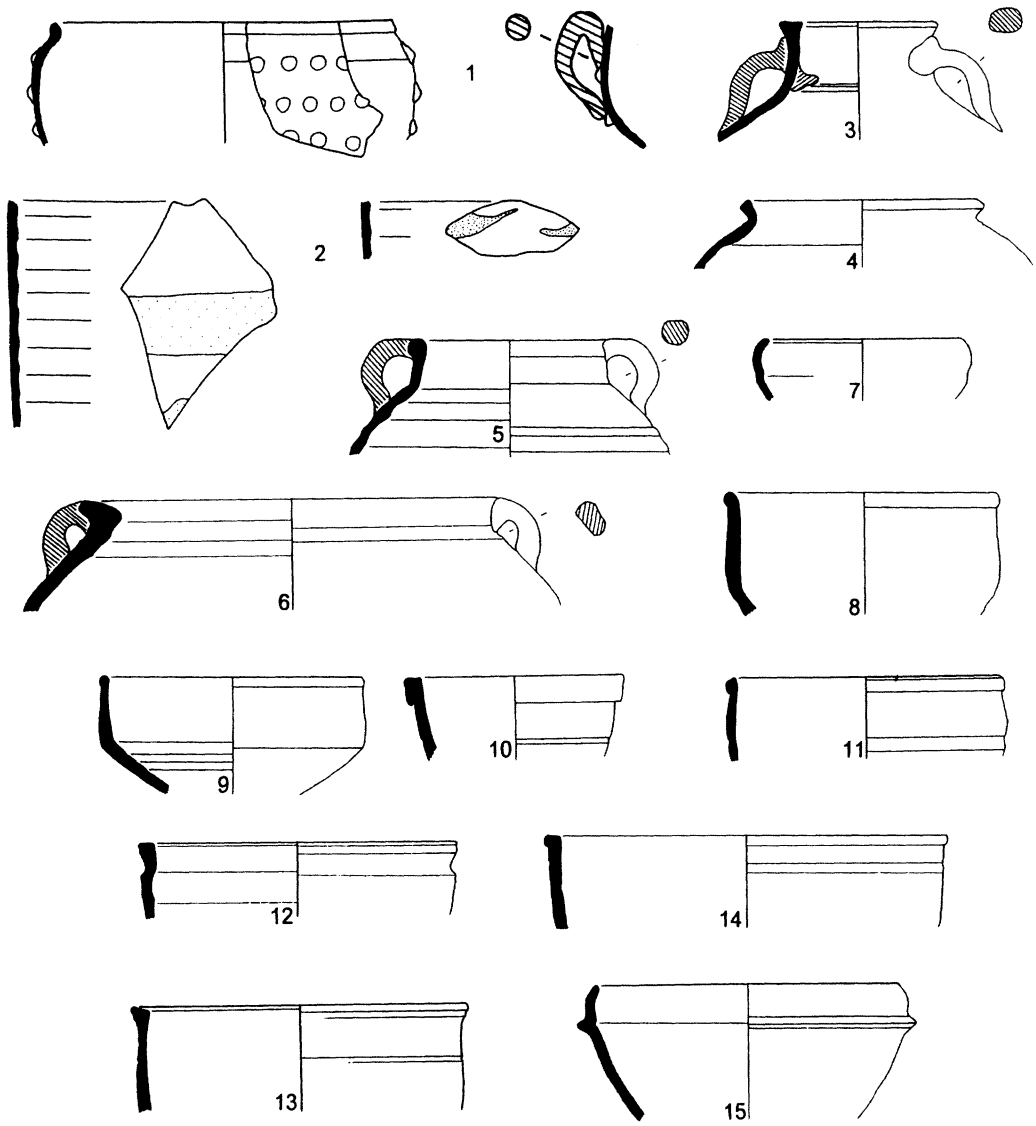


FIG. 12. Finewares (numbers *1–2*, scale 1:2) and table wares (numbers *3–15*, scale 1:4) from Wadi Umm Wikala (see Table 3 for descriptions). Drawings by Jolanda E. M. Bos and Barbara J. M. Tratsaert.

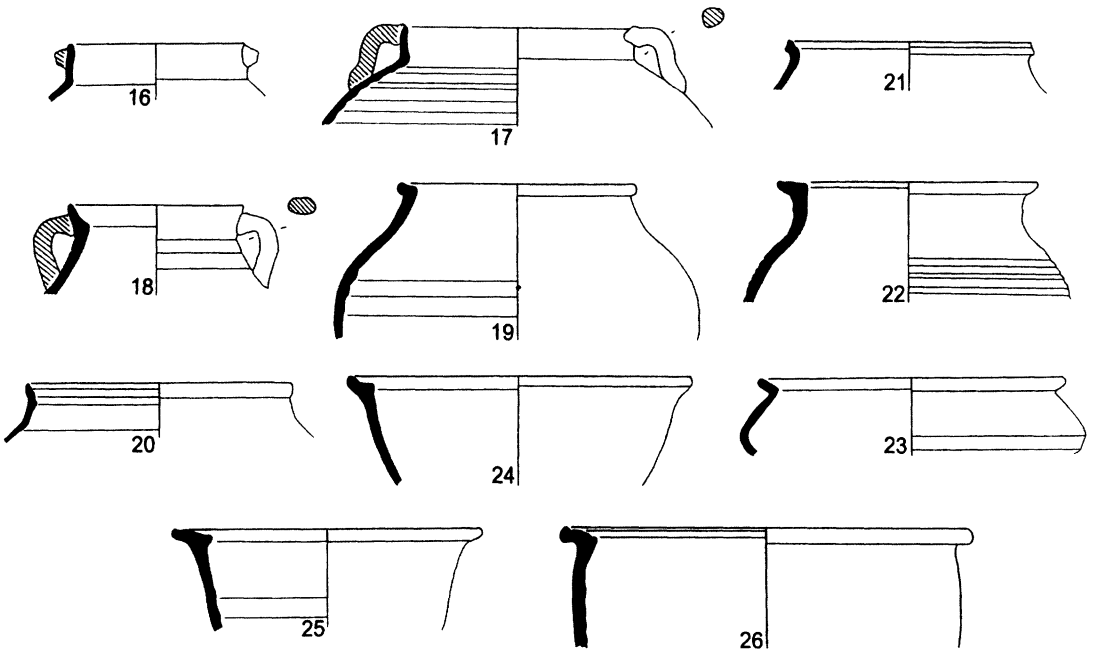


FIG. 13. Cooking wares (scale 1:4) from Wadi Umm Wikala (see Table 3 for descriptions). Drawings by Jolanda E. M. Bos and Barbara J. M. Tratsaert.

Claudianus,[50] Mons Porphyrites[51] and al-Zarqa,[52] the need for amphora-borne supplies has resulted in a large quantity of these containers. Although the majority of amphorae originate from the Nile Valley and occur in forms well known during the early Imperial Roman period (catalogue numbers ***27–37***), a relatively large number belong to imported types, particularly double-rod handle wine amphorae (Peacock and Williams Class 10).[53] The presence of imported amphorae also mirrors patterns seen at other nearby sites, and reflects the well-developed communication systems in the region and the proximity of long-distance trade networks, as well as Wadi Umm Wikala's status as an Imperial quarry.

All the collected pottery was quantified by count and tabulated by find spot, but the theft of these records in England has determined the ultimate format here. It was not possible to reconstruct the quantitative records nor, in the majority of cases, the find spots of the sherds; thus, only the illustrated sherds and their descriptions can be presented. Most of the pottery, however, came from the installations (particularly the quarry buildings) rather than the quarry workings themselves. Additional sherd collection inside the *hydreuma* and the north-east trash dump during June 1999 resulted in a group of provenanced material, but did not indicate any functional or chronological patterning. Despite these limitations, the illustrated sherds provide a representative sample of the assemblage in terms of ware types, fabrics and date range.

[50] R. S. Tomber, 'Provisioning the Desert: Pottery Supply to Mons Claudianus', in D. M. Bailey (ed.), *Archaeological Research in Roman Egypt (JRA* Suppl. 19; Ann Arbor, 1996), 39–49.

[51] R. S. Tomber, 'Pottery', in V. Maxfield and D. Peacock, *The Roman Imperial Quarries. Survey and Excavation at Mons Porphyrites 1994–1998*, I. *Topography and Quarries* (EES Excavation Memoir 67; London, 2001), 242–303.

[52] J. -P. Brun, 'Le faciès céramique d'Al-Zarqa. Observations préliminaires', *BIFAO* 94 (1994), 7–26.

[53] D. P. S. Peacock and D. F. Williams, *Amphorae and the Roman Economy. An Introductory Guide* (London, 1986).

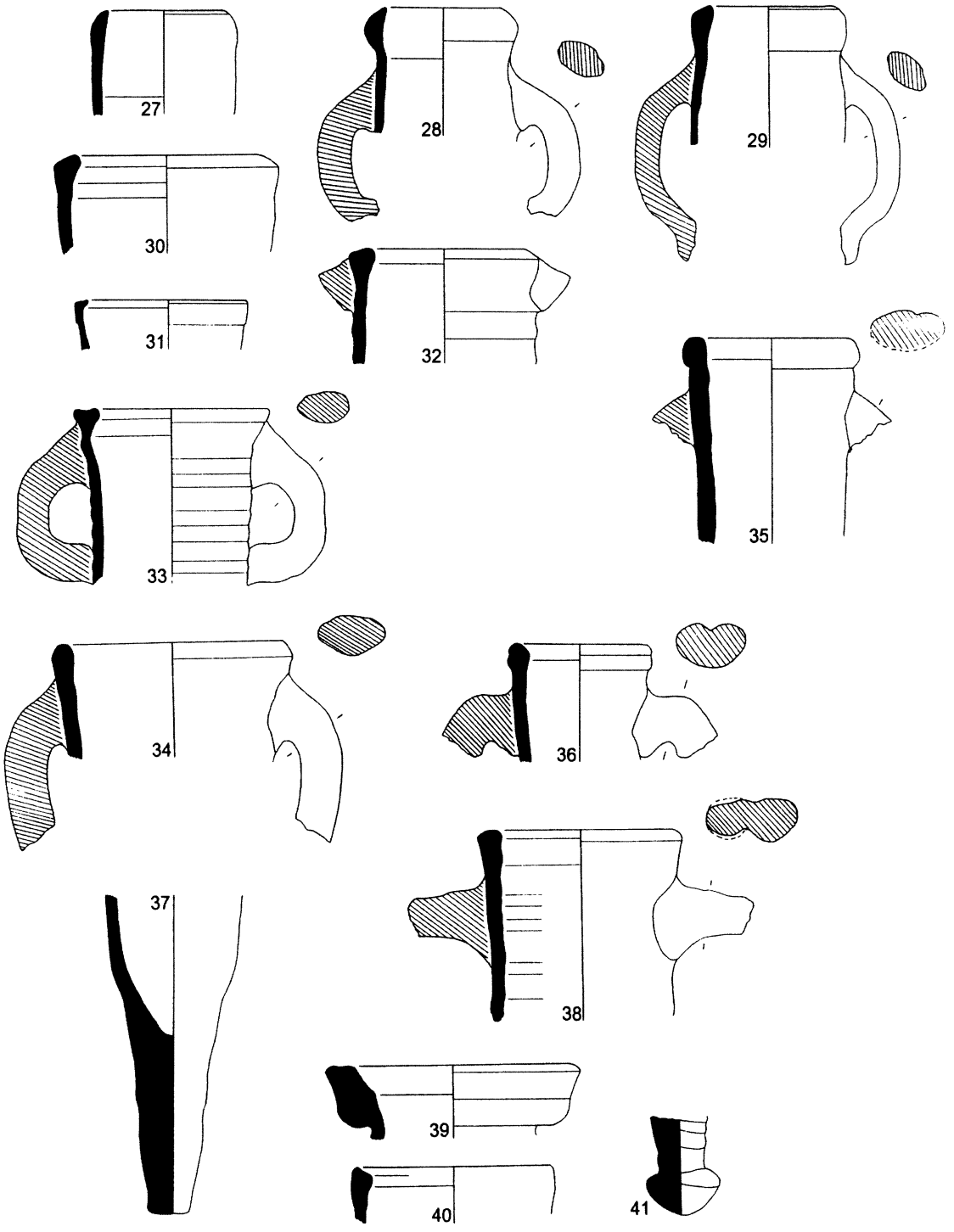


FIG. 14. Amphorae (scale 1:4) from Wadi Umm Wikala (see Table 3 for descriptions). Drawings by Jolanda E. M. Bos and Barbara J. M. Tratsaert.

Most of the types present here were also found at Mons Claudianus, for which a well-dated sequence exists from the mid/late first (Neronian, hereafter mid-first) through the early third centuries AD. Although the Mons Claudianus volume is not yet published,[54] the Wadi Umm Wikala sherds are paralleled to the Mons Claudianus (MC) types and dating (based on Imperial reigns) in the catalogue in Table 3. At Mons Claudianus a group of Trajanic loci, possibly contaminated with later material, is referred to as Trajanic+ and this terminology is also adopted here. It is clear, however, that some forms pre-date the inception of Mons Claudianus and in these cases the dating is supplemented by evidence from Mons Porphyrites[55] and unpublished deposits from Berenike[56] and Quseir al-Qadim. The pottery from the last three sites is still being studied, and dating refinements will no doubt emerge from this work.

The fabric terminology adopted here follows that generally accepted in Egyptian archaeology. All six of the fabrics found at Wadi Umm Wikala are discussed in detail in the Mons Claudianus volume and are summarized as follows:

1. Egyptian faience—white or off-white base of crushed sand or quartz with blue or blue-green glaze.

2. Nile silt—fabrics made from the alluvial Nile silt clays with varying additions of calcareous, organic and quartz inclusions.

3. Egyptian red slip ware—refers to early Roman vessels produced in the classic silt fabrics but covered with red-brown slip.[57]

4. Marl—refers to a wide range of calcareous-rich fabrics made from desert clays (sometimes mixed with silts), normally pale in colour and with white or cream surfaces.

5. Aswan—refers to the pink kaolinite clays mined at Aswan.

6. Northwest coastal fabrics (NW Coast)—refers to a wide range of kiln sites located on the Mediterranean coast, west of Alexandria. The best known of these kilns is that at Lake Mareotis[58] with ceramics characterized by a fine matrix, usually tan (5YR 5/4-6/5) in colour, with larger, rounded limestone inclusions measuring 1.0 mm or greater. A related fabric, more red (2.5YR 5/6-5/8) in colour, is similar to that described from Tell al-Haraby, although the forms present from Wadi Umm Wikala have not been published from Tell al-Haraby.[59]

[54] R. S. Tomber, 'The Pottery from Mons Claudianus', in V. A. Maxfield and D. P. S. Peacock (eds), *Ceramic Vessels and Objects from Mons Claudianus* (FIFAO; Cairo, forthcoming).

[55] Tomber, 'Pottery', in Maxfield and Peacock (eds), *The Roman Imperial Quarries. Survey and Excavation at Mons Porphyrites 1994–1998* I, 242–303.

[56] R. S. Tomber, 'The Pottery', in Sidebotham and Wendrich (eds), *Berenike 1997*, 123–59.

[57] R. S. Tomber, 'Early Roman Pottery from Mons Claudianus', in P. Ballet (ed.), *Cahiers de la céramique égyptienne,* III. *Ateliers de potiers et productions céramiques en Égypte* (Cairo, 1992), 129–36.

[58] J. -Y. Empereur, 'Un atelier de Dressel 2-4 en Égypte au III^e siècle de notre ère', *BCH* Suppl. 13 (1986), 599–608.

[59] G. Majcherek and A. El-Shennawi, 'Research on Amphorae Production on the Northwestern Coast of Egypt', in Ballet (ed.), *Cahiers de la céramique égyptienne* III, 129–36.

All the imported fabrics mentioned in the text are well known, apart from an early Roman fabric, which is increasingly being identified in the Eastern Desert. This fabric was used for the production of double-rod handle wine amphorae, seemingly as containers for Laodicean wine.[60] It comprises the same range of inclusions identified for LR Amphora 1 (Peacock and Williams Class 44),[61] but is dominated by abundant well-rounded quartz and limestone particles, producing a fabric similar in texture to the more common Campanian black-sand one. In addition to those illustrated, sherds of Eastern Sigillata A imported from the Levant were present,[62] as were sherds from Egyptian red slip ware bowls and Egyptian faience, including a rectangular dish (MC Faience Type 17).

TABLE 3. *Catalogue of the Ceramic Finds (fig. 12 for catalogue numbers **1–15**, fig. 13 for **16–26** and fig. 14 for **27–41**).*

Type	Catalogue number	Description
Thin-walled fine wares	*1*	Two rims, one handle, non-joining. Handled(?) cup with bead rim, carinated shoulder obscured by the decoration and globular walls; decorated with three extant parallel lines of barbotine dots; handle probably from same vessel decorated with similar parallel lines or barbotine dots, two extant. Dull orange-brown Aswan(?) sandy silt with brown inner margin and discoloured inside surface; the outside surface is dark with cream-colored barbotine. MC Thin-walled Ware Type 19. At Mons Claudianus barbotine decorated thin-walled wares were present throughout the sequence, but were most common during the Trajanic and Trajanic+ Periods. This particular vessel form is uncommon, but was present during the Trajanic, Trajanic+ and Hadrianic Periods. A variant without a handle (MC Thin-walled Ware Type 16) was much more common and is considered diagnostic of the Trajanic and Trajanic+ Periods. At Quseir al-Qadim barbotine decoration was present during the first half of the first century AD.
	2	Two sherds, non-joining. Vessel with painted decoration, likely to be from a deep cup or mug. Cream-colored Aswan fine pipe clay with red-brown painted decoration. Possibly similar to MC Thin-walled Ware Types 29 and 31. At Mons Claudianus painted decoration on thin-walled ware was restricted to the Hadrianic Period and later, and was particularly common during the Antonine Period.
Flagons	*3*	Double-handled flagon with flatly oriented, slightly depressed rim and internal ledge; handles, slightly square in section, are joined below the rim and to the shoulder. When complete the vessel has a shoulder spout. Brown marl with white surface outside, and inside on the rim and ledge. MC Flagon Type 66, where it was restricted to pre-Trajanic deposits. A variant, with an internal neck strainer, rather than ledge (MC Flagon Type 63) began in the Trajanic Period. At Quseir al-Qadim, Berenike and Mons Porphyrites MC 66 was known from the first half of the first century AD and it is likely to be more diagnostic of this period. Spout sherds, which could not be assigned to type, were also collected and may represent either MC 63 or 66.
Jars	*4*	Jar or cooking pot with short neck and everted triangular-shaped rim. Dull pink Aswan fabric with matt red-brown wash outside; inside the surface is dull brown-orange. No exact parallel at Mons Claudianus.

[60] R. S. Tomber, '"Laodicean" Wine Containers in Roman Egypt', in Kaper (ed.), *Life on the Fringe*, 213–20.

[61] Peacock and Williams, *Amphorae and the Roman Economy*.

[62] K. W. Slane, 'The Fine Wares', in S. C. Herbert (ed.), *Tel Anafa II*, I. *The Hellenistic and Roman Pottery* (*JRA* Suppl. 10; Ann Arbor, 1997), 247–406.

	5	Two rims, joining. Double-handled jar with bead rim and ribbed walls; rounded handles are joined to the rim and shoulder. Tan marl with cream-green outside surface. MC Jar Type 74 ribbed variant, where it was present throughout the sequence. Ribbed examples were fairly common at Mons Porphyrites.
	6	Double-handled storage jar with slightly curved rim, oriented on the outside and molded underneath; loop handles, slightly square in section, are joined to the rim and shoulder. The lower inside wall and break is abraded. Pale brown marl with thick cream-green surface outside and on the rim top. MC Jar Type 78/79, where it was present throughout the sequence and particularly indicative of the Trajanic+, Hadrianic and Antonine Periods.
Bowls	***7***	Bowl with plain, in-turned rim. Pink Aswan fabric with duller surfaces, originally with a dull red-brown matt slip outside. MC Bowl Types 1-2, where it was diagnostic of the mid-first through Trajanic+ Periods. At Mons Porphyrites and Quseir al-Qadim the type was present during the first half of the first century AD. It seems most typical of the first century.
	8	Bowl with bead rim, rounded towards the base. Orange-brown marl with white surfaces, cream-yellow outside and buff inside. MC Bowl Type 8, where it was uncommon but similarly dated to no. *7*.
	9	Carinated bowl with bead rim. Coarse red-brown marl with white surface inside, discoloured (?) outside. Not present at Mons Claudianus.
	10	Orientation uncertain. Bowl with undercut, square rim, grooved on top and side, and grooved girth. Dull brown marl with cream-green surfaces. Not present at Mons Claudianus.
	11	Bowl with bead rim, externally beveled and undercut, and grooved girth. Orange Aswan fabric with dull, matt red-brown slip outside. Not present at Mons Claudianus.
	12	Bowl with squared-off rim, grooved inside and outside, and carinated shoulder. Pink Aswan fabric with matt red-brown slip outside and on the rim top, inside abraded wash(?). Not present at Mons Claudianus.
	13	Small bowl with nearly flat rim, oriented on the outside surface and tooled on the underside; girth groove. Cream marl throughout. Not present at Mons Claudianus.
	14	Bowl with small club rim and grooved upper wall. Green marl throughout. MC Bowl Type 111, where it was essentially restricted to and diagnostic of the Hadrianic through Severan Periods.
	15	Two rims, joining. Flanged bowl with plain, slightly in-turned rim. Pink Aswan fabric with dull orange wash on the outside of the rim; sooted on rim top. MC Bowl Type 30, where it was present throughout the sequence.
Cooking pots	***16***	Cooking pot with upright rim, slightly lipped. Very sandy orange-brown silt with red-brown surfaces. From high *skopelos* **23**. MC Cooking Pot Type 31 variant with a shorter neck. Type 31 was common throughout the entire MC sequence, but may have been residual from the Hadrianic Period onwards. At Quseir al-Qadim the type was present during the first half of the first century AD.
	17	Cooking pot with plain short rim, slightly in-turned; rounded handles are joined to the rim and shoulder. Red-brown sandy silt throughout. MC Cooking Pot Type 28(?), where it was present throughout the sequence with no clear patterning, although possibly more common during the Trajanic and Hadrianic Periods. At Quseir al-Qadim the type was present during the first half of the first century AD.

