Excavations at Tabo, Argo Island, 1965-1968
Preliminary Report
by Charles Maystre

During the course of the year 1965 the Henry M. Blackmer Foundation decided to finance an archaeological expedition to the Sudan in co-operation with the Centre d'Etudes Orientales of the University of Geneva. Professor Charles Maystre, Director of the Expedition, thereupon paid a visit to Khartoum and Dongola, and after consultation with Dr Thabit Hassan Thabit, Director General of the Sudan Antiquities Service, chose for excavation the site of Tabo on Argo Island in the Province of Dongola. The presence there of two granite colossi lying prone on the ground in the vicinity of a number of low mounds covered with sherds had first been brought to the attention of the western world by Caillaud and Linant de Bellefonds, but no major excavation had ever been undertaken there.

The personnel of the Expedition, which has now concluded its third season’s work, has been as follows:

General Director: Professor Charles Maystre, 1965–1968.

The services of Reis Ibrahim were procured for the Expedition through the good offices of the Sudan Antiquities Service. He has been of inestimable value to us in training and supervising the local workmen, varying in number from 45 to 70 at different periods, who were entirely unskilled in excavation work at the beginning of the dig.

Great thanks are due on the part of the Expedition to the members of the Sudan Antiquities Service, Dr Thabit Hassan Thabit, the Director General, and his able Chief Inspector Sayid Nigm-ed-Din Sherif, who have always come to our assistance with the greatest efficacit and good-will. Our gratitude also goes out to the authorities

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1 I am greatly indebted to Mrs H. Jacquet for having summed up in English my excavations reports for the three years.
of Dongola, particularly to Sheikh el-Zubeir Hamid el-Malik and to the local population of Tabo headed by Omdah Mohammed Hamid el-Malik, who have received us into their midst as friends and have not only given us all possible courtesy and aid but have taken a great interest in our work and a real pride in the results of our endeavours to throw new light on the history of their own Dongola region.

The chronology of the objects and building remains found on the site of Tabo, as far as it can be postulated at the end of three seasons' work, can be outlined as follows:

1. Objects dating to the Egyptian Middle Kingdom found on the site prior to the beginning of the excavation. They are now in the Merawe Museum.

2. Sherds of 'Kerma ware' observed on the surface of the habitation mound south-east of the temple mound.

3. Blocks from an xviith dynasty building found re-used in the temple excavated by the Expedition.

4. Column drum bearing the cartouches of Ramses II likewise found in the temple.

5. A temple, probably of xxvith dynasty date, excavated in the main mound.

6. A Meroitic kiosk discovered in the court of the last-mentioned temple. Alterations in and additions to this temple (such as the colossi) are likewise probably to be attributed to this period.

7. Church and cemetery of the Christian period found covering the ancient site.

Prior to the excavation, the only visible remains on the site were two colossi lying to the east of and at right angles to the main axis of the principal mound. Three other objects were known to have been found in the vicinity: (1) a group of three adoring cynocephalus apes and (2) an almost life-size statue of Sebekhotep IV of the xviith Egyptian dynasty, both from the main mound; (3) an offering table of Senusret I found re-used in a nearby house. All three objects are now in the Museum at Merawe. No masonry was visible above-ground. The surface of the principal mound, the latter not exceeding a maximum height of 2 m., presented an uneven appearance, the sand hillocks being interspersed with hollows and scrub bushes, and thickly strewn with potsherds of both the Meroitic and Christian periods, as well as with fragments of sandstone and broken bricks, many of which bore the signs of a conflagration serious enough to have partially vitrified them.

The results of the first season's work, limited to the northwest and central portions of the main mound, confirmed what had been previously conjectured concerning the stone structure which lay hidden there—namely that it was a temple. Subsequent work showed that it was a temple of considerable size (approximately 75.60 by 40 m.) but in an extremely ruinous condition. Several factors account for this bad state of preservation: firstly, the very poor quality local sandstone used in its construction; secondly, the fact that it was used as a quarry both in ancient and modern times; thirdly, that in common with many other ancient temples in Egyptian
and Sudanese Nubia, its ruins served during the Christian period as foundations for a church which seems to have been built partly with re-used blocks from the temple and partly of brick.

No direct evidence for the date of the temple was found. However, its original plan which is that of an Egyptian not a native Meroitic sanctuary, closely resembles the plan of the xxvth dynasty temples of Taharka at Sanam and Kawa and, to a lesser extent, that of Pianki at Gebel Barkal. Moreover, one of the few fragments of relief decoration which can be confidently attributed to the temple (a block fallen from the upper courses of the 2nd pylon on the side of the hypostyle hall) bears a gigantic head adorned with the wide band typical of the headgear of the xxvth dynasty kings, and with ram’s horns belonging to a head-dress which has disappeared. It seems almost certain therefore, that the temple of Tabo was built by one of the xxvth dynasty kings or their immediate successors.

The temple consists of a large colonnaded forecourt, a hypostyle hall whose roof was supported on four rows of five columns each, an anti-chamber and a central chapel with subsidiary rooms on either side.

A trial trench parallel with the front of the temple revealed no trace of a causeway leading up to it. The main entrance, in the east façade of the forecourt, was flanked by a heavy pylon, and the doorway leading into the hypostyle hall traversed a second

FIG. 1. PLAN OF TABO TEMPLE
pylon of lesser dimensions. Side entrances existed on both the north and south sides of the court and the hypostyle hall, while a doorway pierced in the south wall of the anti-chamber may possibly be a later addition. Of most of the walls only the foundations remain, with here and there some blocks of the first course and rarely a block of the second course still in place. The columns which were simply planted in holes in the ground with fictitious bases constructed around them at floor level, subsist to an average height of 1 m. Judging by the intercolumnar width (approximately 5 m.), and by the entire absence of fragments which could be attributed to stone roofing slabs, it seems probable that the temple was covered, like the modern houses of the region, with wood and thatch. Remains of what may have formed part of such a roof were found in the doorway of the second pylon and in the southern half of the hypostyle hall where they had fallen after having burned in a conflagration whose effects can be seen in the reddening of the stone in the southern embrasure of the doorway, and in the layer of ashes traceable from before the temple, through the court and over most of the hypostyle hall, particularly on the south side.

If nothing much remains of the upper parts of the temple, the floors on the contrary are fairly well preserved. From in front of the first pylon a paved way of good quality sandstone slabs, partly restored at a later date, leads up to the anti-chamber. Large parts of the hypostyle hall and of the rooms north of the sanctuary also retain their pavements but in a much less satisfactory condition due to the softness of the stone which disintegrates even under a soft brush. On the slabs in front of the pylon a number of graffitti of feet are preserved, some placed as if entering the temple and others seemingly issuing forth from it, while in the hypostyle hall a square, incised on the stones of the pavement along the central east-west axis, no doubt marks the spot where an altar or support for a sacred bark was placed.

It was mentioned above that the greater part of the temple was built of a soft yellowish sandstone. However, a certain number of blocks of a much better quality grey sandstone were also used, particularly in the foundations and as filling in the pylons. It soon became evident that the latter were all re-used blocks taken from some older edifice. Many of them are decorated and the cartouches of several kings of the Egyptian xviiiith dynasty—Tuthmosis III and IV, Amenophis II and III—are to be read on them. There is little reason to doubt, therefore, that a temple already stood on or near the site of Tabo during that period. Among the inscriptions on these blocks the name of the god Amün appears in several places. It has been hacked out and then restored, evidence that the agents of Akhenaten were at work even in this remote region and that one of his successors—probably Ramses II whose name appears on a re-used column drum in one of the subsidiary rooms south of the sanctuary—took the trouble to restore the god’s name. Further evidence of the occupation of the site during the New Kingdom comes from a number of fragments of an Egyptian hieroglyphic text incised on a black granite stela or statue.

At some time during the Meroitic period a kiosk was added in the centre of the forecourt. It was built of a poor quality yellowish sandstone on foundations of
a. AERIAL VIEW OF TABO TEMPLE AT THE END OF THE 3rd SEASON

b. THE MEROITIC KIOSK IN THE COURT OF THE TEMPLE

facing p. 196
a. RELIEF ON THE INNER NORTH FACE OF THE KIOSK

b. BLOCK WITH THE HEAD OF A MEROITIC KING
PLATE XXXVI

a. FRAGMENT OF MEROITIC HIEROGLYPHIC TEXT FROM THE KIOSK

b. LATE STRUCTURE SOUTH OF THE SANCTUARY
a. MEROITIC JAR

b. STATUE OF A PRISONER
c. CHRISTIAN CAPITAL
burnt brick. Each of the long sides (north and south) consisted of a low wall supporting a series of five columns. Attached to each corner column on the short sides (east and west) was a single narrow panel leaving the two ends open along the central axis of the court. The southern half of the kiosk has been destroyed except for its foundations but on the northern side two courses of blocks remain in situ decorated on the interior with excellent quality Meroitic bas-reliefs. The personages here depicted are unfortunately broken off at the waist but it is evident that they represent a king, a queen and a prince offering before various deities. Fragments of the missing blocks of the kiosk were found broken up and re-used in the foundations of the church, among them some small remnants of the Meroitic hieroglyphic texts which accompanied the figures. Changes made in the disposition of the subsidiary rooms south of the chapel, may have been effected during the same period. The two colossi likewise must have been brought here at this time.

In addition to the scraps of text in the Meroitic hieroglyphic script which formed part of the decoration of the kiosk, numerous fragments of texts in Meroitic demotic (Griffith’s transitional type) have been found. The greater part come from the southern embrasure of the doorway in the second pylon. They seem to have been graffiti incised on the wall of the embrasure. The fire which brought down the wooden roof at this point also attacked the stones of the wall, which not only turned to brilliant reds and purples but became fissured to such an extent that they disintegrate under the slightest touch. The graffiti were placed on the higher courses of the wall which fell, dragged down perhaps with the roof, and splintered into small fragments. It has been possible to regroup a certain percentage of them and on these fragments it can be seen that numbers occur from time to time in the text. The graffiti therefore probably represent lists of gifts to the temple or accounts of booty offered to the gods.

The temple must have been richly endowed judging by the little which has escaped the eyes and hands of its plunderers. Fragments of a number of statues in black and grey granite were found scattered over the site. One of them was a colossus at least as large as the two still lying in front of the ruins, judging by the size of its big toe. All of them had been intentionally broken, probably during the Christian period, and the fragments re-used, particularly in the fabrication of mortars for grinding grain. The only statue found almost intact (its head was broken off and only half of it was recovered) was a limestone figure of a kneeling prisoner with arms bound behind him and head thrown back in such a manner that a vertical hole in his throat could support some object such as a flag-staff, as in the relief of the temple of Naga.

Small finds include objects made of a variety of materials. A plain ring and two small flat leaf decorations are of gold; part of a bracelet and the arm and hand of a small statue holding a nw-vase are of silver, while the vase itself is covered with gold leaf. Remains of several knife blades and a lance-head are of iron. A large number of bronze nails was found scattered over the whole temple, silent witnesses to the disappeared woodwork, as well as some heavy plaques of bronze, apparently parts of
door hinges. The most attractive bronzes are the uraei of which several, of different dimensions, were recovered. They had been inlaid with coloured pastes and covered with gold-leaf some remnants of which still adhere to the bronze base. Numerous small figurines of Osiris and several statuettes: a standing figure of a king, a lion, and possibly a ram, are all in rather poor condition. Further bronzes are: a round lid, the handle of a bowl, and what seems to be the horse-shoe shaped lower end of a sceptre. Faience objects include ram's-head amulets, a creo-sphinx, double plumes, sun disks, a button, a rosette and numerous fragments of small bowls and bottles. Among the stone objects is the forward part of a human-headed sphinx, which may have served as a support for an altar or throne, a miniature stela in schist depicting the Theban triad of gods, numerous weights, hammers, grinding stones and mortars, the latter generally of quartzite or granite, and finally a broken archer's loose and half of a heavy mace-head. Many fragments of glass occur, some identifiable as belonging to small bottles. Beads are mostly of faience but also of glass, ostrich egg-shell, coral, carnelian and quartz. Some small pottery animal figures, playing pieces, and spindle whorls cut out of potsherds, more or less complete the inventory.

Pottery is very abundant but extremely fragmentary, the outstanding exception being a large Meroitic storage jar with a painted decoration of lotus flowers around the shoulder.

A certain amount of time elapsed between the moment when the temple was definitely abandoned and the time when the Christian first used its ruins as foundations for their church. Approximately 40 cm. of earth and sand had accumulated in the hypostyle hall before the above-mentioned fire spread ashes over the surface. Stone had been taken from the walls and cut up into smaller blocks as testified by the thick layer of chips which surrounds the temple to the height of almost a meter above the foundations. Of the church itself very scanty but nevertheless definite indications have been found. It was built in the court with its apse on the east side blocking the main entrance to the temple. The corners of the apse were based on massive pillars constructed around the first columns of the colonnade, north and south of the doorway. The foundations of the north side have completely disappeared, but on the south side where the mound was higher, the foundations of an east-west wall were discovered in which appears a recess about 1 m. deep and 4½ m. long, slightly in advance of the apse. So little remains of this recess that it is hazardous to guess at its function. All the foundations are very poorly built of rubble and rest on the debris of the temple at a height of approximately 80 cm. above floor-level.

The burnt bricks found in abundance in the surface layers of the mound, to which a coating of white plaster still adheres in some cases, apparently came from the walls of the church. Large flat bricks, originally unbaked but partly reddened by fire, are remains of its vaulted or domed roof. Characteristic elements of terra-cotta claustra belonging to the church windows were found scattered over the whole area of the court. Various architectural elements in stone including two small decorated pillars, probably from the altar-screen, a small floral capital and a door or window
lintel, were likewise recovered. Pottery consoles of which several of different sizes were found, had been built into the walls to serve as lamp supports. The lamps themselves appeared in considerable numbers, many still retaining their thick coating of oil residue. Among the small objects undoubtedly belonging to the church is a stone seal on which is incised the glyph $\kappa\tau\varepsilon$ PETROY; a fragment of a pottery funerary stela; and a bronze chain ending in an ankh-like cross.

The Christian cemetery lay all around the church. It has not yet been thoroughly investigated but tombs have been located on all sides of the outer temple walls as well as in the hypostyle hall and the farther rooms of the temple, but not in the court itself. Most of those so far excavated have been simple trenches in the hard earth containing as a rule several bodies, but absolutely no other objects. Some have had unbaked brick superstructures of which traces remain and other are covered with stone slabs. The most imposing one yet found, containing three skeletons, was built on the ruins of the first pylon at its southern end and was constructed of stone. All are oriented east-west with the head to the west. The Meroitic cemetery must have laid elsewhere as no traces of it have yet come to light.

Nothing has been said so far about the god to whom the temple was dedicated nor about the ancient name of the site, for the simple reason that no direct evidence concerning these two important points has yet been discovered. However, the number of amulets representing the high double plumes or depicting a ram’s head surmounted by a sun-disk, make it seem probable that a form of Amün was the principal deity worshipped in the temple. Moreover, Amün alone, to the exclusion of all other gods, appears to be named in the fragments of inscriptions from the temple which have survived. As for the identification of the site, the importance of its temple and the proof that it was inhabited at least as far back as the beginning of the New Kingdom, may be considered to give new support to the suggestion already put forward by Macadam that the ruins of Tabo represent the ancient city of Pnubs. As is known from the stela of Amani-nete-eryike, the latter place lay about a day’s journey by boat to the north of Gematon-Kawa, a very reasonable estimate. Perhaps closer examination of the many re-used blocks in the temple, scheduled for the coming season’s work, will bring to light definite insessional proof of the site’s identity and set all our doubts at rest.
The Archaeological Survey from Gemai to Dal—Report on the 1965-1966 Season

by A. J. Mills

CONTINUING the southward progress of our survey, this season was occupied with the completion of the villages of Saras and Semna. Field work began on 23 October 1965, and closed on 27 March 1966. The staff consisted of myself, a UNESCO employee, ably assisted by my wife and the Antiquities Service Technical Assistant, Arbab Hassan Hafiz. Our crew normally numbered thirty-five locally-recruited labourers, who were supervised by four guftis.

I would like to thank the officers of the Sudan Antiquities Service, especially Thabit Hassan Thabit, the Commissioner for Archaeology, and Sayed Nigm el Din Mohammed Sherif, the Senior Inspector of Antiquities, for their great help in supplying transport and other facilities in the field. I also thank Dr W. Y. Adams, my Chief of Mission during the season, for his encouragement and assistance with problems of supply and tactics and for taking over the crew for a short period in the middle of the season.

This season a total of 53.8 km. was covered on the ground and 101 sites were investigated. We began where we left off last season, at a point half-way through Saras on the East Bank of the Nile, just where the modern schools stand. The first task was to complete the survey of the ‘Saras Plain’, that wide alluvial plain which had appeared to be such a promising area. Indeed, it proved to be a most interesting stretch of 4 km. and took the better part of two-and-a-half months to complete. In all, forty-nine sites were investigated here, the bulk of which date to the A-Group, C-Group and Kerma cultures, and which included a large gold mining industry of xth Dynasty date.

The remaining area in Saras was far less rich in ancient sites. The rocky hills close in on the river bank and there is increasingly less alluvial land as one proceeds south along the East Bank. Only a few sites were found and all of these, except one largely-destroyed C-Group cemetery, are of X-Group and Christian date. The West Bank of Saras is even more forbidding. Deep, coarse, yellow drift sand covers the entire area except the tops of the rocky outcrops. There is virtually no alluvium. In the whole stretch of about 14 km. there are only nine sites, most of them post-Pharaonic in date and all, except Shelfak fort, quite small.

1 See fig. 1 for the area covered this season and for the location of the sites. Cf. Kush XIII, fig. 1, inter pp. 2 and 3 for the location of the present map within the general area of the survey.
SURVEY FROM GEMAI TO DAL

Semna, a much smaller village than Saras, is only 10 km. long. The country is similar to the southern half of Saras, although there is slightly more alluvium on the East Bank and the rocky outcrops on the West Bank are a little further back from the river. Semna, being the narrowest point in the whole Nile Valley, was of great strategic importance to the ancient Egyptians and it is evident that their activities here were extensive. Twenty-eight sites were investigated on the East Bank, half of which were of the C-Group and Pharaonic cultures. Of the nineteen sites worked on the West Bank, ten are pre-Meroitic in date.

A-GROUP

Seven A-Group sites were found this season. Six of them are habitation sites and the seventh is a small cemetery. All of them are located in the area of the ‘Saras Plain’.

![Fig. 2. THREE A-GROUP BOWLS FROM 11-Q-72](image)

All the habitation sites have been denuded of structural remains. In fact, in all but one they consist simply of a layer of refuse on the surface of the ground which varies from ten to twenty-five centimetres in depth. These layers contain the normal occupation debris of animal bones, stone tools and the debitage of the tool industry, ash and charcoal, and pottery which is generally of a coarse, domestic type.

There is, however, one campsite (11-Q-72) which is of an exceptional nature. The material found on the site is in all respects similar to that found in the settlements in the area. But here the occupation debris is preserved to a maximum depth of 2.10 m., due to the fact that a C-Group cemetery (11-Q-11) was dug into the abandoned settlement. The stones of the grave superstructures have largely prevented the wind and sand from eroding the surface of the site. Six different levels were discerned, largely distinguishable one from another by changes in the nature of the soil. The content of each of these levels differs from the others—one will have more charcoal, another fewer sherds—but all bear evidence of A-Group occupation. The chance find of three whole pottery bowls\(^2\) is interesting in view of the rarity of such

\(^2\) See fig. 2.
KUSH

pieces. Number 1 is a large, hand-made vessel of soft grey ware, with a series of impressed 'rocker' patterns towards the base. Number 2 is also of soft grey ware, but with a polished black interior and rim and a polished red exterior. It has a decoration consisting of two parallel lines of impressed dots around the rim, below which are inverted triangles composed of impressed dots. Number 3 is a much finer bowl, smaller in size and with thinner walls. Impressed rows of dots, which have been partly reduced by polishing, cover the entire exterior surface.

The single burial site found this season is 11-Q-76. It consists of a few, shallow, oval graves, most of which were found to be empty. One grave, however, contained an intact burial, but unfortunately most of the contents had been disturbed due to the very shallow nature of the grave. This burial is consistent in type with those found last season at 11-H-63.

Three of the campsites yielded purely A-Group material and three of them had C-Group graves dug into them. No A-Group campsite had any trace of C-Group habitation on it. These facts tentatively point to a lack of direct continuous connexion between the A-Group and the C-Group cultures. That the C-Group peoples would bury their dead on the ground of an A-Group habitation indicates that there was sufficient lapse of time between the two for any structural remains to vanish and the refuse to level off and possibly the site even to become overgrown.

C-GROUP

The C-Group culture was represented in thirty-four sites this season. Twenty of them were found in the 'Saras Plain', two on the southern part of the East Bank of Saras, six at Semna East, two on the West Bank of Saras, and four at Semna West. Of these, twenty-five are cemeteries and nine are habitation sites. The campsites are, in general appearance, similar to those of the A-Group, but there is often more depth of fill (up to 50 cm.), the pottery is more plentiful, and the stone tools include the occasional polished celt. There is virtually no Egyptian-made pottery on these sites.

The C-Group cemeteries generally conformed to type. The graves are normally oval, not very large in size, but fairly deep. Superstructures, which are normally present, are round and are constructed of rough local boulder stones. One type of superstructure which is unusual was found at 10-Y-11, a small cemetery at Semna East. Here the superstructures were round but were constructed with a single row of large, flat stones standing upright on end. Two of the cemeteries found in the 'Saras Plain' were of unusual interest. One, 11-Q-57, is a small, crowded cemetery of some twenty-five graves, all of which appear to be of a similar nature. The graves are small, oval and have been worn rather shallow through surface erosion. The graves are E-W orientated, but the burial orientation varies. The bodies are contracted or flexed and often lie on a litter. These graves are small and poor and without super-

3 Cf. Kush xiv, p. 9, fig. 3.
structures. Now, neither the graves nor the burials are Pharaonic in type, but all the pottery found on the site, both on the surface and in the graves is Egyptian. This cemetery probably represents the period during which C-Group peoples were becoming Egyptianized.

The second cemetery is 11-Q-36 and it reveals evidence concerning the C-Group —Kerma connexion. This site consists of some 320 graves, of which about sixty-five belong to the C-Group and the remainder to the Kerma people. All the C-Group graves are concentrated in a single area which is about one-fifth of the total area of the site. The Kerma graves are spread out over the whole site, including the area of C-Group concentration. A number of the Kerma graves and the C-Group graves run into one another in this latter, very crowded area and it would seem that the Kerma graves have been dug at a later date than the C-Group. For example, grave 23 is a Kerma grave and grave 24 dates to the C-Group\(^4\). Now, grave 24 was found to be completely plundered and only contained a few, scattered bones of an adult and one RP-BT sherd. Grave 23, on the other hand, had been ancienly plundered in a manner typical to Kerma graves\(^5\) and as a result the west end of the grave is relatively undisturbed. The body of gazelle ‘B’ was found in situ and articulated with a string of beads around its neck (No. 1). This body would surely have been moved if grave 24 had been dug after the burial in grave 23 had been made and if the two graves had been dug at the same time, care would have been taken to prevent them running together.

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\(^4\) See fig. 3.

\(^5\) See below p. 204 for Kerma plundering.
KUSH

KERMA

Eighteen sites bearing the remains of use by the Kerma people were investigated. Of these, seven are habitation sites and eleven are cemeteries. Thirteen of these sites are in the ‘Saras Plain’, one at Semna East, and four on the West Bank of Semna.

The settlement sites of the Kerma culture seem to fall into two general types. The first, such as 11-Q-52 and 16-E-37, consist of a number of adjoining rooms which are rectangular, well built with walls of mud brick and have packed mud floors. The second type, such as 11-Q-43 and 16-E-35, have a number of rather irregular adjoining rooms, built of rough local stones and mud. This latter type appears to have been a much more domestic type of site for there is much more ash and charcoal in the fill and the pottery is generally more plentiful, but of a coarser nature. Sherds of Egyptian-made vessels are not uncommon on both these types of site. All these sites are small in size.

The Kerma cemeteries found this season display a number of characteristics which typify them. The grave type is standard—a rectangular pit large enough to contain a bed, E-W orientated, and often having a circular superstructure built of rough local boulder stones. The body is usually on an angareeb and always lies in a flexed position with the head to the east. To judge from the amount of shed material found on the surface of these sites, offering pots must have been placed outside the grave. Objects found within the grave usually include several pottery vessels, one or more gazelle or sheep beneath the bed, and various articles for the toilet and personal adornment. Often these graves were plundered anciently, and when so, were disturbed only at the east or head end of the grave, thus leaving half of the burial intact. A typical Kerma burial is shown in Fig. 4.

PHARAONIC

There are five major centres of ancient Egyptian settlement in the area surveyed this season, namely Shelfak, Uronarti, Kumma, Semna and Semna South forts. None of them were investigated by us as four of them were excavated by Dr Reisner
6 and the fifth, Semna South, is to be excavated by the University of Chicago. There were, however, thirteen other, smaller sites dating to this period that drew our attention. Three of these sites are cemeteries. Seven sites were recorded on the ‘Saras Plain’, four on the East Bank of Semna and two at Semna West.

Of the ten non-funerary sites, five are associated with a xinth Dynasty gold mine at Khor Ahmed Sherif in the ‘Saras Plain’. The mines themselves, 11-Q-60, are located back in the hills about 2.5 km. east of the river. They include open pit and underground workings. Down on the alluvial plain are sites 11-Q-59, 11-Q-61,

6 See Dunham and Janssen, Second Cataract Forts I, Boston, 1960 for the report on the Semna and Kumma excavation. Second Cataract Forts II is now in preparation and will include reports on Shelfak and Uronarti.