	18	Double-handled cooking pot or jar with sharply everted lid-seated rim, grooved on the walls; sub-rounded handles are joined to the rim and shoulder. Dull tan marl with gray-brown inner margin and surface; white slip outside and in runs inside. This vessel form is normally in a silt fabric, and marl ones are rare. MC Cooking Pot Type 40, where it was common throughout the sequence, but particularly diagnostic of the mid-first, Trajanic and Trajanic+ Periods. At Quseir al-Qadim the type was present during the first half of the first century AD.
	19	Cooking pot with small, sharply everted lid-seat rim. Red-brown silt with orange-brown margins; cracked, dull red-brown slip outside, on the rim top and inside to c. 10.0 mm down the wall; where unslipped the inside surface is duller red-brown. MC Cooking Pot Type 40, for dating see number ***18***.
	20	Three rims, two joining. Cooking pot with reeded rim. Very sandy orange silt with surfaces washed red-brown, and discolored to pink on the inside of the rim. From high *skopelos* **23**. MC Cooking Pot Type 47 or 55. Type 47 was present at MC throughout the sequence, but slightly more common after the Trajanic Period; Type 55 showed no clear patterning but may have been more common during the mid-first and Trajanic Periods. Type 47 was present during the first half of the first century AD at Quseir al-Qadim.
	21	Cooking pot with double-lip rim, internally grooved. Orange-brown silt with red-brown core and common limestone impurities; cracked red-brown slip covers the surfaces. MC Cooking Pot near Type 68, where it was rare and primarily Antonine and Severan in date.
	22	Cooking pot with near flatly oriented, undulant rim and ribbed walls. Orange-brown slightly sandy silt with pale gray core. MC Cooking Pot near Type 60, where it was present from the mid-first century AD through the Severan Period, but particularly common during the mid-first century AD and the Trajanic Period.
Casseroles	***23***	Carinated casserole with out-turned, flat rim oriented on the outside surface. Orange-pink Aswan fabric with dull brown-purple wash outside and on the outside rim edge. MC Casserole Type 42 variant, where it was typical of the mid-first century AD and Trajanic Period. A rare example from this family occurred during the first half of the first century AD at Quseir al-Qadim, but is not typical.
	24	Casserole with out-turned, lid-seat rim. Orange-brown, vesicular silt with medium gray core; cracked red slip covers the surfaces. MC Casserole Type 44 large variant, where it was common throughout the sequence, but particularly from the Hadrianic Period onwards.
	25	Two rims, joining. Casserole with slightly reeded rim, oriented on the outside surface. Brown, sandy silt with coral core and red-brown surfaces. Not present at Mons Claudianus.
	26	Casserole with grooved rim, oriented on the outer surface. Brown silt wiped to red-brown outside and on the rim top and with a coral-colored core; sooted on the rim edge and under it. From inside the *hydreuma*. MC Casserole Type 52, where it was common throughout the sequence.

Egyptian amphorae	In addition to those types described in this section, fragments from double-rod handle wine amphorae produced along the northwest coast were also present (MC Amphora Type 28). In the Eastern Desert they are known from the early first century AD and throughout the remainder of the early Imperial Roman Period.	
	27	Amphora with in-turned almond shaped rim. Fine, red-brown silt with orange-brown margins and red-brown surfaces. MC Amphora Type 1, where it was abundant throughout the sequence. The type, frequently but not always with rounded handles and thinner rim, was present at Quseir al-Qadim, Berenike,[1] and Mons Porphyrites from at least the early first century AD.
	28	Amphora with almond-shaped rim; sub-rounded loop handles are joined to the upper wall. Fine brown silt with thin orange core. MC Amphora Type 1, for dating see number ***27***.
	29	Amphora with externally bevelled rim; ovoid-shaped loop handles are joined below the rim. Brown silt with intermittent pale gray to black core and common limestone impurities. From excavation **12**. MC Amphora Type 2, where it was well represented throughout the sequence, but especially during the Trajanic Period. The type is present during the first half of the first century at Quseir al-Qadim and Berenike.[2]
	30	Four rims, two joining. Amphora with sharply in-turned rim; white outside surface. NW Coast(?): pale red-brown fabric with green outside surface; sandy with fine limestone inclusions. MC Amphora Type 2(?), for dating see number ***29***.
	31	Amphora with in-turned lip and squared-off rim. Fine brown silt. MC Amphora Type 8, where it was present throughout the sequence, but slightly more common during the Antonine and Severan Periods.
	32	Amphora with undulating rim and ribbed wall; handles, represented by a scar, are joined directly to the rim. Fine brown silt. MC Amphora Type 12, where it was present throughout the sequence, but relative to the unribbed forms (e.g. numbers ***27-31***) more typical of the Antonine and Severan Periods.
	33	Two rims, joining. Amphora with flatly oriented, grooved rim and ribbed body; ovoid-shaped handles are joined directly to the base of the rim and the wall. Brown sandy silt. MC Amphora Type 15, where it was present from the Trajanic Period onwards, but otherwise dated as number ***32***.
	34	Amphora with upright, irregular rim top with clay accretions; heavy, irregular handles are joined below the rim. NW Coast: pink-brown with cream outside surface; it differs from the usual fabric by having small limestone inclusions but otherwise conforms. MC Amphora near Type 24, where it was rare and identified only from the Trajanic+ Period. The type was present during the first half of the first century AD at Quseir al-Qadim.
	35	Amphora with bead rim and straight walls; grooved handles are joined below the rim. Possibly NW Coast: coarse red-brown silt with some black and limestone inclusions; the outside surface is white, in part. MC Amphora Type 27, where it was present from the mid-first century AD through the Antonine Period, although considered more typical of the first century AD. At Mons Porphyrites and Quseir al-Qadim it was present during the first half of the first century AD.
	36	Amphora with slightly grooved bead rim; grooved handles are joined to the neck. Pink-brown marl with white surfaces, from the Aswan region(?). MC Amphora Type 27 variant, for dating see number ***35***.

[63] Tomber, in Sidebotham and Wendrich (eds), *Berenike 1997*, fig. 5–4.
[64] Ibid., fig. 5–4, no. 31.

	37	Amphora base with solid toe. Brown silt with variable gray-brown core and common organic and limestone impurities. From *skopelos* **16**. Present throughout the MC sequence and at Mons Porphyrites and Quseir al-Qadim during the first half of the first century AD.
Imported amphorae	*38*	Cilician amphora with slightly lipped rim; double-rod handles are joined below the rim. Dull orange fabric with a cream outside surface. MC Amphora Type 55, where it was present from the Trajanic Period throughout the remainder of the sequence, with no clear patterning. It has also been identified at Mons Porphyrites, Quseir al-Qadim, Berenike and on the Via Hadriana,[3] and at Quseir al-Qadim was present in deposits of the first half of the first century AD.
	39	Tripolitanian amphora with grooved rim. Grey and red-brown sandwich effect comprising a clean clay matrix with well-sorted limestone and a white slip outside. Although small fragments are difficult to assign with accuracy, this is likely to belong to Tripolitania I (Peacock and Williams Class 36),[4] which was present in first century AD levels at Ostia, but was more common after the mid-second and continued to the fourth century AD. MC Amphora Type 45, where it was present from the Trajanic through the Severan Periods without any clear patterning, although it was slightly more common during the Trajanic and Trajanic+ Periods. The type has been identified at other sites in the Eastern Desert, including al-Zarqa,[5] Mons Porphyrites, Umm Balad,[6] Quseir al-Qadim (first half of the first century AD) and Berenike.
	40	Imported amphora rim, internally bevelled. Red-brown with pale dull brown sandwich and white slipped surfaces; calcareous clay with abundant ill-sorted limestone to *c.* 2.0 mm, but usually < 1.0 mm. The fabric is similar to those from Tripolitania, although no form parallels are known from the Tripolitanian repertoire. Not present at Mons Claudianus.
	41	Imported mushroom-shaped amphora base with irregular wheel marks on the stem. Cream to buff fabric with slightly cream-green margins and other surfaces; fine matrix with moderate, poorly sorted dull dark, opaque and red inclusions, < 0.3 mm, but occasionally to 1.0 mm on the surface. Probably belonging to Mau form XXVII-VIII (MC Amphora Type 52),[7] and from a source in southwest Cyprus.[8] It is known from the mid-first to the late third or fourth century AD. Elsewhere in Egypt the type has been identified at Marina al-Alamein,[9] Peluseum,[10] and the Berenike-Coptos road.[11] At Mons Claudianus two examples were identified, from Trajanic+ deposits, in a different fabric, possibly from a source in Rough Cilicia.

65 Tomber, in Kaper (ed.), *Life on the Fringe*.

66 Peacock and Williams, *Amphorae and the Roman Economy*.

67 Brun, *BIFAO* 94, fig. 6.

68 J. A. Riley, 'The Pottery', in S. E. Sidebotham, R. E. Zitterkopf and J. A. Riley, 'Survey of the 'Abu Sha'ar-Nile Road', *AJA* 95 (1991), 600–19.

69 A. Mau, *Tituli vasis fictilibus inscripti* (*Corpus Inscriptionum Latinarum* IV, Suppl. 2; Berlin, 1909), 619–95.

70 J. Lund, 'The "Pinched-handle" Transport Amphorae as Evidence of the Wine Trade of Roman Cyprus', in E. C. Ionides and S. Hadjistyllis (eds), *Third International Congress of Cypriot Studies, Nicosia 1996* (Nicosia, 2000), 565–78.

71 G. Majcherek, 'Amphorae', in W. A. Daszewski, 'Excavations at Marina el-Alamein 1987–88', *MDAIK* 46, (1990), 46–51.

72 P. Ballet, 'Relations céramiques entre l'Égypte et Chypre à l'époque gréco-romaine et byzantine', in H. Meyza and J. Mlynarczyk (eds), *Hellenistic and Roman Pottery in the Eastern Mediterranean—Advances in Scientific Studies. Acts of the II Nieborów Pottery Workshop* (Warsaw, 1995), 11–25.

73 Identified by Ballet; see Lund, in Ionanides and Hadjistyllis (eds), *Third International Congress of Cypriot Studies*, 570 n. 36.

Discussion

The semi-finished stone products were probably moved from the platforms onto wheeled carts for transport from the quarry to the Nile Valley. The stones may have remained on the platforms until empty carts arrived. The large courtyard within the *hydreuma* seems another obvious place to store these products, but the later narrowing of the gate must have rendered this impossible. The carts were most likely pulled by either donkeys or mules, as seems to have been the case at Mons Claudianus, but possibly also by men.[74] Oxen seem not to have been used for work in the desert because they consume excessive amounts of water.[75] Although camels were surely employed for carrying supplies to the quarry and perhaps small stone objects away from it, they would not have been used to pull the carts because of problems of devising a suitable harness.[76] Furthermore, camels require relatively soft, sandy ground and would not have faired well in the rocky wadis leading to the quarry.

No extant roads or tracks leading from the quarry were discovered. A large, partly worked block of Wadi Umm Wikala gabbro was found about 8 km southwest of the *hydreuma* (26°N 21.3', 33°E 37.1'), in a pass between Wadi Umm Jarahish al-Qibli (which connects to Wadi Semna) and Wadi Bukhelug (which connects to Wadi Saqiyah). Thus, it appears that one possible route to the Nile Valley led from Wadi Umm Wikala to the southwest and ultimately through Wadi Hammamat.

The functions of the preserved buildings seem more or less clear. The simple huts, in the settlement as well as in the working areas, must have provided shelter for the workmen. Additional workmen may have lived in tents or huts of more perishable materials. The *principia* must have housed the administrative and military officials. Given its layout and its strategically weak position below two high hills, it is doubtful that the *principia* served a primarily military function. The well-built two-room structure to the east and across the wadi from the *principia* appears to have been, based on its architecture and the 'curator' inscription, a shrine dedicated to the popular desert deity Pan/Min.

In the unlikely event of an attack by desert nomads, everybody must have retreated into the nearby and well-fortified *hydreuma.* This was the place where water was procured for all the quarry operations, and it almost certainly housed the caravaneers coming from the Nile Valley and possibly also some of the quarry labourers. There are some slight indications that the *hydreuma* as it appeared in its latest phase was preceded by a much smaller structure guarding the well. However, any excavations that might take place here in the future should first concentrate on the large midden just outside the northern wall of the *hydreuma.* The severe damage recently done to this structure has certainly not eliminated the possibility of obtaining valuable information by excavations in or outside the *hydreuma.*

The intervisible *skopeloi* scattered over the area most likely served as a quick means of internal communication by way of prearranged signals with flags, mirrors or horns. Attacks are unlikely to have been frequent enough to justify the number of *skopeloi* and, further-

[74] J. G. Landels, *Engineering in the Ancient World* (London, 1978), 170–9; R. W. Bulliet, *The Camel and the Wheel* (New York, 1990), 176–215; D. P. S. Peacock , 'Transportation and Routes to the Nile', in Peacock and Maxfield (eds), *Survey and Excavations—Mons Claudianus 1987–1993* I, 261–4.

[75] L. Casson, *Travel in the Ancient World* (London, 1974), 179; White, *Greek and Roman Technology*, 130–1; S. Piggott, *Wagon, Chariot and Carriage. Symbols and Status in the History of Transport* (New York, 1992), 30–1; A. Bülow-Jacobson, 'Traffic on the Roads between Coptos and the Red Sea', in Kaper (ed.), *Life on the Fringe*, 63–74.

[76] Bulliet, *The Camel and the Wheel*, 176–215.

more, many seem to have been built within sight of each other rather than at strategic locations overlooking the approaches to the quarry. They would not have been continuously used and were surely not all manned at the same time.

It is difficult to estimate the number of people involved in the quarrying operation, but a rough idea can be inferred from the possible water supply and number of remaining buildings. The amount of water available from the well in the *hydreuma* in unknown, but the cistern in the *principia* could hold a maximum of 8,800 litres. From the authors' own experience working in the Eastern Desert during the summer, the absolute minimum amount of water needed by a person is 10 litres per day for drinking, cooking and washing. If the cistern in the *principia* were filled to the rim daily, it could theoretically sustain 880 persons. This, however, does not allow for the water used for the animals, the kitchen gardens or the industrial processes, such as iron working. According to the monks at the Monastery of St. Paul in the northern part of the Eastern Desert, their well yields about 4,000 litres of water per day. This supplies all the water that the approximately 30 monks and their gardens need.[77] This equals about 135 litres per day per person.[78] At this rate, the tank in the *principia*, if filled every day, would support about 65 persons. However, it is not likely that the tank was replenished every day. Most of the water was most likely transported from the well to the *principia* and other outposts in leather bags on the backs of donkeys. Because a donkey can carry a maximum of 70–90 kg, or 70–90 litres of water in panniers, it would have taken over 100 donkey loads to fill the cistern.[79] It is possible that the wheeled carts used to transport the stones were used for this purpose as well. Unlike the monasteries, the quarry would not have been able to sustain itself and much of the food and fuel would have been imported from the Nile Valley, brought in at regular intervals with the caravans coming to collect the stone products. However, animal dung could have supplied some of the fuel and some crops might have been grown locally.[80] The relative lack of potsherds indicates that expensive imports of wine, oil and *garum* (fish sauce) were probably slight.

The settlement has 28 rooms in the *principia*, 6 in the 2 multi-room buildings and 12 single-room huts. With the 6 small huts found outside the settlement, and another 41 rooms counted in the *hydreuma*, this yields a total of 93 rooms. Some of these may not have been used as living quarters, and others may have housed more than one worker. If all available rooms were used by 2 workers, however, this would correspond to a total of 186 persons. The actual number may have been less, given that some rooms were used for other purposes and some could accommodate only one person. It could also have been more as the number of dwellings was originally larger and an unkown number of workers may have lived in tents or huts built of perishable materials. Given the above considerations, even though based on very limited evidence, it seems the total workforce at Wadi Umm Wikala could not have been more than 200 and was probably closer to 100. Not all of them will have actually quarried gabbro, as some must have been needed for various support func-

[77] See for a description of the Red Sea monasteries and a list of the early investigators F. A. Meinardus, *Monks and Monasteries of the Egyptian Desert* (Cairo, 1989).

[78] The amount of water used by the present-day inhabitants of the Nile Valley is more than twice this amount, around 300 l per person per day.

[79] White, *Greek and Roman Technology*, 129; R. E. Zitterkopf, 'Roman Construction Techniques in the Eastern Desert', in Kaper (ed.), *Life on the Fringe*, 275.

[80] S. E. Sidebotham, 'Preliminary Report on the 1990–1991 Seasons of Fieldwork at Abu Sha'ar (Red Sea Coast)', *JARCE* 31 (1994), 157 and n. 47; R. T. J. Cappers, 'Botanical Contributions to the Analysis of Subsistence at Berenike', and M. Van der Veen, 'Gardens in the Desert', both in Kaper (ed.), *Life on the Fringe*, 75–86 and 221–42.

tions, like administration, cooking or tending animals and gardens.

The following speculative chronology for Wadi Umm Wikala can now be proposed. The operations started with the digging of the well and the building of the *hydreuma* in Wadi Semna. From here, a team of workmen quarried the gabbro in the nearby excavation complexes **5** and **28**. Later, operations moved further afield with the establishment of a settlement in Wadi Umm Wikala about 2 km north of the *hydreuma*. There, a cistern was built, which was filled regularly with water brought from the well in the *hydreuma*. Work may have started here in excavation complex **19** and moved to excavations **10**, **12**, **14** and **22** later. As the supply of good quality gabbro became scarce, the last phase of activity will have occurred in the more distant locations **9**, **32**, **36** and **41–44**. It is likely that in places where quarry products were found *in situ*, work was in progress when the operations in Wadi Umm Wikala were closed down.

Based on parallels at Mons Claudianus and Mons Porphyrites, most of the work force at Wadi Umm Wikala probably comprised free labour, with a few civilian and military officials.[81] Work may have been seasonal, with peak activity in the late summer and early autumn when, during the inundation of the Nile, workers were more readily available. Recruiting workers cannot have been easy, given the nature of the work and harsh conditions far from family and friends. The *hydreuma* was probably manned throughout the year and the workforce based there may have been continuously active, leaving the settlement and associated working areas to the seasonal labourers.

From the survey of Wadi Umm Wikala, combined with information gleaned from other quarrying and mining activities in the region, it is clear that the Roman government went to extraordinary lengths and expense to acquire the Eastern Desert's mineral wealth. This wealth continues to be harvested up until the present day. A modern loading ramp, used to load large blocks (1 m × 1 m × 2 m) of unworked granite onto trucks, can be found about 20 km north of Wadi Umm Wikala. The stones are transported from there to 6th of October City, just west of Cairo, where they are sawn into slabs for use as wall veneer and paving tiles. This shows that beautiful, hard-to-obtain stones are still highly appreciated today, even when more convenient building materials are available. The modern activity near Wadi Umm Wikala parallels the ancient quarry operations there. It is to be hoped that the continuing economic exploitation of the Eastern Desert, including its development for tourism, does not harm the historic and archaeological wealth as it has already done to the *hydreuma* in Wadi Semna.

[81] Peacock, personal communication.

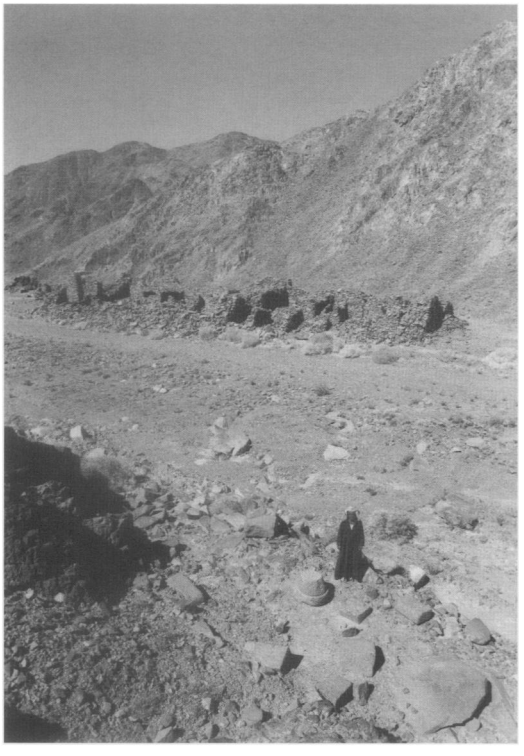
PLATE XX

1. Stone excavation complex **19** in Wadi Umm Wikala, looking east, with the slipway and associated staircase to the left of the picture and the *principia* to the lower right (fig. 7).

2. The putative shrine in Wadi Umm Wikala, looking east, with the gate of the *principia* to the left of the picture and a number of simple huts in the foreground (fig. 9).

3. The *principia* in Wadi Umm Wikala, looking southeast, with the putative shrine to the right of the picture and platform **18** to the middle left (fig. 8).

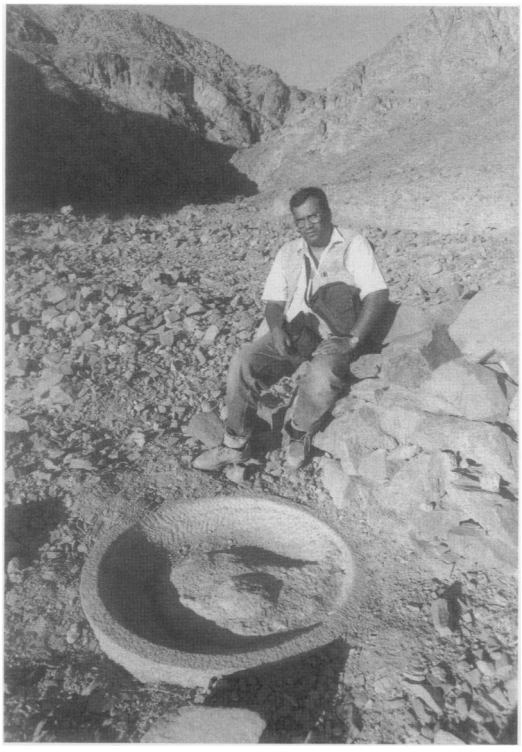
1. The south side of the *principia* in Wadi Umm Wikala, looking north, with the entrance to the right of the picture. The scale is 1 m.



2. Platform **18** in Wadi Umm Wikala with quarry products *in situ*, looking southwest towards the *principia* (Table 2).

3. The cistern inside the *principia* in Wadi Umm Wikala, looking north along the perimeter wall with a partly preserved parapet.