7 See Fig. 5.
PLAN, SECTION & CONTENTS of GRAVE 10 in KERMA CEMETERY 11-Q-36.

BEAKER WARE CUP

BEAKER WARE POT

ORANGE WHEEL-MADE JAR

HORN "WEAPON WITH LEATHER-WRAPPED HILT.

WOODEN BOX - SIDE VIEW

LID REMOVED TO SHOW CONTENTS.

STEATITE SCARAB (from high in the fill)

BLUE FAIENCE

CONTENTS - SHELL, KOHL, OCHRE, FEATHER, LEATHER FRAGMENTS.

A. J. M. '66.

Fig. 4
KUSH

11-Q-62 and 11-Q-63, which were the workshops wherein the quartz ore from the hills was crushed, powdered and washed. These sites are all grouped together and are all similar. Each consists of a number of small rooms with walls built of rough, local stones. All floors are of packed mud. Quantities of ore, crushed to various sizes are found all over the sites and there is a large area of tailings connected with each. A great number of large granite mortars and grindstones⁸, heavy, two-handed hammer stones and small flat rubbing stones were common on all these sites. There is almost no Nubian pottery and the Egyptian pottery wares, which all appear to belong to the xith Dynasty, are not plentiful. No evidence for any living quarters was found on these sites, nor were there any settlements nearby.

Another important Egyptian site is 10-Y-12 on the West Bank of Semna. This is a wall which extends over a distance of at least 4.5 km. running parallel to the river. It is built of mud brick and is 2.50 m. wide. Where the wall passes through a wadi it is wider and the foundations are of heavy masonry. At high points there is usually a tower⁹. The east side, i.e., the river side of the wall bears traces of whitewash. There are no other structures adjacent to this wall and only a handful of potsherds were picked up along its entire length. Judging from the size of the bricks and the rather scanty evidence from the pottery, the wall was built during the Middle Kingdom.

A very curious site on the East Bank of Semna is 16-E-32. Here, at a distance of some 2.5 km. from the river, are a cluster of twenty-five cairns situated on a plateau. The site overlooks only the surrounding gebels and wadis and commands no vista of any obvious importance. All the cairns¹⁰ are solid-built of rough stones in the shape of a truncated cone. Each has a ‘window’ on the south side about one-third of the distance down from the top. They vary in height from 2 to 3 m. and in the diameter of the base from 1.40 m. to 3.50 m. They are built directly onto bedrock and are not superstructures of graves. Only a few sherds were found on the site, all of them dating to the xith Dynasty.

MEROTIC

No remains of the Napatan period were found this season and only two sites could be attributed to the Meroitic. These are both burial sites and are both situated at the south end of the ‘Saras Plain’. One, 11-Q-74, is a small, badly destroyed cemetery in which every grave had been re-used during the Christian period. The other, 11-Q-12, consists of about a dozen completely plundered graves in a very large cemetery which continued in use down to the Islamic period.

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⁸ See plate xxxviiiA.
⁹ See plate xxxviiiB.
¹⁰ See plate xxxixA.
KUSH

X-GROUP

Not many sites of the X-Group period were investigated this season and no new information regarding this culture was obtained. In all, seven sites, all of them cemeteries, were looked at. Four of them are in the ‘Saras Plain’ and the other three further south on the East Bank of Saras. There are other X-Group sites in the area which were found during the Reconnaissance Survey in 1964, but these were not deemed to be of sufficient size or importance to require any more work than was done at the time of their discovery.

Approximately one-quarter of the graves in 11-Q-12 are of X-Group date and all these are of the same type, the lateral-niche type, which is almost the only type of X-Group grave to be found in the region. The graves at 11-U-7 are slightly different. They are all of the lateral-niche type and are fairly large. Due to the very crumbly nature of the alluvium in which they are dug, the entrance shaft is often almost round and shored up with rocks to a considerable depth. Normally the X-Group graves do not require this shoring as they are usually dug in firm soil.

CHRISTIAN

The Christian remains continue to be the most plentiful of all the periods in our area. In the area surveyed this season there is a total of forty-three sites dating to the Christian period. Of these we investigated twenty-five. Six of them are in the ‘Saras Plain’, five on the southern part of Saras East, four at Semna East, eight on the West Bank of Semna and two on islands. Fifteen sites are cemeteries, the rest are habitation sites and include three churches.

The Christian cemeteries show little variation except in size. They range from half-a-dozen graves to several hundred. Graves are dug in fossil alluvium and are normally simple rectangular pits just large enough to receive the body. The graves are E-W orientated and the body lies dorsally extended with the head to the west. Occasionally the remains of a rectangular superstructure built of either mud brick or of stones are seen.

The settlement sites fall into two categories. The first consists of a few, irregular stone huts of one or more rooms. These are often situated close to the river bank, scattered over the side of a rocky outcrop and are a poor type of settlement.

The second type of Christian habitation site is of a much better nature. Here the walls are built of mud brick, roofs are often vaulted and units generally consist of three or more rooms. A good example of this type of site is 16-E-19 at Semna West. This is a complex of rectangular rooms enclosed within a heavy boundary wall. Although much of the site has been destroyed, there were originally probably thirty or more rooms and a church in the enclosure. All the walls are built of mud brick and floors are of packed mud. Many of the roofs were vaulted. The objects found

THREE CHURCHES AT SEMNA.

16-E-19
EARLY PERIOD

16-E-16
CLASSIC PERIOD

16-E-8
LATE PERIOD

FIG. 6

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on this site were chiefly of a domestic nature, e.g., quantities of storage jars and cooking pots, and do not suggest any specialized use or purpose of the site.

Three churches\textsuperscript{12} were excavated this season. They are all at Semna, one on the East Bank, the others on the West Bank. They represent three distinct periods within the Christian era. The earliest is at 16–E–19 and is an integral part of the small village. The walls are all of mud brick and the plan is normal and fairly regular. There are the remains of a stair in the south-west corner room and a pulpit with a lamp box on the north side of the nave. The haikal screen is of brick and abutting it and the adjacent pier on the south side is a large rectangular mastaba within the sanctuary.

The second church at Semna West is 16–E–16\textsuperscript{13} and dates to the Classic period. This church is typical in plan of those dating to the early Classic period with a passage linking the sacristies behind the apse, and the haikal screened from the nave but not from the aisles. The construction of the walls is peculiar to this building. The foundations are upright mud bricks. Above this is some 30 cm. of rough, heavy masonry set in mortar which is in turn surmounted by three courses of mud brick on top of which is finer masonry again. The walls are not preserved above this latter course. The four central piers are entirely of mud brick. Along the outside of both the north and south walls are the remains of stone pavements.

The third church, 16–E–8, is at Semna East, and dates to the early part of the Late Christian period. It retains a number of the Classic period features, such as the eastern passage, a screened haikal and fully developed western rooms. Late period features which are incorporated in the building include the absence of a tribune, the altar directly in the apse and the absence of stairs. The outer walls are built of coarse, dry-laid masonry to a height of up to 1.55 m. on top of which was mud brick. The inner walls are of mud brick except the enclosing wall of the apse which is similar to the outer walls. There are the remains of painted figures on the interior of the apse\textsuperscript{14}, at the west end of the nave and on the east wall of the north aisle. That the apse wall is curving on both sides and not enclosed in a rectangular masonry shell is a feature unique to this church.

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\textsuperscript{12} See FIG. 6.
\textsuperscript{13} This church and 16–E–8 were excavated by Dr W. Y. Adams.
\textsuperscript{14} See PLATE XXXIXb.
a. HEAVY GRANITE GRINDSTONE RAISED UP ON BLOCKS. FOUND in situ AT 11-Q-62

b. FOUNDATIONS OF A TOWER AT A HIGH POINT ALONG THE PHARAONIC WALL, 10-Y-12
a. STONE CAIRN AT 16-E-32, SEMNA EAST

b. APSE OF 16-E-8 CHURCH SHOWING THE REMAINS OF WALL PAINTINGS
Preliminary Report of the Scandinavian Joint Expedition

ARCHAEOLOGICAL INVESTIGATIONS BETWEEN FARAS AND GEMAI
NOVEMBER 1963—MARCH 1964

by TORGNY SÄVE-SÖDERBERGH

The fourth and last campaign of the Scandinavian Joint Expedition to Sudanese Nubia was organized on the same lines as during the previous seasons, but in order to be able to finish the work in the concession area in time the staff was larger and, at least periodically, more workers were employed. Thus the members of the staff were sometimes up to twenty and the number of workers occasionally 190 instead of the ordinary 150. Since we had trained several Sudanese foremen and special workers we could dispense with the Quftis.

During the first two weeks (30 October—13 November 1963) Mr. Bengt Schönback was in charge of the expedition as Field Director. For the rest of the campaign I took over, and he acted as Assistant Field Director. He was soon detached to the group working in the Abka district and co-ordinated the field work there to the end of the campaign on March 25th.

The other members of the expedition were:
from Denmark: H. Langballe (6.11 1963—16.3 1964), Evelyn Oldenburg (18.12—25.3), K. Randsborg (6.11—27.2); from Finland: S. Dreijer (6.11—9.3), C. J. Gardberg (30.10—16.3), Th. Lindquist (30.10—19.3), M. Linkola (15.1—9.3), Irmeli Ojamaa-Koskinen (30.10—25.1); from Norway: R. Jensen (8.1—23.3), K. Odner (8.1—4.3), Ann-Mari Olsen (6.11—13.1), K. Vibe-Müller (2.11—16.3), R. Utne (8.1—23.3); from Sweden: G. Barth Magnus (7.12—24.2), G. Eriksson (20.11—25.3), P. Hellström (30.10—27.2), E. Pousette (6.11—9.3), G. Widstrand (30.10—27.11). These members were all archaeologists except Miss Olsen, Mr. Utne and Mr. Jensen, who were photographers, and Mr. Widstrand and Mr. Eriksson, who were responsible for the logistics and all technical aspects (Mr. Eriksson was also used as professional photographer). Mr. Lindquist took care of conservation problems in addition to his duties as field archaeologist and architect.

As during the previous season Dr. J. Balslev Jörgensen, assisted by Dr. O. Vagn Nielsen and the curator Mr. J. V. Holm, took care of the osteological material

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1 See Kush x, pp. 76-102; xi, pp. 47-69, 159-174; xii, pp. 19-39. By mistake Mrs. G. Betting, who worked with the expedition from 1.1.1963 to the end of the season, was not mentioned among the members of the second campaign.
and spent the time from 19 February—4 March 1964 to examine, measure, photograph and pack all the human remains found by the expedition. This material is now being worked up for publication by Dr. Vagn Nielsen at the Anthropological Laboratory at the University of Copenhagen.

For the prehistoric sites, especially those of Palaeolithic and Mesolithic date, we had a close collaboration with the Combined Prehistoric Expedition to Egyptian and Sudanese Nubia to the benefit of both expeditions and of the main purpose of the Nubian campaign. Thus we had an agreement that the American expedition was entitled to excavate or investigate any site of these periods within our concession, if we were only notified in advance, and some areas were yielded to them after our survey had been finished. These early sites will be prepared for publication by the Combined Prehistoric Expedition.

The fact that the expedition was able to investigate in such detail its very large concession and to excavate all sites of importance, was again due to the efficient assistance of our Sudanese friends. The Sudan Antiquities Service did everything to facilitate our work, and we wish to express our gratitude to the Commissioner for Archaeology, Sayed Thabit Hassan Thabit, to the Senior Inspector in Wadi Halfa, Sayed Nigm ed Din Mohammed Sherif, and to the Chief Clerk in the Halfa Office, Hagg Gemal, for their unrelenting helpfulness, efficient collaboration, as well as for all their personal friendliness. Our indebtedness to all the other Sudanese authorities is also gratefully acknowledged for their willingness to solve our problems in the best way and for their spirit of collaboration. Without the loyal and capable work of our foremen and workers, even during a time when they were occupied by their own problems in connexion with the re-settlement, our task could hardly have been fulfilled.

We also wish to thank the Unesco officer attached to the Sudan Antiquities Service, Dr. William Y. Adams, for the many ways in which he was willing to assist us.

**The Survey and General Outline of the Work**

The Expedition had, to start with (in 1961), only undertaken to make an archaeological survey of the concession area from Faras to Gamai, i.e. to locate the sites and ascertain their dates and extent with trial excavations, but not to excavate them totally. Since most sites were impossible to locate from surface finds only and as a rule were hidden through erosion and sand drift or covered with decomposed silt mixed with sand, it soon proved impossible to make a satisfactory survey without extensive excavations, and the programme was gradually changed to a total archaeological investigation and excavation of the whole concession. In all over 490 sites—

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2 The same arrangement had been made already during the second and third seasons with the Columbia University Expedition (cf. *Kush* xi, pp. 50 f.).
in the widest sense of the word—were located. The habitation areas of importance were excavated in toto or in their most promising parts, and sampling was done on practically all sites. Nearly all the cemeteries have been totally excavated, with the exception only of some very poor or badly plundered sites, where we restricted ourselves to trial excavations. However, even in such cases, where the majority of the tombs had been robbed of all their contents, the whole cemetery was nevertheless excavated, and sometimes rewarding and interesting finds were made in the very last tombs.

In all well over 4,200 tombs have thus been excavated, and our finds form representative collections from all periods. The following table gives a resumé of the number of sites by which the different periods are represented (the numbers are approximate, as some very plundered sites can only be dated after a careful detailed analysis of the material):

<table>
<thead>
<tr>
<th>Period</th>
<th>Number of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palaeolithic</td>
<td>58 (+ 2)³</td>
</tr>
<tr>
<td>Mesolithic</td>
<td>14</td>
</tr>
<tr>
<td>Neolithic</td>
<td>41 (+ 7)</td>
</tr>
<tr>
<td>A-Group</td>
<td>41 (+13)</td>
</tr>
<tr>
<td>C-Group</td>
<td>68 (+22)</td>
</tr>
<tr>
<td>Kerma</td>
<td>10</td>
</tr>
<tr>
<td>Egyptian Middle Kingdom</td>
<td>2</td>
</tr>
<tr>
<td>New Kingdom</td>
<td>35 (+ 4)</td>
</tr>
<tr>
<td>Meroitic</td>
<td>8 (+ 9)</td>
</tr>
<tr>
<td>X-Group</td>
<td>23 (+21)</td>
</tr>
<tr>
<td>Christian</td>
<td>54 (+24)</td>
</tr>
<tr>
<td>Islamic</td>
<td>25 (+16)</td>
</tr>
</tbody>
</table>

The work of the last season (1963/64) was mainly concentrated to the district between Wadi Halfa and Gemai. However, some sites still remained unfinished in the north, first of all the big New Kingdom cemetery at Fadrus (site No. 185)⁴, but also the fortification on the top of Gebel Sahaba and the churches in the north district (Faras, Serra South and Sahaba). Moreover, a New Kingdom cemetery in Wadi Serra (site No. 400), which had been regarded as belonging to the concession of the Chicago Oriental Institute (and to which that expedition had, in fact, appointed a guardian between the seasons) was turned over to us.

This necessitated a spread of the work over a big area. The previous headquarters in Debeira therefore had to be used also during this season, the work near Wadi Halta was carried out with a house in town as a basis, and in the village of Abka some houses were rented.

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³ The first numbers indicate the sites dated with certainty; the numbers in parenthesis refer to sites with more dubious indications of the presence of the period in question. The sites with rock-drawings are not included, if not exactly dated.
⁴ See KUSH xi, pp. 59 ff., xii, pp. 31 ff.
KUSH

At the end of the campaign the whole concession area had been cleared with the following exceptions. Our concession was not valid for inhabited areas and hence the town area had to be left out. The big cemetery of X-Group tumuli on the Gemai plain, excavated to the greater part by Oric Bates⁵, was now in the cultivated fields, the tumuli had been entirely levelled and our experience from other sites excavated by Oric Bates made it highly probable that the tombs, if still existent, would have been robbed in the meantime. We therefore decided not to ask for an expropriation of these fields, where work could not be done without a special permission outside our concession clauses. Finally, some cemeteries in the mountains east of the plain of Gemai could have deserved more attention, but as they would be outside the danger zone for many years, we restricted our work to a survey and reported their existence to the authorities.

The appended maps of the concession area (FIGS. 1-6) show the distribution of dated sites. Sites which could not be dated with some plausibility, mainly because they have been entirely robbed, have been left out, even in such cases where extensive work has been executed. The rock-drawings are also left out here and their distribution is illustrated on special maps (FIGS. 7, 8). The dating may in some cases be open to discussion, and a final detailed analysis of all the finds may lead to some corrections.

These maps show a gap between the district north of Wadi Halfa and the cataract region. This is due both to the fact that this part represents the inhabited area of Wadi Halfa and to the character of the northern outskirts of Wadi Halfa, where the ground has been entirely hacked up during its use for military purposes and for mining of stone and gravel.

The large area around the aerodrome is also empty on these maps, because no sites of historical times were found there, and the Stone Age sites were taken care of by the Combined Prehistoric Expedition.

ROCK PICTURES

The majority of the rock-drawings between Faras and Wadi Halfa had been recorded during the previous seasons, and our preliminary reconnaissance in the cataract region had shown that there were many more rock pictures than those already documented and partly published by Myers.⁶ We had left this work to the last campaign both for practical reasons in order to combine it with the other archaeological work in this area, and because we had hoped to have access to Myers' results, of which only a restricted part had been published so far. Despite several efforts we were not able to contact Myers before the last campaign, and we therefore decided to record all the drawings. Only after the end of the field work we succeeded in establishing a collaboration with Myers, who very kindly permitted us to combine

⁶ KUSH vi, pp. 131 ff.
PREHISTORIC SITES
- PALAEOLITHIC
- MESOLITHIC
- NEOLITHIC AND A-GROUP SETTLEMENTS

LATER SITES
A  A-GROUP
C  C-GROUP
E  EGYPTIAN OR EGYPTIANIZED (NEW KINGDOM)
M  MEROITIC
X  X-GROUP
+  CHRISTIAN

□  SETTLEMENTS OR HOUSES
○  GRAVES
*○*  FORTIFICATIONS
☐  BASINS
+  CHURCHES

Fig. 1. DATED SITES IN THE DISTRICTS OF FARAS AND SERRA
Fig. 2. DATED SITES IN THE DISTRICT OF DEBEIRA
DISTRIBUTION OF ROCK DRAWING SITES NORTH OF WADI HALFA

Fig. 7. DISTRIBUTION OF ROCK PICTURES NORTH OF WADI HALFA
all his results with ours. Mr. P. Hellström and architect H. Langballe were in
charge of this documentation work in the field and are now preparing the publication.
The following notes are based on their manuscript.

About 300 stations of rock-drawings were located in the concession (maps,
Figs. 7, 8), and the number of groups of drawings in the cataract region alone amounts
to between 2,000 and 3,000. Whereas those to the north of Wadi Halfa are as a
rule engraved in soft Nubian sandstone, or occasionally hammered, the latter
technique entirely prevails on the hard crystalline rocks in the south. Here, all the
rocks which have been reached by the Nile water are covered with a black patina,
the so-called cataract varnish, consisting of iron-hydroxyde and manganese-
compounds which are derived from the rock itself under the influence of the water. 7
This patina has, as a rule, been removed by light pecking and the drawings stand out
with the lighter colour of the rock itself against the very dark cataract varnish. This
light colour does not seem to be influenced to any higher degree by sub-aerial
patination, and thus the few drawings which are blackened have in all probability
been flooded after their execution. These patinated pictures fall into two groups,
of which one shows schematical, geometric patterns and probably represents the
oldest drawings in the region, possibly of Mesolithic or pre-ceramic Neolithic date. 8
The motifs in the other group of completely blackened drawings are also schematical
but nevertheless recognizable. Giraffes are common in this group, and other motifs
are small human figures, hand prints, wheel-traps and snakes.

Pictures of this type are sometimes superimposed by figures belonging to a large
and widely spread series of good quality drawings (pls. XL, XLI), depicting a rich wild
fauna, sometimes together with men hunting with bow and boomerang, occasionally
also with dogs. The fauna, which includes elephant, giraffe, hippopotamus,
rhinoceros, antelope, gazelle, cheeta, lion, hyaena, jerboa, ostrich, goose, crocodile
and snake, makes it plausible that this group should be dated to a period with a
moister climate than the present one. Butzer has shown that a wetter climate
prevailed from about 5,000 B.C. to about 3,600 B.C. and continued, though with less
rain, to the end of the 11th Dynasty. 9 The results of the Combined Prehistoric
Expedition to Egyptian and Sudanese Nubia 10 gives a more detailed picture of the
climatic fluctuations, showing a wet period also during the otherwise generally
superarid Mesolithic. However, the comparative rarity of typically Mesolithic
settlements in the areas with this type of rock-drawings, in contrast to the widespread
traces of Neolithic habitation there, rather points to a later date for the pictures.

8 cf. Myers, Kush vi, pp. 133, 136, and Kush viii, p. 177. His results were confirmed
by our own investigations.
9 Studien zum vor- und frühgeschichtlichen Landschaftswandel der Sahara II (1958),
III (1959); cf. also id., Environment and Archaeology, pp. 449 ff., and Current Anthropology,
10 Wendorf, F., Contributions to the Prehistory of Nubia, pp. 20 f.
Possibly to the same period belongs a subject repeated on a number of stations—a tall man in full face view, penis hanging between the legs.

Cattle are very often depicted, and are by far the dominating motif. The majority seem to be domesticated, not seldom showing a 'pendeloque' hanging from the neck of oxen, a detail also found, e.g., on incised drawings on C-Group pottery. Other drawings rather recall the pictures sometimes occurring on A-Group pottery. On the other hand, nothing excludes the possibility that some of these cattle pictures are contemporaneous with wild game drawings.

A special type of the cattle pictures is undoubtedly of much later date, as a slab with a drawing of this type was found deposited in a rock pit, where a number of people had been buried in Meroitic times.

Comparatively recent are the relatively few pictures of camels, horses and domesticated asses.

Representations of sheep and fish seem to be lacking and vegetation is seldom depicted. Human footprints occur occasionally, as well as pictures of traps and implements, including fish hooks, harpoons, and clubs. Also boats are often depicted.

Further study will presumably make it possible to establish a relative and absolute chronology with some certainty, due to the many superimpositions and the finds associated with or occurring near the different groups of pictures.

**Palaeolithic and Mesolithic**

Because of the agreement with the Combined Prehistoric Expedition, our expedition did not concentrate on Palaeolithic and Mesolithic sites in the concession area; they were studied by the other, more specialized expedition. In the cataract region Palaeolithic sites seem, however, to be conspicuously absent. Some Mesolithic sites to the west of the road from Wadi Halfa to Abka and in northernmost part of the Gemai plain (the 'Abka plain', east and southeast of the village of Abka) were excavated by the Scandinavian Expedition.

The finds have been submitted to Professor Shiner for analysis and the following remarks on some of the most interesting sites are based on his preliminary report.

The northernmost site (No. 412), situated just to the north of the walled-in area No. 142 (Fig. 5), represents, at least in its upper part, a hunting camp. Almost 36 per cent of all tools are points, presumably projectile points, and a large percentage of the cores are designed to produce a parallel sided, pointed flake. Other tools of high frequency are scrapers and denticulates which may have been used in preparing skins, hides, etc. The site No. 412 can be linked with the American Site 278 (in the road cut just south of Khor Musa and immediately to the east of our site No. 428, see map, Fig. 4)\(^\text{11}\) but is of a somewhat younger date, belonging to the late middle of the building sequence of the Sahaba or 20 m. terrace, which begins ca. 14,000–13,000 B.C. and ends between 11,000 and 10,000 B.C.

\(^{11}\) See Wendell, *Contributions*, pp. xvi f.
SCANDINAVIAN JOINT EXPEDITION

Two other sites (Nos. 265 and 394; map, FIG. 6) are of special interest as they seem to represent industries not linked with the Mesolithic sequences analysed by the Combined Prehistoric Expedition. They may, however, be somehow connected with the so-called Arkinian industry, studied by Chmielewski and Schild, and their nature will perhaps be clarified when the analysis of this industry is finished. Site No. 265 (on the eastern slope of the mountain south of the village of Abka) is characterized by a high frequency of backed blades treated in several ways (PL. XLIIIA). Some ‘proto-adzes’\(^{12}\) also occurred here. The site has no direct relations with its possible contemporaries Halfan and Qadan.

Site No. 394 (on a rather high, flat mountain, T 158, near the Nile to the south and east of the church and Christian settlement north of the village of Tionanman) is ‘Mesolithic’ in its stone work. Shiner suggests a date between 5,000 and 4,000 B.C., which would correspond approximately to the end of the Qadan sequence,\(^{13}\) but it does not belong to that industry, nor is it a forerunner to the Abka Neolithic or related to the Second cataract variety of Khartoum Neolithic.

NEOLITHIC AND A-GROUP SETTLEMENTS

The study and analysis of the comparatively large collections from a number of Neolithic and A-Group settlements in the cataract region has as yet not been finished. The finds are still being arranged in Oslo by Mr. Vibe-Müller, and, especially in view of the many problems connected with the different industries, only a few preliminary and tentative observations can be made here. The sites show a great variety from site to site, due perhaps not always to different dates, but often undoubtedly rather to the presence of several contemporary cultural traditions and to ecological differences. Rich collections were secured by excavating representative types of settlements, and sampling was as a rule done on the sites located, especially in the neighbourhood of rock pictures.