PLATE XXII

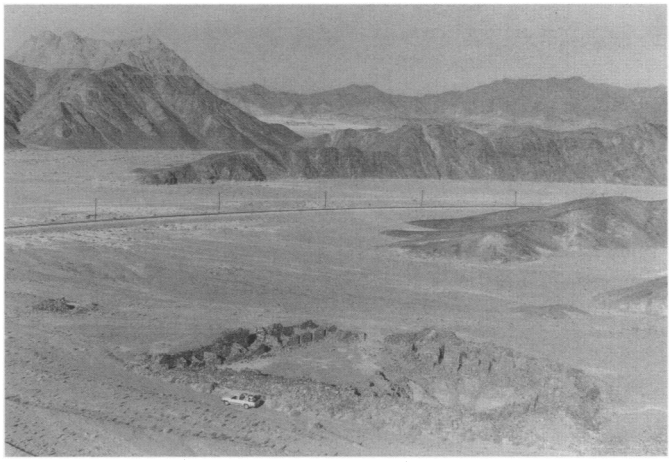


1. A stone basin found *in situ* next to platform **31** in Wadi Umm Wikala, looking southwest (Table 2).

2. The staircase leading up to the eastern tower flanking the gate in the southern wall of the *hydreuma* in Wadi Semna, looking east.

3. The well-preserved, northwest corner of the putative shrine in Wadi Umm Wikala, looking southeast (fig. 10).

1. The blocked doorway in the southern wall of the northern room of the putative shrine in Wadi Umm Wikala, looking south. The scale is 1 m.

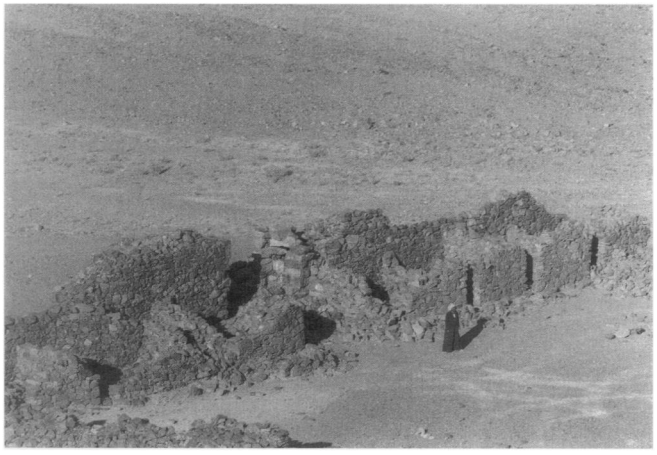


2. The *hydreuma* in Wadi Semna in the summer of 1997, looking southwest, with the modern railway in the background (fig. 11).

3. The gate in the southern wall of the *hydreuma* in Wadi Semna with flanking towers, looking northwest.

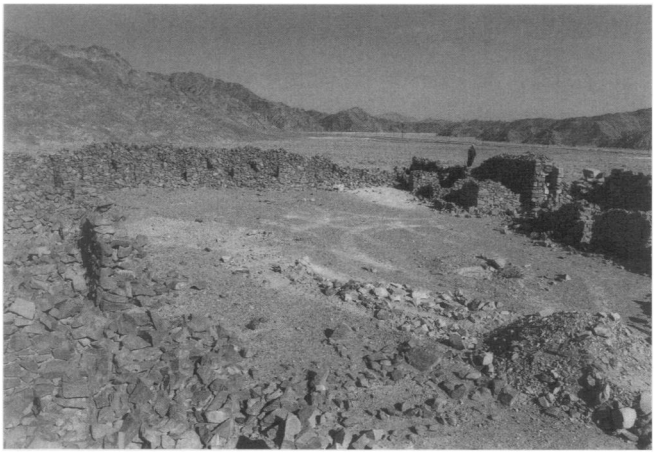
THE ROMAN QUARRY AND INSTALLATIONS IN WADI UMM WIKALA AND WADI SEMNA (pp. 135–70)

PLATE XXIV



1. The inside of the southern wall of the *hydreuma* in Wadi Semna, looking southwest.

2. One of several niches in the *hydreuma* in Wadi Umm Wikala, looking northwest, with one of the two staircases to the right of the picture.



3. The courtyard within the *hydreuma* in Wadi Semna, looking southeast, with the gate to the right of the picture.

Most of the features visible on these photographs are now lost.

1. The staircase leading up to the western wall of the *hydreuma* in Wadi Semna, looking northwest. Most of the features visible on this photograph are now lost.

2. The ancient well in the *hydreuma* in Wadi Semna, looking southwest, in the summer of 1997. Portions of the western and southern curtain walls are visible in the background.

3. The interior of hut **35**, associated with quarry excavation **36** in a gully east of Wadi Umm Wikala, looking southeast. The scale is 1 m (fig. 5).

PLATE XXVI

1. The lower part of slipway **38**, leading from excavation complex **41–44** to platform **37** in a wadi east of Wadi Umm Wikala, looking southeast (Table 1).

2. Platform **37**, at the end of slipway **38**, with quarry products found *in situ*, looking south (Table 2).

BRIEF COMMUNICATIONS

The eye of the needle in Predynastic Egypt

A technique is described by which it is possible to construct a sewing needle using only unalloyed copper and stone tools. It is impossible to know whether this was the technique used in Predynastic Egypt, but we have demonstrated a feasible technique for the construction of sewing needles using the available resources of the period.

PREDYNASTIC copper needles, with well made eyes, were found by Petrie at Naqada.[1] He had earlier reported two First Dynasty gold needles from Gizeh.[2] To form the eye of a needle, a punch of harder material than that of the needle itself is required. However, the eyes of these Predynastic needles were punched before the general introduction of bronze, which is substantially harder than copper. Although iron was known to the Egyptians, mainly in the form of meteoric iron, there is no evidence of its use for tools before the Fifth Dynasty.[3] Standard works on the metallurgy and technology of pharaonic Egypt are silent on the production of copper needles.

Our experiments were commenced with punches made from granite (from quarries in North Wales), which proved sufficiently hard, but far too brittle. They were easily made by grinding the granite, but the points crumbled in use. Further experiments were made with teeth ground to a point, which could be mounted on a copper rod. We used human teeth, but teeth from a large variety of animals would have been available to the Egyptians. These punches were better than those of granite, but they tended to split and crumble. They were generally unsatisfactory and we have not considered them further.

Our next experiments used punches of work-hardened copper, with the needle shaft annealed by heating it to bright red heat and allowing it to cool, which greatly softens the metal. Copper can be work-hardened by hammering and is much harder than annealed copper: work-hardened copper daggers and axe heads have often been mistaken for bronze. This communication describes our attempts to make copper needles using only stone and work-hardened copper for tools.

Much copper used today contains additives, and many copper ores contain trace quantities of other metals which may alter the properties of the smelted copper. Initial experiments were therefore undertaken with copper smelted from decorative quality malachite (basic copper carbonate, $Cu_2(OH)_2CO_3$). This was roasted to cupric oxide, then reduced to metallic copper with charcoal at a temperature of about 1,100°C, which is easily attainable with bellows and was essential for the production of copper from its ores in ancient Egypt. Ten grams of malachite yielded 5.28 grams of copper, which is in excess of 90 per cent of the theoretical yield. Allowing for inevitable waste of small particles of copper, this suggests a high level of purity of the malachite.

A bead of smelted copper was beaten into the shape of a punch and then ground to a point (pl. XXVII, 1 (a)). This would have produced a high degree of work-hardening. A second, much smaller bead was hammered to a thickness of about 0.35 mm and then annealed at bright red heat, just below the melting point (1,084°C). The flattened bead was then placed over a knot in a thick plank of soft wood. The punch was applied and tapped lightly with a granite hammer, producing an indentation of about 0.8 mm depth (pl. XVII, 1 (b)–(c)). Approximately 0.6 mm of the tip of this indentation was then ground away with stone, until daylight could be seen at the centre of the indentation. It was simple to enlarge the hole to a diameter of about 1 mm using a broach of work-hardened copper (pl. XXVII, 1 (d)).

[1] W. M. F. Petrie, *Tools and Weapons* (London, 1917), 53. Petrie reported four copper needles found in a prehistoric grave, Tomb 63 at Naqada (pl. lxv, N 66-69). However, a *JEA* referee pointed out uncertainties over provenance since needles are ascribed to Tomb 3, but not Tomb 63, in Petrie's field notebooks (Elise J. Baumgartel, *Petrie's Naqada Excavation: A Supplement* (London, 1970), I, III). W. M. F. Petrie, *Naqada and Ballas* (London, 1896), 24, ascribes needles 20–21 in plate lxv to Tomb 3, with no mention of needles in Tomb 63: needle 21 (UC 5278) appears to be the same as N 69 in *Tools and Weapons*, and does not differ greatly in appearance from those we have made. W. M. F. Petrie, *Prehistoric Egypt* (London, 1920), 26, mentions needles from both Naqada Tombs 3 and 63.

[2] W. M. F. Petrie, *Gizeh and Rifeh* (London, 1907), 6. Petrie mentioned two needles of gold shown in his plates iv–v, 13–14, which he dated to the First Dynasty, commenting that 'they have only been found in copper before'.

[3] A. Lucas and J. R. Harris. *Ancient Egyptian Materials and Industries*[4] (London, 1989, reprint of 1962 edition), 238.

After these initial experiments, we used commercially available copper wire. We could not distinguish between this and our smelted copper as regards their mechanical properties in both the work-hardened and annealed states. The wire (diameter 1.35 mm) was first annealed, and then the position of the eye was prepared by formation of a 'flat'. The wire was placed on the apex of a hemispherical fragment of a granite pebble with a radius of curvature of about 15 mm. This comprised the anvil. A second granite pebble (radius of curvature about 10 mm) was then placed on top of the wire, opposite the apex of the granite anvil, and struck with a granite hammer. This resulted in a biconcave flat: best results were obtained with a rim thickness of 0.5–0.6 mm and a central minimal thickness of 0.3–0.4 mm (pl XXVII, 2 (a)). The needle was then re-annealed and the flat placed on a knot in soft wood and punched with a work-hardened copper punch as described above (pl. XXVII, 2 (b)). Grinding off the indentation and broaching were not different from the description above in relation to smelted copper: the end result was a hole of diameter about 1 mm (pl. XXVII, 2 (c)). The final steps were to hammer the needle to a uniform diameter, work-harden the whole shaft and grind the tip to a fine point (pl XXVII, 2 (d)). It was interesting that the use of two granite pebbles to produce a biconcave flat, resulted in a far better eye than with a true flat obtained with a flat-tipped steel punch.

The end result was a fully serviceable needle, albeit of diameter 1.35 mm, not that different from some modern tapestry needles and those used for joining knitting. It was simple to form an oblong eye, as in a modern needle, and to provide a longitudinal channel on one side for the thread (pl. XXVII, 3 (a)). There were no difficulties in threading the needles (pl. XXVII, 3 (b)). Work-hardening gave a pleasing and satisfactory rigidity to the needle. Supported between two rests, 5 cm apart, annealed copper wire of 1.35 mm diameter took a permanent bend of 5 mm when a weight of 200 grams was suspended from the middle for one minute. This increased to 15 mm with 300 grams. In contrast, after work-hardening, the needles were entirely unaffected by a weight of 800 grams: 1 kilogram produced a bend of only 2 mm, but the needles tended to bend sharply with a weight of 1.2 kilograms. This degree of rigidity proved sufficient for normal sewing with woven fabrics.

There is no means of knowing whether this was the technique used in the Predynastic era for the production of needles. However, it is clearly possible to make a serviceable needle using only materials and techniques readily available in the late Predynastic Period. The case for the use of work-hardened copper punches receives support from small objects illustrated by Petrie[4] which look very much like copper punches of a shape that we have used successfully.

The construction here described was undertaken in home workshops by the authors, neither of whom had specialist experience in metallurgy. We have no doubt that ancient Egyptian craftsmen, specialising in the production of needles, would have made a far better job and could have reduced the overall diameter of the needle. We have not attempted to make needles in silver or gold, but these metals also show a marked difference in hardness between the annealed and work-hardened states.

JOHN NUNN *and* JOHN ROWLING

Possible tattooing instruments in the Petrie Museum

A publication of seven bronze objects in the Petrie Museum, London (UC 7790) and a discussion of their possible usage.

THE Petrie Museum of Egyptian Archaeology, University College London, possesses a set of seven bronze points (collectively UC 7790), three of which are tied together, excavated by Petrie at Gurob in 1880.[1] They were found alongside cosmetic items and fine pottery ware, which suggests a cosmetic use (pl. XXVIII, 1).

[4] W. M. F. Petrie. *The Royal Tombs of the Earliest Dynasties*, II (London, 1901). We are greatly indebted to the *JEA* referee for drawing our attention to objects which resemble our punches. Four are shown alongside needles and labelled 'copper' (pl. xxxviii, nos. 75 and 91). Three more are shown close to an object pierced by a hole of corresponding size (pl. xliii, no. 16).

[1] A. Thomas, *Gurob* (Warminster, 1981), I, cat. no. 472; II, pl. 21.

Each of the bronze points seems to have been made in the same way. A rectangle of bronze was beaten flat, and in order to create a sharp point, its corners were folded inward at one end, and beaten again to give a smooth finish (see fig. 1). None of the instruments is hollow. All of the implements,

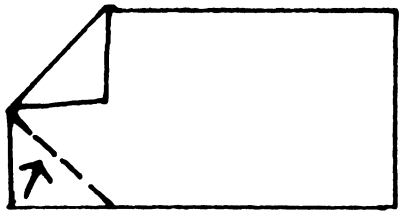


FIG. 1. Diagram showing how the points were made.

except the bundle of three tied together, have been treated and cleaned since entering the Petrie Museum collection. They were initially cleaned mechanically with a scalpel, before being stabilised in 3% benzotriazole with industrial methylated spirits in a vacuum overnight. Then all of the objects were lacquered with an acrylic copolymer with an aerogel silica.[2] This has assisted the detailed examination which follows.

1) Figure 2a: 34 mm × 2 mm at the top and 0.5 mm at the point
Although cleaned, there is a very slight discolouring under the folds, where the point was created. The fold is only visible on the right-hand side, when viewed straight on, but when looking at the profile it is possible to see a bulge where the bronze has been doubled over.

2) Figure 2b: 43 mm × 8 mm at the top and 0.5 mm at the point
This point is different from all the others as the proximal end is much wider. This makes the fold above the point more pronounced. Although the fold involved more bronze, the point is equally sharp. There is a tiny hole approximately 2 mm above the point which is due to corrosion. Viewed from the back, the proximal end is duller than the point, which almost has a shine. This could be due to being gripped between the fingers in this area.

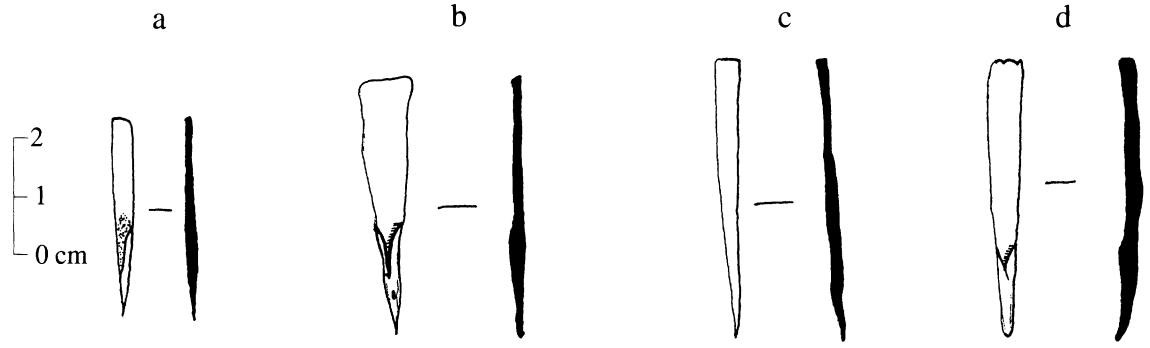


FIG. 2a–d. Front view and profile of the points independent from the bundle.

3) Figure 3c: 48 mm × 3 mm at the top and less than 0.5 mm at the point
Although probably manufactured in the same way as figure 2b, it is not possible to see where the bronze sheet was folded in order to make the point. The bronze has possibly been beaten after folding in order to give a smooth finish. As with figure 2b, the back is duller at the proximal end, possibly due to being gripped.

[2] Information from an unpublished 1977 conservation report in the Petrie Museum.

4) Figure 2d: 46 mm × 5 mm at the top and 1 mm at the point
This implement is thicker than the others, with a profile width of approximately 1 mm. There is a very slight indentation where the fold must have been but there is a pronounced bulge on the profile view. The colouring on this implement is also different, having more of a coppery hue.

5) The bundle of points consists of three implements tied together using thread (fig. 3). For clarity I refer to the longest utensil as being at the 'back' and the two smaller ones as being at the 'front'.
Back: 51 mm × 5 mm
This is the longest of all seven instruments and is badly corroded. The thread that binds these together is fused to the bronze by the corrosion. The bronze is very discoloured and uneven.
Right front: 47 mm × 4 mm
The thread that binds this to the other two does not reach all the way around and evidently broke in antiquity. However, the general corrosion of the bundle keeps all three fused together.
Left front: 50 mm × 6 mm
Before being tied to the other two instruments, this one had been wrapped in thread independently. There is a break in the centre of the object, which was repaired with cellulose nitrate when UC 7790 was treated in 1977. The join is still visible.

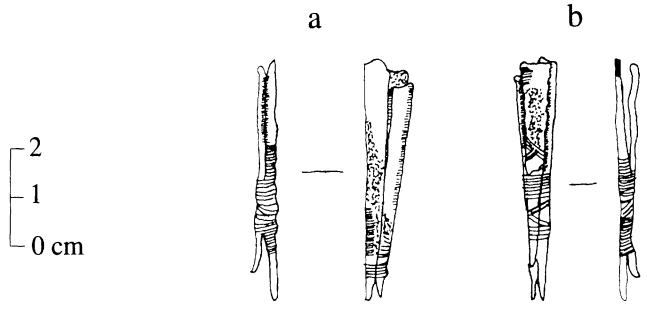


FIG. 3. (a) Front view of the bundle of points; (b) back view of the bundle of points.

When treated, the bundle was left practically untouched, because to treat and clean it would have meant destroying the thread that binds the points together. All three implements in this bundle are seriously corroded with major discoloration and areas where the bronze is misshapen. Despite this corrosion, all the points on these three tools are quite sharp. It is also impossible to see if they are manufactured in the same way as the four separate ones in figure 2, but as they appear to be of the same shape, one could presume so.

The bronze implements of UC 7790 were thought by Petrie to be points for removing thorns, and the entry in his *Tools and Weapons* coincides with the entry for tweezers, and states: 'Slips of bronze were made with long sharp points, and kept sometimes in a bunch of half a dozen; but they were not fastened to the tweezers'.[3]

These bronze objects do not seem to be fine enough for removing thorns, which is why I believe they could have been used for tattooing instead.[4] If Petrie was correct in his assumption, then surely they would have been found more regularly among toiletry objects in tomb groups. It may be suggested instead that these are more specialised tools that only belonged to a few individuals with a specific need for them. When the objects are compared to modern Egyptian tattooing instruments, it is possible to see the similarities. The Egyptians of Upper Egypt in the 1920s used seven needles on the end of a stick to tattoo, and even the designs they used were similar to those of the ancient Egyptians, consisting of dots and triangles. Both men and women wore these designs.[5] In ancient Egypt there is evidence of

[3] W. M. F. Petrie, *Tools and Weapons* (London, 1917), 51–2.
[4] As suggested by Thomas, *Gurob*, cat. no. 472.
[5] W. S. Blackman, *The Fellahin of Upper Egypt* (London, 1927), 50–5.

tattooing from predynastic statuettes with these geometric designs,[6] and it remained in use until the Roman Period.[7]

When looking at these rather inconspicuous bronze objects, several questions arise. The most problematic concerns their possible usage in the tattooing process. It has been suggested that the method used consisted of the injection of a bluish-black pigment of soot and oil into the skin by the use of bronze points or fishbone points with wooden handles.[8] If this is correct, then the instruments in question could quite feasibly also have been used for this purpose. However, as none of the seven bronze points is hollow, the question is posed of how the coloured pigment was injected into the skin. It could be suggested that the bronze points were used like old-fashioned ink pens that required dipping in ink. If this was the manner in which the UC 7790 points were used, it would mean that the ink-loaded point would be stuck into the skin, leaving the pigment just under the surface. This process is similar to that of the Egyptians from the 1920s who would prick out a small part of the design and then go over this section until the design was dark enough. This would be a long and painful process, and a great deal of accuracy would not be possible with the ancient instruments in question. The varying sizes of the bronze implements could have been an attempt to create more detailed tattoos, by having finer points. The simplicity of these instruments could easily explain the popularity of geometric designs, as they would have been easier for the tattooist, and also mistakes or the problem of the pigment bleeding out of the designated pattern could be incorporated into another dot.

It is logical to assume that a tattooist would possess a number of tattooing instruments, as the pressure required to pierce the skin could break these points, so they would need to be replaced frequently. The bundle tied together in the Petrie collection indicates a practical way for these objects to be stored when they were not in use, to prevent loss and damage. One of the instruments in the bundle has thread wrapped around it independently, which does suggest it could have possibly been tied together beforehand, and the thread was not removed before being tied up again. As this particular item was broken when Petrie discovered it, it can be assumed that the damage happened after it was bound into the bundle, as it is unlikely that a broken object would be tied up for storage amidst undamaged items.

CHARLOTTE BOOTH

'Cumin, set milk, honey': an ancient Egyptian medicine container (Naples 828)

A marl clay cup in the National Archaeological Museum of Naples carries a hieratic inscription translated as 'cumin, set milk, honey'. The same recipe appears in the Berlin medical papyrus as a prescription for a cough. The cup is, to the author's knowledge, the only known container with a label mentioning a remedy found in the medical papyri. It is datable to the fifth or fourth centuries BC, and is hence at least seven centuries later than the papyrus. The provenance of the vessel, which reached the Naples Museum via the early nineteenth century Picchianti collection, is unknown, but it may have come from a tomb.

THE object discussed here is a small cup in the Naples National Archaeological Museum (inv. no. 828; pl. XXVIII, 2).[1] It is made of Egyptian marl clay and is covered with a cream slip of a slightly greenish hue. Its dimensions are: height 6.0 cm, diameter (external) 7.7 cm, depth 5.2 cm. It has a capacity of *c.* 157.3 cc.[2] The vessel, which is in excellent condition, is wheel-thrown, with conspicuous wheel marks

[6] L. Keimer, *Remarques sur le tatouage dans l'Egypte ancienne* (MIE 53; Cairo, 1948), 1–15. Also, J. Fletcher, 'Marks of Distinction: The Tattooed Mummies of Ancient Egypt', *Nile Offerings* 1 (1997).

[7] Maspero discovered mummies of this period from Akhmim with tattoos on the chin and side of the nose. See E. Strouhal, *Life in Ancient Egypt* (Cambridge, 1992), 88–9.

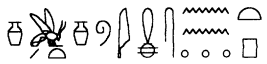
[8] See n. 7.