Even within the rather restricted area between the villages of Abka and Gamai, where there is a concentration of both rock pictures and Neolithic settlements, the dominating raw material used for the stone implements varies from site to site. Thus on three sites (Nos. 365, 366, 367), situated rather high up (about 165 m. above sea level) in the mountain Kalaikumbo, just south of the village of Abka (map, FIG. 6), the majority of the tools are made of quartz. These sites, which yielded no pottery, may represent an early Neolithic stage. Chert was practically the only material used on site No. 369 (on a hill in the valley west of that mountain). Site No. 430, on the north slope of Kalaikumbo, showed a preference for achaté, and on site 423, in the northern part of the Gamai plain, there were rough tools of ferricrete sandstone in combination with pottery of ‘Khartoum Neolithic’ type. Imported Egyptian flint (PLATE XLIIIA) occur sporadically, e.g. on sites No. 369, No. 428 (near

\(^{12}\) See Wendorf, op. cit., p. 161, FIG. 12.

\(^{13}\) Wendorf, op. cit., p. xxxii.
KUSH

Khor Musa at the north end of the cataract region), and No. 378 (i), a ‘giant’s pit’ with rock pictures; in all three places again with ‘Khartoum Neolithic’ pottery. Flint, together with animal bones and red ochre, but no pottery, also occurred in another ‘giant’s pit’ with rock drawings (No. 424 = Myers’ site No. xxxii).

In the Abka region no remains of huts were found on these Neolithic sites, but at Farki14 (13 km. south of Wadi Halfa, near the walled-in area No. 142; map, FIG. 5), there were hut floors with a mixture of ‘Khartoum Neolithic’ and A-Group pottery as well as animal bones (e.g. fish).

A burial of a woman, found near the Neolithic site No. 371 (map, FIG. 6), just near a rock picture showing a man with raised hand, may be of the same date as the settlement.

‘Khartoum Neolithic’ pottery, i.e. pottery of the same general types and with the same decoration patterns and techniques as those published by Arkell in his books Early Khartoum and Shaheinab, occurred on many sites, not seldom in combination with typical A-Group ceramic. The combination of these types had already been observed on some sites further north,15 and the results of the last campaign corroborate the hypothesis that this ‘Khartoum Neolithic’ pottery is closely linked up with and contemporaneous with the A-Group, though perhaps somewhat earlier than the ‘classical’ A-Group found in the cemeteries of late Pre-dynastic and Early Dynastic dates. In one case (site No. 387) we even found the following stratification in a pit: On the bottom ‘Khartoum Neolithic’ mixed with A-Group, over this deposit a layer of fallen stones, and over this again a layer with ‘Khartoum Neolithic’ pottery only (PLATE XLIib).

The combination or mixture of ‘Khartoum Neolithic’ with A-Group pottery occurs on many sites, but on some places they occur separately in a more pure form. Thus site No. 428 (Khor Musa) had practically only ‘Khartoum’ types, but No. 429 across a small valley A-Group. At Farki site No. 403 has A-Group pottery (with quartz tools), but No. 406 mainly Shaheinab types. On site No. 423 (Gemai plain) the ‘Khartoum Neolithic’ dominates, whereas site No. 411 (Dettinarti) is a rather large settlement of A-Group type (similarly also No. 459 near the Abka school).

A detailed technical and statistical analysis of the rich collections of pottery from these sites will probably make it possible to show the exact inter-relation and chronology of these different types of pottery and to ascertain whether what we call ‘Khartoum Neolithic’ from this region is in fact identical with the types found at Shaheinab and in Khartoum. If so, our finds will also contribute to the exact dating of the Khartoum Neolithic proper. It already seems, however, admissible to assume that there is no cultural break between our ‘Khartoum Neolithic’ and

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14 The local name Farki, the Nubian word for ‘valley depression’ was sometimes used for this area, sometimes as a Nubian name for Khor Musa, 2-3 km. further north.

15 See KUSH xii, pp. 29 f.; cf. KUSH xi, p. 18, and Trigger, ‘History and Settlement in Lower Nubia’, p. 69.
the A-Group, and that the two are contemporary, at least partly. Personally, I also see no reason to doubt the plausibility of the C^{14} date 3,300 B.C. for the Khartoum Neolithic.\textsuperscript{16}

**A-Group Cemeteries**

During the second season some A-Group tombs were excavated in a cemetery on the high silt banks between Halfa Degheim and Khor Musa,\textsuperscript{17} about 700 m. south of the Turkish fortress in the southern outskirts of Halfa Degheim (map, FIG. 4). This site was excavated in toto during the last campaign, and proved to be the richest A-Group cemetery so far found by our expedition. Practically nothing was visible on the surface, except for some potsherds and chips of achate, quartz and chert. These remains of stone probably belong to an earlier (Neolithic?) habitation area, destroyed by the cemetery. The ground was covered with a layer of sand, 20 cm. thick, and many tombs were hidden also under rather hard silt. There were 65 tombs, of which only two had been plundered. The other ones were untouched, except for tomb No. 34, where the upper burial had been robbed. In the northern outskirts of the cemetery there were also three storage pits, all empty, and one of them more than 3 m. deep. The tombs are scattered over a rather large area with much space between the tombs.

The shafts are oval or rectangular, varying from very small pits of child burial to big shafts with many burials. Also the depth varies—sometimes the bottom of the shaft is practically on the same level as the surrounding silt surface owing to wind erosion—but as a rule they are about a metre or less deep. The tombs were filled either with pure sand or with a mixture of silt and sand. There is no fixed orientation, neither of the shafts nor of the dead, who are buried as a rule in hocker position resting on their left or right side. Most of the shafts are oriented NE-SW. In many of them there were several burials, either one on top of the other with the lower ones left undisturbed, or the earlier burial had been pushed aside into a disordered heap of bone fragments. The skeletons were often in a bad state of preservation, with the skulls crushed and most of the bones in fragments. Anthropological measurements were therefore difficult to obtain. In many cases red ochre had been poured over the bones.

The bottom of the shaft had as a rule been covered with a mat of reeds and the dead had been wrapped in hides before he was lowered into the tomb.

The rich finds show a great homogeneity, and probably the cemetery had been in use during a comparatively short period. The imported Egyptian pottery indicates

\textsuperscript{16} Contra Arkell, Kush v, p. 8 ff. and Current Anthropology, April 1965, p. 150; cf. the C^{14} date 3,430 B.C. for the Wavy Line ware (Late Khartoum Mesolithic) in NW Hoggar, id. ibid., p. 148. According to Wendorf, Contributions, p. xxxv, the earliest Neolithic in this region occurs around 3,600 B.C. (at the very top of the Arkin silts). Trigger, History and Settlement in Lower Nubia, p. 59, also advocates a late date for Shaheinab.

\textsuperscript{17} Kush xi, 5 p. 53.
a late pre-Dynastic date, but some tombs may be slightly later. There were two wavy-handled jars of a rather late type (Petrie's W 37)\textsuperscript{18} and several storage vases of Petrie's Class L (Nordström Type A VIII)\textsuperscript{19} and representing types occurring both in the late Pre-Dynastic period and during the 1st Dynasty. Class D with painted brown decoration was also represented (277: 48:1 and 49:4). The Nubian pottery consists of the whole repertoire of the 'classical' A-Group, analysed by Nordström in Kush x (pp. 51 ff.), with excellent specimens especially of the rippled ware with milled rim, black-polished inside, and red-polished or black-topped outside, and of the variegated haematitic ware. Also some new types occurred, both with patterns obtained with polished or painted strips, and with incised decoration (277; 27:5; Pl. XLIV), some times (277: 49:9) with a combination of both techniques. A fragmentary bowl of wood was found in tomb No. 29. The vessels often contained remains of food.

In many tombs the dead had a smink palette, oval or rhomboid and made of quartz, often with traces left of the green eye-paint. Small dishes of mica also occurred, and awls of copper, in one case with a well preserved handle of wood (37 C:2). Other copper tools were some small axes. A handle or pendant of gold was found in tomb No. 36 (Plate XLIV) and a necklace of gold beads in tomb No. 34 B. In the same tomb there was also a wonderful small stone vessel of green breccia (?), of a Pre-Dynastic type (Plate XLIvb). The other stone vessels were small, rather crude dishes or shallow bowls.

In the rich tomb No. 49 two of the dead had ostrich fans on the upper part of their bodies. Ostrich eggs and strainers of pottery occurred in children's tombs only.

One of the most interesting finds in this cemetery were two clay figurines in tomb No. 16 B, one representing a grown up woman of opulent form, one a young girl (Plate XLI). They were connected with an earlier burial, consisting of a woman (?) and a girl, which had been disturbed when the tomb had been re-used. The woman had a ring of bone around her left wrist and an armlet (?) of cylindrical beads of cornelian and fayence. Another ring of bone was placed under her left upper arm. In addition to the clay figurines there were small lumps of clay which seem to imitate grains of corn.

This find is of interest, not only as pieces of art of high quality, but also for the interpretation of such figurines. In this case they seem rather to depict the dead individuals buried in the tomb to secure their eternal vitality, and can hardly be interpreted as sexual partners for a deceased man or as pictures of a fertility goddess.

A-Group tombs were excavated also on some other sites, but as a rule they were badly preserved or did not add much to our knowledge. One tomb (401:49) in a cemetery about 1 km. south of Gebel Sahaba (map, Fig. 3) is, however, worth

\textsuperscript{18} For the occurrence of this type in Nubia, see Nordström, Kush x, p. 53, n. 60; АРВЕНЯН НУБИЯ (АКАА. НАУК СССР 1964), pp. 144 ff.
\textsuperscript{19} Kush x, p. 56.
mentioning. It is a rectangular shaft of the usual type, oriented roughly N–S, with the deceased in left hocker position with the face turned west. Over his chest a fan of ostrich feathers had been placed and near it was an oval smink palette. His head was covered with leather, and a purse of leather and two beautiful bowls of variegated haemititic ware were placed near the head. The body rested on a mat of reeds and some more pottery bowls were found in the head, most of them upside down.

In a tomb nearby (401:56) the deceased was buried in right hocker position in an oval shaft oriented E–W. On the feet were well preserved leather sandals with impressed patterns and near the toes we found a button seal of burnt clay (PLATE XLIVE). Both the sandals and the seal indicate a C-Group date, but the sherds found in the filling are of A-Group types (Nordström Class 5 and with impressed ‘wolf-teeth’ pattern). If the sherds are not intrusive, this burial may illustrate the transition between the two groups, and in any case the tomb can hardly be later than early C-Group.

Of interest in this connection are also some intact tombs found in the otherwise entirely robbed C-Group cemetery No. 262 on the island of Detti. The C-Group tombs, with superstructures in the form of rough stone rings, were built on and dug into a layer of rather loose silt covering a harder silt, in which some earlier tombs had been dug. These tombs were entirely covered by a layer of undisturbed soft silt, and a tree trunk in this layer can give terminus ante quem for these tombs by C¹⁴ dating. The pottery in the tombs (Nos. 72, 73, 74) is very fragmentary and seems to be A-Group and early C-Group. The contents of one of them (No. 74) are unique. There were no less than 107 complete and 17 fragmentary pendants made of ostrich eggshell, mostly of triangular form, and some oval or rectangular, all of them with two holes on the broad basal side. In addition to some disc-shaped beads of ostrich eggshell the tomb contained a kind of ‘geological collection’: malachite in front of the eyes, red ochre behind the back and under the skull, yellow ochre behind the back, behind the neck and under the skull. Moreover, there were fragments of sandstone, limestone, chalk, gypsum(?), graphite, resin, iron-compound, slate and charcoal or resin, and, finally, a black pebble-stone (palette ?).

C-Group

Quite a number of C-Group cemeteries were excavated also during the last season. Unfortunately, most of them were badly plundered, but they nevertheless yielded results of interest. Thus No. 262 on Dettinarti, mentioned above, showed some new pottery types, int. al. pot-stands of an Egyptian type but incised with ‘C-Group’ patterns.

The problems regarding the connexion between the C-Group and the Kerma civilization of the Dongola province—their inter-relations and the limit between their distribution areas—were by no means solved by our excavations, but some details of importance may be noted. There seems to be little doubt that the entire concession area on the east bank was entirely within the sphere of the C-Group despite the fact that some Kerma elements occur here and there.
KUSH

Only one small cemetery, No. 393 on the mountain slope east of the Gemai plain (map, fig. 6), may be of pure Kerma type. The tombs were entirely robbed, but showed the typical holes for an angareb in the four corners of the shafts. The superstructures were roughly built stone rings of very large boulders.

Also elsewhere isolated Kerma tombs occur. Tomb No. 3 on site No. 251 (just east of site No. 393) also had post-holes in the corners of the shaft and among the finds was a fragmentary Kerma beaker. Tomb No. 1 in the same cemetery was of the ordinary C-Group type with shaft and stone superstructure, but contained no Nubian ware. In addition to an Egyptian carinated vase, there were a nice fayence bowl and a conical jar of wood. A single plundered tomb (No. 266 B) between cemeteries Nos. 270 and 266 (just south and east of the village of Abka) contained four Kerma beakers and ivory fragments and nails probably from a Kerma dagger. Some Kerma sherds occurred in cemetery No. 266, and a Kerma admixture was also noticed in a C-Group cemetery near Myers’ site xxxii (No. 410). One plundered tomb (No. 8) had a Kerma beaker together with sherds of C-Group ware. And in another tomb (No. 23) a Kerma beaker was found in combination with a scaraboid, a small Egyptian vessel and a lot of beads. A bead with the name of a king Sesostris (Plate XLIVf) occurred in the same cemetery.

On the south-west slope of the mountain Kalaikumbo (the mountain to the west of the Abka plain) in a C-Group cemetery (No. 434). Kerma sherds or beakers were found in nine tombs, and post-holes or trenches for an angareb-burial occurred in three tombs, in one case combined with fragments of an ivory handle of a Kerma dagger. The great number of Kerma sherds on the surface of the site may indicate the presence of a Kerma necropolis overlapping with a C-Group cemetery.

A Kerma intrusion is also noticeable on some habitation areas further north at Farki (map, fig. 5). The C-Group cemetery there (No. 246) was entirely plundered, and the sherd material shows no significant Kerma element. But in a C-Group house further west (site No. 402), built of mud-brick and clay, Kerma sherds occurred together with an ostrich egg, a stone adze and C-Group pottery. This house had also a grain store and a man had been buried near the outer wall. On site No. 404 some food deposits in the form of cairns were dated by Kerma sherds, and excavations near some large stone circles with a floor of stamped clay also revealed some Kerma sherds.

C-Group cemeteries with or without an admixture of Kerma elements also occur to the south of our concession, as has been shown by the Finnish Expedition which continued the survey to the south of Gemai to Murshid.

Thus our concession is far to the north of the area entirely and more permanently dominated by the Kerma civilization, but a certain influx of Kerma elements can be noticed with an increasing frequency towards the south, in the cataract region. I should think that most of these intrusions into the C-Group represent a movement

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20 e.g. cf. Firth III, p. 143
northwards of isolated groups after the frontier control at Semna had ceased to exist, when the fortresses there had fallen sometime during the Hyksos period or slightly earlier.\(^{21}\)

The fact that a typical Kerma cemetery has been found at Mirgissa,\(^{22}\) just opposite the southern part of our concession, does not contradict the statement that the district dominated by the Kerma culture begins further south. The Mirgissa cemetery presumably represents another isolated group of Kerma people which had settled at Mirgissa, possibly as soldiers, towards the end of the Second Intermediate Period. If the native ‘Ruler of Kush’, the contemporary of Kamose,\(^{23}\) resided not in Lower Nubia (e.g. in Buhen, where he is mentioned in texts), but rather in the area of the Kerma culture and at the same time ruled the Dongola province,\(^{24}\) this


That the Kerma culture was not restricted to the Middle Kingdom was shown by me in Ägypten und Nubien, Chapter 5, where the date of the oldest and richest tombs was proved to be later than the XIIth Dynasty (cf. Kush iv, p. 59 and now also Trigger, History and Settlement, pp. 102 ff.). Junker had already then demonstrated that these tombs were not the burials of Nubianized Egyptians, as had been supposed by Reisner. The lower limit of the Kerma culture could not be established, as the latest finds at Kerma had not been published. According to Adams (JEA 50, p. 105, n. 9 and 10) Kerma graves ‘appear sporadically until fairly late in the XVIIIth Dynasty’ in Lower Nubia. He mentions the Kerma tombs west of Abu Sir village, dated to the Second Intermediate Period or to the transitional stage between that period and the New Kingdom (Kush xi, p. 20) and the Kerma cemetery at Mirgissa, assigned to the end of the Second Intermediate Period (Kush xii, p. 59). For the later occurrence he adduces Tomb J 33 B at Buhen, where a Kerma burial is secondary to the original burial, assigned by the excavators to the XVIIIth Dynasty for reasons which are, however, not quite convincing (Buhen, pp. 134, 174 ff.). It should be noticed that isolated Kerma ware occurs in XVIIIth Dynasty ‘Egyptian’ tombs both at Buhen and Aniba.

According to Emery, Egypt in Nubia, pp. 135, 165, warriors from Kerma were in Egyptian service already during the xivth Dynasty, but this assumption is based on two, in my opinion impossible, theories:—the identity of Pan Grave culture with Kerma culture, and a xivth Dynasty date for the earliest pan graves (and also for the Kerma culture). That the Pan Grave culture is a third component in the late Middle Nubian sequence, distinct from Kerma and C-Group, has been repeatedly demonstrated, and cemeteries of Pan Grave character are found in the southern part of Lower Nubia (see Kush xii, p. 30, cf. also Trigger, op. cit., p. 104, n. 1).

\(^{22}\) See Kush xi, pp. 20 f.; xii, p. 59.

\(^{23}\) See JEA 35, 50, ff.

\(^{24}\) As suggested by Hintze, AZ 91, pp. 79 ff. In my opinion his theories are very plausible and on many points (especially the interpretation of the Western Deffufa) improve my views put forward in Ägypten und Nubien, Chapter 5. In order to prove that the term Kush is connected with Upper Nubia exclusively it must, however, be conclusively demonstrated that the word was in Kamose’s time still used in the Middle Kingdom sense (analysed by Posener, Kush vi, pp. 39 ff.), and not in the meaning of the whole of Nubia as was the case later in the New Kingdom. Hintze also assumes that this king of Kush ruled Lower Nubia up to Elephantine, and this is, in fact, the only connection between Kush and the area of the C-Group which I ventured to assume in my articles of 1949 and 1956 without concluding anything definite about his residence (cf. Trigger, loc. cit., who misquotes me).
KUSH

Mirgissa cemetery may even represent a Kerma garrison, placed there by this Nubian king. In such a case one would, however, perhaps expect more Kerma cemeteries of the same type, and not only isolated tombs, in other places in Lower Nubia, since this free Nubian kingdom had its northern frontier at Aswan.

NEW KINGDOM

The large New Kingdom cemetery at Fadrus (No. 185)\(^{25}\) was finished during the last season and the total number of tombs excavated on this site amounted to 692, of which the majority were unplundered. Only the tombs which were situated under modern houses had to be left out, as the inhabitants of the village had not been moved before the end of our campaign.

During the previous seasons the main part of the cemetery had been excavated, and what remained for the last campaign was its western outskirts. Here we found a rather homogeneous group of tombs, to judge from seals and objects with the name of Amenophis III and a very worn scarab of Tuthmosis III, to be dated to the later half of the xviii Dynasty. The tombs are as a rule rather poor, and the rich variety of ceramic types of the earlier tombs has been replaced by a monotonous burial outfit, consisting mainly of ‘beer-bottles’ and so-called ‘Blumentopf’ (Aniba types 11 b and 25). This fact may be of interest from a historical point of view as a background to the striking scarceness in large parts of northern Nubia of Ramesside tombs and the total absence of any remains from the Post-Ramesside period. Our tombs may illustrate the increasing poverty of the population which led to the disappearance of the greater part of this group of Egyptianized Nubians as well as of the C-Group, possibly through an emigration southwards caused by a deterioration of the agricultural conditions.\(^{26}\)

Among these later tombs, some richer burials, probably of an earlier date, also occurred and yielded interesting and beautiful finds, as e.g., a nice Isis-amulet and a small fayence ornament in the form of the crown of a palmtree. One of the tombs was constructed with a true vault made of bent bricks.

In the south-western part of the cemetery the tombs were again of the richer, older type. In one of them (No. 665) there was a scaraboid with the name Hatshepsut, a scarab of Tuthmosis III and some plaques of a very high quality with pictures of lions and gazelles (PLATE XLVII).

The small New Kingdom cemetery (No. 400) in Wadi Serra which we took over from the expedition of the Chicago Oriental Institute consisted of about twenty tombs, two of which were intact. The general type is a shaft with end-chamber dug in the hard silt. In most of the tombs there were fragmentary wooden coffins and mummy cartonnages of stucco, some with fairly well preserved and beautiful face masks of the same early New Kingdom miniature type as those previously found

\(^{25}\) See KUSH xi, pp. 59 ff.; xii, pp. 31 ff.
\(^{26}\) cf. Adams, JEA 50, pp. 102 ff., and Excursus below.
ROCK PICTURES IN THE DISTRICT OF ABKA

facing p. 232
ROCK PICTURES IN THE DISTRICT OF ABKA. (SITES Nos 160 e 19, 154 m l, 160 r.)
PLATE XLII

a. MESOLITHIC TOOLS FROM SITE No. 265

b. NEOLITHIC SHERDS FROM SITE No. 387, LAYER 3
A-GROUP FIGURINES OF UNBURNT CLAY. (SITE No. 277, TOMB 16 B)
PLATE XLIV

a. INCISED A-GROUP BOWL (277:27:5)

c. SEAL OF BURNT CLAY.
   C-GROUP. (401:56:1)

c. FAYENCE BEAD WITH NAME
   OF SESOSTRIS. C-GROUP.
   (410:7:3)

b. VESSEL OF GREEN STONE. A-GROUP.
   (277:34B:3)

d. SEAL OR BARSTUD OF
   ALABASTER. C-GROUP.
   (270:57:2)

c. PENDANT OF GOLD.
   A-GROUP. (277:36:1)
a. FAIENCE OBJECTS FROM NEW KINGDOM CEMETERY No. 185. (665:4, 622:1, 637:4)

b. STUCCO MASK FROM CEMETERY No. 400. NEW KINGDOM
PLATE XLVI

CORRIDOR ON SITE No. 141. NEW KINGDOM
a. MEROITIC FALCON (432:3:1) AND POTTERY FROM SITE No. 250

b. CONTENTS OF INTACT X-GROUP TOMB, SITE No. 416
a. WALLED-IN AREA, SITE No. 168

b. CHURCH OF SAHABA, SITE No. 100
by us at Fadrus (No. 185) (Plate XLVb). The other finds are mainly ordinary New Kingdom pottery, some kohl pots and one scarab. The unplundered tombs with intact door-fillings were comparatively poor, and the coffins had been eaten by white ants and destroyed.

No more important New Kingdom cemeteries were found in the cataract region, but a strange construction in the northern part of this district may represent a new type of New Kingdom tomb. It is situated on a site (No. 141; map, Fig. 4) with entirely plundered X-Group tumuli and a number of Christian tombs about half a kilometer to the north of the large walled-in area No. 142. This site was found already during our first preliminary survey,27 some trial diggings were executed there during the second season,28 and an additional number of tombs was explored during the last campaign. All the tombs were either plundered or contained no finds, and it was therefore not judged necessary to excavate the site in toto. The sherds scattered on the ground were mainly of late date (X-Group and Christian), but Pharaonic ceramic also occurred, especially in the northern part. Here we came across a corridor (Fig. 9, Plate XLVI), built of rather well-hewn sandstone blocks, partly under and on a lower level than a later small tumulus, probably of X-Group date. The outer part consists of two walls; the floor slopes down and after a distance of 6 m. the corridor has a roof of large sandstone slabs. It continues downwards and towards the west in a rather gentle slope, not in a straight line but in slight curves. In three places perpendicular shafts, filled with a mixture of silt and sand, looser than the surrounding silt, had been dug down from the ground level to the roof of the passage. In one of these shafts some steps were hewn in the silt, and here the roof slabs were broken. In the other ones the roof was undamaged. It was through these shafts that we managed to empty the corridor. The roof slabs were often cracked, and here and there they had fallen down, which made the work in the corridor dangerous. The innermost part descended below the level of groundwater and could not be excavated entirely. In the bottom of the last and very deep shaft we found the end of the corridor with an end wall of big blocks. To the west of this there was only sand and silt, as far as we could ascertain, and there is no reason to assume that the construction continues further. There is a slight chance, that there were one or two side-chambers just before the end of the corridor in the part which could not be excavated, but this is not very probable.

Near the shafts some Pharaonic ceramic was found on the ground in loose sand and in the filling of the shafts also some X-Group sherds occurred. Of special significance for the dating is a sherd inserted between the last roof slab and the end wall. It seems to be of Pharaonic (New Kingdom?) date. The stonemasons’ marks in the form of groups of perpendicular strokes, i.e. the hieroglyphic writing of the numbers 4, 5, 6, etc., also indicate a Pharaonic date of the construction. The purpose

27 Kush x, p. 104.
28 Kush xi, p. 67.
of this building is difficult to ascertain as there were no finds, except some insignificant sherds, in the corridor itself. The construction recalls the watergates of the fortresses, but there are no traces of any such building and the Nile is rather far off, separated from the site by some low rocky hills. It also resembles the nilometers, but it would be rather valueless as such, as the groundwater is on a higher level here than the surface of the Nile. I know of no other parallels, and perhaps the most plausible theory is that it was intended as a tomb, though perhaps never used as such and possibly left unfinished.

Another site of New Kingdom date excavated during the last season was the fortress on the top of Gebel Sahaba (site No. 51; map, FIG. 3). It consists of a roughly trapezoidal area surrounded by thick walls of adobe and, strangely enough, not covering the whole level area on top of the mountain (FIG. 10). The eastern, unfortified part of this plateau is moreover on the same level as the fortified area, which is in contrast with the fortresses of the Second Cataract, where the fortifications always cover the whole plateau, nowhere permitting the enemy to reach the same level as the fortress.

The walls have towers or buttresses at intervals, though of a different type than those characteristic of the Middle Kingdom fortresses, and bigger towers in the corners. The walls are also built in a quite different technique than the Middle Kingdom fortresses. Only the outer parts are constructed with bricks (36 x 18.5 x 8.5 cm.), and the inner parts are of stone. There is an entrance on the south side and one on the north side, and a road and a rough flight of stairs leading up to the south entrance could be cleared. Two parallel walls lead from the fortress down to the Nile and some remnants of buildings were excavated near the river.

The southern entrance to the fortress was rather well preserved, with two staircases leading up to the top of the wall from the thickness immediately inside the door. The northern entrance was of the same type. The inner parts of the fortress were entirely denuded and only near the outer walls were any remains of buildings still left. Thus inside and built against the fortification wall to the west of the southern entrance were remains of a kitchen, and a bakery with ovens was found inside the west wall. The pottery still in situ in the kitchen was of New Kingdom type, and this in combination with presence of other Pharaonic ceramic makes it probable that the fortress was built during the New Kingdom. No typical Middle Kingdom pottery occurred, not even a sherd of the so-called ‘bodeganware’\textsuperscript{29} so characteristic of all the Middle Kingdom fortresses.

The fortress was probably in use also in later periods. The sherd material includes X-Group and Early Christian pottery, but mainly late Christian, and a Christian lamp, presumably from about 800 A.D., was found inside the north-eastern tower. Here were also parts of a sandstone cornice.

\textsuperscript{29} cf. \textit{Aniba II}, p. 30.
SCANDINAVIAN JOINT EXPEDITION

At a late date (late Christian or even later) some round huts of rough stones were built on the mountain and a rough stone wall was erected around the whole plateau. These later stone buildings are, in some places, constructed over the earlier brick walls, which had thus already fallen and been levelled by wind erosion practically to the ground.

From a defensive point of view this fortress is far inferior to the Middle Kingdom fortresses, which may be explained by the fact that it was probably built at a time when the danger of attacks was not imminent or could not represent an earnest threat.

EXCURSUS

The Egyptianization and Depopulation of Lower Nubia

Our finds from the last season did not change the general picture of a gradual decrease in number and final disappearance of any archaeological remains towards the end of the New Kingdom, a development which, also according to our results, seems to start in the latter half of the xvith Dynasty. The increasing poverty of the later tombs on the large cemetery of Fadrus (No. 185), approximately from the reign of Amenophis III, may well, as suggested above, illustrate harder living conditions which lead to a depopulation, and few, if any ‘Egyptian’ cemeteries are of later date. The C-Group cemeteries also disappear and few of them are datable to the latter half of the xvith Dynasty, even if the C-Group burial type at least on one cemetery (No. 218) in all probability lingered on into the 13th century b.c. The same type re-appears in some tombs after the findless period (cf. below), which in our concession seems to last to the beginning of our era. This very late survival of the C-Group tradition may be interpreted in different ways, but at least the earlier instance from the 13th century b.c. probably represents an unbroken local tradition rather than a new influx.

One of the main results of our expedition is, however, the fact that the C-Group lived on so late into the xviii Dynasty, and, to judge from the number and size of the cemeteries, represented an important group of the population. According to the earlier investigations in Egyptian Nubia this seems not to have been the case there to any greater extent—Reisner, Firth, Emery, Kirwan, Steindorff, Junker, who excavated these parts of Nubia, all agreed that the C-Group came practically to an end before or at the beginning of the New Kingdom, and even if some C-Group tombs in Egyptian Nubia should rather be dated to the very beginning of the xvith Dynasty, this analysis of their excavation results seems to be correct. I am not aware of any later results from the present Nubian campaign which fundamentally change the picture in Egyptian Nubia.

30 Kush xii, p. 31.
31 e.g. ASN cem. nos. 64, 94, 98:100, 110, 118, 189; Smith, Prel. Rep. 1962, pp. 9, 26 f., 34 f., 49. The number of such cases seem to increase in the southern parts.
KUSH

In the Sudan and the southernmost part of Egyptian Nubia the conditions seem to have been different, and C-Group culture continues there approximately as long as, if not longer than, the so-called ‘Egyptian’ tombs. Everything indicates a decreasing population from the middle of the xvith Dynasty and finally this part of Nubia seems to be more or less entirely depopulated.

In an interesting article Adams\(^{32}\) has put forward a hypothesis to explain this depopulation. He revives Firth’s theory\(^{33}\) that the declining annual flow of the Nile throughout the xvith Dynasty resulted in such conditions that by the middle of the dynasty it was no longer feasible to irrigate the lands with the simple shaduf\(^{34}\). Lower Nubia was abandoned by its population, and an efficient agriculture was only re-established when the waterwheel, the saquia, was introduced in Meroitic times.

To support this hypothesis Adams quotes Fairbridge’s views on the fluctuations of the Nile height.\(^{35}\) The same authority is, however, also adduced by Trigger,\(^{36}\) who comes to quite different conclusions. When comparing the size of the population of Nubia, as estimated with many uncertain factors from the archaeological remains, he finds that ‘population reached an unprecedented height in the New Kingdom after, not before, present (low Nile) conditions were reached, and (that) the higher floods in Napatan times . . . did not result in a revival of population.’\(^{37}\) The disappearance of population is thus, according to Trigger, not the result of low waters.

Trigger admits that the introduction of the saquia resulted in a ‘population explosion’, but prefers to correlate the changes in population density with factors associated with trade profit and political disturbance. ‘The prosperity of Nubia, when notable, had been built around its relationship with Egypt’ (p. 114). During the Second Intermediate Period Lower Nubia prospered from a trade which was in local hands, and also during the New Kingdom mining and trade were to the profit of Lower Nubia, directly and indirectly. ‘In the politically troubled times of the late New Kingdom, mining and trade ground to a halt and most of the Nubians moved either north to Egypt or south . . .’ (p. 165).

For a proper correlation of flood height and population density it is obvious that more exact data for the first of these factors are required. The second factor, the population density, has been analysed in detail by Trigger, but some of his conclusions are open to doubt, especially as regards the latter half of the xvith Dynasty and Ramesside times.

\(^{32}\) \textit{JEA} 50, pp. 102 ff.
\(^{33}\) \textit{ASN} 1910-11, p. 28.
\(^{34}\) It should, however, be noticed that the shaduf is not depicted in Egypt before the Amarna period (Davies, \textit{Amarna I}, Pl. 32), and that its earlier existence is a hypothesis.
\(^{36}\) \textit{History and Settlement}, pp. 31, 113 ff., 161 ff.
\(^{37}\) Cf. also Butzer, \textit{Studien zum vor- und frühgeschichtlichen Landschaftswandel der Sahara III}, pp. 113 ff., who assumes increasing Nile heights from the second half of the New Kingdom and onwards.
According to Adams there was an exodus of the C-Groupers already in the 15th century towards the south, and in the later xvth Dynasty, the only Nubians who remained were those who had been absorbed into the Egyptian colonies, which themselves also declined and practically ceased to function after the xvth Dynasty. The Nubians chose to emigrate southwards because 'the door to Egypt was barred'.

In a contrast to Adams, Trigger does not assume such a drastic depopulation so early in the New Kingdom, and is of the opinion that there was still a 'quite substantial population in the xixth Dynasty. I have long ago tried to show that the earlier theories of a practically uninhabited Nubia in this period are hardly correct, but the comparative scarcity of archaeological remains (in the form of settlements and tombs both in the administrative centres and in the countryside) is nevertheless hard to explain without assuming a decline in population. Here the development on our cemetery No. 185 may be an additional indication.

Whereas Trigger (pp. 45, 107 f.) accepts the acculturation and Egyptianization in Lower Nubia from the Second Intermediate Period, outlined by Junker and me, and has not combined this development with the depopulation problem, Adams discusses the Egyptianization of the C-Group in this connection and reconstructs the events on the assumption that the 'Egyptian' tombs in Lower Nubia are the tombs of Egyptian settlers. He regards the Egyptianization of the Nubians as not proven, and says that 'what we see here, from the middle of the xviith Dynasty onward, is not "Egyptianization" but a simple process of depopulation.'

The Egyptianization which Junker assumed and which I have accepted was a hypothesis to explain the conditions in Egyptian Nubia described above in its main outlines, namely the very sudden decrease in the C-Group, which led Reisner and others to the assumption that the C-Group was expelled by Egyptian immigrants or simply extinguished by the conquerors. This Egyptianization should have taken place, according to our hypothesis, towards the very end of the Second Intermediate Period and at the beginning of the New Kingdom and would have been a rather rapid affair.

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38 The last assertion is a truth with some modifications, as we have evidence enough of the fact that many Nubians left their homes for Egypt (my Ägypten und Nubien, pp. 230 ff.). We have no means to determine their number, but can only state that Nubians were a not unimportant population group in Egypt also in Ramesside times to judge from the texts. A decline in Nubian agriculture and harder living conditions in Ramesside and Post-Ramesside's times may to some extent have produced a similar effect to that of the Assuan barrage in the beginning of this century, with an increasing number of Nubians spending the greater part of their life in Egypt, returning home in old age. This would explain such tombs as those of Nakhtmin at Bogga (MDIAK 6, p. 23) and of Pennut at Aniba.

39 Ägypten und Nubien, pp. 199 ff.; cf. now also Trigger, op. cit. p. 111 (Ramesside donations of land to a temple in Faras).

40 Ermenne pp. 37 ff.

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The excavation results in the Sudan necessitate a modification of the theory for this part of Nubia where certain groups resisted the Egyptian influence with regard to the burial customs, but otherwise did not reject the Egyptian civilisation. The reactions of these groups and their different stages of Egyptianization during the xviii dynasty is what I have tried to sketch in my previous reports. We have even such instances as cemetery No. 218, where there is not a single sherd of Nubian ware among the Egyptian pottery found in typical C-Group tombs, and we have several other transitional forms. It may indeed be rather difficult to distinguish a C-Group grave from an ‘Egyptian’ tomb, especially if the superstructure is destroyed and if the tomb should also happen to have a vaulted burial chamber. The presence of Egyptian pottery or even the absence of Nubian finds is no proof in our experience, and for practical purposes we have used the burial rites and tomb constructions rather than the burial outfit to distinguish the two groups.

The decisive point is, however, the interpretation of the so-called ‘Egyptian’ tombs in Nubia, i.e. tombs showing Egyptian constructions and burial outfits. If they were really in the main tombs of Egyptians rather than of Egyptianized Nubians, then Adams' reconstruction of the historical development would be quite plausible. Then we must assume that already during the Hyksos period a considerable Egyptian population had settled in Nubia, living side by side with a flourishing C-Group. But, with the exception for the Sudan, this C-Group population must have decreased very rapidly, since Adams' statement that we have fairly large numbers of both Egyptian and C-Group graves in the early xviii dynasty to my knowledge is hardly applicable to Egyptian Nubia.

If there was no important Egyptianization of the C-Group, and, thus, the Nubian ethnic element would be represented in the archaeological evidence mainly (excepting only a restricted number of collaborationists) by the C-Group culture, and not by a large number of ‘Egyptian’ tombs, the rapid disappearance of the C-Group culture could, in fact, hardly be explained without assuming that this Nubian element was either extinguished by the Egyptian rulers, expelled by them or forced to an ‘exodus’ by e.g. worse living conditions (according to Adams caused by low Niles and also taxation).

In such a case, this extinction or exodus must have started earlier in Egyptian Nubia than in Sudanese Lower Nubia, where the C-Group culture continues to exist for a longer period. But if so, how can such an exodus in successive stages and starting in parts of Lower Nubia, which are from an agricultural point of view the most promising ones, be explained by lower Niles and worse agricultural conditions? And would such a lack of irrigation resources, leading to depopulation, not have affected the Dongola province, too? But here, further south, we have rich cemeteries from the end of the xviii dynasty, as well as flourishing Ramesside towns. In

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42 cf. the similar cases in Egyptian Nubia, ASN cem. 96:100, 96:300.
43 See also e.g. ASN cem. 189.
fact, there seems to be a general move of the administrative and economic centre of
gravity from Lower Nubia to Dongola, reflected also, e.g., in the role of Amara West
as the residence of the Nubian viceroy in Ramesside times. To what extent this
population of Dongola was of Egyptian or Nubian extraction can hardly be ascer-
tained without more extensive archaeological investigations.

Many reasons, both archaeological and anthropological, have been adduced
by Junker for interpreting the ‘Egyptian’ tombs as Nubian burials, and I shall not
repeat them here.¹⁴⁴ I restrict myself to some new evidence which has become
available since Junker’s analysis.

With regard to the assumed emigration of Egyptians, starting already in Hyksos
times, the presence of some Egyptians in Nubian service during the reign of the free
‘Rulers of Kush’ (controlling also Lower Nubia; cf. above) is established
through some Buhen texts,¹⁴⁵ but these isolated cases do not prove much for the
numerous ‘Egyptian’ tombs in Nubia—especially not for those unassociated with
Egyptian forts, towns or temples. Such a cemetery is, e.g., our cemetery No. 185,¹⁴⁶
which in my earlier reports I have ascribed to Egyptianized Nubians rather than to
Egyptian immigrants.

Since Adams admits that a certain number of Nubians attached themselves as
collaborationists to Egyptian colonies and in fact became Egyptianized, I shall not
adduce as evidence for a Nubian interpretation of the ‘Egyptian’ tombs the fact the
two most typically Egyptian tombs in our concession according to the texts belong
to two Nubian vassals (the brothers Djehotep and Amenemhet), nor the tomb
of the Prince of Miam Heqa-nefer, found by Simpson at Toshke.¹⁴⁷ This is the
Nubian vassal who is also depicted in the tomb of the viceroy Huy,¹⁴⁸ where the
Nubians show a wonderful exhibit of often misunderstood or misused Egyptian
elements in their dresses and other outfit.

Even at Aniba, where we could suppose that a larger number of the tombs
really belonged to Egyptians, we find signs of foreign elements in some names and
in such pathetic misunderstandings of Egyptian beliefs as in tomb SA 34, where the
deceased and his wife have provided themselves with 361 ushebtis, approximately the
‘orthodox’ number, but amongst them included 23 with the name of the viceroy Sethi.

¹⁴⁴ The anthropological evidence is not conclusive regarding an assumed Egyptian
immigration. Batrawi (The Racial History of Egypt and Nubia, p. 139), contra Elliot Smith,
oberves that the affinities of New Kingdom population of Lower Nubia were closer to the
earlier populations of Upper Egypt than to the contemporary Egyptians and that there is a
relationship between the New Kingdom series from Lower Nubia and the Kerma series
(ibid., p. 145).
¹⁴⁵ JEA 35, pp. 50 ff.
¹⁴⁶ Adams states (op. cit., p. 106, n.l.) that such independent cemeteries can be studied
only in the earlier Archaeological Surveys of Nubia by Reisner, Firth, Emery and Kirwan.
¹⁴⁷ W. K. Simpson, Heka-nefer (Pennsylvania-Yale Exp. 1). Cf. also the tomb at
Bogg-a', published by Hermann, Mitt. D. Inst. 6, esp. p. 23 (Ägypten und Nubien, pp. 239 ff).
¹⁴⁸ Davies, The Tomb of Huy, Pl. xxvii.
Of greater importance is an analysis of such a cemetery as our No. 185, which in my opinion supports the other reasons long ago adduced by me against the theory of the ‘Egyptian’ tombs as proof of an Egyptian immigration.

In the 692 mostly unplundered tombs of site No. 185 nothing seems at first to betray a non-Egyptian element. All the burial outfits are Egyptian, i.e. everything which is found there, except for some isolated occurrences of Nubian vessels, is of Egyptian character. But it is equally important to notice that many items of great importance to an ‘orthodox’ Egyptian are lacking. One of the main purposes of an Egyptian tomb was ‘to make the name of the dead live’, and if these tombs really belonged to Egyptians it would be strange that not even in the richest (and unplundered!) tombs is the name of the deceased mentioned, neither on the crudest tombstone, nor on an ushebtii or any other object. In all the ‘Egyptian’ tombs in our concession the name of the deceased occurs only in two cases, in the tombs of the princes Djehutihotep and Amenemhet, and there we know that they were Nubians. A comparison with the tombs at Buhen and Aniba is instructive. Among the 152 ‘New Kingdom’ tombs at Buhen seven stelae with names were found, and 43 of the 156 tombs in the New Kingdom cemeteries at Aniba contained architectural elements or objects with names (even if in some cases they obviously do not belong to those buried in the tomb). But not a single case occurred among the 692 tombs of Fadrus. There also, other objects which were of great importance for the eternal happiness of a pure and ‘orthodox’ Egyptian are lacking or very scarce. Neither here, nor in any other ‘Egyptian’ tomb in our concession did we find any ushebtis (which are very common at Aniba), and we have, e.g., only one single heart scarab.

In view of this and similar evidence from other ‘Egyptian’ tombs unconnected with Egyptian towns or temples I find it difficult to accept the theory that a great part or even the majority of the so-called ‘Egyptian’ tombs in Lower Nubia should belong to immigrated Egyptians (who by the way, to judge from textual evidence, hated the thought of being buried far from their Egyptian homes), rather than to Egyptianized Nubians, whose existence nobody can deny or has denied.

I am also convinced that a close analysis of our finds and of earlier excavation results will yield a detailed picture of the different attitudes of different Nubian groups towards the Egyptian civilization and will show the different stages of an acculturation, representing both chronological stages and varying contemporary attitudes.

The length of this discussion may be excused by the fact that these problems are of the greatest importance for the reconstruction of the Nubian history during the New Kingdom, and that Adams’ fresh approach would, if it proved correct, fundamentally change the picture.

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49 Ägypten und Nubien, pp. 187-189, where other circumstances are also adduced which speak against any important immigration of Egyptians to the Nubian province. Cf. also especially Junker, loc. cit.
SCANDINAVIAN JOINT EXPEDITION

MEROITIC AND X-GROUP

Both in the neighbourhood of Gebel Sahaba (on site No. 401) and especially in the cataract region a number of tombs of Meroitic and X-Group date were excavated. They were as a rule badly plundered. Thus, e.g., in the village of Abka not less than 50 tombs were emptied, of which all were robbed and only yielded Meroitic sherds, some of a high quality (painted eggshell ware), and gilded beads (PLATE XLVIIa).

On the island of Detti (Tila) a number of tombs was investigated in the valley of site No. 157 (map, FIG. 6) with its concentration of rock pictures. There were groups of irregular cairns, well constructed rectangular superstructures of roughly hewn stones, and tumuli, but as a rule they were either robbed or findless. One Meroitic tomb contained, however, in addition to pottery a tube of bone with an incised ornament.

Just south of the wadi no less than 14 skeletons of children and grown-up individuals were found in a deep pot-hole in the rock. They may possibly represent a sacrifice. In the pit were also a vessel of impressed ‘Romano-Nubian’ ware, an ordinary Meroitic jar, a collection of beautiful beads of Meroitic date and a slab with a rock picture (cf. above).

A fragment of a Meroitic falcon of sandstone (PLATE XLVIIa) was found in the Abka district on site No. 432, in a tomb which had been re-used in Islamic times. A Meroitic ostracon came as a stray find from Genissab, the northernmost island next to the east shore at Meinarti. The late sites on this island (habitation areas of Meroitic, X-Group and Christian dates as well as some tumuli and Christian tombs) were in such a state after extensive plundering that they were not worth excavating.

Some tumuli of X-Group date were also examined on site No. 163, partly excavated by Bates. The tumuli of the same date on the Gamai plain were left out of our programme, as they were now in cultivated areas and showed traces of plundering.

Several tombs of Meroiotic and X-Group date were found in the mountains east of Gemai, some constructed exactly as C-Group tombs, with a stone ring as superstructure and the dead buried in hocker position in a shaft, but the finds left no doubt of their dates. In another tomb (site No. 442)—an intact shaft with sideshie— the deceased had a pair of well preserved ankle-rings of silver-plated iron.

Another intact tomb in the otherwise badly robbed cemetery No. 416 on the Shargundi Island contained the burial of a young man, in hocker position, with a bow in his right hand and an incredibly well preserved knife with wooden handle at his hip. The rest of the burial outfit consisted of a small iron knife, a sickle, arrow points, at least five necklaces and a wing belonging to an amulet in the form of a winged scarab (PLATE XLVIIb).

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50 See Kush, X, p. 83, Pls. xviii, xix.
51 cf. Adams' comments on the cemetery of Sanam, JEA 50, p. 112.
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In the cataract area there are several walled-in areas, some of them of a very big size.\textsuperscript{52} The walls consist, as a rule, of two parallel skinwalls of roughly hewn stones, and a filling of smaller stones between these outer walls (\textit{Plate XLVIII}). The same technique occurs in some stone superstructures of Christian tombs and in a series of walls used on the cataract islands (especially on Dettinarti or Shargundi) to cut off parts of the wadis (possibly for gazelle hunting or, as a protection against cavalry attacks?) and in these wadis as a rule they are combined with concentrations of Christian pottery. Similar fortification walls of Christian date also occur further south in the Batn el Haggar, around the monastery of Ghazali near the Fourth Cataract and at Sennar on the Blue Nile. These circumstances rather speak in favour of a Christian date also for the walled-in areas. However, when we tore down part of the wall on site No. 142, some X-Group pottery was found in the filling. On site No. 168 some charcoal and so far unidentified pottery was also found in the filling, and these finds will perhaps allow a dating after due analysis.

The interiors of these areas are as a rule entirely void of any kind of constructions or traces of habitation. The soil often consists of stones or rocks, or of entirely barren desert ground. A trial excavation on a more promising spot in No. 142 revealed only remains of a Neolithic habitation, and Paleolithic finds were made in No. 168.

Thus these fortifications (?) were probably constructed partly in X-Group times, and partly during the Christian period (or at least they remained in use at this time). They may possibly have served as refuges for the population to escape attacks of enemies during shorter raids, but are hardly sufficient to hold out against a siege or blockade. They can perhaps be regarded as a more permanent form of a \textit{zariba}, here constructed in stone and not by means of thorny brushes.

\textbf{Christian Period}

The churches and other Christian architectural remains, which had been left out of the working programme of the earlier campaigns for lack of adequate staff, were all investigated during the last season by Dr. C. J. Gardberg and Mr. Th. Lindquist. For different problems we had the kind assistance of Dr. W. Y. Adams and our data were also communicated to him for his work on the typology of the Nubian churches.\textsuperscript{53} I have kindly been authorized to use his comments on our results for this report.

The churches in the northernmost part of our concession had already been examined and published by Mileham and Monneret de Villard, but these records were checked in detail on the basis of additional excavations.

The river church in the immediate neighbourhood of the Egyptian frontier

\textsuperscript{52} cf. \textit{Kush} xi, pp. 68 f.
\textsuperscript{53} See \textit{JARCE} 4.
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(site No. 173) proved to be adequately recorded by Milleham\textsuperscript{54} and Monneret de Villard,\textsuperscript{55} but excavations outside the church revealed that the wall noticed by Milleham outside the south side of the church continues also on the east side, and walls of some buildings north of the church were also traced. The beautiful capital still remaining in the building was also rescued and was given to the expedition by the Sudanese authorities.

The upper church in the desert about 1 km. south of the river church (site No. 2) had already been emptied once by Milleham,\textsuperscript{56} and we saw no reason to clear it once again, as the previous records seemed to be adequate and correct as far as we could control them.

The south church of Serra East (site No. 40), already published by Milleham,\textsuperscript{57} Somers Clarke\textsuperscript{58} and Monneret de Villard,\textsuperscript{59} was emptied, excepting only some parts of less interest for the proper understanding of the construction, and some new details were established. The collection of pottery will, after due analysis, be of importance for the dating.

The church is, according to Dr. Adams, a classic example of his Type 2a (the early Nubian Debeira Type), and it is almost the only one which was built entirely of mud brick (Qustul or Sheikh Bedawy is the other). It is perhaps also the only one which was not later converted to Type 3a. It is typical for these Early Nubian churches that they were not decorated with frescoes, and the excavation revealed no trace of any such decoration. The type is dated by Adams to the period 600-800 A.D.

The church of Sahaba (site No. 100; FIG. 11, PLATE XLVIIIb), immediately to the south of Gebel Sahaba (site No. 51; cf. above, p. 235), about 10 km. north of Wadi Halfa, had not been excavated and only a preliminary plan had been published by Monneret de Villard.\textsuperscript{60} Some previous investigations had been done during the third season, but a proper excavation and architectural analysis had been postponed to the last campaign.

The church proved to be of special interest, and no less than twelve different stages in its architectural development could be distinguished, the last of which being its use as a cenotaph for the holy man Sheikh Omar, Amir es-Sahaba. This cenotaph consisted of nine different mahmals, one covering the other and each spread over a wood construction. The last mahmal was dedicated by Hassan Dahab who died 1944, number three was given about seventy years ago (according to local tradition) by Salah Mohammed who died 1923, number four was dated 1872, and number

\textsuperscript{54} Churches in Lower Nubia, pp. 37 f. Pls. 21-24 (called ‘the Northern Church near Addendan (E)’).

\textsuperscript{55} La Nubia Medioevale I, pp. 183 ff., Fig. 173-174

\textsuperscript{56} op. cit., pp. 8 f., Pls. 25-28; cf. Monneret de Villard, op. cit., p. 188, Fig. 171-172.