[1] Preliminarily published by R. Di Maria, in R. Cantilena and P. Rubino (eds), *La collezione egiziana del Museo Archeologico Nazionale di Napoli* (Naples, 1989), 166, no. 17.15, pl. 12. The inscription is transcribed, translated and discussed in the present article for the first time. I would like to thank the Superintending Archaeologist of Naples and Caserta, Stefano De Caro, for permission to republish the object, as well as Janine Bourriau and Peter French for their expert advice, and the anonymous *JEA* referees for stimulating comments and suggestions, Rosanna Pirelli for bibliographical assistance and Umberto Minichiello for help with measurements.

[2] Measured by weighing the vase first empty, then filled to the brim with distilled water.

both externally and on the interior. It has straight, almost vertical walls, flaring just slightly to a rounded, direct rim. The walls form a carination where they join the convex, rounded bottom. No traces of its contents remain.

On one side, the cup carries a hieratic label written in black ink. The first few signs are slightly faded. The inscription reads:



tpnn smỉ bỉt: 'cumin, set milk, honey'.

Nothing is known about the provenance of the object, which comes from the collection gathered by Giuseppe Picchianti during his six years in Egypt (very probably from 1819/20 to 1825/26) and acquired by the Naples Museum in 1828.[3]

According to Peter French, who kindly agreed to examine photographs of the cup, 'it is a well-known type of the fifth to fourth century BC, made of Egyptian marl clay. The shape, with the sharp carination at the base, and the technology (regular wheel marks across the exterior base) are both diagnostic. The type also occurs in Nile silt'.[4]

The inscription is in a 'block-letter' style, devoid of ligatures or flourishes, which seems compatible with the proposed time-range. The bee sign, in particular, has some close parallels in the Late Period.[5] The other signs are of common shapes attested from the Middle Kingdom onward.

The ingredients mentioned in the inscription often occur in Egyptian medical texts. *tpnn* was used, combined with various other ingredients, in the treatment of several illnesses, such as stomach problems, coughs, tongue infections, 'heat in the anus', ear and tooth problems, as well as the general treatment of pain. It was an ingredient in salves, poultices and suppositories and was also administered orally or into the ear, etc.[6] It is commonly identified as cumin (*Cuminum cyminum*). The earliest botanical remains of this species in Egypt are seeds from Eighteenth Dynasty Deir el-Medina.[7] Other scholars, however, have translated *tpnn* as 'Kümmel' (without the Linnaean name), i.e. caraway (*Carum carvi*), a related herb.[8] Notably, the German word for cumin (*Cuminum cyminum*) is 'Kreuzkümmel'. Both species have medicinal properties and are found growing in North Africa today,[9] but caraway does not seem to be attested in ancient Egypt thus far. *smỉ*, or 'set milk',[10] also administered orally, in poultices, poured into the ear, etc., is mentioned as an ingredient in a medicament for the eye and another for the ear and, in a dozen instances, in recipes for the treatment of coughs.[11] Honey, finally, is

[3] R. Di Maria, 'The Picchianti Collection', in M. R. Borriello and T. Giove (eds), *The Egyptian Collection of the Archaeological Museum of Naples* (Naples, 2000), 49–51.

[4] P. French, personal communication. Parallels (also courtesy of French): G. T. Martin, *The Tomb-chapels of Paser and Raʿia at Saqqâra* (EES Excavation Memoir 52; London, 1985), no. 122; P. French, 'Late Dynastic Pottery from the Berlin/Hannover Excavations at Saqqara, 1986', *MDAIK* 44 (1988), 82, no. 4.

[5] Cf. G. Möller, *Hieratische Paläographie*, III (Osnabrück, 1936), 24, no. 260.

[6] L. Manniche, *An Ancient Egyptian Herbal* (London, 1989), 97; H. von Deines and H. Grapow, *Grundriss der Medizin der alten Ägypter*, VI. *Wörterbuch der ägyptischen Drogennamen* (Berlin, 1959), 556–7.

[7] M. A. Murray, in P. T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge, 2000), 644; V. Loret, *La flore pharaonique d'après les documents hiéroglyphiques et les spécimens découverts dans les tombes* (Paris, 1892), 72, no. 123.

[8] Von Deines and Grapow, *Wörterbuch der ägyptischen Drogennamen*, 556–7; see also J. F. Nunn, *Ancient Egyptian Medicine* (London, 1996), 154, table 7.5.

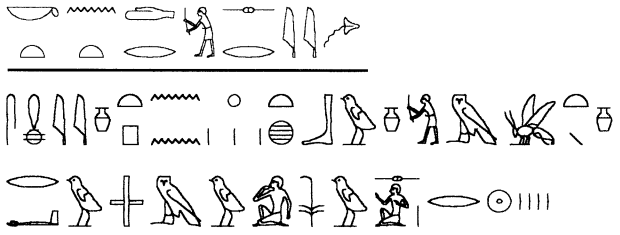
[9] See J. E. Simon, A. F. Chadwick and L. E. Craker, *Herbs: An Indexed Bibliography. 1971–1980. The Scientific Literature on Selected Herbs, and Aromatic and Medicinal Plants of the Temperate Zone* (Hamden, CT, 1984).

[10] Manniche's translation of von Deines and Grapow's 'Dickmilch', i.e. milk that is thickened by letting it set (*An Ancient Egyptian Herbal*, 97; von Deines and Grapow, *Wörterbuch der ägyptischen Drogennamen*, 438–40). Also translated as 'curd' or 'cream' (Nunn, *Ancient Egyptian Medicine*, 161, table 7.9).

[11] Von Deines and Grapow, *Wörterbuch der ägyptischen Drogennamen*, 438–40, 556–7.

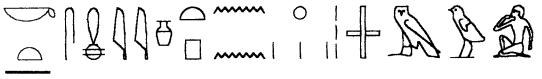
by far the most frequent ingredient in Egyptian medicine. It was often used not just for its medical properties, but to sweeten a bitter remedy.[12]

As for the recipe inscribed on the Naples cup, its purpose is revealed by a much older document, the Berlin medical papyrus (Berlin 3038), where one reads the following entry (no. 31, 3, 6–7):[13]



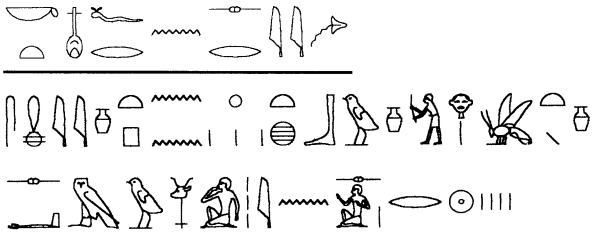
'Another for driving out cough:[14] set milk, cumin; it is (to be) dipped in (*tḫbw m*) honey; the man (= the patient) is (to be) caused to eat it for four days'.

The remedy appears in a section listing prescriptions for cough (P. Berlin 29–47 [3, 6–4, 8], with the exception of no. 35 [3, 8–11], which is for *wḥdw*, 'pain' or 'inflammation'. See Table 1. A little further in this list, among several remedies gathered under a sub-heading specifying 'Another for [suppressing] cough', one finds this rather curt entry (no. 41, 4, 2):



'Another: set milk, cumin; it is (to be) eaten'.

The last remedy in the list (no. 47, 4, 8) is:



'Another good for cough: set milk, cumin; it is (to be) dipped in (*tḫbw ḥr*) honey; it is (to be) swallowed by the man for four days'.

[12] Von Deines and Grapow, *Wörterbuch der ägyptischen Drogennamen*, 166.

[13] For this and the other remedies referred to here, cf. W. Wreszinski, *Der große medizinische Papyrus des Berliner Museums (Pap. Berl. 3038) in Facsimile und Umschrift mit Übersetzung, Kommentar und Glossar* (Die Medizin der alten Ägypter 1; Leipzig, 1909); H. Grapow, *Grundriss der Medizin der alten Ägypter*, V. *Die medizinischen Texte in hieroglyphischen Umschreibung autographiert* (Berlin, 1958).

[14] *sryt*, 'cough' rather than 'nausea'; see H. von Deines and W. Westendorf, Grundriss der Medizin der Alten Ägypter, VII[2]. *Wörterbuch der medizinischen Texte*, II (Berlin, 1962), 773–5.

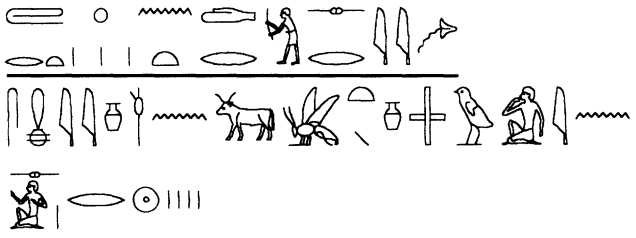
TABLE 1. *Sequence of remedies for cough in the Berlin medical papyrus, Berlin 3038 (29–47)*

29 (3, 5)	A remedy for driving out cough	*smỉ*, *bỉt*
30 (3, 5–6)	Another for driving out cough in a child	other ingredients
31 (3, 6–7)	Another for driving out cough	*smỉ*, *tpnn*, *bỉt*
32 (3, 7)	Another	other ingredients
33 (3, 7–8)	Another	*bỉt* and another ingredient
34 (3, 8–11)	Another	*smỉ*, *bỉt* and another ingredient
35 (3, 8)	To drive out *wḫdw*	other ingredients
36 (3, 11–12)	Another for suppressing cough	other ingredients
37 (3, 12)	Another good for cough	*bỉt* and other ingredients
38 (3, 12–14, 1)	Another for [suppressing] cough	*smỉ* and other ingredients
39 (4, 1–2)	Another	other ingredients
40 (4, 2)	Another	*bỉt* and other ingredients
41 (4, 2)	Another	*smỉ*, *tpnn*
42 (4, 3–4)	Another	other ingredients
43 (4, 4)	Another	*bỉt* and another ingredient
44 (4, 4–5)	Another for driving out cough	other ingredients
45 (4, 5)	Another	other ingredients
46 (4, 5–8)	Another	other ingredients
47 (4, 8)	Another good for cough	*smỉ*, *tpnn*, *bỉt*

Notably, this is practically the same remedy as no. 31, with variations only in the terms referring to its preparation (*tḫbw ḥr* instead of *m*) and administration (*sʿmw* instead of *wnmw*).[15]

In the list of prescriptions for cough in the Berlin papyrus, *tpnn* only appears in these three (nos. 31, 41, 47). *smỉ* and *bỉt* appear individually in several recipes in the list (see Table 1), but together in only two others. In no. 29 (3, 5) they are the only ingredients:

[15] The verb  *tḫb* (variant spellings: or), is normally translated as 'to dip' (*Wb* V, 326[3–5], 'in Honig, Myrrhe, Öl tauchen'). Von Deines and Westendorf (*Wörterbuch der medizinischen Texte* II, 960), referring, among others, to the above-mentioned remedies 31 and 47 in the Berlin papyrus, specify: 'das 'Eintauchen', das vorzugsweise in Honig geschieht, dient also dem besseren Schlucken des Heilmittels. Im Gegensatz zu *ḥtb*, das nur das Hineintun der Drogen bezeichnet, ist unter *tḫb* wohl das Eintauchen und wieder Herausnehmen der Drogen zu verstehen'. However, this interpretation seems hardly plausible in the case of half-liquid preparations such as the ones discussed here. Dipping a creamy substance like *smỉ* into honey and then withdrawing it would have been a sloppy business at best, if feasible at all. Furthermore, there is the evidence of the label on the Naples cup itself, suggesting that the honey was actually contained in the cup along with the other ingredients. It would seem more plausible to understand *tḫb* as meaning something like 'to immerse'.



'A remedy for driving out cough: fresh set milk of a cow, honey; it is (to be) eaten by the man for four days'.[16]

Since this is the first in the list of remedies for cough in the papyrus, in the following entries, wherever *smỉ* is mentioned, it is probably implicit that it should be made from fresh cow's milk, the repetition being considered unnecessary.

The other remedy for cough where *smỉ* and honey appear together is no. 34 (3, 8–11):

'Another: *srm.t* (yeast ?)[17] 10 *ro*, honey 5 *ro*, set milk 5 *ro*; it is (to be) made into a compound and eaten for four days'.[18]

This last prescription is especially interesting as it is the only one in the sequence of cough remedies in the Berlin papyrus to mention dosage. Supposing that honey and milk were used in the same quantities for the recipe on the Naples cup, i.e. 5 *ro* (*c.* 70 ml) each, and cumin in its habitual dosage of 1/64[19] (, *c.* 1.12 ml according to the *Grundriss*[20]), the total volume of a four-day remedy would have been *c.* 141.12 ml, which is quite close to the actual capacity of the Naples cup (157.3 ml). It is hence possible—though hardly demonstrable—that the cup may have been meant to contain a quantity of medicament sufficient for a four-day treatment like the one prescribed in papyrus Berlin 3038. It is unlikely that it was meant for a single dose: in the medical papyri cumin and set milk never exceed the quantities referred to above (respectively 1/64 and 5 *ro*), and neither does honey, in its hundreds of occurrences, exceed 5 *ro*, except in two cases.[21]

The Naples cup is one of the few surviving examples of a labelled ancient Egyptian medicine container.[22] It is also, to my knowledge, the only one inscribed with a remedy listed in the medical papyri

[16] Cf. Ebers 315 (54, 1–3), a similar prescription.

[17] See H. von Deines, H. Grapow and W. Westendorf, *Grundriss der Medizin der alten Ägypter,* IV[1]. *Übersetzung der medizinischen Texte* (Berlin, 1958), 164.

[18] Cf. Ebers 317 (54, 4–5), almost the same remedy.

[19] Von Deines and Grapow, *Wörterbuch der ägyptischen Drogennamen*, 556–7.

[20] H. von Deines, H. Grapow and W. Westendorf, *Grundriss der Medizin der alten Ägypter*, IX. *Ergänzungen. Drogenquanten, Sachgruppen, Nachträge, Bibliographie, Generalregister* (Berlin, 1973), 3–5; see also W. Westendorf, *Grundriss der Medizin der alten Ägypter,* VIII. *Grammatik der medizinischen Texte* (Berlin, 1962), 113–15.

[21] Notably, a remedy for urinary problems, Ebers 277 (50, 6–8) = Hearst 63 (4, 14–15): 15 *ro*; and one against demonic influence or possession by a spirit, Ebers 226 (45, 4–6) = Hearst 84 (7, 2–4): 20 *ro*.

[22] Those known to me all date from the Late or Ptolemaic Period. They include a small vase in the Ibrahim Harari

(the only variation being in the order of ingredients, with cumin as the first component). This is all the more remarkable because of the wide chronological gap between the cup and the Berlin papyrus. The former dates from the fifth to fourth century BC, the latter from the Nineteenth Dynasty. Thus, the recipe must have been handed down for some 700 years at the very least, and probably many more, since the medical lore compiled in the Berlin papyrus must be much older.[23] In his publication of a medicine container in the Harari collection[24] inscribed with a prescription not featured in the medical papyri, but containing ingredients normally used in the preparation of collyria, Sauneron observed: 'on peut donc constater, ce qui n'est pas sans intérêt, que la recette de ce petit vase, beaucoup plus récente que celles des papyrus médicaux, s'inspire néanmoins des plus pures traditions pharmaceutiques égyptiennes'.[25] His comment applies with all the more reason to our vase.

The Naples cup very probably comes from a tomb. Indeed, a funerary provenance can be assumed for nearly all of the objects from the Picchianti collection in the Naples Museum, which includes mummies, coffins, canopic vases, shabtis, Ptah-Sokar-Osiris statuettes, Book of the Dead papyri, amulets and funerary stelae, as well as a number of vessels in pottery and stone.[26] The excellent state of preservation of the pottery vessels is itself a further argument in favour of their funerary origin. The cup was probably among the essentials that the owner, who presumably had suffered from a cough in his or her lifetime, took along into the netherworld.

FEDERICO POOLE

A scene from the Book of the Dead belonging to a private Twenty-first Dynasty tomb in Tanis (tomb of *ʿnḫ.f-n-Jmnw*)*

Identification of a vignette from the Book of the Dead on one of the blocks that were reused to build the tomb of Sheshonq III in Tanis. This block, originally belonging to the tomb of *ʿnḫ.f-n-Jmnw*, demonstrates that the vignette of the enthronement of Osiris on the *tnṯ}t* dates back as early as the time of Psusennes. This vignette is part of the new repertoire that during the Third Intermediate Period enlarged the Book of the Dead and as far as tombs go, was previously only known in those of Osorkon II and Sheshonq D, making this the oldest representation of its kind and demonstrating its importance.

THE excavations carried out between 1929 and 1956 by Pierre Montet at San el-Hagar, the ancient Tanis, led to the discovery of the tombs of some of the kings of the Twenty-first and Twenty-second

---

collection in Cairo, cylindrical like the Naples cup, and dated, on paleographic grounds, to the Saite or Persian Period (S. Sauneron, 'Une recette égyptienne de collyre', *BIFAO* 57 (1958), 157–61); and a salve pot of the Ptolemaic Period (Berlin 17095; Möller, *Paläographie* III, 3, n. 3). A detached label for a salve jar of the Twenty-sixth Dynasty is also known (Louvre 815; Möller, *Paläographie* III, pl. 2). The use of hieratic for these labels reflects the fact that medicine was part and parcel of traditional priestly knowledge, and hence still handed down in the ancient script. For a quick review of surviving medical literature in hieratic and demotic from the Late Period to Roman times, see J. F. Quack, 'Ein neues medizinisches Fragment der Spätzeit (pAshmolean Museum 1984.55 rt.)', *ZÄS* 126 (1999), 141, n. 3, and 146–7, nn. 6–19.

[23] Like papyrus Ebers, Berlin 3038 is claimed to have been 'found amongst writings of ancient times in a chest at the feet of Anubis in Letopolis' at the time of King Den of the First Dynasty (P. Berlin 163a). It has been argued that it is at least as early as the Middle Kingdom, as the name of the alleged author, Netjerhetepu (or Netjerhetep), is not attested after that period (A. -P. Leca, *La medicina egizia al tempo dei faraoni* (n. p., 1986; Italian translation of *La médecine égyptienne au temps des pharaons*, Paris 1971), 28); however, it is not certain whether Netjerhetepu is truly a name or merely an epithet, 'who soothes the god' (Nunn, *Ancient Egyptian Medicine,* 37–8).

[24] See n. 22.

[25] *BIFAO* 57, 161.

[26] Cantilena and Rubino (eds), *La collezione egiziana*, 151–212; Rita di Maria, in Borriello and Giove (eds), *The Egyptian Collection*, 49–57.

* I would like to express my sincere thanks to Professor I. Gamer-Wallert and Dr F. Gomaà of the Ägyptologisches Institut der Universität Tübingen for previous reading of this article, and also to Clive A. Jagger for kindly revising my English.

Dynasties as well as another series of simple grave burials belonging to people that inhabited Tanis from the end of the Twentieth Dynasty, on the basis of the ceramic types discovered.[1] The western side of the enclosure of the temple of Amon, built in the time of Psusennes I, lies above some of these burials,[2] which Montet suspected were human sacrifices.[3] Despite the numerous excavation campaigns that have been carried out at San el-Hagar from the beginning of the nineteenth century,[4] neither the place where important kings like Smendes and Sheshonq I were buried, nor the necropolis of the noblemen from the Tanite court has been located.

In the tomb of Psusennes (NRT III), two of the chambers are dedicated to two of the nobility of Tanis.[5] In the third chamber a man called *ʿnḫ.f-n-Mwt* was buried, probably a hereditary prince (*iry-pʿt ḥry-tp tȝwy*) of Psusennes,[6] while the fourth chamber was dedicated to a man called *Wn-ḏbȝ-n-ḏdt* who, according to Broekman,[7] could be a relative of Smendes, founder of the Twenty-first Dynasty. With the exception of these two individuals, all we know about the burials of the Tanite noblemen is limited to the numerous blocks coming from the tombs of *Ḥnsw-ḥb* and *ʿnḫ.f-n-Jmnw*, which were used as construction materials in the tomb of Sheshonq III (NRT V).[8]

ʿnḫ.f-n-Jmnw was a contemporary of Psusennes I, since some of his inscriptions are written with this king's cartouche[9] and there is additional information about him on a statue (Cairo JE 86125) bought in 1944 by the Antiquities Department and found not very far from Kafr Saqr, near Tanis.[10] The inscriptions on this piece give his titles and tell us that he lived until the age of 72. *ʿnḫ.f-n-Jmnw* held the position of a *wʿb n Jmnw-Rʿw nsw nṯrw*, related to the main cult in Tanis. *Ḥnsw-ḥb* could have been a grandson[11] of *ʿnḫ.f-n-Jmnw*, who may have lived in the Twenty-first Dynasty.

The scarcity of noblemen's tombs from the first part of the Third Intermediate Period has resulted in a gap in our knowledge of the iconography of scenes decorating the walls of these tombs. Therefore, the fragments found in Tanis are of great importance. The focus here will be on one of the blocks of the tomb of *ʿnḫ.f-n-Jmnw* that Montet found in NRT V, classified as number 13,[12] measuring 93 × 57 cm (fig. 1).

On the left-hand side of this sunken relief stands a man dressed in fine linen robes. He raises his arms in an expression of adoration and salutation. Two columns of text before him identify the deceased as *ʿnḫ.f-n-Jmnw*. Opposite him stands a goddess armed with a sharp knife in each hand, who seems to protect what was behind her. On a sub-register line behind the goddess a third figure is oriented toward the right. Finally, between these last two, one sees part of the body of a great snake. Montet described this decoration as a 'scène d'adoration' but, without doubt, it is a scene linked to the Book of the Dead.

In block 13 we find part of a scene that could have originally spread across at least five blocks of which we have no remains. Although the relief is not in optimum condition, there is sufficient evidence to identify the composition to which it belongs, enabling the reconstruction of elements that formed

[1] P. Brissaud, 'Répertoire préliminaire de la poterie trouvée à Sân el-Hagar (2e partie)', in P. Brissaud (ed.), *Cahiers de Tanis,* I (Paris, 1987), 77 and figs. 20–1.

[2] P. Brissaud, 'Rapport sur la XLIe campagne – 1994', *BSFFT* 8 (1994), 10.

[3] P. Montet, *Les nouvelles fouilles de Tanis (1929–1932)* (Paris, 1933), 78–9; this theory has since been discarded. See P. Brissaud, 'Les prétendus sacrifices humains de Tanis', in Brissaud (ed.), *Cahiers de Tanis* I, 136–7.

[4] P. Brissaud et al., *Tanis, les pharaons de l'incertitude. Fouilles recentes dans la Thèbes du Nord* (Paris, 1991), 8–9.