\textsuperscript{57} op. cit., pp. 45 f., Pl. 36.

\textsuperscript{58} The Christian Churches, fol. 10-11, Christ. Antiq., p. 62.

\textsuperscript{59} op. cit., pp. 204 f., Fig. 201.

\textsuperscript{60} op. cit., p. 211, Fig. 206.
six, the oldest one, mentioned a ghaffir of the place, called Joseph Ben Ahmed, a forefather of the present ghaffir Kheri Mohamed.

The first stage of the church, which was never finished, is represented by a stone wall found under the floor of the later church. The plan of this first building seems to have been narrower than that of the next stage.

The first church, which was completed, probably dates from the 8th century and is again a representative of Type 2a. It is a basilica with three naves, an apse, flanked by sacristies and with a tripartite western part. A staircase in the south-west corner room leads to the upper floor in this part of the church. There are two entrances, one in the north and one in the south, both leading to the west part, immediately to the east of the nartex.

As pointed out by Adams, this church has many of the distinctive features of Type 2a (niches in apse, doors from apse to sacristies, triumphal arch on columns set in relieves, asymmetrical entry to western rooms) but differs in that the apse does not project significantly westward beyond the line of the flanking sacristies, and the apse is not narrower than the nave. The oldest pottery found in the church probably dates from the middle of the 8th century, and Adams is inclined to date the building to about 700 A.D., in any case not later than 800 A.D.

At a later stage this building was remodelled and received the form of Adams' Type 3a ('Faras Type'). A passage was added between the sacristies east of the original east gable and the doors between the apse and the sacristies were blocked. According to Adams these are the typical conversions, when Type 2 was changed to Type 3, the Classic Nubian type. Moreover, a passage between the sacristies was added to the east of the original gable. Adams comments to this detail, that although the eastern passage is a feature of all churches built between the 9th and the 13th centuries, Sahaba Phase II seems to be the only church where the passage has been added in this way to an older building.61

In the church many architectural elements (capitals, ornaments, etc.) were found, several of which could on stylistical grounds be dated to the 10th century. From this period onwards there are several finds, mainly lamps and other pottery down to the end of the Christian Period (14th century). Of special importance is the fact that some sherds found under the steps of the tribune are hardly earlier than the middle of the 12th century, and thus the conversion to Type 3a would be of comparatively late date.

The same type of pottery was found also in the room added in front of the northern entrance, and both this addition and the room outside the southern entrance are hence also of a late date.

To the north of the church some smaller buildings were also excavated, and south-west of the church a Christian cemetery, but at least one tomb was of earlier

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61 'Eastern passages were added at the big Gebel Adda church and at Meili Island, but the circumstances were quite different' (Adams).
date (X-Group). An Islamic cemetery lies to the north of this necropolis, including a beautiful tomb with cupola.  

The Christian pottery, found on Gebel Sahaba 600 m. north of the church, shows that the area of the New Kingdom fortress was still inhabited in Christian times.

Near the village of Tinonaman on the Shargundi Island a hitherto unknown church (site No. 283) was found and entirely excavated (FIG. 12). It was rather denuded and destroyed, but enough remained to establish a fairly detailed reconstruction. The church has a basilical form but is very short. The central part is practically a square, with four piers, two on each side of the middle nave. Both the east and west parts are tripartite, and in the south-west room there was the usual staircase. Immediately east of the western rooms were the entrances to the church, one in the north wall and one in the south. The apse, which is only 165 cm. deep and 255 cm. wide, had a floor on a level one brick higher than that of the nave and the aisles, and it is possible that there was a tribune with steps which have now disappeared. If such a tribune has once existed, the church would have been of Type 3c according to Adams’ typology, and would then date from the period 850-1250 A.D. The typical passage between the two sacristies behind the apse was also present.

The east wall of the church is fitted into a system of walls which form a square yard to the west of the church, towards the Nile. A broad door in the central part of the west wall of this courtyard leads to a walled-in area next to the river. These walls are built of rather small stones with bigger stones used as leaves. They are about 2 m. wide and preserved to a height of 60 cm.

Several Christian settlements in the cataract district were also examined. The area seems to have been densely populated in Christian times to judge from the distribution of Christian pottery as surface finds. As a rule these settlements have been entirely denuded and no walls or remains of buildings are found, but only vast areas covered with potsherds. Trial excavations on many such places have proved that all architectural remains have been levelled to the ground and no traces remain to be found. The destruction is sometimes, if not always, due to sebakh diggers who have demolished the houses, and wind erosion has done the rest, in some cases in combination with inundations.

However, on some sites (Nos. 256, 396, 439) the general outline of the habitation could be established. As a rule there are foundations of a house (on site No. 439 covering a rather large area and with an open courtyard in the middle) and a field watered with a saqia (FIG. 13). A wall of rough stones is not infrequently constructed around the settlement, but the purpose of it is difficult to establish (perhaps a combination of fortification against enemies and fences for the cattle, and to keep gazelles out of the fields).

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62 See Monneret de Villard, op. cit., p. 211, Fig. 207.
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Since the end of the survey and the excavation of its concession in March 1964 the Scandinavian Joint Expedition has not ceased to exist as a unity. The four countries, Denmark, Finland, Norway and Sweden, continue their collaboration to analyze the finds and to publish them.

The finds of the first two seasons were exhibited in Helsinki, Oslo, Bergen and Stavanger, and a larger exhibition was arranged in Stockholm during the summer 1965 after the end of the fieldwork. These exhibitions have roused a wide public interest for the archaeology of the Sudan and the Nubian campaign in general.

Additional Note:

Since this report was written in 1965 the following volumes have appeared in the Expedition (SJE): 1 The Rock Drawings (Hellström-Langballe), 2 Preceramic Sites (Marks), 7 Late Nubian Sites. Churches and Settlements (Gardberg), and 9 Human Remains (Vagn-Nielsen). Further volumes will deal with the A-Group (vol. 3), the C-Group (vol. 4), New Kingdom (vol. 5), Late Nubian Cemeteries (vol. 6) and Textiles (vol. 8).
Soleb-Sedeinga

RESUME DES TRAVAUX DE LA MISSION HENDANT LES TROIS CAMPAGNES
AUTOMNE 1965—PRINTEMPS 1968

par MICHELA SCHIFF GIORGINI

Fuiolles patronnées par l'Université de Pise.

Chef de la mission: Michela Schiff Giorgini
Directeur des fouilles: Clément Robichon
Epigraphiste: Jean Leclant
Secrétaire: Denise Girardin
Assistant (en 1965): Jean de Smet

Au début de la campagne 1965—1966, le décès subit de mon mari, survenu à Paris pendant mon séjour à Soleb, a été pour moi un tel choc imprévu et douloureux que le cours régulier de notre recherche archéologique en a été, évidemment, bouleversé. Cependant, même durant cette triste campagne 1965, les travaux n'ont pas été suspendus à Soleb, où Robichon a continué sans interruption son étude méticuleuse du temple et des nécropoles, en vue de leur prochaine publication.

Les deux années suivantes, notre mission a pu reprendre son activité normale. Mais l'effort principal ayant porté sur la préparation du deuxième volume de la série Soleb, nous avons été obligés de suspendre les fouilles de Sedeinga, estimant ne pouvoir les reprendre systématiquement qu'après la publication de Soleb III. Toutefois, au cours de la dernière campagne, il a été possible de consacrer quelque temps à l'étude de deux sépultures méroïtiques de ce site.

Dans l'ensemble, des résultats nombreux ont été obtenus pendant les trois ans qui viennent de s'écouler depuis mon dernier rapport, dans Kush xiv. En voici le résumé.

SOLEB

Les travaux effectués à Soleb depuis l'automne 1965 ne se rapportent évidemment qu'à la poursuite de la publication définitive sur l'étude de ce lieu antique. Ils sont très divers et comprennent, outre la rédaction proprement dite, l'exécution de nombreux relevés et dessins, des compléments d'enquête ou de fouille dans tous les secteurs de notre zone archéologique (aussi bien dans les nécropoles que dans le temple), ainsi que l'exploration des zones avoisinantes afin de mieux connaître les environs du grand temple jubilaire.

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I. Fosses primitives

Rappelons que les fosses primitives, étudiées pendant notre deuxième campagne de fouilles\(^1\), ont été découvertes sous les restes de la superstructure d'une tombe (T 15) du Nouvel Empire. Nous les avons donc trouvées dans l'état même dans lequel elles étaient lors de la construction de cette tombe T 15. Ces sépultures, néanmoins, non seulement n'étaient pas intactes mais elles présentaient les traces de curieux remaniements, effectués tant sur les squelettes que sur le matériel funéraire.

Une dernière vérification du terrain (janv.-févr. 1967) a permis la compréhension d'une vingtaine de foyers, disséminés à la surface du cimetière. Il s'agissait de trous pour la plupart ovales et de dimensions variables, contenant des cendres et du charbon de bois. Parmi les cendres, il a été possible de reconnaître les restes plus ou moins carbonisés d'excréments d'animaux, de céréales et, enfin, d'ossements humains. L'étude générale des fosses primitives et des foyers a montré que ces derniers étaient en fait des sortes de fours d'incinération qui, par leur contenu, ne peuvent dater que de l'époque du bouleversement des sépultures.

Parallèlement à ce complément de fouille, nous avons effectué (janv.-févr. 1967) un examen méticuleux des quelque cinq cents tessons provenant des fosses, recueillis tant à l'intérieur même des sépultures que dans les foyers que nous venons de signaler, ainsi que parmi les vestiges de la superstructure de la tombe du Nouvel Empire T 15, dans laquelle ils avaient été incorporés. La plupart de ces fragments appartiennent à seize récipients en terre cuite\(^2\) (quinze modelés à la main et un fait au tour), dont il a été possible de restituer les formes. Sur de nombreux tessons on a pu observer: les marques des coups de poinçon qui brisèrent le récipient; une altération plus ou moins forte par le feu; enfin des cassures élimées, traces évidentes d'usage.

En résumé, ces divers compléments d'étude nous permettent de faire un certain nombre de remarques. Lors du bouleversement des sépultures, la plupart des poteries de ce cimetière furent brisées à coups de poinçon. Si quelques-uns de leurs fragments furent laissés dans les fosses (après avoir été utilisés pour racler leur contenu), d'autres servirent à couvrir les fours d'incinération (dans lesquels furent brûlés des éléments de squelettes provenant des sépultures), d'autres encore furent incorporés dans la superstructure de la tombe du Nouvel Empire T 15, qui recouvrit enfin tous ces vestiges d'époque antérieure.

II. Nécropole du Nouvel Empire

Comme il a été signalé dans nos rapports précédents\(^3\), si certaines tombes de la nécropole du Nouvel Empire consistent en un simple puits, le plus grand nombre des tombes de cette nécropole ont en revanche des infrastructures assez complexes,

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\(^2\) Presque tous du type de poterie dit 'Kerma ware'.

avec puits donnant accès à un ou à deux caveaux, ces derniers pouvant comprendre une ou deux chambres sépulcrales. Les tombes à caveau comportaient toutes des superstructures, composées principalement d’une pyramide précédée d’une chapelle.

L’étude définitive du terrain (campagne 1965–1966) a mis en évidence, sous les restes de chaque superstructure, une petite butte formée par les éclats de schiste provenant de la taille de la substruction correspondante, éclats qui avaient été rejetés autour du puits (et parmi lesquels on a retrouvé, dans certains cas, des graines de céréales). C’est grâce à cette découverte qu’on a pu repérer, par la stratigraphie réciproque des buttes, l’ordre de succession dans l’établissement de la majeure partie des tombes.

En même temps que l’étude ci-dessus mentionnée, ont été exécutés, d’une part, les relevés détaillés de toutes les sépultures du Nouvel Empire, dont le total s’élève à 47 (la dernière ayant été découverte lors de ces travaux) et, d’autre part, les fac-similés des blocs décorés qui en proviennent.

Enfin, tous les récipients, entiers ou fragmentaires, recueillis dans cette nécropole ont été l’objet d’un dernier examen global (campagne 1967–1968), fait d’après les nombreuses données notées sur fiches ainsi que d’après les pièces demeurées hors partage et restées à Soleb. On a procédé ensuite à la mise au point des quatre planches d’ordre typologique qui illustreront, dans Soleb II, l’ensemble de cette poterie et dans lesquelles figurent: 21 ‘spécimens’ de récipients dont nous n’avons trouvé que des exemplaires uniques, et 55 ‘prototypes’ correspondant aux séries des autres récipients.

III. Temple

Au temple, nous avons effectué: (A) des fouilles complémentaires, en vue de la prochaine publication, dans Soleb III, sur l’étude du monument; (B) les dessins d’une partie des textes et des bas-reliefs, en vue de leur publication dans Soleb V.

A) Des fouilles ont été menées dans le secteur situé à l’Est du pylône extérieur (campagne 1967–1968), afin de compléter nos informations sur un terre-plein que nous avions précédemment désigné comme le ‘deuxième quai’ du temple. On savait que ce terre-plein était en réalité le soubassement d’un pavillon orienté vers l’Ouest (face au temple), consistant en trois chapelles adjacentes précédées d’une salle à colonnes; toutefois, son revêtement extrêmement soigné en belles pierres de taille et le fait qu’il semblait avoir surplombé du côté Est une vaste dépression, enfouie depuis sous une épaisse couche de terre, nous avaient amenés à reconnaître là un quai dominant un bassin artificiel.

Des excavations en profondeur, en divers points entre le terre-plein et le Nil, ajoutées à de nombreux sondages effectués dans les eaux mêmes du fleuve, ont permis:

d’une part, de repérer que la terre ayant comblé la dépression n’était pas une masse de remblai mais du limon amené par le Nil, se présentant en plusieurs couches superposées, nettement séparées par des lits sablonneux; d’autre part, de découvrir les vestiges d’une digue en maçonnerie (ép. 9,00 m.), en blocs de grès et de schiste, constituée de trois jetées qui limitaient la dépression mentionnée au Nord, à l’Est et au Sud. La jetée Est, parallèle au cours du fleuve, atteignait une longueur de près de 400 mètres; ses restes, situés encore sous l’eau près de la berge actuelle, ont pu être sondés sur la presque totalité de leur parcours. Des jetées latérales, qui avaient environ 200 mètres de longueur, le grand massif situé au bord du Nil, au Nord-Est du temple, est le seul élément encore visible; mais d’autres vestiges ont pu être repérés, tant sous l’eau que sous les terrains cultivés où ils sont restés enfouis.

La dépression que nous avions appelée un bassin était donc, en fait, une immense cuvette (env. 400 m. N.-S. × 200 m. E.-W.) que les constructeurs du temple n’avaient pas ‘creusée’ mais qu’ils avaient ‘gagnée’ sur le fleuve, en érigant dans le Nil l’épaisse digue en pierres que nous venons de signaler. Ainsi il fut créé à l’avant du temple, avant sa construction, une immense zone marécageuse que le fleuve noyait une fois par an, aux plus hautes cotes de sa crue (par une brèche qu’on ouvrait dans la digue ?). On dut préserver ce marécage pendant une douzaine d’années, temps qu’il fallut pour le laisser se combler par le simple apport du limon que les eaux du Nil déposaient annuellement sur son fond.

Quant au terre-plein, il fut construit sur le bord Ouest du marécage et adossé en avant-corps à l’ancienne berge du fleuve. Son étude sera complétée l’année prochaine, mais nous pouvons déjà dire que ses assises inférieures furent mises en place en plusieurs phases, au fur et à mesure que le fond du marécage s’exhaussait. Ce terre-plein ne fut donc que le soubassement du pavillon mentionné plus haut, sans jamais servir de quai.

(B) En ce qui concerne les dessins des textes et des bas-reliefs du temple, signalons qu’ont été jusqu’à présent exécutés (campagne 1965–1966) les fac-similés des éléments suivants: blocs décorés provenant des portes de la première enceinte du temple, scènes de la fête Sed dans la première cour du temple (celles gravées sur le revers du môle Nord du grand pylône et quelques-unes de celles gravées sur un côté du montant Nord de la porte entre les deux cours), écussons des peuples soumis représentés sur les colonnes de la salle hypostyle. Au total il a été effectué 189 panneaux de dessins grandeur (chacun des panneaux étant de 0,66 × 1,00 m.), qui ont été ensuite réduits au tiers.

IV. Cimetière méroïtique

Entre le temple et la nécropole du Nouvel Empire on avait découvert, dès 19585, un cimetière d’époque tardive dont seules quelques tombes avaient alors pu être

5 Cf. SOLEB I (1965), p. 147.
examinées, mais qui a fait l’objet par la suite (campagne 1966–1967) d’une fouille plus complète et systématique.

Il s’agit d’un cimetière méroïtique, situé à 300 mètres à l’Ouest du temple et couvrant une superficie de 125 mètres Nord-Sud sur 75 mètres Est-Ouest. Sur un total d’environ 600 tombes, 102 ont été minutieusement étudiées.

On a pu repérer cinq types de sépultures, dont le plus commun est constitué d’une descenderie donnant accès, à l’Ouest, à un petit caveau; les tombes de cette catégorie devaient également posséder une superstructure, mais, le terrain étant par trop érodé, rien n’a été retrouvé en surface à l’exception des vestiges d’une seule petite pyramide, en blocs de schiste.

La plupart de ces tombes étaient des sépultures individuelles. La disposition et l’orientation des défunts présentaient des caractères constants: les corps, enveloppés souvent dans des linceuls de laine, furent déposés à même le sol, couchés sur le dos, tête à l’Ouest, mains sur le sexe.

Sur les 102 sépultures fouillées, 49 ont été trouvées inviolées. En dépit de ce fait, le matériel recueilli dans le cimetière est extrêmement réduit, sinon inexistant: pas d’inscriptions, des perles en verre opaque coloré provenant de colliers ou de bracelets (qui étaient portés uniquement par des femmes et par des enfants), quelques lourds anneaux de chevilles en fer, deux vases seulement, en terre cuite brun foncé, modelés à la main et ornés de décors géométriques incisés, une coupe caliciforme en bronze, une hache en fer, enfin les restes d’un pendentif en cuir, décoré par incisions d’un motif comprenant un noeud d’Isis.

Après la fouille, le plan général des tombes étudiées ainsi que les plans et les coupes de la majeure partie d’entre elles ont été exécutés et mis au net.

V. Parc à animaux

A l’arrière immédiat de la zone archéologique de Soleb, sur les premières terrasses du désert qui sont encore bien visibles du temple lui-même, nous avons eu la chance de remarquer (févr. 1967) les restes de petits monceaux de pierres alignés; ils étaient disposés à intervalles plus ou moins réguliers sur un périmètre d’environ un kilomètre et demi, délimitant un enclos de forme sensiblement ovale. Un premier dégagement de ce secteur (janv. 1968) a mis en évidence plus d’une trentaine de trous (prof. env. 0,50 m., diam. env. 0,17 m.), dans lesquels avaient été enfondés les poteaux d’une barrière (quelques trous gardent encore des résidus de bois). Ces poteaux, espacés tous les trois mètres, devaient être contre-butés par les monceaux de pierres ci-dessus mentionnés et servir de supports à un immense filet.

L’étude de cet ensemble, qui date sans aucun doute du Nouvel Empire, reste à faire et s’avère difficile. On peut cependant dès à présent y reconnaître la clôture d’un de ces grands parcs bien connus par les images de la ‘chasse dans le désert’, représentant les réserves d’animaux sauvages.
VI. Route Soleb-Sesebi

Dans la région située au Sud de Soleb a été reconnue (en 1965) une route antique, qui reliait les temples de Soleb et de Sesebi. En traversant la vaste plaine d’Agula et en longeant ensuite, sur le côté Ouest, un groupe serré de collines que dominent les sommets des gebels Tundullah et Gorgod, la distance entre les deux temples est d’environ 48 kilomètres. Les tronçons de la route antique ont pu être suivis sur au moins 20 kilomètres, à partir de la zone montagneuse située au Sud d’Agula jusqu’au pied du temple de Sesebi; ils sont rectilignes, d’une largeur moyenne de 9 mètres et encore partiellement bordés de pierres.

Au premier examen, il semblerait bien s’agir d’une route pour le passage de chars, datant du Nouvel Empire (Aménophis IV?) et actuellement désignée par les Bédouins comme ‘la route des barques’.

VII. Forêt pétrifiée

Des reconnaissances effectuées dans le désert Ouest (en 1966 et en 1967) ont permis de repérer de très nombreux arbres silicifiés.

Ces arbres sont abondants en Nubie. Toutefois, nous croyons devoir signaler que les vestiges rencontrés ne sont pas des bois charriés par les eaux, mais des arbres tombés et demeurés pour ainsi dire in situ. Ces masses pétrifiées, tronçonnées en de très gros blocs parfaitement alignés, se trouvent sur les crêtes de monticules de grès recouverts de graviers et rendus apparents par l’érosion des terrains avoisinants (certains arbres sont encore pris dans les grès). Plusieurs souches ont pu être reconnues, au pied des troncs et à leur même niveau; quant à ces derniers, ils sont couchés dans des directions différentes, mais peut-être avec une dominante Nord-Sud.

Ces arbres, qui se comptent ici par milliers, attestent l’existence passée d’une immense forêt, dont nous n’avons probablement prospecté qu’une toute petite partie: la zone connue couvre une superficie d’environ 32 kilomètres Nord-Sud sur plus de 50 kilomètres Est-Ouest, son secteur le plus dense se situant entre 43 et 64 kilomètres à l’Ouest de Soleb.

L’étude préliminaire de quelques échantillons, confiés au Laboratoire de Paléobotanique de la Faculté des Sciences de Paris, situe certaines de ces structures parmi les flores ligneuses du Mésozoïque de l’Afrique Nord-Equatoriale.

VIII. Rédaction de Soleb II


Dans l’ensemble, cette rédaction a nécessité beaucoup plus de temps qu’il n’avait été primitivement prévu. Nous avons tenu en effet à donner une analyse détaillée des résultats obtenus pour chacune des tombes fouillées (cavités, fosses primitives, tombes du Nouvel Empire, sépultures méroïtiques et autres tombes tardives). En fonction du thème central de nos recherches, qui demeure ‘Khaemmaat’,
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notre attention s’est portée tout spécialement, bien entendu, sur les témoignages de ceux qui vécurent sur l’aire de Soleb pendant la construction du grand temple jubilaire d’Aménophis III. Nous avons donc accordé un soin tout particulier aux tombes du Nouvel Empire, à l’étude des inhumations et de leurs divers remaniements, aux squelettes et aux objets considérés dans leur ensemble, ainsi qu’aux problèmes de datation.

Ce volume, dont le texte correspondra à environ 900 pages de ‘type-script’, comprendra plus de 700 figures dans le cours de l’ouvrage et 17 planches hors-texte. Contrairement à ce que nous espérions, sa rédaction et la préparation de ses illustrations ne sont pas encore achevées, mais nous avons bon espoir de mettre le volume sous presse au début de la prochaine année 1969.

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Après une interruption de deux ans, due au fait que notre activité a été littéralement accaparée par la volumineuse publication sur ‘Soleb’, il nous a été possible de consacrer un mois environ (27 nov.–20 déc. 1967) à la fouille de deux sépultures méroïtiques, W T2 et W T9, qui font partie du groupe dénommé ‘tombes de l’Ouest’.

C’est parmi ces sépultures méroïtiques qu’on avait mis au jour, précédemment (en 1963–1964), une tombe de la xxvème dynastie, au nom du roi Taharqa. Bien que la fouille de ce secteur ait donné depuis des résultats inespérés, en tenant compte du pillage radical des tombes, les données acquises jusqu’à présent ne suffisent pas à éclaircir les problèmes qu’elle a soulevés: d’abord la présence ici d’une tombe de Taharqa, puis l’occupation du cimetière, à deux reprises différentes, par les Méroïtes. Souhaitons néanmoins que l’achèvement de la fouille permettra plus tard de résoudre ces questions.

I. W T2 (fig. 1–3 et plate xlix, a–l, a)

Tombe située dans la partie Nord-Est de ce secteur. Orientée vers l’Est, elle était constituée en surface par deux pyramides couplées (témoin de deux enterrements) et, sous terre, par un caveau ‘construit’, précédé d’une descenderie (fig. 1).

Les deux pyramides (fig. 1–2) étaient des monuments creux avec faces en briques crues, dont subsistent les assises inférieures sur environ 1,40 et 0,50 mètres de hauteur (pl. 1, a). Elles furent bâties, l’une devant l’autre, à deux moments bien distincts. La première (base, 7,00 m. de côté) fut sans aucun doute érigée après le premier enterrement qui eut lieu dans la tombe; située au-dessus du caveau et couvrant également une partie de la descenderie, elle contenait en son centre une chapelle avec voûte en berceau. La seconde pyramide, plus petite (base, 5,25 m. de côté), ne fut

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6 Kush xiii (1965), pp. 112–130, figs. 1–7 et pl. xxx–xxxii; Kush xiv, en cours d’impression.
Fig. 1. SEDEINGA, TOMBE W T2: PLANS SUPERPOSÉS DE LA SUPERSTRUCTURE ET DE L'INFRASTRUCTURE

Fig. 2. SEDEINGA, TOMBE W T2: LES DEUX PYRAMIDES
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construite qu’une fois les inhumations terminées; elle se dressait sur une sorte de plate-forme aménagée au-dessus du départ de la descenderie. Cette dernière, taillée dans le sol et remblayée dès la fin du premier enterrement, s’incline vers l’Ouest en pente plus ou moins accentuée jusqu’au caveau, dont la face Est (haut. max. 1,45 m., larg. 1,42 m.) s’ouvrait directement dans la descenderie (FIG. 1 et 3). La première fermeture du caveau consista en un mur de briques crues ( ép. max. 0,90 m.), qui fut

plus tard ouvert au centre pour le passage de la deuxième inhumation, puis rebouché et, enfin, partiellement défoncé par les voleurs. Le caveau lui-même est une construction en briques crues, aménagée dans la couche d’alluvions et dont la base s’enfonce (sur 0,20 m.) dans le bed-rock. Il est constitué d’une unique chambre de plan rectangulaire (long. 3,20 m., larg. 1,50 m., haut. 1,40 m.), avec voûte en berceau et parois revêtues d’un enduit de terre; le sol, en contrebas par rapport au seuil de la porte, est également recouvert d’un enduit de terre.

Cette tombe a été trouvée entièrement pillée. C’est dans le remblai de la descenderie, entre les deux pyramides, que les voleurs s’étaient frayé un passage vertical, pénétrant ensuite dans le caveau par la partie haute de la porte. À l’intérieur, ils saccagèrent la sépulture, donnant même des coups d’outils sur les parois à la recherche

FIG. 3. SEDEINGA, TOMBE W T2: LE CAVEAU ET LA DESCENDERIE, AVEC LE MURET PROVISOIRE QUI ENTOURAIT LA SEPULTURE AVANT LA CONSTRUCTION DE LA PREMIERE PYRAMIDE
d'éventuelles pièces annexes. Néanmoins, malgré ce pillage radical, il restait suffisamment de données pour nous permettre de rapprocher cette tombe, en tous points, de la tombe W T3 précédemment étudiée⁷, qui connut deux inhumations à deux époques différentes et dont la superstructure présentait deux pyramides couplées, correspondant chacune à l'un des enterrements.

Parmi les ruines de la superstructure W T2 ont été recueillis des fragments provenant de plusieurs poteries décorées, dont une jarre à jolies guirlandes peintes en rouge et en noir, ainsi que des débris d'une coupe et d'un bol en faïence. Rappelons que les décombres de surface avaient livré précédemment⁸ divers blocs méroïtiques, décorés et inscrits: tout d'abord un fragment de linteau W 6, que son style et son épigraphie caractérisent comme archaïque; puis un ensemble de trois éléments architecturaux pourvus de longues inscriptions, qui se répètent et se complètent (un beau linteau W 3, une stèle W 2 et un seuil W 7).

Au fond de la descenderie, devant la porte, on a mis au jour la tête et les quatre premières vertèbres cervicales d'un squelette humain, ainsi que deux fragments de poterie, dont l'un dut être utilisé par les voleurs pour ratisser le remblai de la sépulture.

Dans le caveau, enfin, peu d'indices subsistaient pour reconstituer les deux étapes qu'il connut et qu'on a pu cependant aisément discerner par comparaison avec la tombe W T3. On y a retrouvé les restes bouleversés de deux défunt, une femme et un homme. La femme avait été ensevelie bien avant l'homme; son squelette était réduit en mille débris éparrs, pris dans une couche de boue durcie qui couvrait le sol de la chambre. L'homme fut inhumé en dernier: les fragments de son squelette, disloqués et amoncelés pêle-mêle sur la couche de boue, présentaient encore plusieurs os dans l'ordre naturel. C'est à ce défunt qu'appartenait le crâne trouvé au bas de la descenderie et il n'y a pas de doute que les éléments de son corps n'étaient pas encore entièrement décomposés lors du passage des voleurs. La longue période qui dut s'écouler entre ces deux enterrements est vraisemblablement en rapport avec celle qui sépare les deux linteaux méroïtiques (archaïque et tardif) de la tombe.

Dans ce caveau il ne restait que très peu de matériel correspondant au stade final des deux inhumations: quelques restes des montants en ébène sculpté d'un baldaquin⁹, trois petites plaques de cuivre (ou bronze?) découpé et repoussé qui

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⁷ Kush xiii (1965), pp. 124-127, 130, figs. 2-3, 7 et pl. xxxii a et b; Kush xiv, in cours d'impression.
⁹ Comme dans la tombe W T3 (Kush xiv, en cours d'impression), la hauteur des éléments en bois et leur type d’assemblage interdisent de les considérer comme des pieds de lit funéraire (angareb). Il s’agissait de montants de ‘baldaquins’. Ces derniers étaient vraisemblablement composés d’un cadre léger en bois, recouvert d’une étoffe sur laquelle devaient être cousus des éléments de décoration, tels que les petites plaques de visages osiriens dont nous avons retrouvé des vestiges tant dans cette tombe que dans W T3.
évoquent un visage osirien, quatre éléments d’incrustation en ivoire, en forme de rosette, provenant vraisemblablement d’un coffret auquel a pu appartenir l’extrémité en bronze (Pl. II, a) d’une sorte de planchette en bois (couvercle mobile, sans doute, d’un coffret), enfin quatre perles sphéroïdes en verre coloré et des débris de récipients en terre cuite.

N.B. Pour le rapport réciproque entre les inhumations qui eurent lieu dans cette tombe et les phases tant de la construction que de la fermeture de celle-ci, se reporter à nos ‘remarques’.

II. W T9 (fig. 4–6 et plate XLIX, b–L, b, c, d)

Tombe située à plusieurs mètres à l’Ouest de la tombe W T2 que nous venons de décrire. Comme celle-ci, elle comportait en surface deux pyramides creuses en briques crues (fig. 4–5) orientées vers l’Est et bâties, l’une devant l’autre, à deux périodes distinctes (correspondant ici aussi à deux enterrements).

La première pyramide (base, 8,20 m. de côté) contenait une chapelle de plan circulaire, avec voûte en coupole. La seconde, plus petite (base, 5,10 m. de côté), avait à l’intérieur deux murs de refend croisés. De cette superstructure subsistent les assises inférieures, sur 0,60 et 0,20 mètres de hauteur (Pl. I, b). Comme il est habituel dans ces tombes à pyramides couplées de Sedeinga, la première pyramide fut érigée après la première inhumation, alors que la seconde ne fut bâtie qu’à la fin des enterrements. Au bas de la descenderie (fig. 4 et 6), qui est une courte rampe (long. 3,00 m.) s’enfonçant en pente assez accentuée vers l’Ouest, on accédait au caveau par une porte (larg. 0,71 m.) ménagée dans la façade de ce dernier et dont la fermeture d’origine consistait en un muret de briques crues (ép. 0,35 m.), qui ne fut que partiellement démonté lors du deuxième enterrement. Le caveau lui-même, construit à environ 1,00 mètre de profondeur, est en briques crues; c’est une chambre de plan sensiblement rectangulaire (long. 2,50 m., larg. 1,50 m.), couverte à l’origine d’une voûte en berceau et pourvue d’un sol en terre battue.

Cette tombe aussi a été trouvée entièrement saccagée. Le sol de la chapelle, au-dessus du caveau, fut défoncé par les voleurs, qui pénétrèrent ainsi directement dans la chambre funéraire.

Parmi les ruines de la superstructure, en particulier sur les restes du sol de la chapelle, nous avons retrouvé de nombreux ossements—ceux surtout d’un squelette d’homme (?) et quelques-uns d’une femme—, ainsi que des débris de matériel funéraire: un résidu de sandale en cuir, des morceaux d’ébène en lesquels on a pu reconnaître les restes des montants d’un baldaquin10, des tessons de récipients en terre cuite (certains provenant d’une amphore dont d’autres débris ont été mis au jour dans la descenderie) et en verre. À ces vestiges, qui avaient été rejetés à la surface par les voleurs, se mêlaient quelques fragments d’éléments en grès, ayant

10 Cf. supra la note précédente, concernant le type de ces baldaquins.
**Fig. 4.** Sedeinga, Tombe W T9: Plans superposés de la superstructure et de l'infrastructure

**Fig. 5.** Sedeinga, Tombe W T9: Les deux pyramides
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appartenu à la superstructure de la tombe: deux fragments du cadre d'une lucarne, ainsi qu'un petit morceau de la tête d'une statue-*ba*.

Dans la descenderie, à deux niveaux différents, nous avons mis au jour d'abord des fragments d'une amphore en terre cuite, puis des débris d'un vase en verre: restes, sans aucun doute *in situ*, de deux récipients qui furent respectivement brisés dans la descenderie lors de l'achèvement de chacune des deux inhumations, au moment de la fermeture de la porte du caveau.

![Diagram](image)

*Fig. 6. SEDEINGA, TOMBE WT9: LE CAVEAU ET LA DESCENDERIE, AVEC LE MURET PROVISOIRE QUI ENTOURAIT LA SEPULTURE AVANT LA CONSTRUCTION DE LA PREMIÈRE PYRAMIDE*

La voûte du caveau ayant été presque entièrement détruite par les voleurs, celui-ci s'était rempli des décombres de la pyramide qui s'y étaient écroulés. Sur son sol, au-dessous de la masse de débris, subsistaient les vestiges d'une couche de boue durcie (ép. 0,20 m.), demeurés intacts au bas des parois. Dans ces dépôts de terre, épargnés par les voleurs, étaient dispersés de nombreux ossements qui, joints à quelques fragments d'os mis au jour au centre de la chambre et sur le sol de la chapelle, témoignent de la première inhumation; ils constituent la presque totalité d'un squelette de femme, dont seul le crâne manque. Dans la même terre intacte ont été également mis au jour: contre la paroi du fond, en face de la porte, deux figurines en
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bronce à l’effigie d’Osiris, avec le visage finement précisé et couvert d’une feuille d’or (PL. I, b, c); près de la paroi Nord, deux bols en terre cuite, renversés sur le sol; aux angles Nord-Ouest et Sud-Est, des fragments d’ébène provenant des montants sculptés d’un baldaquin, dont d’autres restes ont été retrouvés, nous l’avons vu, à la surface du terrain. Dans la partie centrale du caveau, entièrement bouleversée par les piliers, outre quelques vestiges du même squelette de femme il y avait, disséminés sur le sol: un fragment d’un bâtonnet à kohol; deux petits anneaux en bronze, un autre anneau et un clou en fer, des résidus de bois provenant de coffrets; enfin des débris d’un bol en verre (le même bol auquel appartiennent les fragments de verre trouvés dans la descenderie), ainsi qu’une anse ouvragée en bronze, finement ciselée d’un motif végétal et d’une tête à figure humaine barbue, avec perruque surmontée des petites volutes de cornes enroulées (PL. L, D).

Comme on vient de le voir, les ossements retrouvés dans le caveau et sur le sol de la chapelle proviennent de deux squelettes: celui d’une femme et celui d’un autre adulte, vraisemblablement un homme. L’étude de la position de ces vestiges et la comparaison avec les inhumations des autres sépultures à pyramides couplées de Sedeinga permettent de reconnaître, ici encore, une double inhumation effectuée à deux époques nettement différentes, la première étant celle d’une femme. Les restes de cette défunte, trouvés disséminés dans une couche de terre laissée intacte par les voleurs, ne purent être disloqués et épars dans la chambre que lors du deuxième enterrément.

N.B. Pour le rapport réciproque entre ces deux inhumations et les phases tant de la construction que de la fermeture de la tombe, se reporter à nos ‘remarques’ données ci-après.

III. Remarques

En conclusion, sur les six tombes à pyramides couplées de ce secteur, les trois que nous avons jusqu’à maintenant étudiées (W T2, W T3 et W T9) ont fourni des renseignements qui conduisent à reconnaître essentiellement, dans chacune de ces sépultures, la répétition d’une suite de doublets: deux défunts, deux pyramides et, souvent, deux éléments architecturaux pourvus d’inscriptions méroïtiques qui remontent à deux périodes différentes.

Quant à la corrélation existant, pour chacune des sépultures, entre les deux inhumations d’une part et, d’autre part, la construction de la tombe, puis la fermeture et l’ouverture de son caveau, elle peut se résumer ainsi: 1) construction du caveau, ‘après’ le décès de la personne qui va y être inhumée (ces caveaux furent bâtis d’une façon habile, mais très rapidement, en deux jours au plus); 2) première inhumation, fermeture du caveau accompagnée d’une cérémonie au cours de laquelle un vase était brisé, puis remblayage de la descenderie;

11 Ces statuettes, bien qu’elles représentent seulement la tête du dieu (en ronde bosse) et une partie du tronc (en méplat), sont complètes, étant telles que les avait laissées, en chacun des cas, la simple coulée du métal dans leurs moules, d’ailleurs différents.


SEDEINGA
SEDEINGA
Objets méroïtiques

a. Élément d'un coffret. Bronze.
b et c. Figurines à l'effigie d'Osis. Bronze.
e. Fragment d'un linteau. Grès.
SOLEB-SEDEINGA

3) construction, au-dessus du caveau et d'une partie de la descenderie, de la première pyramide;
4) en vue de la deuxième inhumation, creusement d'un passage sous la pyramide dans le remblai de la descenderie, démontage partiel de la fermeture du caveau et aplanissement, sur le sol de ce dernier, des vestiges du premier enterrement (ossements et restes d'objets);
5) deuxième inhumation et fermeture du passage ouvert dans le remblai de la descenderie (lors de cette cérémonie également, un vase était brisé dans la descenderie);
6) enfin, construction de la deuxième pyramide, à l'Est de la première.

IV. Relevés et fichier


V. Signalons enfin qu'en 1966, au cours de la démolition d'une maison par les villageois de Qubbat Selim, a été découvert un fragment (0,25 × 0,21 × 0,07 m.) d'un linteau avec frise à gorge, en grès (Z 2, FIG. 7 et PLATE L, e). Sa corniche était gravée de six lignes de texte, comportant un intitulé comparable à celui gravé sur les stèles et sur les autels funéraires des cimetières de Nubie de la phase méroïtique tardive.
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Summary of work accomplished by the mission during the three campaigns
Autumn 1965—Spring 1968.

ENGLISH SUMMARY

Taken as a whole, numerous results have been obtained during the last three
years, since my report in KUSH xiv.

SOLEB

I. Early graves

A final examination of the ground (Jan.–Feb. 1967) has led to the identification
of about twenty hearths, scattered over the surface of the cemetery: holes of various
sizes, containing ashes and charcoal. Among the ashes there were remnants, more or
less carbonized, of animal excrements, cereals and also human bones. These hearths
were, in fact, small incineration furnaces.

Together with this study, some 500 pot sherds from the early graves have been
carefully examined; most of these belong to sixteen terra-cotta vessels, which we were
able to reconstruct the shapes. The fragments were found inside the sepulchres and
in the furnaces, as well as among the remains of the superstructure of the New King-
dom's tomb T 15, to which they had been incorporated.

II. New Kingdom necropolis

The final study of the ground (1965–1966 Season) revealed, under the remains
of each superstructure, the existence of a small mound formed by the schist splinters
resulting from the cutting of the corresponding substructure. It has thus been possible
to determine, by the relative stratigraphy of the mounds, the order of the founding of
most of the tombs.

III. Temple

(A) In order to complete our data regarding the platform we had identified as a quay
rising above an artificial pool, excavations have been made between the East pylon
and the Nile; several digs have also been carried out in the river itself (1967–1968
Season).

These additional investigations have shown that what we had called a pool was,
in fact, a large depression which the temple's builders had not 'digged' but that had
been 'gained' on the river by erecting in the Nile a thick stone dam; so creating in
front of the temple, before its construction, a large marsh which was, once a year,
flooded by the river during high water and which was gradually filled in with the
alluvium deposited annually by the waters.
SOLEB-SEDEINGA

The platform which we had previously called the 'second quay' of the temple was only the base of a small monument facing West, and was never used as a quay. Its study will be completed next season, but we can already say that the lower layers of its foundations were relaid at various dates, as the level of the marsh bottom rose. (B) As to the inscriptions and decoration of the temple, we have reproduced, up to date, 189 panels of life-size drawings, which have been reduced to a third (1965–1966 Season).

IV. Meroitic Cemetery

This cemetery, situated 300 m. to the West of the temple, covers an area of 125 m. North-South by 75 m. East-West and comprises about 600 tombs of which 102 have been carefully studied (1966–1967 Season). Although of these 102 graves forty-nine were found intact, the finds collected were very scarce, limited to a few objects without any inscription.

V. Animal Enclosure

First clearing (Jan. 1968) of the remains of a large enclosure situated on the first terraces in the desert, to the immediate West of the necropolis. About thirty holes have been located, in which stakes were originally sunk. The stakes must have served as supports to a large net. The study of this area is still to be made, but it is already possible to recognize here the remains of an enclosure for wild animals, dating undoubtedly from the New Kingdom, similar to the ones represented in the scenes of 'hunting in the desert'.

VI. Soleb-Sesebi Road

In the area lying to the South of Soleb, we identified (in 1965) the vestiges of an ancient road connecting the temples of Soleb and Sesebi. It was possible to follow portions of this road for a distance of more than 20 km.; they are on a straight line, about 9 m. wide and are still partially bounded by stones.

VII. Petrified Forest

Explorations made in the West desert (in 1966 and 1967) have allowed us to locate a very large number of petrified trees that are not scattered elements carried by waters, but silicified remains of a vast forest, of which we have probably explored only a small part: this known part covers an area of about 20 miles North-South by 32 miles East-West, its thickest portion being situated between 27 and 40 miles to the West of Soleb.

The study of a few samples dates some of these trees back to the ligneous flora of the Equatorial North-African Mesozoic.

VIII. Report on Soleb II

The last two campaigns (1966–1968) have been mainly devoted to the report on Soleb II, 'The Necropolis'.
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This volume, the text of which will correspond to 900 typescript pages, will include more than 700 figures and 17 plates. It is near completion and we hope to be able to give it to the printers at the beginning of next year (1969).

SEDEINGA

Of the six tombs with coupled pyramids located in the Western cemetery, three of them have been excavated up to date (W T2, W T3, W T9) and the data recorded lead us to recognize chiefly, in each of these graves, the repetition of a series of pairs: two bodies, two pyramids and, often, two architectural elements bearing Meroitic inscriptions relating to two different periods.

As for the relationship existing, in each grave, between the two burials and the sequences as much of the construction of the tomb as of the closing and opening of the burial chamber, this can be summarized as follows:

1. building of the burial chamber 'after' the death of the person for whom it is intended;
2. first interment and closing of the burial chamber by means of a mud-brick wall;
3. erection of the first pyramid;
4. for the purpose of the second interment, digging of a passage under the pyramid through the filling in of the stairway, partial dismounting of the wall sealing off the burial chamber and levelling of the remains of the first burial (bones and remains of objects);
5. second burial and blocking of the passage opened into the filling of the stairway;
6. erection of the second pyramid.
Excavations at Mirgissa—III

by JEAN VERCOUTTER

SINCE the last report on the excavations at Mirgissa which appeared in KUSH xiii, the French Archaeological Mission devoted four full campaigns to the site from November 1964 until March 1965, from November 1965 to March 1966, from October 1966 to January 1967 and from December 1967 to April 1968. Altogether about nineteen months of actual field work.

During this period besides myself as Director of the Mission, Mr André Vila, Assistant to the Field Director, with his wife as Recorder and Mr Jean-Luc Despagne, Topographer, formed the permanent staff of the mission with the exception of the last season 1967–1968 during which Mr and Mrs Vila as well as Mr Despagne did not participate in the work and stayed in France. The other members of the staff changed from campaign to campaign. It was composed in succession of MM. Jean Maley and Francis Geus, archaeologists (1964–1965); Mr Jean-Pierre Husson and Miss Christiane Venot, archaeologist and recorder (1965–1966); Misses Annick Devaux and Marie-Josèphe Tournebise, recorders (1966–1967); Mr and Mrs Michel Azimzadeh, architects; Mr Jean-Marc Dupage, technical assistant; Mr Yves Labre, Miss Brigitte Gratien and Miss Marie-Jo Chardon, archaeologists and recorders (1967–1968). Besides the above-mentioned members of the staff who stayed during whole campaigns the mission received the invaluable temporary assistance of Dr S. Sigal, anthropologist, in 1964; Professor Henri Elhaï, geographer, in 1965 and Dr Albert Hesse, geophysicist, in 1966 and 1967. Workers were conducted by Reîs Ismaîl Ali and Reîs Gaoud Abd-er-Rahman of Qift-Qalaa.

During the four above-mentioned campaigns excavations were undertaken within three main parts of the site viz.: I—the Main Fort and related structures; II—The Open Town and its vicinity; III—Various Cemeteries to the west of the main fort; besides, IV—Trial soundings were carried out at various points of the site.

I—Work at the Main Fort and Related Structures

The upper fortress is the outstanding feature of the site as a whole. Before the French Archaeological Mission started its work at Mirgissa it was even believed to form by itself the complete site. Since then the excavations have shown that it was but a part of a huge fortification complex, by far the most important of the Second Cataract area surpassing by its size Buhen, Semneh and Uronarti.

With the outer girdle wall and western glacis the upper Fort covers an area of about 86,000 square meters. It would have been ideal to excavate entirely the whole

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of this area including all the girdle walls, moats and glacis. However in the limited
time at our disposal before the final flooding of the site it was clearly impossible to
evacuate everything. Accordingly we had to limit ourselves with the clearing of the
inner fort, that is the part enclosed within the inner girdle wall. By itself the inner
fort covers an area of 16,800 square meters. Outside of it we had to be satisfied with
extensive trial soundings at the various entrances to the fort and in the plain below it,
to try and ascertain the means of access to the upper fort when coming from the Nile.

At the time this article is being written the clearing of the inner fort is not yet
completed, but I hope to finish it by the end of December 1968. So far, besides the
north-eastern corner excavated in 1931–1932 by N. F. Wheeler on behalf of Harvard
University and the Museum of Fine Arts of Boston, we have cleared completely the
north-western corner, from the point reached by Wheeler to the western girdle wall,
and a strip, 20 m. large, along the eastern girdle wall, from Wheeler’s excavations unto
the inner southern girdle wall. This was achieved in the course of three campaigns

Among the main results we may note the discovery of the arsenal of the fort
which occupied three rooms at the north-western corner. We recovered in it hundreds
of flint blades for spears and javelins, as well as thousands of small carnelian crescents
used for arrows, complete, if decayed, arrows, bows, wooden handles and raw hides
for shields. In some cases it has been possible to find and photograph the remains of
the wooden shafts of some spears, javelins and arrows. For the spears the blades
were some 22 cm. long; 15 cm. for the javelins. For those, the impression on the
ground of the shafts gives a length of 60 to 70 cm., accordingly altogether the javelins
were 75 to 85 cm. long, which is rather short for such a weapon. A box of wood
yielding spare arrows held about 2,000 crescents of carnelian, since we know that
three crescents were used for each arrow the box must have contained originally
about 700 complete arrows.

The important point, however, of this discovery is that the weapons used by the
garrison of the fort were made chiefly of stone and not of metal. If raw carnelian
is plentiful in the Nubian desert, the flint is scarce and occurs only on the ancient
Nile terraces as shingles of small size. This local flint is usually dark brown. Whereas
the flint used for the javelins and spears heads is of the beautiful fair colour and
material so well known from the Theban cliff beds. We are then faced with a
curious problem: why, during the xiii Dynasty, did the troops of the garrison use
stone weapons made from a material coming from Egypt whereas the Sudan pos-
sessed copper mines being worked at least since the old kingdom as it is shown by
Buhen’s blast furnaces discovered by Professor W. B. Emery.

Among the finds of some significance made in the Fort, I must point out two
limestone weights engraved with the name of Sesostris III; a small sandstone stela in

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2 See Kush viii (1960), pp. 17–24; ibid. ix, 1961, p. 87 sq. and Dows Dunham, Second
the name of King Ougaf, and the fragment of another sandstone stela making mention of: ‘Montu Lord of Iken’ as well as: ‘All the Gods who are in Wawat’. When clearing the rooms at the south-eastern corner a small mural painting was found, unhappily in a poor condition. It seems to depict a scene in Nubia: a few Nubian personages, warriors with the characteristic feather on top of their heads and women could still be faintly discerned.

During the campaign of 1967–1968 an important fact for the history of the site was discovered. Running diagonally across the rectangular area covered by the fortress, from south-east to north-west, a large wall lies underneath all the buildings of the fort, with which it makes an angle (cf. PLATE LIII, b, arrow a). It is probably the oldest structure of the upper fort. Thanks to the discovery of a mud-sealing related to this wall we are able to fix a date for its erection. The end of the reign of Sesostris II being the terminus ante quem for it.

Above this wall we have, all over the inner fort, clear evidence of three main levels of building activity, so that we are now in a position to fix, tentatively, the main chronology of the Fortress: Level 0 (wall in diagonal) Sesostris II or before; Level 1 (main girdle walls) Sesostris III as shown by the weights and stela in his name4; Level 2, xiii Dynasty and later (stela of Ougaf, flint weapons); Level 3, New Kingdom and later (Hathor shrine and later burials). After the New Kingdom the main girdle walls began to fall in ruins (see below, “Work at various cemeteries”) and the inner fort was no longer entirely occupied as it is shown by the existence of later burials within the enclosure. However, some of the structures were re-used by inhabitants at the Meroitic Period as substantiated by the find of sherds of this period. In certain places, as for instance at the eastern inner gate, the four levels of main building activity are directly one above the other (see PLATE LIII, b and FIG. 1) without or with very little destruction layers in between, which means that when a new era of building started the precedent structures were either practically destroyed already but for a few layers of bricks, or, alternatively were levelled to make place for the new structures.