[5] P. Montet, *Les constructions et le tombeau de Psousennès à Tanis* (Paris, 1951), 65–86.

[6] K. A. Kitchen, *The Third Intermediate Period in Egypt*[2] (Warminster, 1986), 264 and 475. K. Jansen-Winkeln, however, suggests that *ʿnḫ.f-n-Mwt* was a son of Herihor ('Der Majordomus des Amun Anchefenmut', *DE* 38 (1997), 32).

[7] G. P. F. Broekman, 'Facts and Questions about Wen-djeba-en-djed', *GM* 167 (1998), 25–7. Broekman suggests that *Wn-ḏbȝ-n-ḏdt* could be a younger son, cousin or nephew of Smendes.

[8] Published first in P. Montet, 'Le tombeau d'Ousirmare Chechanq fils de Bastit (Chechanq III) à Tanis', *BSFE* 23 (1957), 11–13; P. Montet, *Les constructions et le tombeau de Chéchanq III à Tanis* (Paris, 1960), pls. 46–61.

[9] Ibid., pl. 53 no. 19.

[10] L. Habachi, 'A Statue of Osiris made for Ankhefenamun, Prophet of the House of Amun in Khapu and his Daughter', *ASAE* 47 (1947), 261–82, pls. xxxii–xxxiii.

[11] F. von Känel, 'Les courtisans de Psousennes et leurs tombes de Tanis', *BSFE* 100 (1984), 40–1.

[12] Montet, *Le tombeau de Chéchanq III*, pl. 55 no. 13.

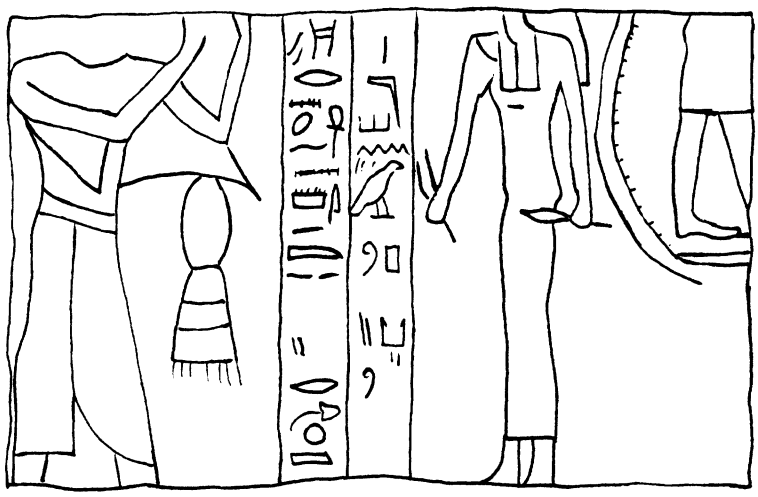


FIG. 1. Block from the tomb of *ʿnḫ.f-n-Jmnw*, Twenty-first Dynasty (after Montet, *Le tombeau de Chéchanq III*, pl. lv.13).

some of the decoration of this part of *ʿnḫ.f-n-Jmnw*'s tomb and comparison of them with well known examples from other tombs, coffins and papyri.[13]

Only two appearances of this scene in tombs are so far known, one of these a Tanite tomb. On the south wall of the antechamber of the tomb of Osorkon II (NRT I) a complete version of the scene can be recognised,[14] although with an inverted orientation (fig. 2). To the right, King Osorkon II appears in the same place and position as *ʿnḫ.f-n-Jmnw* on block 13. A doorway leads the deceased king to an armed goddess called *Ḥpt Ḥrw*, whose head is that of a snake, and who was probably also the deity in the scene of *ʿnḫ.f-n-Jmnw*. Behind her is a great snake whose lower part is shown on *ʿnḫ.f-n-Jmnw*'s block. It acts as the defender of Osiris, in the same way as the goddess *Ḥpt Ḥrw*. In the centre of the main tableau, the god Osiris sits on a throne on a *nb*-base standing on a podium with steps. Two divinities, identifiable as Horus and Thoth, approach him in reverence. Block 13 preserves only part of this scene, probably the figure of Horus. Beyond Osiris the scene of Osorkon II is completed with a goddess wearing the feather of Maat, a god holding two snakes crosswise before him and, below them, a ram named *Šꜣy*, probably a personification of the god Khnum who, as a creator and lord of destiny, is connected to the regeneration of the god Osiris.[15] The second parallel that can be found of this scene as part of the decoration of a tomb comes from the west wall of the sepulchral chamber of the tomb of the hereditary prince and high priest of Ptah *Ššnq* (Sheshonq D of Kitchen), son of Osorkon II,[16] at Memphis.[17] The decoration of this tomb is almost contemporary with that of Osorkon II.

[13] G. Roulin, 'Les tombes royales de Tanis: analyse du programme décoratif', in P. Brissaud and C. Zivie-Coche (eds), *Tanis. Travaux récents sur le tell Sân el-Hagar* (Paris, 1998), 218–21.

[14] P. Montet, *Les constructions et le tombeau d'Osorkon II à Tanis* (Paris, 1947), pl. xxiv.

[15] C. Seeber, *Untersuchungen zur Darstellung des Totengerichts im alten Ägypten* (MÄS 35; Munich, 1976), 180. Nevertheless, according to Quaegebeur who dedicated a complete study to the god Shaï, this relationship is problematic and insecure. In his opinion, the ram could be the *bꜣ nb dwꜣt*, the god Re in the form of a ram from the netherworld; see J. Quaegebeur, *Le dieu égyptien Shaï dans la religion et l'onomastique* (OLA 2; Leuven, 1975), id., 'L'animal Shaï associé au trône d'Osiris', in U. Luft (ed.), *The Intellectual Heritage of Egypt* (Studia Aegyptiaca 14; Budapest, 1992), 492–3.

[16] G. Daressy, 'Notes sur les XXII^{e}, XXIII^{e} et XXIV^{e} dynasties', *Rec Trav* 35 (1913), 142.

[17] A. Badawi, 'Das Grab des Kronprinzen Scheschonk, Sohnes Osorkon's II. und Hohenpriesters von Memphis', *ASAE* 54 (1957), pl. xi.

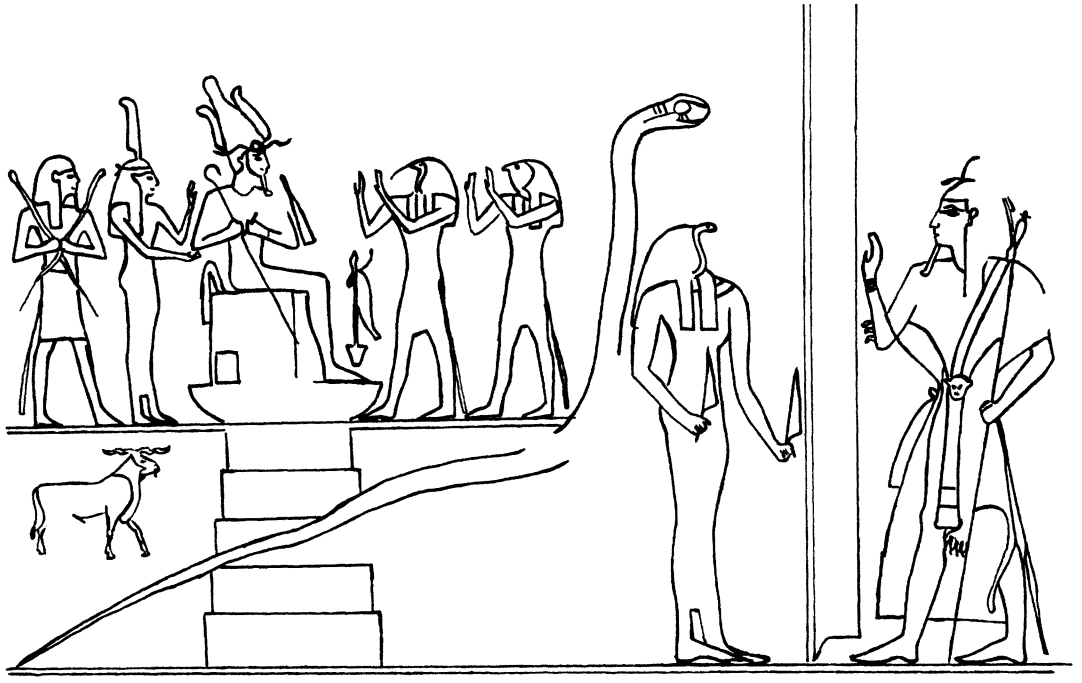


FIG. 2. South wall of the antechamber of the tomb of Osorkon II at Tanis, Twenty-second Dynasty (after Montet, *Le tombeau d'Osorkon II*, pl. xxiv).

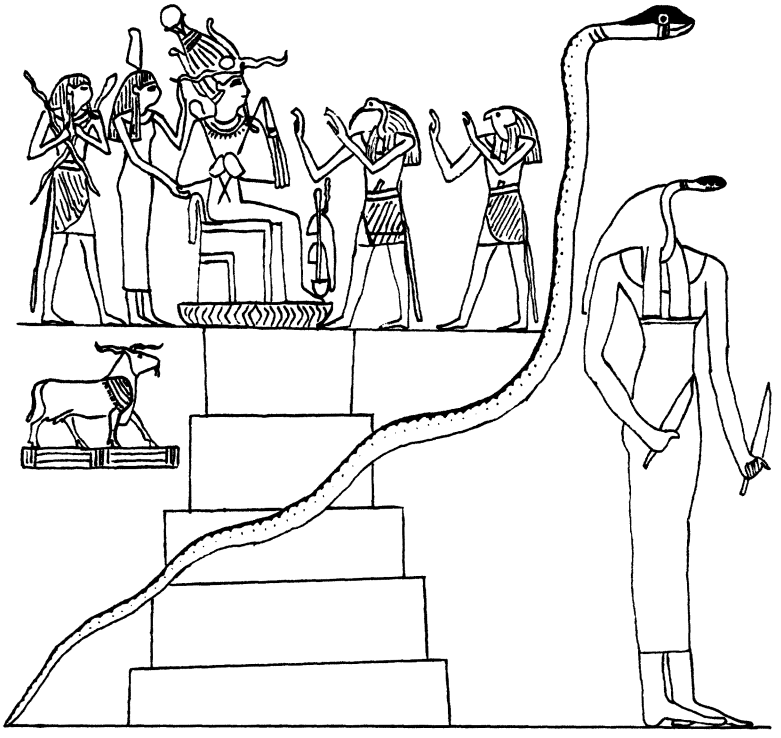


FIG. 3. The Greenfield Papyrus, BM EA10554, Twenty-first Dynasty (after Budge, *The Greenfield Papyrus*, pl. cviii).

This representation also appears in papyri of the Twenty-first Dynasty, specifically those of *P3-dj-Jmnw*,[18] *Ḫnsw-rnp* [19] and the Greenfield Papyrus (BM EA10554)[20] which belonged to the priestess of Amon-Re at Thebes *Nsj-t3-nbt-Jšrw* (fig. 3).

The largest number of parallels are found on coffins from the Third Intermediate Period. Among the coffins discovered in the famous cachette of Deir el-Bahari, that of the great Theban priest *P3j-nḏm* II (Cairo CG 61029)[21] shows basically the same complete scene seen on the tombs of Osorkon II and *Ššnq* D, although some characters have been replaced. Similar representations can be found in the interior coffins of *Nsj-Ḫnsw* (Cairo CG 61030)[22] and *T3y-wḥrt* (Cairo CG 61032).[23] An almost identical scene is shown on a coffin whose current whereabouts are unknown; fortunately, some drawings have survived so that the name of the owner, *Jt-nfr-Jmnw*, is known.[24] Other examples can also be cited.[25]

The examples of Osorkon II, *Ššnq* D and the newly identified scene on block 13 of *ʿnḫ.f-n-Jmnw* are the only examples that I have found of this vignette in tombs. Nevertheless, Roulin[26] believes it to occur on a block of the tomb of *Ḫnsw-ḥb*. However, this scene[27] (fig. 4) could have no relationship with the illustration on Tanis block 13. In all the examples previously mentioned on tombs, papyri and coffins, almost all from the Twenty-first Dynasty, the god or the gods that are before Osiris are always located at the level of the base of the throne and never at the level of the base of the stairway. This happens in seventeen of the eighteen examples mentioned, the only exception being the coffin of *Nsj-*

FIG. 4. Block belonging to the tomb of *Ḫnsw-ḥb*, Twenty-first Dynasty (after Montet, *Le tombeau de Chéchanq III*, pl. liii.15).

[18] A. Piankoff and N. Rambova, *Mythological Papyri* (New York, 1957), 112–13 and (plates) no. 10 scene 4.

[19] Ibid. 119–20 and (II) no. 11 scene 3.

[20] E. A. W. Budge, *The Greenfield Papyrus in the British Museum* (London, 1912), cvii–cviii.

[21] G. Daressy, *Cercueils des cachettes royales* (CG; Cairo, 1909), 104 and pl. xliv (left).

[22] Ibid. 126–7 and pl. xlviii (left).

[23] Ibid. 187 and pl. lvi (half).

[24] A. Niwiński, *21st Dynasty Coffins from Thebes. Chronological and Typological Studies* (Theben 5; Mainz, 1988), 30–1, fig. 19.

[25] R. V. Lanzone, *Dizionario di mitologia egizia,* II (Turin, 1885), coffin of *Bw-thj-Jmnw* (pl. ccviii), coffin of *T3-b3k-n-Ḫnsw* (pl. ccix), coffin of *B3pwn* (pl. ccx) and coffin of *Nsj-Ḫnsw* (pl. ccxi); V. Schmidt, *Sarkofager, Mumiekister, og Mumiehyistre i det gamle Aegypten. Topologisk Atlas* (Copenhagen, 1919), coffin of *P3-ms-ḥm* (132, fig. 685) and coffin Leiden M 5 (139, fig. 713); Niwiński, *21st Dynasty Coffins from Thebes,* coffin Cairo JE 29692 (fig. 3); G. Englund, 'Propos sur l'iconographie d'un sarcophage de la 21e dynastie', *Boreas* 6 (1974), coffin of *Ḫnsw-ms* Victoriamuseet 228 (44 fig. 4); Piankoff and Rambova, *Mythological Papyri,* coffin of *Nb-t3wy* (59 fig. 45); Roulin, in Brissaud and Zivie-Coche (eds), *Tanis,* n. 165.

[26] Roulin, in Brissaud and Zivie-Coche (eds), *Tanis,* 218.

[27] Montet, *Le tombeau de Chéchanq III*, pl. liii no. 15.

[28] Lanzone, *Dizionario*, pl. ccxi.

Ḫnsw,[28] where no god appears before Osiris. I believe that this demonstrates that the scene of *Ḫnsw-ḥb* cannot be directly related to the vignette described here.

Instead, the scene of *Ḫnsw-ḥb* could represent Osiris on his throne, the devouring one *ʿm-mwt* and possibly the god Thoth or Horus. The right side of the lost coffin of *Jt-nfr-Jmnw*, once part of the Perrot collection, bears a similar scene.[29] There *ʿm-mwt*, Horus and Osiris lean on the first steps of the stairways, which are decorated with eight cobras. This last feature also appears in other coffins[30] that contain the scene of the enthronement of Osiris, and it could be explained according to the Hermopolitan conception of the primordial hill symbolized by the *ṯnṯ3t*-podium. The difference is that on the coffin of *Jt-nfr-Jmnw*, the scene shown corresponds to Chapter 125 of the Book of the Dead. In these kinds of vignettes the gods that participate in the judgement (Thoth, Horus, Maat, Anubis, etc.) and the deceased are located in most cases at the same level, that is to say, the base of the throne of Osiris, the stairway or at his feet. During the Twenty-first Dynasty it is usual to find *ʿm-mwt* on the stairway, such as appears in the papyrus Cairo CG 40007[31] or on BM EA 9904,[32] both illustrating the judgement of Osiris. However, the element that decorates the stairways of *Ḫnsw-ḥb*, a bound enemy, is unusual in the context of Chapter 125. Papyrus BM EA 9932[33] offers a very interesting example (fig. 5). The upper

FIG. 5. Papyrus BM EA 9932 (after Niwiński, *Illustrated Theban Funerary Papyri*, pl. 46a).

[29] Niwiński, *21st Dynasty Coffins from Thebes*, 30 fig. 19.

[30] P. Derchain, *Le Papyrus Salt 825 (B.M. 10051), rituel pour la conservation de la vie en Égypte* (Brussels, 1965), 37, referring to the coffin of *Nb-t3wy* conserved in The Metropolitan Museum, published in Piankoff and Rambova, *Mythological Papyri*, 58 fig. 44.

[31] Seeber, *Untersuchungen*, pl. 14.

[32] Niwiński, *Studies on the Illustrated Theban Funerary Papyri of the 11th and 10th Centuries B.C.* (Freiburg, 1989), pl. 19c.

[33] Ibid., pl. 46a.

register contains the scene of the judgement, but, in another register below, to the left side the deceased appears before a great snake and a snake-headed goddess resembling *Ḥpt Ḥrw*, with *ʿm-mwt*. On the right are the snake divinities and *ʿm-mwt* on the stairways of the throne, but it is Nefertum and not Osiris who is seated on that throne. This example seems to show that, at least in some cases, a relationship could exist between the illustrations in Chapter 125 of the Book of the Dead and the divinities with snake forms. It is also worth mentioning papyrus BM EA 10008,[34] where a goddess, identified again as *Ḥpt Ḥrw*, is present in a variant of Chapter 125 A and the Negative Confession. Even more explicit is the coffin Basel III 129,[35] of the Twenty-second Dynasty, since on it a similar divinity is located beneath the scales, in a place habitually occupied by Anubis. The balance of probability, thus, is very much against the vignette identified by Roulin being exactly the same as that from the tomb of *ʿnḫ.f-n-Jmnw*.

According to Niwiński,[36] a series of new iconographic compositions was created in the Twenty-first Dynasty, including the representations of the complicated conceptions of cosmogony, cosmology and eschatology. The scene of the great snake, among others, is related to other vignettes from the Book of the Dead, so we can assume that they are part of a new iconographic repertoire developed by the priests complementary to the Book of the Dead. For Rambova, the scene of the enthronement of Osiris above a double stairway could refer to the last stage of Osirian resurrection and possibly illustrates the description of Osiris in the first chapter of the Book of the Dead.[37] However, the text associated with this vignette on the tomb of Osorkon II is an extract from Chapter 146 of the Book of the Dead, in which the arrival in the underworld of Horus *nḏtj ḥr jt.f* is announced.[38]

A similar representation is not, to my knowledge, known in private tombs of the New Kingdom, although the vignettes from the Book of the Dead begin to play a more important role during that time. While the tomb of *Ššnq* D may be considered as a parallel in a private tomb of the Third Intermediate Period, it is worth stressing the considerable lack of information we have on this period. Nevertheless, the abundant parallels of this vignette in papyri and coffins from the beginning of the Third Intermediate Period allow us to presume that this could have been incorporated in the iconographic repertoire of the tombs of this period with more frequency than is so far attested. Likewise, the fact that this same scene is also found in private (*ʿnḫ.f-n-Jmnw* and *Ššnq* D) and royal (Osorkon II) tombs during the Third Intermediate Period gives clear evidence that the distinct difference of iconographic themes that differentiated private and royal tombs during the New Kingdom had ceased to exist. Therefore, the scene on block 13 of the tomb of *ʿnḫ.f-n-Jmnw* becomes, due to its relative rarity so far in tombs, an important example that demonstrates the use of this vignette, which was added to the Book of the Dead at the beginning of the Third Intermediate Period, and to the decoration of the private tombs from at least the reign of Psusennes I.

José Lull

[34] Lanzone, *Dizionario*, pl. clxiii.

[35] Seeber, *Untersuchungen*, pl. 22.

[36] *Illustrated Theban Funerary Papyri*, 38–41.

[37] *Mythological Papyri*, 59.

[38] Although the vignette of Osorkon II has great similarities to that of Papyrus Greenfield, Chapter 146 of the Book of the Dead appears on the papyrus a long way from that vignette; K. Jansen-Winkeln, 'Weiteres zum Grab Osorkons II.', *GM* 102 (1988), 34–5. It is also noteworthy that as with Papyrus Greenfield, on the coffin of *Nsj-Ḫnsw* (Cairo CG 61030) and in the tomb of *Ššnq* D the vignette is preceded by a cosmological scene.

REVIEWS

Dwarfs in Ancient Egypt and Greece. By VERONIQUE DASEN. Oxford Monographs on Classical Archaeology. 195 × 255 mm. Pp. xxix + 354, pls. 81, numerous text figs. Oxford, The Clarendon Press, 1993. ISBN 0 19 814699 X. Price not stated.

Individuals judged by society as differing from what was considered to be the normal human form have always received the attention of their contemporaries, sometimes as prized commodities, often with derision and certainly with curiosity. Human height is a continuously variable trait affected by the intricate interaction of a variety of genetic and environmental factors, and many cultures and periods in history have produced evidence for curiosity about individuals who attained heights well below or above the 'norm'. This book, a revision of the author's doctoral thesis, is concerned with the evidence for small-statured people in two ancient civilisations: Egypt and Greece.

Following the general introduction, wherein the management of the material is outlined, the book is divided into four sections. Section I considers the medical context of dwarfism in two chapters dealing with the typology of growth disorders and palaeopathology. The first chapter briefly presents some general facts and figures about the definition, measurement and occurrence of growth disturbances. Types of dwarfism are outlined under the sub-headings of 'disproportionate' and 'proportionate' short stature. Whilst the author notes that nowadays at least a hundred distinct forms of dwarfism are recognised, she wisely restricts her discussion to those forms which can be identified from ancient artistic representations. Hence achondroplasia (disproportionate short stature) and pygmyism, or constitutional dwarfism, (proportionate short stature) amongst others are dealt with in some detail. The chapter provides useful references and a table of the main forms of dwarfism.