It seems that with the exception of the girdle walls and of what the American excavators nicknamed ‘wall street’, the inner plan was entirely reshuffled at level 2 (xiii Dynasty). It is at this level that again and again we find the stone paved courtyards with central ‘impluvium’ surrounded by columns (see PLATE LIII, b, a and FIG. 1). So far, the south-eastern corner is the best preserved part of the fort. One of the rooms still stand with a preserved height of 2 m. 65 cm. The lodgings for the beams supporting the roof are still clearly visible. A few walls have retained their original decoration: coloured horizontal bands, black (or dark blue turned black), white and yellow, on a whitish or yellow background. The basis of the walls being generally black (or dark blue). It is at the same south-eastern corner that the stairway leading to the

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4 For the weights, see above. The stela is mentioned in Porter Moss, Topogr. Bibliogr., vol. vii, p. 142.
Fig. 1. THE LEVELS IN THE INNER FORT (SOUTH-EASTERN CORNER)
a. THE NORTHERN GATE.

b. THE LOWER GIRDLE WALL DURING EXCAVATION.

facing p. 272
THE STAIRWAY AND THE LOWER GIRDLE WALL
a. TYPICAL COURTYARD WITH 'IMPLUVIUM' OF THE THIRD LEVEL.

b. THE FOUR MAIN BUILDING LEVELS (EASTERN GATE).
upper parts of the girdle wall was found (see Fig. 1). Near to the entrance of the stairway, in a small room adjacent to it (Fig. 1, in a) we discovered a number of 'Kerma' pots still in situ, the occupation layer related to this find is definitely New Kingdom.

To finish with the inner fort I have to mention an important if negative result. There certainly never was a 'Southern Gate' as indicated on the map drawn by N. F. Wheeler\textsuperscript{5}. The girdle wall there is uninterrupted as can be seen at ground level and the gap in the structure\textsuperscript{6} is purely incidental (there is a similar gap in the western girdle wall). In the same manner we have been able to ascertain the fact that there never was either an entrance at the north-eastern corner as suggested by the existence of two square bastions protruding in Wall-street east (near room XII on N. F. Wheeler’s plan)\textsuperscript{7}.

As one can see the stratigraphy of the inner fort is more complicated than in the other forts of the Second Cataract. Besides the main buildings level here mentioned a number of secondary occupation levels can be noted, from the Middle-Kingdom unto the Meroitic period and maybe later.

In relation to the upper fort the main feature we tried to ascertain was the outworks toward the Nile. In direction of the desert, in the north, west and south the defences are clear and neat, if elaborate. At the outside a glacis of stones, then an outer ditch hemmed with a vertical mud-brick wall along the inner edge of the glacis; the outer girdle wall with square bastions and towers, then the inner ditch built in the same manner as the outer one and, to finish, the inner girdle wall, with square bastions and towers, and protected at its basis by big rocks to defend it from an assault by destruction of the lower layers of the mud-bricks wall. Owing to the pressure of the work elsewhere and the limited time at our disposal, we have been unable to clear the complete system of fortification. A work which, alone, would have taken most of the seven campaigns of excavations devoted to the site. We have been obliged to content ourselves with trial soundings to ascertain the facts stated above.

Toward the river, all the plans given up to date by Somers Clarke or Borchardt\textsuperscript{8}, as well as by N. F. Wheeler\textsuperscript{9} describe only one wall, viz. the inner girdle wall, completed by spurs projecting toward the Nile at the south, near the inner eastern gate and in the north. As early as December 1964 we found a large mud-bricks structure just below the northern spur. Difference of level between the two structures was about 25 m., however it is clear that originally they formed but one wall; traces of mud bricks could still be seen on the rock in between the two structures.

\textsuperscript{6} Cf. Ibid., pl. ix, a.
\textsuperscript{7} Cf. Ibid., plan 4, facing p. 20 and Kush ix (1961), p. 158 and fig. 77. Wheeler thought that there was a gate there.
\textsuperscript{8} Somers Clarke, JEA, 3, 1916, p. 165 and pl. xxviii; L. Borchardt, Altägyptis chen Festungen an der zweiten Nilsschnelle, Leipzig 1923, p. 6-9, pl. 3-5.
\textsuperscript{9} Cf. note 5, above, and Dows Dunham, l.c., note 2 above, maps xvi and xvii.
It certainly has been a difficult job to clear the wall since we had to remove from 9 to 7 m. high of blown sand before reaching its top. This is why we have been unable to reach its ground works toward the north, the sand pouring down unceasingly (see PLATE LI, b), the only place where we were able to reach them was on the south where we were protected from the prevalent northern wind. Difficult as it was, the work was, I believe, well worth achieving since it showed that below the inner girdle wall, on the top of the hill the Egyptian architects had erected an outer girdle wall to protect the very basis of the hill, just as they did toward the desert. Instead of being built in a straight line as all other outer girdle walls, it follows the lower parts of the granite mass on which the upper fort is built. The very existence of this lower girdle wall along the Nile explains why N. F. Wheeler was unable to find the protected river-stairway similar to those found at Semneh, Kummeh, Uronarti, Sheffak and Askut. The garrison did not need one since they had direct access to the river through a small postern arranged in the wall, which we found in 1965–1966. A corridor ran behind the wall which like its counterpart in the west was provided with square bastions and possibly towers. In the north the lower girdle wall was terminated by a spur, perpendicular to the river course, it was at least 25 m. long and with at least five, maybe six, square bastions on its northern façade. A stairway built along the southern front (see PLATE LI), gave access to the corridor of the lower girdle wall. During the course of excavations of this lower girdle wall we have ascertained the fact that during the Middle Kingdom, as suspected by Wheeler, the Nile was running nearer to the hill than at the present time. Accordingly the chances are that the northern spur at the basis of the hill was intended to protect a small harbour and, at the same time to shield the boats from the prevalent and strong northern wind or from a sudden assault. If such were the case, the stairway was used to lead from the harbour to the fortress.

The lower girdle wall and northern spur seem to have been destroyed rather early. A number of small kilns of late period were found which had been built on their remains. It is on the same level as those kilns that ptolemaic coins were found as well as part of an iron helmet, an iron spear-head, sherds of Greek pots and a small glass vessel. Those finds show that during the Meroitic-ptoilemaic period Mirgissa was still used as a landing point on the north-south road between Egypt and the Sudan.

Linked with the outer girdle wall is the remarkable and impressive northern gate (see PLATE LI, a), which was excavated in 1967–1968. The peculiar feature is that the

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10 Wheeler, as a matter of fact, did find remains of this wall below what he believed to be a simple spur in the south. He ascribed it to the supposed river stairway (see KUSH IX, p. 157).

11 We have, unhappily, been unable to clear it entirely: four bastions were excavated and the wall continued east of the fourth bastion, accordingly the existence of at least a fifth bastion is certain. The ground on which the wall is built, Nile alluvium, was reached at 142 m., 34 cm. above sea level.

12 Cf. KUSH IX, p. 158–159.
gate possesses square bastions not only on the outside toward west and east but inside as well, so that if by any chance the enemy had overcome the northern door he would have found himself under heavy fire on all sides and accordingly been unable to try and storm the ultimate passage leading to the inner ditch and from it to the inner fort. In the middle of the gate there was a street flanked on each side by two thin walls and leading from north to south.

The monumental gate as a whole is composed of three narrow passages, and, between them, of two larger gangways protected by projecting square bastions. One on each side at the northern gangway, four at the southern one. The passage in the north, partially cut in the granite, was left open; the middle one was closed by a wooden portcullis. The last one, in the south, which cut the outer girdle wall, was closed by two successive doors of wood, of one leaf each, pivoting on stone sockets. Remains of the actual doors were found still in situ and slightly ajar. During the excavations, mud sealings were found near to the doors both there and in the northern inner gate opposite to it. The important fact is that they bore the official stamp of the ‘Fortress of Iken’, which is further proof of the identity of Mirgissa with Iken of the Semneh Stela of Sesostris III.

II—*The Open Town and its Vicinity*

The ‘open’ town—by contrast with the ‘fortified’ town within the great northern enclosure\(^\text{13}\) lies to the north north-east of the upper fort. Built on the top of an ancient Nile terrace it contains at the same time huts built of dry stones and elaborate houses of mud-bricks. The site covers approximately 16,000 s.m. It has been practically entirely cleared from 1962 to 1967 when the water reached it, work being undertaken during every successive campaign. The main features discovered during the time covered by the present article are: the stone girdle wall; the ‘garden’ and the outer kilns.

The stone girdle wall, only 1 m. in width, was built of unhewn stones (see PLATE LIV, a) without mortar to link them together. It was more or less preserved on the north and west sides, it had altogether disappeared on the west and south sides, may be washed out by an exceptional flood. This girdle wall at some time during the history of the town, became obsolete and houses were built on its levelling, making use sometime of its very stones. This fact seems to point to a rather large extension of the town which might be related to the third level of building activity within the upper fort (see above, p. 273).

The ‘garden’ consisted in a large open square (13 m. by 13 m.), divided into tiny basins (45 cm. by 45 cm.), just like a giant grid (see PLATE LIV, b); small channels were disposed for irrigation purposes as well as a basin of larger size to stock water. The very importance of the garden indicates, I think, that the town was permanently

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\(^\text{13}\) See Kush XII (1964), ‘Excavations at Mirgissa I’, p. 57-58.
KUSH

occupied and was not, as I supposed at first, a simple starting point for expedition south-bound. A few houses in the open town as well as in the fortified town had, if I may say, their own ‘private’ gardens, but of very small size, no more than a few—six to eight—tiny square basins. The ‘garden’ proper, much larger, did not seem to be linked with any particular dwelling, and accordingly might have been, so to speak, a communal property.

Chiefly outside the dry stones girdle wall, along its northern front, a number of potter-kilns were discovered, some of them still possessing their sole-plate. Broken, unfired pots of various shapes were found inside some of the kilns. Besides, some of the places where the clay was mixed by the potters were spotted. The utility vessels discovered either near the kilns or in the town, are, as was already the case during the preceding campaigns, always of the same types, viz.: ‘bodegas’ (moulds for baking bread), ‘dokkas’ (big and thick plates used as ovens), large spouted vessels for beer working, large jars to stock water or grains, jugs, dishes, plates and cups of various size. There is a remarkable uniformity in the utility vessels used by the inhabitants throughout the various occupation levels of the town. All the shapes were purely Egyptian as is the material used by the potters. No traces whatever have been found of ‘C-Group’, ‘Pan-Graves’ or ‘Kerma’ sherds within the town.

Small round huts, workshops for brick-making, have been found near the town, however the main discovery in its area remains what I called, tentatively, the ‘slipway’ which was found in February 1964. During the following campaigns we tried to follow it further north but to no avail. Wind erosion and, possibly, very high Niles have destroyed any traces of it which might have subsisted. On another hand we have been able to study again the structure (M.II) which I had tentatively ascribed to a ‘quay’ when it was discovered in 1962. If this ascription remains unsettled, the structure is none the less linked with a former course of the Nile, which near the open town as near the upper fort (see above p. 273), flowed more in the west during the Middle Kingdom than it did at the present time.

III—Work at various Cemeteries

The excavations of the main part of the western necropolis, the pit-and-chamber graves dug on the top of the granite plateau, was practically determinated in 1964 but a number of other points west of the upper fort showed signs of burials. The main ones occupied the lowest part of a small valley or ‘khor’ south of the plateau in which open the pits of the great tombs. In this cemetery, which we called MX-Tc to distinguish it from the main one (M.X), the graves are simple and shallow pits dug in the sand. The bodies were laid at the bottom of the pits, laid in rectangular wooden coffins. The wood has been entirely eaten by white ants or destroyed by moisture,

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15 Cf. KUSH xiii (1965), pp. 70-72.
the cemetery having been established in a ‘wadi’ where any rainfall was sure to concentrate so that only very scant remains of the actual wood could still be seen. Usually the coffins could only be discerned thanks to the colour of the utterly decayed wood against the bright yellow of the sand, skeletons were in extended position head to the west. The cemetery, like all other necropolis in the site, has been heavily plundered in ancient times; with the exception of a few intact pots and of a limestone statuette of a standing woman (Middle Kingdom in style), only broken sherds were found. Some of those were of the beautiful material we called ‘golden ware’ because of the bright metallic slip which covers it. This unusual type of material seems to be specific to Mirgissa; it is sometimes decorated with red designs. The shapes are Egyptian. Fragments of at least six and two complete funerary masks of painted stucco were discovered in this cemetery. Together with the few scarabs the tombs yielded—one of the type in use in Egypt from the xith Dynasty to the end of the Hyksos period—it showed that the cemetery MX-Tc was more or less of the same date than the rest of the upper cemetery (M.X). This dating—end of Middle Kingdom and Second Intermediate Period—is supported too by the style of the limestone statuette. Altogether 112 graves were excavated, it is possible that a few have escaped us due to the depth of the sand and the absence of any external structure to mark the actual burials.

In a small hollow or depression between the western glacis of the upper fort and the eastern edge of the great western necropolis (M.X), true east of cemetery MX-Tc, there was evidence of extensive looting of graves: broken pots, whitened human bones, dispersed stones. We called this part of the necropolis MX-Td. Excavations started in January 1968, they are not yet determined. So far more than 100 graves have been either completely excavated or clearly delimited. The bodies are laid in extended position, head to the west, in very narrow coffins, the wood of which, as in MX-Tc cemetery, is only discernible by the dark colour of the decayed material against the yellow sand. Usually, when the burial is untouched, a single pot, at the most two, are laid within the pit on top of the coffin. The type of the pots is New-Kingdom, and the discovery of a scaraboid in the name of Thutmosis III confirms that this cemetery belongs to the Egyptian New-Kingdom. It is rather extensive and could well number some 300 graves if not more.

When clearing for survey purposes the north-eastern corner of the outer girdle wall a number of graves cut directly into the brick structure, at its basis which was already in ruins when the burials were established. The total number of graves was 27. The main feature being that out of this number only five skeletons could be ascribed to adults the remaining twenty-two being those of children. The cemetery—if this can be called a cemetery—was badly eroded, a fact which might explain why it has not yielded even a single pot. If, as it is often the case in Nubia, the offering objects had been deposited either just outside the grave, or, as in MX-Tc cemetery, on top of the coffin or of the actual burial, wind and rain erosion—the graves are dug on a slope—would have destroyed everything. Happily a number of ornaments: beads,
amulets and scarabs had been left on the bodies at the time of the burial. According to those objects the ‘cemetery’ (MF-Ne) as a whole could be ascribed either to the xxvth Dynasty or to the Meroitic Period, a scarab in the name of Shabaka giving a reliable post quem dating.

IV—Trial Soundings in other parts of the site

As already stated, due to the very extension of the site it is impossible to clear the complete area it covers, so that in a number of cases we have been obliged to be satisfied with limited trial soundings to ascertain some facts of importance for the history of Mirschia. One of those was the number—or density—of the dwellings within the northern enclosure, what I called the ‘fortified town’. Accordingly we tried a number of places along the enclosure, on top of the hill as well as in the plain near to the Nile. In each case, even at the highest point of the granite heights, we found evidence of buildings, the best preserved being a great house (M.XXI) just west and very close to Excavation House. It had the same undulated enclosure wall typical of the houses in open town or fortified town. As a result of the trials it can be safely assumed that the complete area enclosed within the northern enclosure, north of the upper fort, both on top of the hills and in the plain along the river, had been in ancient time covered with dwellings of some sort. In between the houses kilns had been erected from place to place.

Between the north-eastern corner of the outer girdle wall, where we discovered the Napatan or Meroitic Cemetery (see above, pp. 276–277), and the later girdle wall which runs from west to east from the top of the hill to the Nile (M.XI), lies an area so strongly perturbed with a thick layer of refuse on the top that at first sight one could believe it to be the dump area of former excavations. Since nobody, either Wheeler or ourselves had ever worked at this place the explanation of a recent sweeping area could be ruled out. Trial soundings proved that it was indeed a rubbish heap, but very ancient since none of the sherds it yielded were later than the Second Intermediate Period. A trial trench reached 4 m. below the top layer and did not reach the bottom of the heap. The layers of the dump are consistent, usually a layer of blown sand separate one layer of rubbish from another. All the layers are of a very dark matter, almost black, consisting of earth, food refuse such as animal and fish bones, fruit stones together with ashes and a great quantity of sherds sometimes of fine material such as ‘golden’ and ‘silver ware’. If incised sherds of ‘C-Group’ or ‘Pan-Grave’ types do occur, ‘Kerma’ sherds or later stuff do not appear except on the surface layer.

A great number of mud-sealings—several thousands—have been found in the blackish layers, most of them belong to the Second Intermediate Period and Hyksōs types, ornated with spirals of various designs. However, some belong to the fortress

16 Kush XII (1964), pl. xvii facing p. 58.
17 Kush XIII (1965), p. 64.
EXCAVATIONS AT MIRGISSA III

official seal in the name of Sesostris II, or still bear the impression mnw 'Ikn 'Fort of Iken'. The mud-sealings discovered had originally been affixed on linen bags, wooden panels or bolts, as well as on papyrus, as can be seen from the reverse side of the sealings. Among the sealings coming from letters on papyrus I note impressions coming from the forts of Semneh, Uronarti, Shelfak and Buhen.

* * * * *

By the end of April 1968 the following part of the site had been completely explored: the Open and Fortified Towns, the Kerma Cemetery, the Slipway, the Northern Enclosure, the Lower Level of the outer girdle wall below the Upper Fort, the Northern Gate as well as the main Necropolis and the various cemeteries hereby mentioned. Inside the Fort about one-third of the surface had been cleared. During the current and last campaign to be devoted to Mirgissa we intend to finish the excavation of the inner fort, of the New-Kingdom Cemetery (MX-Td), of the dumping area, and, if we have enough time, to proceed to a few trial soundings between the outer girdle wall and the western glacis to ascertain the depth and the shape of the outer ditch.
HAVING completed its work in Nubia with the 1964 campaign at Debeira West, the University of Ghana transferred its activities to Meroe (Begarawiya) and as a preliminary to what it is hoped will be a major excavation, a survey and some trial digging was carried out there from 10 February to 12 March 1965. The party consisted of myself and my wife, Mr C. Darkwah and Miss H. Yarney, both graduate students of the University of Ghana, and Mr I. Debrah of the Ghana Museum.

Activity was mainly directed to making a plane table survey of the site as a check on the accuracy of earlier ones and to examining the site in detail so as to plan the tactics of the future excavation. In the course of the survey a base line was laid down from which a grid of 10 m. squares could be established to serve as the main units of excavation. The main axis of the grid was set out east to west and numbered fifty so as to allow for the digging of squares based on the grid to either side of the axis.

Excavation was confined to a number of cuttings, two metres wide, dug along the south sides of squares C50, E50, G50, H50. The main aim of this digging was to establish the depth of the bottom of the occupation material and to give some notion of the nature of the stratigraphic problems likely to be encountered on the site. It was possible to reach undisturbed soil only in square C50 where it was found at a depth of 3.3 m. If this represents a reasonably level plane for the bottom of occupation material it can be seen that it is likely that there is something of the order of 12 m. of deposit in parts of the site.

The digging of these cuttings produced little that was noteworthy and only very fragmentary traces of walls of sun-dried brick were found, together with occupation debris of pot sherds, mostly worn and featureless, and fragments of brick and iron slag. It should be noted that this work was carried out on the very edge of the occupied area and in close proximity to foci of iron working. First examination of the sherds from the cuttings as well as many found on the surface suggest that they are very late and may in fact be of post-Meroitic date perhaps as late as the 8th century A.D. Since these sherds are in association with iron working it may be that our ideas of the date of the end of Meroe and its iron production may need to be revised, but it would be premature to place any reliance on these first and necessarily superficial views.

Square G.50 provided the greatest interest. So far as excavated it showed five levels (see section, FIG. 1), the first four of which were sandy, containing in levels one and two a fair amount of pottery, much of it coarse ware of probably Meroitic date, but also a number of sherds of the black burnished ware known from Soba as Ware 4
(1) and presumed to be of post-Meroitic date. Level three was largely sterile and must represent a period of non-occupation with one pocket, level four, of ashy occupation material. Level five was a surprise. It consisted of what was certainly originally a mound of iron working debris none of which was visible on the surface and it is good evidence for iron production at a period before the formation of the well known slag mounds which are visible today and for which Meroe is famous. The upper levels represent drift sand and accumulated debris after this particular iron working area had been abandoned. The occurrence of a mound of slag beneath the surface suggests that there is much more of this industry waiting to be uncovered and gives the hope that a chronology for this important activity may be worked out as work progresses.

The main aims of the planned future activity at this site are to establish a chronological sequence for the material, particularly the pottery, to try to fix the dates for the beginning and end of occupation at what is probably the most important site in the Sudan, and also to re-examine some of the buildings discovered in earlier work and to look for traces of earlier structure. There is good reason to think that Meroe was occupied from early Napatan times but no material to confirm this view has yet been certainly identified in the town, though it is known from the royal cemeteries. The presence of many re-used blocks in the Amun temple and elsewhere already hint at earlier buildings and some deeper digging may reveal them. In view of the wholesome clearance of many parts of the ‘Royal City’ and temples, it may be difficult to relate them to the general stratigraphy of the site, but an attempt will be made to do this and to make clear the main periods of occupation. It is also hoped to carry out an investigation into the techniques of iron working, a subject on which very little is known in spite of Meroe’s perhaps exaggerated fame as a centre for the development of this technique in Africa. So far no smelting ovens have been found and the only evidence for the industry is to be seen in the mounds of slag, of which seven large ones are to be seen on the surface in the Ghana concession, as well as the extremely large one lying to the east of the railway on which the Lion Temple was built.
Musawwarat es Sufra

REPORT ON THE EXCAVATIONS OF THE INSTITUTE OF
EGYPTOLOGY, HUMBOLDT UNIVERSITY, BERLIN, 1963-1966
(FOURTH TO SIXTH SEASONS) (1)

by FRIITZ HINTZE

FOR a number of reasons, amongst which was the interruption and consequent limitation of our excavations caused by our work in Sudanese Nubia\(^2\), this report covers the fourth, fifth and sixth seasons at Musawwarat\(^3\).

The fourth season's campaign took place from 20 December 1963 to 4 March 1964. The excavation staff consisted of Professor K. H. Otto, Dr. U. Hintze, Dr. G. Buschendorf-Otto, Dr. G. Ruhlmann, Karl Heinz Priese, Walter F. Reineke and Kurt Stark (architect). During this season work was concentrated on the Great Enclosure, especially in complexes 100 and 500. In the north cemetery, Grave N.1 was excavated.\(^4\)

The fifth season's work was carried out from 18 February to 18 March 1965. The excavation staff consisted of Dr. U. Hintze and Dr. K. H. Priese. During this season, the north cemetery was completely excavated and also Buildings IC and ID.

The sixth season's work took place from 19 November 1965 until 6 March 1966. The excavation staff consisted of Dr. U. Hintze, Dr. G. Buschendorf-Otto, Dr. K. H. Priese, Dr. W. F. Reineke, Dr. Steffen Wenig, our architect Kurt Stark, Miss A. Ruhnke, Abdalla el Kurdi (19 November 1965 to 14 January 1966), and Abdel Aziz Abdel Ghani, graduate student of the University of Khartoum (27 November to 30 December 1965)\(^5\). During this season, the excavation of the Great Enclosure was continued, and that of Building III B begun (see PLAN I).

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1 I thank Margaret Shinnie very much for the translation of my report into English.
2 See the reports in KUSH xi (1963), 93–5; xii (1964), 40–2; xiii (1965), 13–6.
4 Professor Otto and Dr. Buschendorf-Otto carried out a trial excavation at the neolithic site at Shaqadud (cf. K. H. Otto, 'Shaqadud', KUSH xi (1963), 108–115, from January 22nd to February 1st, 1964, the Commissioner for Archaeology, Sayed Thabit Hassan Thabit, having kindly given his permission.
5 From 10th–28th January, 1966, Dr. Wenig was engaged on a study of inscriptions and reliefs at the North and South Cemeteries at Meroe (cf. his report to be published in KUSH xvi and his 'Bemerkungen zur Chronologie des Reiches von Meroe' MIO 13 (1967), 1–44.
I. THE GREAT ENCLOSURE (I A)

An exact survey of the ground plan showed that Weidenbach’s plan published by Lepsius in the ‘Denkmäler’, though accurate enough in some respects, contained errors of alignment and measurement in the overall composition. The new plan, which was produced during the fourth and fifth seasons’ work, now gives a more accurate picture of the relationship between walls.

The entire area was divided into six separate complexes (see PLAN II):

Complex 100: The central temple built on the terrace (Caillaud’s Temple A), with its rooms and courtyards.

Complex 200: The complex of temple and rooms lying to the north of complex 100 (Caillaud’s Temple B).

Complex 300: The isolated temple to the east of complex 100, with its courtyards (Caillaud’s Temple C).

Complex 400: The complex of rooms and courtyards lying to the south of complex 100.
Complex 500: The complex of rooms and courtyards to the west of complex 100. Complex 600: The Great Forecourt to the west.\(^6\)

In order to ascertain the chronology of the buildings and their ground plan, we cut seventy-eight trenches during the fourth season’s work, laid out mainly in complexes 100 and 500; and 220 trenches during the sixth season in the other complexes (see Plans III and IV).\(^7\) All the trenches were taken down to the natural undisturbed soil. As a result of earlier observations and our findings from these excavations, the following history for the buildings is proposed:

The building of the Great Enclosure falls into five periods, which can to some extent be sub-divided (see Plan V).

**Period I:** The buildings of Period I were made, as a general rule, of small blocks and the walls were covered with good plaster painted in part in yellow, red or blue. In this period at least four sub-divisions can be distinguished (Ia-d), but their relationship is not yet completely established. There seems to be three main complexes in the earliest area of building:

1. A complex whose main centre probably stood where the central temple (complex 100) was built later (this complex is not yet completely excavated); 2. a pillared hall with eight columns in courtyard 501, which has the same orientation as the complex mentioned above; and 3. temple 300 with a number of courtyards and containing walls probably also belongs to this period. During the various sub-divisions of Period I, extensions to the Enclosure area, especially to the courtyards, was undertaken. It is still difficult to visualise clearly the style and character of the buildings of this period, partly because the ground plan, especially in the area of the central temple (100) and the western chapel (517), has not yet been completely established, but mainly because, with the exception of a few courtyard walls in complexes 100 and 300, the greater part of the buildings were razed to the ground and built over at a later date. Temple 300 remained standing, if we are right in including it in Period I. Everything points to the probability that buildings of this period were not placed on terraces.