The second chapter, on palaeopathology, provides a brief outline of ancient human remains diagnosed as exhibiting a form of growth disturbance. Here the evidence falls very firmly within the confines of ancient Egypt. Osteological studies have been more prolific for ancient Egypt than ancient Greece, because Egypt's environment favours the preservation of burials in good condition. Dasen also notes that even the Egyptian biological evidence is fraught with difficulties, as many early suggested diagnoses of ancient Egyptian dwarfism were presented without supporting illustrations, making scholars dependent on only the authors' diagnoses. Two further Old Kingdom examples from Giza of skeletons presenting dwarfism may now also be added to Dasen's account: that of the court official Perenankh/Perniankhu and that of a young female dwarf from the workmen's community whose foetus lodged within her pelvis attests to a tragic death in childbirth.[1]

Section II, comprising eight chapters, is a detailed study of linguistic and artistic evidence from Egypt. In a chapter on terminology Dasen discusses three words or terms designating a short-statured person. *dng*, the earliest attested, found in an Old Kingdom letter from King Pepy II to his official Harkhuf and in a spell in the Pyramid Texts, is discussed at length. Dasen puts forward a well structured argument in favour of *dng* possibly having referred to short-statured persons from southern countries. The word may, indeed, have denoted a pygmy or an indigenous dwarf. She postulates that the word *ḥwʿ*, also attested from the Old Kingdom, may be synonymous with the third word *nmw,* dating from the Middle Kingdom, in referring to some form of shortness in stature. Dasen does note, however, that all three words are followed by a determinative depicting a disproportionate dwarf with short limbs and a long torso, which somewhat complicates matters.

1 See J. Filer, *Disease* (London, 1995), 36 and 55–6.

In a chapter outlining the ancient Egyptian iconographic conventions for depicting the human figure, Dasen suggests that the standardization of dwarfed figures in art was a well-established practice. The chapter discusses a number of examples, leading to the conclusion that several standardized features in depictions of dwarfs are probably iconographic conventions rather than attempts at realistic representation.

Although ancient Egyptian religion considered that one of the threats to the ordered world was through monstrous and malformed beings, culpability was not laid at the feet of dwarf-statured gods. Thus, three well-referenced chapters are devoted to a consideration of anonymous dwarf gods, Bes and Ptah-Pataikos. In the first of these, Dasen, citing a variety of texts, both magical and liturgical, demonstrates that the dwarfs invoked, although nameless, were principally protective beings and may, at times, have been assimilated with Re, Horus, Neith and Geb. Bes, who emerged in the Middle Kingdom, is a well-known deity, attaining popularity during the New Kingdom as a protector of the home and in particular women in childbirth. This chapter, with its detailed references, contains an in-depth discussion of the development of the god's name, iconographic representations and important functions in the domestic sphere. In a consideration of the origins of Bes, possible foreign influences are discussed. The chapter concerned with Ptah-Pataikos, a late New Kingdom deity represented as an achondroplastic dwarf, again well-referenced, follows a similar structure to that on Bes.

In a chapter entitled 'Physical Minorities', Dasen attempts to establish the attitudes ancient Egyptians may have had towards dwarfs by considering the position of other members of society with physical differences. As the author states, there is no evidence that the Egyptians practiced forms of infanticide or the exposure of unwanted children (as may have been the case with some ancient societies), though there is some indication of such practices among Greek populations during the Graeco-Roman Period. This would surely bode well for those born with malformations. Unfortunately, we have a dearth of information regarding the occurrence of birth anomalies in Egypt, but some evidence suggests that the birth of twins was regarded as undesirable. The fate of those with illnesses or malformations is also difficult to determine although some New Kingdom texts suggest that the afflicted were entitled to respect in their hour of need and that a physical infirmity was no bar to attaining a position.

With regard to the Egyptian context of dwarfs, the lengthiest chapter is entitled 'Human Dwarfs', in which it is clear that the amount of pictorial representations of human dwarfs far outweighs the textual evidence. Starting with the Predynastic Period, Dasen examines the iconographic, literary and epigraphic evidence as it exists for the major phases of Egyptian history through to the Graeco-Roman Period. Where possible, Dasen comments on the role of individual dwarfs in society. Of particular interest is the discussion of the representation of dwarfs in the Old Kingdom, as the evidence during this period is fairly abundant. As an example of the successful integration into society of the dwarfed individual, the case of the court official Seneb is examined. He was buried with his wife in a mastaba tomb at Giza, though, on account of later plundering, his body was not recovered. Extant information in the form of inscriptions and depictions, however, detail Seneb's career and aspects of his domestic life. His disproportionate limbs are clearly depicted in reliefs and statuary. Whilst two of his children depicted in the famous limestone group of the Seneb family do not appear to have inherited their father's condition, the recent article by Sampsell should be consulted.[2] Interestingly, Dasen notes that dwarfs are not represented in the tombs of New Kingdom officials, the Amarna Period being considered separately, but are seen in a few temple reliefs. By contrast, dwarfs, with club-feet, are represented in Amarna court scenes, and Dasen suggests that the grand titles awarded these dwarfs were intended to indicate their comical, jester-like role at court. Ending her section on Egypt the author pinpoints various gaps in the evidence for dwarfism but concludes that dwarfs generally had a positive image in ancient Egypt and that dwarfism was not regarded as a disease to be cured or as a divine punishment following, perhaps, some religious transgression.

Section III is concerned with the evidence for dwarfs in classical Greece. This section, in six chapters, is similar in structure to that on Egypt. The terminology of dwarfism is outlined and, as in the case of Egypt, it is not possible to distinguish between references to pathologically and ethnically short-statured persons. It seems likely that the two known terms had a similar meaning. Dasen stresses the Greek restraint and sensitivity in iconographic conventions for depicting human anomalies. It is sug-

[2] See B. M. Sampsell, 'Ancient Egyptian Dwarfs' *KMT* 12/3 (Fall 2001), 60–73, and in particular 72.

gested that pathological dwarfism cannot be recognized with certainty in black-figure vase-painting, whereas the opposite is the case in red-figure vase-painting. In the latter, depictions of anatomy are considered to be accurate enough to allow identification of disproportionately short-statured conditions such as achondroplasia, which appear the most frequently. Again, however, as in Egyptian depictions, some dwarfed figures appear too stylized to allow an accurate identification of the condition.

In a chapter entitled 'Dwarfs In Myth', four categories of dwarf-like beings are considered. In the first category the documentary and iconographic sources for pygmies are outlined. A salient point which emerges from the written sources is that there is an almost universal need among cultures to explain abnormality. Thus, in the Greek world people who were deemed 'different', whether physically or mentally, were perceived as belonging to other countries or places. Some authors placed pygmies as emanating from caves or from beneath the earth, others at the source of the Nile or in Libya, India or Caria. Some written sources tell of the continuous battle between pygmies and cranes, which may be an evocation of beliefs in a primordial conflict. This conflict continues in the iconography where the unceasing battle between the two combatants is the theme depicted in vase-painting. Here Dasen suggests that it is difficult to distinguish between depictions of pygmies and pathological dwarfs, or indeed whether these beings belong to a human or mythical world. The second category, the Cercopes, are considered in the light of written sources and iconography. The story of the Cercopes variously views them as brothers, malefactors, robbers and cheats, and whilst scholars refer to them as 'mischievous dwarfs' or 'gnomes', ancient texts do not specifically report them as particularly small or as having a physical abnormality. The iconography surveyed in this chapter, however, sometimes does depict them as small, but as having 'normal' proportions. The third category deals with the sources for demons associated with Hephaistos, many of which are represented as small-statured individuals. The iconographic type of statuettes representing the fourth category of dwarf-like beings, the kourotrophic demons, may derive some attributes from the previously mentioned Egyptian dwarf gods Bes and Ptah-Pataikos and, indeed, may convey the Egyptian idea that dwarfs were guardians of the home.

As in section II, a chapter on 'Physical Minorities' is an attempt to assess the role of the dwarfed person in Greek society. In Athens, the father, as head of the family, had all-encompassing power over his children. A newborn infant was only 'legally born' following a feast and sacrifice and official recognition by the father. The implication is that an unwanted child, most probably illegitimate, female or physically abnormal, might be exposed, to die or be rescued. Laws in Sparta, according to Plutarch, gave the state the right to decide whether or not a newborn infant should live or die and whether the ill-born and deformed should perish. Dasen suggests that as growth disturbances may not be easily detected at birth, there is the likelihood that an infant's dwarfed condition would not be detected until after the time allowed for exposure, and therefore might be viewed as a positive circumstance. In trying to assess the amount of participation in society allowed to disabled citizens, Dasen conjectures that physical deformation may not have been an obstacle to receiving an education, yet Aristotle viewed dwarfs as having little ability to reason and poor memory capacity. Dasen ponders on the fate of any eighteen-year-old Athenians about to be officially registered as part of the community, who were found to have physical deficiencies.

A lengthy chapter entitled 'Human Dwarfs' assesses a variety of sources. Textual evidence is divided into works of fiction and medical writings. In literary texts there are only a small number of allusions to pathologically short people from about the fifth century BC onwards. Some of these texts exploit the condition as a form of comedy. Yet, the author points out, in a positive sense smallness of body was sometimes associated with bravery and quick-wittedness. Whilst the extant medical texts do not mention dwarfism, there is some reference to congenital disorders such as defective foetuses and infants with malformed limbs. Without specifically mentioning dwarfism, the thinking inherent in the Hippocratic texts might have viewed the condition as being inherited from abnormal parents or as being acquired during pregnancy. Dasen here provides a useful discussion of Aristotle's observations on dwarfism. He groups dwarfs, children and animals as inferior beings and, indeed, describes disproportionate and proportionate dwarfism. The major part of this chapter considers the iconography of human dwarfs. Images of short-statured people are found on a variety of vessels made after 450 BC (with only pygmies and not dwarfs, featuring on women's vessels). The author suggests that, as there

were unlikely to have been many dwarfs acting as an inspiration for artists, it is possible that workshops or painters used the same 'model' for different depictions. As part of her discussion on the development of dwarf representations, Dasen considers the role of parody and caricature, wherein dwarfs are not actually made fun of but are part of a subtle image-play. The level of integration into society is considered against the background of the social and religious status of human dwarfs. As the disproportionate bodies of dwarfs did not accord with the Greek concept of physical beauty, it is possible that they were regarded as lesser persons, being relegated to the position of personal retainers or entertainers. However, contrary to this, scenes show dwarfs in the same clothing as and behaving like ordinary citizens. Dasen postulates that dwarfs in Greece, as in Egypt, may have acquired a special position in religion because of their unusual appearance; their resemblance to satyrs is examined. She suggests that they were more easily assimilated into the world of Dionysos, as this was the god most likely to value unusual beings. The chapter concludes with a brief consideration of dwarf images on South Italian vases.

In her conclusion to the Greek section, Dasen admits that the role of dwarfs in Greek society is difficult to define owing to the paucity of evidence. Their position is ambivalent, on the one hand being relegated to the margins of society, on the other being regarded in a positive light as helpers of mankind and protectors of children and fertility.

Overall, Dasen concludes that dwarfs had specific, but differing, roles to play in both Egyptian and Greek societies. In Egypt dwarfs were equated with youthful qualities and often associated with deities such as Horus, whereas in Greece they were likened to satyrs and associated with Dionysos. Yet there are significant similarities between the attitudes of the two civilizations. In both cultures dwarfs seem to have been accepted and integrated into society with no sense of handicap attached to their physical differences, and on occasion dwarfs appear to have acted as intermediaries between deities and mortals. Most importantly, a contrast is drawn between the negative attitudes towards dwarfs and other persons with physical malformations which developed during the following Hellenistic and Roman Periods, and the positive attitudes towards human dignity and sensibility apparent in Egypt and classical Greece.

Section IV is a catalogue of Egyptian and Greek materials associated with dwarfism. The book is well illustrated with 80 black and white plates covering the range of artistic material discussed in the text.

Dasen states in her introduction, 'the position of dwarfs and malformed people in ancient communities has never been studied comprehensively', and this book goes a long way towards rectifying this situation. It is well-structured and clearly written, providing a thoughtful discussion of the subject of dwarfism in two ancient cultures, and also serving as an excellent reference volume.

JOYCE M. FILER

The Remarkable Women of Ancient Egypt. By BARBARA S. LESKO. 215 × 275 mm. Pp. 68, figs. 8, pls. 28. B.C. Scribe Publications, Providence, 1996. ISBN 0 930548 13 2. Price $16.95.

Although still a slim volume, this third edition of *The Remarkable Women of Ancient Egypt* serves as a useful introduction to an increasingly popular subject. As the author states, her revisions and additions reflect the tremendous growth in related research and publications over the last fifteen years or so,[1] prior to which comparatively little information was available.

It soon becomes apparent that Lesko's own views on the status of women in ancient Egypt differ significantly from those of many others now writing on the subject. Her decision to bring out this expanded edition was 'inspired by the realisation that some other authors tend not to see the forest for the trees, or to put it another way, to see the glass half-empty, whereas I admit to seeing it half full,

[1] One of the first major studies concentrated on royal women is L. Troy, *Patterns of Queenship in Ancient Egyptian Myth and History* (Uppsala, 1986), with a broader picture in B. S. Lesko (ed.), *Women's Earliest Records from Ancient Egypt and Western Asia* (Atlanta, 1989), and more recently the standard work, G. Robins, *Women in Ancient Egypt* (London, 1993).

having always been struck by the legal advantages ancient Egyptian women possessed throughout history and by the high visibility they maintained for many centuries on the monuments'.

Lesko's view is worthy of serious consideration. An overtly negative approach often fails to take into account the relative freedoms Egyptian women enjoyed, when compared with the situation elsewhere in the ancient world, where women were simply another category of inferior to be ranked alongside foreigners and slaves.[2] In fact, so different was a society which treated women as people that Herodotus was moved to comment that 'the Egyptians themselves in their manners and customs seem to have reversed the ordinary practices of mankind' (although it must be said that the Egyptians themselves seem to have preferred the more inclusive term *rmṯ*, 'humankind', with its male *and* female determinitives).[3]

On a theoretical level at least, the reasoning behind the Egyptians' relatively enlightened approach may be partly explained by their notion of balanced dualities, in which male and female existed in a state of equilibrium fundamental to the ordered continuity of life. Many of the roles allocated to their female deities also reveal that they did not necessarily equate the male with active pursuits whilst the female remained passive; indeed, so great was the military prowess of the goddesses who accompanied the king into battle that the archetypal warrior pharaoh is himself repeatedly described as being the actual embodiment of several female deities.[4]

Beyond the confines of mythology, certain royal women are also described as taking an active role in military matters. Lesko refers to those described as leaders of troops, although both royal and non-royal women can also be portrayed actively bearing arms against male opponents. Whilst these images may illustrate fictional or ritual events, the archaeological evidence of weaponry amongst female grave goods is perhaps less easy to dismiss, and opens up a line of enquiry which might be pursued in any future edition.[5]

Nevertheless, the use of grave goods to determine gender can still prove problematic: weapons in a burial might be assumed to be purely 'ritualistic' if the sex of the body is unequivocally female. The tendency of excavators to attribute cosmetic items to female burials is no less misguided since it is well known that cosmetics and the equipment with which they were applied were used equally by men and women throughout society. In the case of one Early Dynastic burial at Gurob, the presence of a bone hairpin has recently been used to support evidence that this must have been a female burial, since the hairpin 'is a relatively certain example of a "gendered" artefact, in that there is no evidence that man used such objects', despite evidence from Mostagedda which would suggest otherwise.[6] Likewise, the tendency to assume that bodies of indeterminate sex displaying long or highly-styled hair—with or without hairpins—must be female, whereas those with short or shaven hair are identified as male, again reflects stereotypes which seem rather reluctant to go away.[7]

Grave goods and physical remains are so often the only tangible evidence remaining from which to study the lives of non-elite individuals of both sexes. Their virtual—many would say complete—exclu-

[2] S. B. Pomeroy, *Goddesses, Whores, Wives, and Slaves: Women in Classical Antiquity* (New York, 1975).

[3] H. G. Fischer, *Egyptian Women of the Old Kingdom and of the Heracleopolitan Period* (New York, 1989), 24; see also 9.

[4] Cf. the cycle of hymns to King Sesostris III (M. Lichtheim, *Ancient Egyptian Literature*, I (Berkeley, 1975),198–201); Abydos stela of Sehetepibre (ibid. 128); Kadesh battle inscription of Ramesses II (M. Lichtheim, *Ancient Egyptian Literature*, II (Berkeley, 1976), 62, 70). See also A. Roberts, *Hathor Rising: the Serpent Power of Ancient Egypt* (Totnes, 1995), and S. T. Hollis, 'Goddesses and Sovereignty in Ancient Egypt', in E. Bernard and B. Moon (eds), *Goddesses Who Rule* (Oxford, 2000), 215–32. As Hollis notes '....kingship and sovereignty incorporated the feminine in many ways little noticed or addressed in the different studies on kingship' (p. 215).

[5] E.g. W. M. F. Petrie, *Deshasheh, 1897* (London, 1898) pl. iv; Cairo ostracon 25125, in Troy, *Patterns of Queenship*, fig. 104; W. C. Hayes, *The Scepter of Egypt,* I: *from the Earliest Times to the End of the Middle Kingdom* (New York 1953), 282–3, 305–6; M. Saleh and H. Sourouzian, *Official Catalogue of the Egyptian Museum Cairo* (Mainz, 1987), nos. 120, 121, 122.

[6] Kelsey Museum 1900 from Gurob Tomb 103: T. G. Wilfong, *Women and Gender in Ancient Egypt from Prehistory to Late Antiquity* (Ann Arbor, 1997), 67, contra G. Brunton, *Mostagedda and the Tasian Culture* (London, 1937), 72, 87.

[7] J. Fletcher and D. Montserrat, 'The Human Hair from the Tomb of Tutankhamun: a Re-evaluation', in C. Eyre (ed.), *Proceedings of the Seventh International Congress of Egyptologists* (Leuven, 1998), 401–7.

sion from the scribal elite makes this particularly true of women. It is therefore essential that their physical remains are carefully studied and correctly interpreted in an attempt to redress the tremendous imbalance created through over-reliance on textual evidence of relevance to a minority male elite.[8] Therefore, the extensive remains of the remarkable women associated with Mentuhotep II perhaps deserve more than a single paragraph in a section headed 'Concubines', an archaic, biased term which seems rather inappropriate when describing Ashayet who held the title 'Great Wife of the King' (*ḥmt nsw wrt*). Besides Ashayet we know of four other royal women—Kawit, Kemsit, Sadhe and Henhenit—all of whom shared the titles 'Wife of the King whom he loves', 'Priestess of Hathor' and 'Sole Royal Ornament'. All five were given lavish burials in the royal funerary complex at Deir el-Bahri close to the body of the king himself. The complex also included the burial of a female child named Mayet, who may have been the king's daughter, together with the tombs of two further royal women and a priestess of Hathor. Yet in the absence of inscriptional evidence relating to two further female burials, both were pejoratively described as 'dancing girls', despite the fact that their tomb's proximity to that of the king might suggest that they were important members of the court. Although the remains of all these women have greatly deteriorated since they were first discovered in the earlier part of last century, Lesko's statement that 'some of their mummies reveal successfully healed Caesarean sections' cannot be supported, with the evidence perhaps more suggestive of scarification as an accompaniment to the women's elaborate tattoos.[9]

Terms such as 'concubine' and 'dancing girl' are surely inappropriate within the context of the royal necropolis, yet the women of ancient Egypt, like so many others, are still being defined by their sexual and/or biological role alone. Although the functions of wife and mother were generally regarded as a woman's lot, with the most common female title 'Lady of the House' (*nbt pr*) involving running a home and bearing children, they are, as Lesko notes, portrayed in a very public way alongside men at every level of society, where they take an active part in brewing and baking, buying and selling, performing agricultural tasks and even, in one example, steering a cargo ship.[10]

In discussing financial independence, Lesko also refers to evidence indicating that they received the same payments and privileges as their male colleagues for undertaking the same tasks. As independent citizens equal with men under the law, women could also own their own property, buy and sell it, make wills and even choose which of their children might inherit. Royal women owned their own estates and workshops; some are also known to have controlled the treasury, and whilst the majority of women who held official titles were employed within a temple context, some also functioned as overseers, governors and judges. One is named as an 'overseer of doctors', two held the title of vizier and, of course, there were at least five female monarchs.

The achievements of Egypt's female kings are discussed in a section entitled 'Queens', alongside some of the more prominent women to have held this title simply as a result of their relationship to a reigning male king. In addition to the ever-increasing number of studies relating to Hatshepsut and Nefertiti, the recent publication of the intriguing *Tractatus De Mulieribus* has shed a little more light on the reign of the shadowy Neithikret, the first woman to rule Egypt as monarch, whilst the later female king Sobekneferu has also received welcome attention recently.[11]

[8] See e.g. J. M. Filer, 'Mother and Baby Burials', in Eyre (ed.), *Proceedings of the Seventh International Congress of Egyptologists*, 391–400; a multi-disciplinary approach employing both human remains and textual evidence is used to great effect in E. Strouhal and G. Callender, 'A Profile of Queen Mutnodjmet', *BACE* 3 (1992), 67–75.

[9] H. E. Winlock, *Excavations at Deir el Bahri: 1911–1931* (New York, 1942), 74; J. Fletcher, *Ancient Egyptian Cosmetics and Tattoos* (Austin, forthcoming); M. F. Gaballah and R. Walker, *The Derry-Batrawi Collection Kasr el Einy Faculty of Medicine, Cairo Egypt: an Introduction and Catalogue* (Douglas, 1995), with thanks to F. Gaballah and the Bioanthropology Foundation for access to the collection.

[10] The woman steering the ship is also reprimanding the man who brings her a meal with the words 'Don't obstruct my face while I am putting to shore', in Fischer, *Egyptian Women*, 20, fig.15. For women's varied roles at Deir el-Medina, see B. S. Lesko, 'Ranks, Roles and Rights', in L. H. Lesko (ed.), *Pharaoh's Workers: the Villagers of Deir el Medina* (Ithaca and London, 1994), 26–34.

[11] D. Gera, *Warrior Women: The Anonymous Tractatus De Mulieribus* (Leiden, 1997), 7, 101–5; V. G. Callender, 'Materials for the Reign of Sebekneferu', in Eyre (ed.), *Proceedings of the Seventh International Congress of Egyptologists,* 227–36; for the royal woman Mutnodjmet see also Strouhal and Callender, *BACE* 3, 67–75.

Throughout Egyptian society, women were able to exercise varying degrees of power and self-determination which were clearly unusual in the ancient world. They enjoyed a level of freedom still denied them in much of the world today, and the suggestion that they also received equal pay with men highlights an ideal which the modern West has still to achieve. So whilst her refreshing approach might be regarded by some as over-optimistic, Lesko nevertheless provides a useful introduction to the remarkable individuals who made up at least half of ancient Egypt's population.

JOANN FLETCHER

Katalog Ägyptischer Sammlungen in Leipzig, I. *Statuen und Statuetten.* By RENATE KRAUSPE. 210 × 300 mm. Pp. 144, pls. 162. Mainz, Philipp von Zabern, 1997. ISBN 3 8053 1883 9. Price not stated.

Ce volume est annoncé comme le premier d'une série devant assurer la publication scientifique de tous les objets égyptiens et nubiens conservés dans les collections publiques de la ville de Leipzig, c'est à dire, pour leur immense majorité, à l'Ägyptisches Museum der Universität, avec quelques très minces compléments de l'Antikenmuseum der Universität, du Deutsches Buch- und Schriftmuseum der Deutschen Bücherei et du Museum für Völkerkunde. La collection de statues et statuettes de l'Ägyptisches Museum est le produit, presque exclusivement, de l'activité de l'infatigable fouilleur que fut Georg Steindorff qui, entre 1903 et 1931, mena de fructueuses campagnes à Giza, Qau et Aniba. On n'insistera pas sur les quelques fragments de statues du nomarque Wahka II de Qau, dont l'état de conservation est malheureusement déplorable. D'Aniba, provient une jolie collection d'une cinquantaine de figurines en terre, des femmes et des animaux très stylisés, dans le style bien connu du Groupe-C. A Giza, Steindorff, fouilla le complexe funéraire de Chéphren (temple de la Vallée et temple de la Pyramide) et une partie du Western Cemetery, en retirant une moisson extraordinairement abondante de fragments de statues royales de la IV^{e} dynastie, ainsi que quelques fort beaux exemples de la statuaire privée de la IV^{e} comme de la V^{e} dynastie. Grâce aux publications qu'en donna régulièrement Steindorff et à l'ouvrage fondamental de Hölscher consacré au complexe funéraire de Chéphren, la plupart des fragments des statues royales massacrées de la IV^{e} dynastie étaient déjà connus. Le présent catalogue y ajoute néanmoins quelques inédits, ainsi que les photographies et les fiches—lorsqu'elles ont subsisté—d'objets perdus durant la Seconde Guerre Mondiale.

Sans qu'en soient précisées les raisons, les catalogues des antiquités égyptiennes de Leipzig ne s'intégreront pas dans la série en constant développement du *Corpus Antiquitatum Aegyptiacarum*, dont ils s'inspirent pourtant totalement dans leur structure comme dans leur méthodologie. La différence essentielle réside dans la reliure, puisque le principe de la fiche volante a été rejeté au profit du livre classique. Je le regrette, personnellement, car la fiche libre possède une souplesse d'utilisation incomparable pour l'examen comparatif que la rigidité du livre rend toujours difficile, même si—pour des raisons bien compréhensibles—elle est la bête noire des bibliothécaires. On peut déjà rêver d'ailleurs d'une prochaine étape, d'une banque de données informatisée et normalisée de tous les objets égyptiens conservés dans le monde, où tous les rapprochements, toutes les associations, toutes les analyses comparatives deviendraient possibles.

Revenons à la réalité d'aujourd'hui. Le catalogue de Leipzig se présente donc comme des fiches de CAA reliées: fiche technique, suivie d'une 'Beschreibung', puis d'un 'Kommentar', ensuite d'une 'Geschichte' de l'objet, enfin d'une bibliographie. Chaque objet ou fragment, si minime soit-il, est illustré par une et souvent plusieurs photos en noir et blanc d'une qualité généralement excellente. La description matérielle et iconographique des statues se veut, comme il se doit, parfaitement objective et systématique, tandis que le commentaire représente le premier niveau d'interprétation sur différents plans, qu'il s'agisse, selon les cas, d'iconographie, de datation ou de style. Une riche bibliographie soutient, en notes, la discussion.

Si les figurines nubiennes et celles de serviteurs ou de servantes ne posent guère de problème d'interprétation—du moins au premier degré—il n'en est pas de même pour les statues privées et royales de l'Ancien Empire qui constituent l'essentiel de la collection. Dans le cas des statues privées, c'est la question de la datation qui retient surtout l'auteur, dont la préférence va généralement aux dates hautes

(IV^{e} dynastie plutôt que V^{e} dans le cas d'oeuvres bien connues comme le groupe de Iai-ib et Khouaout ou les statues de Djasha et de Memi), en se basant sur une analyse stylistique fine, combinée le cas échéant avec les 'critères Cherpion'. Est-ce par excès de modestie toutefois que l'auteur ne répercute pas ses conclusions dans l'étiquette lapidaire où, de façon parfois totalement contradictoire, ne figure que la date tirée du Porter et Moss? Les fragments de têtes royales retrouvés près de la face ouest de la pyramide de Chéops, ainsi qu'à proximité des deux temples funéraires de Chéphren, sont si nombreux et souvent si misérables qu'on a l'impression d'entendre les marteaux des casseurs qui, après avoir tiré au dehors ces oeuvres magnifiques, les ont fracassées pour en faire des vases de pierre. De ce grand naufrage—auquel s'ajoutent les pertes de la Seconde Guerre Mondiale!—subsistent trois visages de roi et un visage de reine, ainsi que des dizaines d'yeux, d'oreilles, de barbes, de doigts ou d'éclats non identifiables et sans raccords possibles, évocation presque tragique de la foule de statues en différents matériaux, du plus clair au plus sombre, qui peuplaient les cours et les niches des temples. On sait combien le problème de l'identification des soi-disant 'portraits' royaux est complexe, à la mesure de la complexité sémantique de ces objets même. La tentation est grande d'adopter une procédure empirique, faisant flèche de tout bois, c'est à dire en l'occurrence fondant l'identification sur des critères tels que le matériau (mais Chéphren était-il le seul à pouvoir utiliser le gneiss?) ou le lieu de trouvaille (mais s'il s'agit d'ateliers, des statues diverses peuvent y avoir été rassemblées). Le cas échéant s'ajoutent le style et l'analyse physionomique. Pour le style, le célèbre duo des sculpteurs 'A' et 'B' de Reisner semble autoriser un regroupement théorique entre un 'style sévère' et un 'style réaliste', quoique W. S. Smith ait depuis longtemps noté que la répartition des sourcils selon leur facture—celle-ci étant sans doute le trait le plus révélateur d'une vision plastique—ne recouvrait pas du tout la dichotomie A / B. L'analyse des traits physionomiques ne peut s'exercer que sur les trois premiers numéros du catalogue (inv. 1945, 1946 et 1947), tous les trois anépigraphes. L'auteur ne doute pas que les trois oeuvres, pourtant totalement différentes, représentent bien Chéphren, ce dont, en bonne méthode, il y aurait lieu de douter, au moins pour Kat.-Nr. 1 et pour Kat.-Nr. 3, tandis que les comparaisons physionomiques et stylistiques avec la célèbre statue assise du Caire (CG 14) rendent l'attribution de Kat.-Nr. 2 à Chéphren plus que vraisemblable. Le buste est pourtant en grauwacke. Au contraire, le magnifique visage Kat.-Nr. 1, en gneiss comme CG 14, a toute la sensibilité charnelle de celui des statues de Mycérinus! Alors, sculpteur 'B' ou réattribution à ce roi? Quant à Kat.-Nr. 3, une petite tête en calcaire rose, coiffée de la couronne de Basse Égypte, son profil est sans rapport aucun avec la statue du Caire, comme le reconnaît justement l'auteur dans son commentaire. Notons à ce propos que le 'Kommentar', d'ailleurs, malgré le peu d'espace imparti, a toujours le grand mérite de fournir, sous une forme condensée, efficace, mais nuancée, l'essentiel des éléments de la discussion. Mais pourquoi, dès lors, durcir l'expression dans le titre de chaque notice qui affirme, invariablement, pour les 80 premiers numéros du catalogue, 'fragment d'une statue de Chéphren'! Va dans le même sens le recours, dans le texte même des notices, à des dessins schématiques permettant au lecteur de retrouver la place du fragment dans la statue disparue: un orteil, une ceinture, un catogan etc... Tant que les dessins ne comportent aucun visage, tout va bien, mais pourquoi avoir replacé tous les fragments de tête et de buste (N^{os} 4 à 34) dans un dessin manifestement inspiré par Caire CG 14, martelant ainsi visuellement l'affirmation selon laquelle tous les fragments appartiennent à Chéphren, et cela malgré les arguments parfois contradictoires énoncés dans le commentaire?

Trois regrets, pour terminer, en ce qui concerne les photographies. Le premier concerne la position de l'objet photographié lorsqu'il s'agit d'un fragment: il aurait fallu éviter des angles de vue résultant uniquement de la forme de la cassure (voir la planche 5!). Le second regret, plus profond, est moins une critique qu'un souhait pour de futurs catalogues de ce type. Lorsque le fragment consiste en un oeil ou une bouche isolés, par exemple, il va de soi que le cliché nous en donne un gros plan, parfois remarquable pour la compréhension du style. Pourquoi toutefois, lorsqu'il s'agit d'oeuvres complètes, n'avons-nous plus droit qu'à des vues générales où le visage, réduit à 1 cm de hauteur, apparaît forcément dépourvu de modelé? Par un étrange paradoxe, les planches photographiques permettent de mieux savourer et comprendre plastiquement des fragments devenus malheureusement insignifiants que des oeuvres ayant gardé l'essentiel de leur intégrité! Le troisième regret concerne l'absence totale de vues de trois quarts. La règle de base de la mise en page a été manifestement: une vue de face, une vue de dos et deux profils. A l'un des deux profils—quasi identiques sauf cas exceptionnels—il eût été utile de substituer,

spécialement pour les visages, une vue de trois quarts. C'est un truisme sans doute de rappeler que la sculpture est avant tout affaire de volume, de troisième dimension. Or, vue de face et vue de profil ont pour effet d'écraser cette dernière dans le plan, privilégiant ainsi le linéaire (par exemple les traits physionomiques) par rapport au plastique. Seule la présentation de trois quarts, convenablement éclairée, permet de percevoir la vision plastique d'un sculpteur, c'est à dire de comprendre comment il a résolu le problème fondamental de l'intégration des plans facial et latéraux en un volume unique qui se tienne. Servie par de bonnes photographies, l'analyse plastique devrait intervenir dans l'analyse comparative de la statuaire, au moins autant que les traits physionomiques qui apparaissent souvent, malgré leur évidente variabilité, comme le seul recours contre l'absence d'inscription.

Les remarques qui viennent d'être formulées relèvent évidemment d'une réflexion méthodologique bien plus que de critiques adressées spécifiquement au très beau catalogue qui nous est présenté. Réalisé avec un soin extrême, fournissant au lecteur tous les éléments d'appréciation ainsi qu'un appareil de notes et une bibliographie fort étendus, l'ouvrage de Krauspe, constituera désormais une référence en matière d'étude sur la statuaire égyptienne, tout particulièrement, bien sûr, celle de l'Ancien Empire.

ROLAND TEFNIN

Pharaoh's Gateway to Eternity. The Hawara Labyrinth of King Amenemhat III. By ERIC P. UPHILL. 253 × 195 mm. Pp. xiv + 103, figs. 27, pls. 29. London and New York, Kegan Paul International, 2000. ISBN 0 7103 0627 X. Price £125.

The so-called Labyrinth of Amenemhat III has been reconstructed in many different ways, and there has been much speculation about the form, size and purpose of the monument. The author of the present book points out that the current status of studies relating to this complex is far from satisfactory. In an attempt to address the problems, the book uses 'a new approach in examining the basic textual and archaeological evidence available today'. This includes 'unpublished material from Petrie's notebooks and letters forming an account of his excavations, as well as contemporary Middle Kingdom texts and architectural parallels' (p. i).

In the introduction, Uphill reviews records and comments on the site made by earlier excavators and scholars (including Howard-Vyse, Lepsius, Vassalli, Petrie and Myers), and adds brief remarks on recent work in the Hawara cemetery.

In Part I, he discusses methodology, stating that an inventory of all published architectural material, as well as sculpture, has been made, and that his study deals with the 'main features' of the Hawara complex. The account of previous excavations which follows deals with the work done on the site by Lepsius, Petrie and Arnold. It is apparent that their results could only have been based on very meagre remains, such as two small sections of stone wall at the south-west of the site. The date of these structures is unknown, as is their function and their significance for an understanding of the site. In his notebooks, Petrie wrote that 'the plan of [the Labyrinth] seems hopelessly gone' (p. 21). The author continues with an inventory of published architectural evidence from Hawara, Arsinoe and Kiman-Fares, as well as miscellaneous material.

Part II, the 'analysis' of the archaeological and architectural material, is actually an item-by-item commentary on the objects listed previously, and would have been better combined with the inventory itself. Its aim is to offer suggestions as to the original context of the pieces—whether funerary temple, causeway, queens' pyramids or valley temple.

In Part III, Uphill turns to the discussion of the pyramid complexes of the immediate predecessors of Amenemhat III (Amenemhat I–Sesostris III). The Dahshur complex of Amenemhat III himself is included as well, and some references are made to Old Kingdom complexes. A reconstruction of the area at Hawara is based on the above-mentioned 'ingredients' (mainly the published architectural material and sculpture, and the pyramid complexes of the Twelfth Dynasty). This reconstruction contains the following: quay platform and dock, valley temple, platforms, causeway, queens' pyramids, pyramid enclosures, upper funerary temple, pyramid, north chapel, other possible royal buildings, great mastaba field and smaller mastaba field.

In Part IV, the author discusses the accounts of Herodotus, Manetho, Diodorus, Strabo, Pliny and Pomponius Mela, in order to establish what these visitors really saw, and what inspired them to write about their 'overwhelming impression' (p. 90). They certainly did not see *two* Labyrinths, as suggested by C. Obsomer, 'Hérodote, Strabon et le "mystère" du Labyrinthe d'Égypte', in C. Obsomer and A.-L. Oosthoek (eds), *Amosiadès. Mélanges offerts au Professeur Claude Vandersleyen par ses anciens étudiants* (Louvain-la-Neuve, 1992), 221–334, pls. i–ix—a theory with which Uphill disagrees. Since the buildings described by Herodotus were of stone, the classical authors would definitely not have marvelled at the mudbrick remains of structures at Lahun–Kahun, which Obsomer identifies as one of the Labyrinths.

Most previous reconstructions of the Hawara complex of Amenemhat III have been based solely on the accounts of classical authors. It is therefore to be welcomed that Uphill has focused upon the actual remains from the site. Unfortunately, the inventory of the published architectural evidence is far from complete, and the descriptions of the pieces are very short and summary, leaving out many important details. For some objects, present locations and inventory numbers are given; for others they are not, although this information is available. Several statements require correction: H.7 and H.16 are not in the Ashmolean Museum, Oxford. The location of the former is unknown; the latter was 'on display' at Hawara when the present writer visited the site in December 1998, as was H.28 (described as 'reburied', on p. 29). Furthermore, nothing suggests that the present location of this statue fragment illustrated on pl. 14 was its original position. The fourteen relief fragments listed as H.43 (p. 31) include some pieces (Copenhagen, Ny Carlsberg A.700-701.a–c) which do not belong to the Labyrinth. H.46 (p. 32) is identical with H.67 (p. 36). H.64–H.66 and H.71 (pp. 35–6), though formerly in Berlin, were lost during the Second World War. The correct registration numbers of the statue fragments shown on pls. 25 and 26 are, respectively, 1912.605A (5) and 1912.605A (3). Only four of the six fragments shown on pl. 27 are from crocodile figures as stated (those in the upper row, and that at the lower right); the others are from human figures. The registration numbers of all these pieces are as follows: Upper row, left to right: 1912.605A (19), 1912.605A (3), 1912.605A (16); Lower row, left to right: 1912.605A (27), 1912.605A (28), 1912.605A (5). The piece shown on pl. 28 is 1912.605A (5).

Some of the statements in Part II also call for comment. Nothing whatsoever points to the fact that the positions of the shrines, Cairo JE 43289 and Copenhagen, Ny Carlsberg AEIN 1482, as shown on Petrie's plan, were their original locations (p. 42). In the reconstruction of their original setting, fig. 14, the orientation of the statues has been reversed; the figure with arm flexed across the body should be on the *left* of each pair, as viewed by the spectator (cf. pl. 16). Moreover, since the figures in the two surviving shrines are identical in height, there is no reason to make one of them 'the larger one' (pp. 42, 70) in the middle of a hypothetical row of five shrines. It is probable that these additional groups, had they ever existed, would have had the same dimensions as those which survive.

Neither is there any reason to suppose that the findspot of the pyramidion London UC 14793 was its original position. The fragment is small enough to have been moved easily. The point is important because this piece and its former findspot play a significant part in Uphill's reconstruction of the six subsidiary queens' pyramids.

There are very few photographs or figures showing the objects mentioned in the book, which makes it very difficult to form an accurate impression of the material. This is a serious deficiency if one is to work with the objects and obtain an overall view of them. Ironically, the pieces which are illustrated in the plates receive very little attention in the text. Furthermore, it is essential in a study of this kind to take into account the unpublished material as well, since only the totality of the accessible remains will yield the information we seek. Without having seen all the objects, it is inappropriate to classify the published material as relating to the 'main features' of the monument, while the unpublished items are dismissed as 'minor pieces' (p. 10)—the modest appearance of the latter does not indicate their relative importance! The 94 pieces in the Rijksmuseum van Oudheden, Leiden, have been published by the present writer in *OMRO* 69 (1989), 25–50. They do not 'remain unpublished', as stated by Uphill (p. 10).

Uphill himself admits that his reconstructions are 'purely hypothetical' (p. x), and should not be understood literally. The existence of a quay platform and dock is, according to the author, 'highly speculative' (p. 61), and sometimes only a 'very vague indication' (p. 61) can give any information.

The account of the valley temple is likewise 'very sketchy' (p. 62), while the six subsidiary queens' pyramids form 'the least certain part' (p. 65). What can be said is that the available evidence all points to a temple context. This, which Uphill calls the 'upper funerary temple' (pp. 68, 71), included an inner and an outer area, as well as a court. Since a temple is to be expected within the complex, the original presence of this feature seems very plausible, although the exact size and layout of the structure remain unknown. As far as the other buildings are concerned, hardly anything can be said in view of the few scattered remains that have survived at the site. In particular, the hypothetical existence of queens' pyramids at Hawara raises questions. In the light of this, 'The Mystery of the Burial of the Princess Neferuptah' (pp. 79–81) might be solved. Neferuptah probably had chambers inside the king's pyramid, instead of having her own pyramid, a burial practice which became the norm for queens (and perhaps princesses) at the end of the Twelfth and in the Thirteenth Dynasties (D. Arnold, *Der Pyramidenbezirk des Königs Amenemhet III. in Dahschur*, I. *Die Pyramide* (Mainz am Rhein, 1987), 97). The comparison with other pyramid complexes of the same period is of limited value, since every complex in the Twelfth Dynasty was different from the next. Only new and thorough excavations will give us the answers we need. Until then, all the features remain uncertain, and the monument offers *carte blanche* for speculation.

The publisher should be criticised for the poor quality of the photographs (pls. 1–17, and especially pls. 13–17 and fig. 27), the delay in the appearance of the book and the unjustifiably high price of £125. The reader's frustration is increased by the fact that the plates all date from the years 1974–90 (pp. xi–xii), the 'recent work' referred to (p. 7) was carried out in 1973, and the final draft was prepared in 1992 (p. 93). This is not up-to-date information. Many avoidable typographical mistakes and small errors also irritate, as does the absence of drawings or plans in which the author might have visualised at least some of the numerous measurements and figures upon which his theories are based. A table showing the relative sizes of Twelfth Dynasty pyramid complexes is missing from p. 60. Nonetheless, this book is an interesting reminder of the importance of the site of Hawara, and the ideas suggested by Uphill—'exotic' and 'bizarre'(p. ix) as they may sometimes be—do offer new avenues for investigation.

INGRID BLOM-BÖER

Die höchsten Beamten der ägyptischen Zentralverwaltung zur Zeit des Mittleren Reiches. Prosopographie, Titel und Titelreihen. By WOLFRAM GRAJETZKI. ACHET – Schriften zur Ägyptologie A2. 200 × 288 mm. Pp. xiii + 311, pls. 14. Berlin, Achet-Verlag, 2000. ISBN 3 933684 11 0. Price DM 88.

This is the publication of a PhD dissertation, presented in 1998 at the Humboldt-Universität Berlin. About 330 officials of the Middle Kingdom are included in a thorough prosopographical study and fine synthesis. The point of departure is the group of officials who held the four 'classical' ranking titles of Middle Kingdom societies: *jrj-pʿt*, 'prince', *ḥꜣtj-ʿ*, 'count', *ḫtmtj-bjt*, 'seal-bearer of the king', and *smr-wʿtj*, 'sole companion'. In the Middle Kingdom, contrary to the Old Kingdom, they were never used alone, but stood before the regular title which described an office and/or profession. They indicated a man's position in the state, i.e. in the court-centred networks of administration.

For this reviewer, the most fascinating parts of the book are Grajetzki's conclusions on society and administration in the second half of the Middle Kingdom. The situation in Egypt changed during the reign of Senwosret III. Contrary to common Egyptological opinion, the royal treasurers (*jmj-rꜣ ḫtmt*), rather than the viziers, seem to have been the most powerful officials in Egypt. Beginning with Ikhernofret, there is a series of treasurers who owned a surprising number of high quality statues and stelae (Senbef, Ameny, Sonbsomai, Senbi, cf. p. 73 ff.). This tradition had its peak with Sonbsomai (II.23), perhaps the most powerful and influential official of the late Middle Kingdom, just before the reign of Neferhotep I, and it came to an end after the reign of his brother-king Khaneferre Sobekhotep IV. The royal treasurers, in co-operation with the royal majordomus (*jmj-rꜣ pr wr*), were responsible for the management of the economic base of royal government, and we can imagine that their high quality monuments were paid for by the wealth they acquired from their responsibility for the royal

treasury. No stelae were donated in honour of viziers by their subordinates, yet no official surpasses Sonbsomai in the number of stelae commissioned in his honour by junior officials. What was said about the late Twelfth Dynasty vizier Khety (p. 19 (I.14)), even in early New Kingdom times? 'He impoverished (*sm*ꜣ*r*) his associates (*rmṯ ḥ*ꜣ*w.f*) for the benefit of others' (*Urk.* IV, 1089, 9 ff.; R. O. Faulkner, *JEA* 41 (1955), 22, l. 10), i.e. he deliberately gave up a privilege—that of nepotism. Others, like Sonbsomai, certainly did not, the *Eloquent Peasant* complained (B1, 293). Nevertheless, the result would not be equality, but inequality, to the disadvantage of the vizier's 'clan', and this is exactly mirrored in the sources at hand. While viziers lived a kind of unreal existence, at least according to our sources, the royal treasurer and the royal majordomus enjoyed the limelight. Viziers are known from their fine statues, but owned few stelae. They despatched royal documents and orders but left few seal(ing)s (although many of them are known only from sealings!). Royal treasurers had few statues, but are known from many stelae (and few papyrus documents and seal(ing)s, except for Sonbsomai), while the royal high stewards left few statues, but many stelae and many seals and/or sealings (cf. pp. 39 f., 229 ff.).

Grajetzki's listings are also very helpful in correcting the distortions of the traditions on which our picture of Middle Kingdom society and administration is built. Most of the officials are not known from statues and stelae but from seals only. This fact allows us to determine the limited dimensions of the range of sources at hand. People known from inscribed stone objects are only part of the great corpus of administrators and officials who carried out their duties in the Thirteenth Dynasty.

Grajetzki's principal hypothesis is provocative because he uses the key-words 'Entmachtung', 'Egalisierung', 'Schwund' and 'Abnehmen von Hofämtern' with regard to the disappearance of certain titles (pp. 254 f., 265 f.). To take away or remove titles (and offices) from someone signifies a deliberate action, but by whom? If power was taken away from some officials, someone else should gain more power. Who? Because there is obviously no 'winner' of the 'Entmachtung', Grajetzki considers a levelling of power—at a certain degree at least. But I would maintain that the mere number of prefix titles is not an indicator for wealth and power. It is wrong to say (p. 256) that in the Middle Kingdom a high official held as many titles as a lower-ranking official. The display of rows of titles, including ranking titles, was optional for the higher ranks in the Middle Kingdom; a vizier or royal treasurer could display them on some of his monuments, while on others he might not, for unknown reasons or just to save space. Certain regular and affix titles simply were not granted by the king and/or used any more. Whatever shifts of power took place in the late Twelfth Dynasty, the winner was not the king. On the other hand, the growing group of middle-ranking court officials were certainly not those who took away power from the small group of high officials, but, of course, in a certain way, they were the 'winners'. Growing complexity of government enforces a growing need for specialization, for special knowledge and ability. The division of departments led to a diversity of offices. We can observe a disentanglement of responsibility and power, certainly introduced and organized by the small court circle of high officials themselves. There was no more accumulation of titles and offices on their part, and no annexation, but decentralization.

In contrast to the Old Kingdom, there is a shift of the significance of status-markers in the late Middle Kingdom, only partly known or understood by us. Instead of magnificent decorated rock tombs or mastabas, we have large palatial villas capable of housing a large entourage of servants, even foreign slaves, and an increasing number of fine statues and stelae deposited not in tombs but in the forecourts of temples or in cenotaph-chapels at Abydos or on Elephantine island. I would not subscribe to Grajetzki's opinion that the difference in power between the vizier and a modest majordomus (*jmj-r*ꜣ *pr*) was closer than in the Old and New Kingdoms. A view of the groundplans of the palatial homes and the modest houses at Kahun town or Abydos South immediately reveals large social dissimilarities.

That we know of so many middle-ranking officials, modest courtiers and servants from inscribed stone objects, often owned by themselves, reveals a general trend towards prosperity. When they proudly commemorate their modest titles or professions, they are marking access to certain resources and wealth, but not to more political power. To interpret this evidence as a loss of positions and privileges on the part of the highest levels of society only is, I fear, one-sided. I would prefer to compare these developments with the steadily growing popularity of the funeral rites centring around the assumption that everybody could become Osiris after death—a former privilege of the king and the highest court circles since the end of the Fifth Dynasty. When everyone could become Osiris, and accordingly as a mummy

was clad like a dead pharaoh, was there a corresponding diminution in the powers of the living pharaoh? Certainly not.

But, let it pass! There are many fascinating ideas elaborated in Grajetzki's book, about a workshop from the reign of Sobekhotep III (p. 165), about the agglomeration of scribal titles (p. 176), on the title *jmj-rꜣ gs pr*, 'overseer of a (royal) workshop' (p. 201 f.), on the vexed problem of the so-called 'titulary viziers' (p. 217 ff.), on careers (p. 229 ff.), and on Dorothea Arnold's hypothesis about the Theban royal tomb of Amenemhet I (p. 241 ff.).

There are some additions and corrections to be made:

p. 53 (II.12h): On *Sinai* no. 83, the deputy of the royal treasurer is called *Jmny-snb*, not *Jmny* as on Berlin ÄM 1204, both names are merged again on p. 87 f. (III.15).

p. 56 (II.20): Statue Turin 3064 belongs—according to my own readings in 1991—to a royal treasurer Kheperka (*ḥtmtj-bjt jmj-rꜣ ḥtmt ≈ pr-kꜣ msy.n jmj-rꜣ pr nj šnᶜ Sbk-m-mr* (left side), whose mother was *Ḥnt*[...] (or: *Tjnt*[...]?) (right side); the gods invoked are Amun and Sobek of ∑*dt*). Note the extremely rare way of expressing paternal filiation: *msjj.n*,'born to' (A. H. Gardiner, *Egyptian Grammar*[3], § 379). Across the top of the base runs a royal dedication formula: *dj(w) m ḥsw<t> nt ḥr nswt-bjt* (*Rᶜ-s*[...]) , which excludes kings of the Twelfth Dynasty, but points to the (early?) Thirteenth Dynasty.

pp. 56–9 (II.21–2): The succession is clearly vice-versa. The royal treasurer Sonbsomai was in office before Senbi, i.e. before the reign of Neferhotep I and after Khendjer. The 'king's acquaintance' Senen was a contemporary of Sonbsomai (St. Petersburg, Hermitage 1084) as well as of Senbi (Cairo CG 20614; Liverpool M13661), but Senbi's contemporary Rekhu-ankh (D. Franke, *Personendaten aus dem Mittleren Reich* (Wiesbaden, 1984), no. 389) never appears with Sonbsomai. On the other hand, the careers of Khenmes and Sobekherhab, who were *jrj-ᶜjt wdpw* in the time of Sonbsomai (Cairo CG 20718), but *rḫ-nswt* in the time of the treasurer Senbi under Neferhotep I (Cairo CG 20614; Leiden no. 34) are probably examples of an overlap between the officials of the administration of Ankhu and Sonbsomai and those of the reign of Neferhotep I/Sobekhotep IV. Sonbsomai is mentioned with his colleague *jmj-rꜣ pr wr* Ameny (of ANOC 10; p. 95 f. (III.30), and stela 'Campbell no. 3') on stela 'Campbell no. 4' (Sotheby's (London), *Antiquities*, 6 July 1995, 124, lot 229). The two stelae of Senbi in the Liverpool Museum (M13661: *ḥtmtj-bjt smr-wᶜtj jmj-rꜣ ḥtmt Snbj ms.n T-n.w mꜣᶜt-ḫrw jr.n ᶜnḫ nj nwt Nb(.j)-pw mꜣᶜ-ḫrw*, and M13635: *ḥtmtj-bjt smr-wᶜtj jmj-rꜣ ḥtmt Snbj jr.n ᶜnḫ nj nwt Nb(.j)-pw*) were destroyed in World War II, but photographs and descriptions fortunately do exist.

p. 59 (II.23): To complicate matters, note that there is another *sḫ nj pr-ḥḏ Snb*, son of the woman ∑*pst*, with a woman *Rnsnb*, on a stela in the Museum Vleeshuis in Antwerpen/Anvers (H. de Meulenaere, in *Egypte onomwonden* (Antwerp, 1995), 79, no. 17; E. Gubel, in *Van Nijl tot Schelde/Du Nil a l'Escaut* (Brussels, 1991), 98 f., 101 (no. 91)).

p. 71: Add to the list of holders of the title *rḫ-nswt sḫm* (or, as preferred by the author: *ḫrp rḫ(.w)-nswt*): Cairo CG 20181 (cited on p. 189 (XII.11a); dated to Year 14 of Senwosret I), and British Museum EA 558 (*Hieroglyphic Texts*, II (London, 1912) pl. 14; reign of Senwosret I). The earliest examples of this 'pseudo-archaic' title are on the false-door stela of Heni/Khety-ankh at Matariya (originally from before the beginning of the Twelfth Dynasty), and in the late Eleventh Dynasty tomb of Khety at Thebes (TT 311).

p. 88 (III.15): Add the architrave in Cambridge, Fitzwilliam Museum E.SS.46: *ḥtmtj-bjt jdnw <nj> jmj-rꜣ ḥtmt Jmnjj*.

p. 89 (III.17): There is a fragment of a door-frame from Garstang's excavations in 1907 at Abydos, inscribed (secondarily?) in ink for *ḥtmtj-bjt jmj-rꜣ pr wr ᶜꜣb-nj* (Liverpool University Museum E.32). S. Quirke proposed to read the name of the royal majordomus in pBoulaq 18, pl.xxxii, l. 3, as *ᶜꜣb-nj* as well. Thus only stela Cairo CG 20391 has the name written as Aabmai ('Pleasant (is he) in my hand'), which I would consider not as a 'nickname' but a mere variant writing of the more common Aabni ('Pleasant (is he) to me!', cf. Cairo CG 20041). Contrary to p. 258, the title of the royal majordomus' colleague Renseneb on Cairo CG 20391 is not 'Verwaltungsbeamter, Leiter von Thinis' but *jmj-rꜣ ᶜḥnwtj ḥrp skw*, 'chamberlain and commander of a troop (of lancers?)'.

p. 92 (III.24): Add to the dossier of Senbi-sheri, son of *Jww(j)*: stela Vienna ÄS 168 (*rḫ-nswt*), and a statue-base (*jmj-rꜣ pr wr*; B. A. Turaev and B. V. Farmakovskij, *Opis' kollekcij drevnostej, privezennyn iz Egipta vesnoj 1909 goda* (St. Petersburg, 1910), 5 no. 21, pl. iv (21)). He was probably a successor of Sonbsomai.

p. 95 (III.30): Add stela 'Campbell no. 3' (Sotheby's (London), *Antiquities*, 6 July 1995, 124, lot 228) with a short characterization of his favours by the king: 'who comes out (from the palace) with excellent gifts (*nfrwt*), so that the Two Lands are rejoicing, and praise is given to the palace's double-gate (*rwtj-wrtj*; i.e. the king)', and stela 'Campbell no. 4' (ibid., lot 229).
p. 116 ff.: Unfortunately, Grajetzki did not differentiate between *jmj-rꜣ mšꜥ* and *jmj-rꜣ mšꜥ wr*. While *jmj-rꜣ mšꜥ*, 'overseer of troops', is found mainly in the Twelfth Dynasty, and is rather unspecificied as to the place and nature of the job, the title *jmj-rꜣ mšꜥ wr* is restricted to the early Twelfth Dynasty (Nisumonth, Montuhotep, Deduintef, Ameni), and a short revival in the late Twelfth and Thirteenth Dynasties. There are no descriptions of the actual function of holders of the last mentioned title, but perhaps the 'great commander of troops (of the king)' was superior to the regular commanders of troops. At the end of the Twelfth and in the Thirteenth Dynasty, the 'great commanders' were probably in charge of the garrison of the frontier fortress at Semna as a base for the army in Nubia. The statement on p. 129: 'Es gibt mehrere Fälle, in denen ein *(großer) Truppenvorsteher* möglicherweise König wurde' is exaggerated; the only case worth considering is that of Wegaf.
p. 167 (IX.7): Stela Cairo T. 16/2/22/23 from Edfu has the name of the king's son *Ḥrw-sḫr*, not a title; see: P. Vernus, in J. Osing and G. Dreyer (eds), *Form und Mass* (ÄAT 12; Wiesbaden, 1987), 451; the conclusions regarding (IX.7) on p. 263 are untenable. The stela dates to Kim Ryholt's Theban Sixteenth Dynasty.
p. 171 (X.6): The titles are not on a Late Period ostracon but from a genuine Middle Kingdom stela found in the Karnak cachette: the decree of King Khutowire Wegaf addressed to a 'scribe of royal documents in the presence (of the king)', the 'god's father' (and?) a *wab*-priest (?) of Amun, concerning an increase of the god's offerings (Cairo JE 37510).

To the list of 'scribes of royal documents in the presence (of the king)' one should add Siamun known from a Thirteenth Dynasty stela at Burnley, Towneley Hall Museum Eg. 100: A. Leahy, 'A Stela of the Second Intermediate Period', *GM* 44 (1981), 23–30, probably from Abydos. His father was a god's father of Onuris Jyemjatuib, known from a limestone fragment from Garstang's excavations at Abydos, tomb 555 A'08, today in Liverpool, School of Archaeology, Classics and Oriental Studies E. 504; see S. R. Snape, *Mortuary Assemblages from Abydos* (Liverpool, 1986), 521(1), and a scarab found at Ukma-West: A. Vila, *Le cimetière kermaïque d'Ukma Ouest* (Paris, 1987), 228 (no. 16/8).

About two hundred pages of the book are occupied by prosopographical lists, and on pp. 210–66 the general conclusions are elaborated. The book closes with several useful indices.

In future, anyone who studies Middle Kingdom administrative matters will have to consult not only the 'Ward' and the 'Fischer' volumes, or the 'Franke Dossiers', but now also the 'Grajetzki' volume as well.

DETLEF FRANKE

Coptic and Greek Texts Relating to the Hermopolite Monastery of Apa Apollo. By S. J. CLACKSON. Griffith Institute Monographs. 210 × 325 mm. Pp. xvi + 187, pls. 66, map, extensive indices. Oxford, Griffith Institute, 2000. ISBN 0 900416 75 0. Price £60/$149 (hb).

Collections of texts originating from Egyptian monasteries are a well-established genre of papyrological literature, and Clackson's impressive book is an important and distinctive addition to the corpus. It is an edition of 66 papyrus documents, mostly in Coptic, which are assigned dates between the sixth and the ninth centuries CE on primarily palaeographical criteria. The majority apparently date to the seventh and eighth centuries CE. The texts concern the various economic activities of a religious institution in the Hermopolite nome, 'the monastery of Apa Apollo on the mount of Titkooh'. The precise location of this monastery is still unidentified, but was evidently somewhere close to the important monastic site now known as Bawit, 28 km south of el-Ashmunein. A century ago, Jean Clédat excavated the monastery of Apa Apollo at Bawit, and his impressive discoveries there are now splendidly displayed in the Louvre. It is still not clear whether the Titkooh monastery was actually the same one as that of Apa Apollo at Bawit, as some scholars believe. Clackson does not think that the information available at present allows one to make a judgement on this question one way or the other. The title

of her book, however, has been chosen to allow for the possibility that they were the same (p. 4). Thus the 66 documents edited here have no archaeological context (though some of them must have been stored in a monastery archive), and are now dispersed among a number of collections in Europe and America. While 'the monastery of Apa Apollo on the mount of Titkooh' is known from a number of Greek documents, these are almost the first published Coptic texts relating to the place.

Apa Apollo, sometimes called 'the equal of the angels' in the documents, was a well-known monk and saint from Middle Egypt who flourished in the fourth century CE. His tomb was evidently a popular focus of pilgrimage, and his cult extended well outside Middle Egypt, as far as Saqqara in the north and Esna in the south. In the Hermopolite area he was associated with two other monks, Anoup and Phib, and here he was apparently worshipped with them in a sort of triad (p. 6). This cult had such an impact on local onomastics that Clackson believes the appearance of the names Apollo, Anoup and Phib in unprovenanced documents may be taken as an indication of a Hermopolite origin. The local associations of divine figures are, of course, a long-established feature of Egyptian religious practice—one need only think of the Late Ramesside Letters beginning with invocations to the local gods, as well as the numerous *proskynema*-formulae in the Greek papyri and inscriptions. It is striking to note the continuity of this well into Christian times. But more concrete details of Apa Apollo's cult and religious life at Titkooh are rare in these documents. Other corpora of texts from Coptic monasteries (such as W. E. Crum and H. G. Evelyn White's publication of the papyri and ostraca from the Theban monastery of Epiphanius, or R. Remondon's of the written material from the monastery of Phoibammon) are informative on many aspects of religious and devotional practice. The papyri and ostraca from Epiphanius, for instance, tell a great deal about the festivals of the liturgical year, what the monks read and how devotional books were passed around. While the texts from Titkooh are rather disappointing from this point of view, they are of considerable interest in regard to economic matters. They are particularly significant in relation to the *aparche*, a sort of tithe collected by the monastery from its tenants that has up to now led rather a ghostly existence in the Egyptian documentary papyri. In this edition 23 papyri relate directly to the *aparche*, so Clackson's work puts us in a much better position to understand how it was collected and administered, and its social implications. Other taxation documents here shed some light on the relations between the Egyptian Christians and their Arab rulers at this time, such as the tax demand sent to a monk by the pagarch ʿAbd Allâh ibn ʿAbd al-Rahmân which can be dated to the mid-eighth century (p. 91). This is a lateral reminder of the tax burdens that eventually provided many Egyptian Christians with an incentive for converting to Islam, as Clackson discusses (p. 23).

Apart from their bureaucratic specifics, the economic texts from Titkooh convey more generally a picture of the monastery as an institution integrally and reciprocally linked with its local community. They show how non-monks were involved in monastic life, illustrating that 'the close involvement laypeople could have in the monastery's affairs...provides a counterbalance to the impression that monasteries were completely autonomous institutions' (p. 31). We see the monastery producing cloth and sending garments to villagers as part of an annual charitable donation (pp. 130–1), and hiring a local beekeeper to tend the monastery beehives (pp. 122–3). The monks at Titkooh also had links with other monasteries in Egypt. In general, one sees another side of monastic life in the Titkooh papyri compared to that in the Theban texts—perhaps because they were different types of institution. (This picture may, of course, need revision if it is possible to identify the Titkooh monastery with Bawit, and so to read all the texts from this area in an integrated fashion.)

In addition to their historical content, the documents contain much of linguistic, syntactic and palaeographical interest. Most of their authors write variations on standard Sahidic, sometimes even when they are using well-known documentary formulae, a phenomenon fully discussed in the commentaries *ad loc*. Occasionally Bohairicisms appear. Some of these dialectal variations are apparently specific to the Hermopolis area. Specific to the Titkooh monastery itself is the use of certain epistolary formulae (discussed on pp. 16–17), a finding which will be of considerable value to future editors of unprovenanced Coptic texts. In her introduction, commentary and indices, Clackson goes into some detail about the palaeography of these papyri: once again, her analysis will be something to which future editors will want to refer, but it is also a reminder that the definitive Coptic palaeography still waits to be written.

New collections of Coptic texts are rare in comparison with Greek ones, and this is an exemplary

edition in many ways. Clackson combines the format conventional for such editions (transcription followed by translation and commentary) with some helpful innovations, such as translations broken down line-by-line and a full archival history for each document wherever possible. The latter seems to me a particularly useful thing to do. Papyrologists tend to ignore the fact that their texts are archaeological artefacts with specific conditions of acquisition, something that Clackson examines in some detail (pp. 9–14). Also commendable are the book's fine production values, with excellent typesetting of the complicated texts and good-sized, good-quality plates that allow one to check the printed text (which I found consistently reliable). All in all, this book is definitely an important and lasting contribution to many fields—Coptic studies, monasticism, early Islamic Egypt among others—and as such definitely merits its moving dedication to Paul Kahle, the Copticist who died aged 32 in 1955 at the very beginning of his career.

DOMINIC MONTSERRAT

Recent Publications of

The Egypt Exploration Society

A list of publications in print, with prices, may be obtained from the Secretary at 3 Doughty Mews, London WC1N 2PG

EXCAVATION MEMOIRS

63 AMARA WEST, I. THE ARCHITECTURAL REPORT. By PATRICIA SPENCER. 1997.

64 THE SURVEY OF MEMPHIS, II. By LISA GIDDY. 1999.

65 THE TOMB OF MAYA AND MERIT, II. OBJECTS AND SKELETAL REMAINS. By MAARTEN J. RAVEN. Joint publication with the Rijksmuseum van Oudheden, Leiden. 2001.

66 THE TOMBS OF THREE MEMPHITE OFFICIALS. RAMOSE, KHAY AND PABES. By GEOFFREY THORNDIKE MARTIN et al. 2001.

67 THE ROMAN IMPERIAL QUARRIES. SURVEY AND EXCAVATION AT MONS PORPHYRITES 1994–1998, I. TOPOGRAPHY AND QUARRIES. By VALERIE MAXFIELD and DAVID PEACOCK. 2001.

68 THE ANCIENT TEXTILE INDUSTRY AT AMARNA. By BARRY J. KEMP and GILLIAN VOGELSANG-EASTWOOD. 2001.

ARCHAEOLOGICAL SURVEY

37 & 38 SEMNA-KUMMA, I. THE TEMPLE OF SEMNA and SEMNA-KUMMA, II. THE TEMPLE OF KUMMA. By R. A. CAMINOS. 1998. Two-volume set.

39 THE ROYAL TOMB AT EL AMARNA, II. THE RELIEFS, INSCRIPTIONS, AND ARCHITECTURE. Being *The Rock Tombs of El-Amarna,* VII. By G. T. MARTIN. 1989.

40 SAQQÂRA TOMBS, II. THE MASTABAS OF MERU, SEMDENTI, KHUI AND OTHERS. By A. B. LLOYD, A. J. SPENCER and A. EL-KHOULI. 1990.

GRAECO-ROMAN MEMOIRS

84 THE OXYRHYNCHUS PAPYRI, LXIV (Nos. 4401–4441). By E. W. HANDLEY, U. WARTENBERG et al. 1997.

85 & 86 are both out of print

87 THE OXYRHYNCHUS PAPYRI, LXVII (Nos. 4545–4638). By R. A. COLES et al. 2001.

OCCASIONAL PUBLICATIONS

12 MEROE CITY. AN ANCIENT AFRICAN CAPITAL. By LÁSZLÓ TÖRÖK. 1997.

13 STUDIES ON ANCIENT EGYPT IN HONOUR OF H. S. SMITH. Edited by ANTHONY LEAHY and JOHN TAIT. 1999.

14 NEW KINGDOM POTTERY FABRICS. By J. D. BOURRIAU, L. M. V. SMITH and P. T. NICHOLSON. 2000.

JOURNAL OF EGYPTIAN ARCHAEOLOGY (from 1914). Vols.1–86. Reprinted parts are priced separately, according to the cost of production.

EGYPTIAN ARCHAEOLOGY (from 1991). Issues 3–20 (1 and 2 are out of print)

WHO WAS WHO IN EGYPTOLOGY. A Biographical Index of Egyptologists...from the year 1500 to the present day but excluding persons now living. By WARREN R. DAWSON and ERIC P. UPHILL, 3rd revised Edition by M. L. BIERBRIER. 1995.

PRINTED IN GREAT BRITAIN
TYPESET BY PATRICIA SPENCER
PRINTED BY COMMERCIAL COLOUR PRESS
FOREST GATE, LONDON
AND PUBLISHED BY
THE EGYPT EXPLORATION SOCIETY
3 DOUGHTY MEWS, LONDON WC1N 2PG

ISSN 0307–5133