**Period II:** Only the tower (107) and the terrace which lies in front of it (108) are to be assigned with certainty to this period. At the time when these high buildings were erected, at least the Period I walls already there were razed to their foundation courses. No precise estimate of the state of the other Period I buildings or of their connection with the Period II rooms 107 and 108, nor how access to these tall buildings was achieved, can be given as yet. It is possible, however, that Period II

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\(^6\) In each complex the rooms were each given a number; then the small trenches and shafts inside the rooms were given appropriate consecutive numbers. In this way ‘Trench 1083’ for example, means Trench No. 3 in room No. 8 in complex 100. Similarly room numbers were also used to indicate walls, as ‘Wall 108/103’ which is the wall separating the two rooms.

\(^7\) Plan III is based on the old Lepsius Plan; Plan IV is the newly surveyed plan.
PLAN II. GROUNDPLAN OF THE "GREAT ENCLOSURE" (I A) WITH ROOM NUMBERS
(cf. footnote 6).
(Plan no. PIA/11)
is merely the first phase of the terrace construction of Period III. The reason for our decision not simply to call it Period IIIa is the fact that the outer walls of rooms 107 and 108, especially those facing towards room 103 (that is to say towards the Great Terrace) were built in construction I.\(^8\) Furthermore, the great difference in patination at the base of this wall shows that tower 107 must have been exposed for a considerable period of time (PLATE LV, a-b).\(^9\) Against this, however, is the fact that the column bases, decorated with lions and elephants, in room 108 were never completed (PLATE LV, c). Perhaps we have then in Period II the beginning of the terrace construction, the original plan for which never came to completion and which, after a long period during which complex 107/108 stood in isolation, was continued on a new plan. The break between Periods I and II is basically one of difference in ideas of building, that between Periods II and III essentially one of time.

**Period III:** In this period an entirely new plan for the whole enclosure was conceived, and this again was in two stages.

**Period IIIa:** The central temple (100) was built on a fine terrace. This terrace lies against the tower-like building 107/108 at the northern end; the floor level in 107/108 was raised to the height of the unfinished column bases, while walls 103/108 were pulled down in step fashion from the height of these column bases on the eastern side. The entire terrace was enclosed by a wall of block masonry which sloped outwards and which has on the surface of the terrace a width of 1.70 m.\(^10\) We assume ramp 119 to have been the entrance to this terrace. At the same time, temple complex 200 was built, and it was connected with 100 through passage 124 and a bridge-like construction over the passage-way between courtyards 120 and 513. In the same way, a bridge led from ramp 510 to passage 511. Ramp 510 connected the central terrace with the newly built rooms 507 to 509. Complex 200 was accessible from ramp 216; terrace 215 was confined by walls 215c/215e and 215b/215h.

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\(^8\) The walls of the Great Enclosure, which were fundamentally of the ‘two-surface’ or ‘hollow wall’ type of masonry, show clearly two different kinds of construction:

1. With smooth surfaces with square hewn joints (these walls were certainly meant to be exposed).

2. A construction in which the blocks often had differing shapes and were set in wide mortared joints (these walls were intended as supporting walls or as containing walls for the filling of terraces).

\(^9\) PLATE LV, (a) shows in the foreground the foundation of a Period I wall which, on the right, has been cut through for the foundation course of tower 107. At the base of the tower wall the division between the lighter colour of the masonry at ground level and the darker patina of the exposed Period II wall is clearly to be seen. In the background, walls of Period III can be seen—the ‘construction 2’ type built for the terraces of Period III. PLATE I, (b), shows, on the left, a wall of Period I. At the base of tower 107, the difference in patina colour is again to be seen. At the corner of the tower, a part of a Period IV wall of ‘construction 2’ remains as support for the tower.

\(^10\) Tower 106 in the south-east is built in line with the 1.70 m. wall although it is not included in the rectangular plan of the Great Terrace.
PLAN IV. TRENCHES OF SIXTH SEASON. (Plan no. PIA/12)
PLAN V. PRELIMINARY PLAN OF BUILDING LEVELS OF THE "GREAT ENCLOSURE"
(Plan no. PIA/13 + 13a)
Period IIIb: During this period, the Enclosure was extended towards the south (rooms 110 to 112 and complex 400) and to the west (rooms 515 to 517). Corridor 515 was accessible through ramp 514. Complex 200 was also extended towards the west (extension of terrace 215, rooms 218 to 222, and ramp 227) and on the eastern side a new entrance through ramp 207 was made possible.

Period IV: The rebuilding in this period was less extensive. Ramp 113 was built as a new entrance to terrace 103 and thus a new room, 109, was achieved. On the terrace, the tower chapel with room 105 was newly built, wall 103/108 was lengthened, and the end of the wall was finished in the form of an elephant (Plate LVI, a). Chapel 519, ramp 520, and room 518 were added on to the west chapel. Rooms 502 to 504 and ramp 125 were newly built. Furthermore, courtyards 307, 415, 418 and, probably at a later stage, 601 were added. At various places repairs to the buildings of Period II were undertaken, and dilapidated parts were strengthened with supporting walls (Plate LVI, b). The masonry used in this period was of a smaller size than that of Period III.

Period V: In this period only small additions were made in various places in order to divide off new rooms (as, for example, room 103a).

A few details should be mentioned here. Temple 300 (Plan VI\textsuperscript{10a} and Plate LVII, a):

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\textsuperscript{10a} A revised reconstruction was published in F.u.U. Hintze, Einige neue neue Ergebnisse der Ausgrabungen des Instituts für Ägyptologie der Humboldt-Universität zu Berlin in Musawwarat es Sufrâ. Christliche Kunst in Nubien, Recklinghausen, 1970, p. 64.
KUSH

The entrance was decorated with three winged sun discs, one placed above the other (PLATE LVII, b). The two statues to right and left of the doorway are identified by their crowns, of which parts remain, as the gods Arensnuphis and Sebiumeker. The entrance and the outer side walls of the temple were decorated with rounded engaged columns (PLATE LVII, a), at the top of which were placed statues of lions, falcons and rams standing out from the wall face. The base of the western pillar of terrace 302 was decorated with an elephant head. At the beginning of ramp 303 two small seated lions are to be seen guarding the entrance. Thus temple 300 is shown to be a richly decorated building of a new type (see PLAN VI).

Room 108: At the heightening of the terrace in Building Period III thirty-four blocks from various friezes of uraei were buried under the new floor. They are in an unusually good state of preservation and are marked on the back with signs to indicate their correct order. These signs are letters of the Greek, Meroitic and perhaps of a so far unidentified alphabet (see PLATE LVIII, b). The condition of the blocks makes one think that they were never used architecturally.

The unfinished column bases of Period II served in Period III as supports for two pillars whose eastern faces were carved as statues (PLATE LXI). These statues again represent the gods Arensnuphis and Sebiumeker.\textsuperscript{11}

Temple 100: The main entrance (from the east) was decorated with a three-headed carving which shows in the centre the ram's head of Amon, flanked on either side by the human heads of Arensnuphis and Sebiumeker (PLATE LX, a).\textsuperscript{12} A similar carving in which instead of the two gods two goddesses appear (Isis and Hathor?) was found at the north-east entrance to this temple. It is not at all well preserved. These carvings are similar to the three-headed lion-ram carvings which were found in the Lion Temple. Temple 100 was probably built for the god Amon Re. The bases of the four inner pillars in front of the main entrance were also carved in animal form. The two bases nearest to the entrance are decorated with an elephant flanked by two lions, while the other two have a lion flanked by two elephants (PLATE LX, b-c). Column bases carved with a variety of lions and elephants were also found in room 105.

Inscriptions: No primary inscriptions were found. However the number of secondary inscriptions now known has risen to more than 120. By far the greater number of these graffiti are Meroitic (PLATE LXI, a), and express sometimes prayers to Apedemek or names and titles of various persons. A graffito in temple 300 in which the name of King Tanyidamani seems to appear is worthy of mention (MS. 57).

\textsuperscript{11} Dr. Priese points out to me that the same combination of column and statue is to be seen in the Isis temple at Meroe (Garstang, Sayce, Griffith, 'Meroe I', p. 19, cf. PLATE XVII, b). Both statues, which hitherto have been assumed to be a king and a queen, are certainly also statues of Sebiumeker and Arensnuphis. The statue of the 'king' shows the usual god's dress and the long god's beard; the 'queen' statue has the long robe characteristic of Arensnuphis, under the kilt, like those from Musawwarat and are a typical example of this costume. The figure also has the god's beard.

\textsuperscript{12} See Kush X, PLATE LVII.
MUSAWWARAT ES SUFFRA

Dating\textsuperscript{13}: The problem of the dating of the various building levels is not yet solved with any great certainty. As a starting point, there is no doubt that Period V belongs to the Meroitic period, since, for example, in room 103 typical Meroitic pots of the finest painted ware was found. The inference could be drawn that the five building periods fall parallel to the five Meroitic periods of the preliminary chronology of Musawwarat which we suggested on the basis of quite other evidence after the third season’s work. It is probable that the framework for the absolute chronology for the five periods in the Great Enclosure is a little too narrow. Up till now only a few Carbon 14 samples, taken during the fourth season’s work, have been examined. These samples came partly from the fill of the main terrace in complex 100, and building rubbish and debris of Periods I and II were certainly used for this fill. The Carbon 14 dates fall clearly into two groups; the first group fell between 443 and 429 B.C. ±80, and the second between 368 and 330 B.C. ±80, showing a difference of about 100 years.\textsuperscript{14} These dates might well be linked with Periods I and II. Until we have more Carbon 14 dates and have worked over our evidence, the form of the Greek Alpha, used to indicate the stones’ position in the uraeus frieze, must serve as dating evidence for Period III and suggests that the frieze was made in this period but for some reason not used, and buried under the floor. The special shape of the Alpha sign can be dated with some certainty to before 200 B.C. In view of the chronological evidence on the east side of the wadi for the building levels in the Great Enclosure, the following preliminary dating is proposed:

<table>
<thead>
<tr>
<th>Period</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>500 to 400 B.C.</td>
</tr>
<tr>
<td>II</td>
<td>400 to 300 B.C.</td>
</tr>
<tr>
<td>IIIa</td>
<td>300 to 200 B.C.</td>
</tr>
<tr>
<td>IIIb</td>
<td>200 to 100 B.C.</td>
</tr>
<tr>
<td>IV</td>
<td>100 to 1 B.C.</td>
</tr>
<tr>
<td>V</td>
<td>1 to 350 A.D.</td>
</tr>
</tbody>
</table>

II. BUILDING I C

A small mound south of the little Enclosure (IB) turned out to be the ruins of a small dwelling house 10.7 x 9.75 m. in size.\textsuperscript{15} The original house was built on the plan of the Egyptian Hieroglyph, [▃▃] but was later increased in size so that there were four rooms. The strata of superimposed floors point to long occupation.

\textsuperscript{13} See Kush xi, 224–5.

\textsuperscript{14} In calculations, the half-life used was that of 5568 (Libby); for the published dates, 60 years have been added to bring them into line with the current Cambridge half-life of 5700. The dating was carried out by the C-14 Laboratory of the Institut fur Ur- und Frühgeschichte der Deutschen Akademie der Wissenschaften (Report of 15th November, 1966).

\textsuperscript{15} The walls exemplify a technique of combining stone slabs with sun dried brick—the stone outside, and the brick inside (cf. Kush x, 173).
KUSH

The Carbon 14 date for charcoal out of a cooking pot gave 50 B.C. ±80, which is about the same as that proposed for Period IV of the Great Enclosure.

III. BUILDING COMPLEX I D

About 200 m. south of the Great Enclosure and 200 m. south-east of the Little Enclosure the foundation courses of several walls were discovered; they lay in the wadi and were overgrown in part by grass. It seems most likely that it is the foundation level of a small temple which had four columns. Of the decorated blocks, we found one corner stone which had uraei on it and the remains of the door lintel from the eastern side, under which was a block with the sun disc and two uraei with falcon’s heads (PLATE LXI, b). Southwards and definitely connected with this building, were the foundation courses of further walls only partially preserved. They do not give much idea of the original ground plan, but undoubtedly there was here a big complex of buildings which was torn down systematically so that even the foundation level was partly destroyed. The blocks were probably built into the Little Enclosure, or possibly also into the Great Enclosure. No exact dating for this building is so far possible.

IV. BUILDING COMPLEX III B

About 500 m. south-west of Building IIIa, near the ancient quarries at Jebel Qulba, we noticed, during the first season’s work, some scatters of stones lying fairly near to each other amongst which were hewn blocks and column drums. The ground plan was not recognisable. Excavation showed that there were here two buildings of an unfamiliar type whose construction can be seen on the plan and photographs (PLAN VII and PLATE LXII, a). The buildings were carefully constructed, and the outer corners finished in a skilled manner with rounded columns. Several channelled blocks were found. The floor, sloping upwards from the entrance to the back wall, was laid with big stone flags. The buildings were open to the south-east and have the same orientation as the Lion Temple. In front of Building III B-I there was a row of seven columns, which were only two drums high. The upper drum was hollowed out and at the bottom of the depression there was a flat stone whose upper side was polished smooth (PLAN VII and PLATE LXII, b). The whole area clearly had a sacred purpose, but since I know of no parallel I shall not attempt to ascribe either a purpose or a date to it. Examination of this complex is still proceeding.

V. THE NORTH CEMETERY (I F)

The north cemetery lies 250 m. north of the Great Enclosure. It consists of eight circular graves, whose superstructures have been partially washed away by a khor which runs into the present eastern edge of the cemetery (PLAN VIII). Possibly the cemetery originally extended further to the east. The circular superstructures
have, externally, diameters ranging from 7 m. to 11.5 m. The graves in the northern part of the cemetery have shafts cut through a thick grey-black occupation layer (I H) (in which are Meroitic sherds) which is from 0.5 m. to 1 m. thick, and then through an almost equally thick layer of windblown sand into the hard red-brown natural soil. In general, the side niche is orientated north-south, and the entrance was from the east. The burial niches were themselves closed by oblong stone blocks, almost all taken from the walls of the Great Enclosure. All the graves had been plundered, and as a result, many of the stones blocking the entrance to the burial chamber were found scattered through the robbers' shaft and others lay on the surface of the graves. Altogether the eight graves give a good idea of burial customs and grave
goods (PLAN IX). The body lay in a contracted position on the right side (except for N-8; left side), head to the south, and looking towards the east (in N-8, looking to the west). Amongst the grave goods, there was always a large spherical pot, handthrown, and usually mat-pressed (beer jar, *burma*), and a handthrown cup
a. TRENCH 1031, WESTERN PART  (Neg. No. 429/47)
b. TRENCH 1241, VIEW TOWARDS TOWER 107  (Neg. No. 415/14)
c. NORTHERN BASIS OF COLUMN OF PERIODS II FROM ROOM 108  (Neg. No. 902/2)
b. NORTHERN END OF WALL 528/518 (Neg. No. 433/66)
a. THE FACADE OF TEMPLE 300

b. PART OF THE LINTEL OF THE ENTRANCE TO TEMPLE 300
PLATE LIX

ROOM 108. THE TWO COLUMNS SHAPED PARTLY AS STATUES OF SEBIUMEKER (front) AND ARENSNUPHIS
(Neg. No. 417/43)
a. The three-headed carving decorating the main entrance of Temple 100
(Finds No. 102/1) (Neg. No. 465/1)
b. Basis of column 9—Room 102—East
Basis of columns 9 and 10—Room 102—East
(Neg. No. H215/41)
a. INSCRIPTION MS 48
BLOCK WITH SUN DISK OF BUILDING I D
(Neg. No. 601/73)
(Neg. No. 503/33)
a. BUILDING III B-2 FROM SOUTH
b. ROW OF COLUMNS IN FRONT OF BUILDING III B-1

(Neg. No. 620/71)
(Neg. No. 629/61)
(Grave 8 was again an exception as no pots were found). There are several clear indications which enable the graves to be dated:

1. This type is virtually identical with the graves in cemetery 300 at Meroe.
2. The pottery is virtually identical with that from cemetery 300 at Meroe.
3. The robbing of the blocks from the walls of the Great Enclosure makes it clear that at the time when the cemetery was in use the religious significance of the Great Enclosure no longer obtained.
4. The graves are obviously later than the Meroitic occupation level into which they were cut.

They are therefore clearly post-Meroitic graves, which are best described as ‘Noba’ graves.\textsuperscript{16} They belong to the VIth period at Musawwarat and can be assigned a date between 350 and 600 A.D.

\textbf{PRELIMINARY CONCLUSIONS}

Building activity at Musawwarat extended over a very long period, which begins at about the same time as the shifting of the capital from Napata to Meroe. It is all the more striking therefore that we have not discovered a Meroitic cemetery nor any ruins of a Meroitic town. The comparatively small building I B which we have provisionally called ‘The Governor’s Palace’ certainly had a non-religious use, as did the small dwelling house I C and a few rooms which were used as workshops in the Great Enclosure (e.g. Room 225). In addition there are a few occupation sites (I G and III D), recognisable from potsherds and grindstones, whose dating

\textsuperscript{16} Cf. my article, ‘Meroe und die Noba’ in \textit{ZAS} 94 (1967), 79–86.
KUSH

is still uncertain, and also the Meroitic occupation layer in the northern cemetery. We assume that Musawwarat was essentially a sacred place. The whole ambiance and the special character of the Great Enclosure are best appreciated if one assumes that Musawwarat was a place of pilgrimage whose centre was the Great Enclosure, and at which pilgrims gathered only at special times and for particular festivals. This would also explain the purpose of the great courtyards whose frequent extensions bear witness to the increasing importance of this place as a centre of pilgrimage. The many graffiti would then appear as testimony to a pilgrim’s presence there or as proskynemata. The lack of Meroitic graves is also explained in that the sacred nature of Musawwarat would preclude burials.

In a final season’s work in the winter of 1967/68, the questions which are still open will, if possible, be answered.
Notes

ROCK POOLS (GULUT) AND THEIR IMPORTANCE AS SOURCES OF WATER IN THE CENTRAL SUDAN IN PAST AND PRESENT TIMES

Throughout much of the Central Sudan the availability of drinking water is the critical factor limiting the location of settlement and the distribution of agriculture. Both now and in the past water obtained from rock pools (gulut) in granite and certain other rock types has been important to both cultivators and nomads. Water supply from gulut was one of the factors that appeared to concentrate early settlement in the areas near granite hills and only with the development of other sources of water has settlement spread throughout the area. This paper outlines a classification of these water holes and discusses their importance.

Figure 1 indicates the distribution of gulut in the East Central Sudan. They are common on rocky hills extending from the Sabaloka area (lat. 16°20'; 32°40') through the Butana to the south of Gedaref district (lat. 13°10'; 35°30'). They are also found in the Sudan in southern Gezira and west of the Nile particularly in the Nuba mountains but these areas are not included in the present study.

The region under consideration has a semi-arid climate with a dry season ranging from 7–8 months in the south to 11 months in the north and average annual rainfall varies from 614 mm. at Gedaref to 164 mm. at Khartoum (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Khartoum</td>
<td>32.1</td>
<td>33.7</td>
<td>37.2</td>
<td>40.4</td>
<td>41.9</td>
<td>41.5</td>
<td>37.9</td>
<td>35.9</td>
<td>38.2</td>
<td>39.6</td>
<td>36.2</td>
<td>32.7</td>
</tr>
<tr>
<td>2. Khartoum</td>
<td>24.8</td>
<td>26.2</td>
<td>29.8</td>
<td>33.4</td>
<td>35.5</td>
<td>35.4</td>
<td>32.8</td>
<td>31.0</td>
<td>32.7</td>
<td>33.5</td>
<td>30.0</td>
<td>26.1</td>
</tr>
<tr>
<td>3. Gedaref</td>
<td>35.0</td>
<td>36.2</td>
<td>38.5</td>
<td>40.1</td>
<td>39.7</td>
<td>36.9</td>
<td>32.6</td>
<td>31.0</td>
<td>32.6</td>
<td>36.6</td>
<td>37.0</td>
<td>35.3</td>
</tr>
<tr>
<td>4. Gedaref</td>
<td>28.4</td>
<td>29.5</td>
<td>32.5</td>
<td>34.6</td>
<td>34.0</td>
<td>31.6</td>
<td>27.8</td>
<td>26.7</td>
<td>28.2</td>
<td>30.7</td>
<td>31.0</td>
<td>28.9</td>
</tr>
<tr>
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<td>0.0</td>
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<td>1.0</td>
<td>4.0</td>
<td>31.0</td>
<td>84.0</td>
<td>161.0</td>
<td>193.0</td>
<td>113.0</td>
<td>22.0</td>
<td>0</td>
<td>614 mm</td>
</tr>
<tr>
<td>6. Gedaref</td>
<td>0.0</td>
<td>Tr</td>
<td>1.0</td>
<td>4.0</td>
<td>31.0</td>
<td>84.0</td>
<td>161.0</td>
<td>193.0</td>
<td>113.0</td>
<td>22.0</td>
<td>0</td>
<td>614 mm</td>
</tr>
</tbody>
</table>

1. Mean Maximum, Khartoum
2. Mean daily temperature, Khartoum
3. Mean, Gedaref
4. Mean daily temperature, Gedaref
5. Mean monthly rainfall, Khartoum: mm
6. Mean monthly, Gedaref

The word gala (pl. gulut) is the local Arabic name for a rock hollow which holds water for part of the year. In the area under discussion they are all located on hills away from watercourses. Workers in the Survey of Egypt recorded the presence of numerous 'gals' in the Red Sea Hills (Ball, Geography and Geology of South-Eastern Egypt, p. 98 ff.; Hume, Geology of Egypt, Ch. iv). These were depressions in the rock floor of stream beds which held pools of water long after the infrequent stream floods. They are similar in function but quite different in location and origin from the Sudanese gala.
NOTES

Most of the area is underlain by that wide variety of rocks which make up the basement complex of Africa. Many hill groups are formed either of granite or gneissose rocks, although there are some ranges of rhyolite, quartzite and serpentine. The area mainly consists of a gently sloping clay plain with the hills emerging through the clay in isolated groups. Much of the clay appears to be derived from the basement complex of rocks by weathering and differential wash. In the North Butana there are widespread areas where rocks of the Nubian sandstone series overlie the basement complex. Nubian sandstone also occurs in the south-east and here the sedimentary series is intruded by sills of basalts which now form the crest of the Gedaref ridge.

The distribution of gulut shows that they are closely related to rock type. Weathering hollows of various kinds are found on most granitic hills; there are a few gulut in serpentine rocks, and hollows of a distinct type are found in parts of the Nubian sandstone area. Gulut have not been found on rhyolites, quartzites or basalts.

On granitic and gneissose hills there are five different types of weathering hollows which are all capable of holding water in useful quantities. They are:—

1. Rock pools associated with sheet joints.
2. Canoe shaped pools associated with vertical rock structures (joint and shear lines).
3. Triangular hollows found at the intersection of vertical joints.
4. Small roughly circular weather pits.
5. Taffoni, or caverns, in the weathered granite blocks. (At the base of these water bearing hollows may occur.)

Each of the first four types of weather pit appear to be formed by a process of differential chemical weathering accompanied by the removal of the weathered material. The high prevailing temperatures cause active chemical weathering where ever moisture is concentrated. The felspar and mica minerals of the granitic rocks are particularly susceptible to chemical breakdown. Most of the inselbergs on which gulut occur have areas of bare rock surface with many slight irregularities due to sheet jointing or minor variations in rock structure. Small pools or damp areas may persist in these minute hollows long after the major part of the rock surface has been dried by the sun. Chemical attack is therefore much more concentrated in these slight depressions and the felspars and micas become reduced to clay. Water runs off the rock surface during the next rains and may flush out the weathered particles, thus deepening the hollows. The fine particles may also be removed by wind or loosened by small animals. By one or a combination of these processes the hollow is enlarged and can hold more water. This soaks into the surrounding rock and causes further weathering. Once more the disintegrated material is removed, and the

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2 A large number of other weathering forms are found in granitic hills, but they do not serve as sources of water supply.

301
deepening process continues, although perhaps more slowly because removal of material becomes more difficult as the hollows deepen.

It seems likely that as the hollow develops a higher proportion of the weathered material is removed in solution by the water which percolates slowly out of the weather pit through the joints and pores in the rock. The upper margin of the pit tends to become hardened by a coating of dissolved minerals which are apparently deposited as the water is drawn through the rock by capillary action and eventually evaporated. It seems likely that in a natural state there would be a quantity of less soluble quartz fragments in the lower part of a deep pit, but in most cases debris has been cleared out by local people to increase the water holding capacity of the galta. Most of the deposits found in the deeper pits are now fine silts and clays, probably of wind blown origin with some gypsum and salt crystals derived from the evaporating solute. Analyses of water from the pits show a wide variation depending on the amount of evaporation that has taken place. In the late stages of evaporation it is often too contaminated and salty for normal consumption. A typical series of water analyses is given in Table 2.

**TABLE II**

ANALYSES OF WATER FROM JEBEL QELLI TO SHOW EFFECT OF EVAPORATION AND ROCK WEATHERING ON THE QUALITY OF WATER

<table>
<thead>
<tr>
<th>Appearance</th>
<th>(a) clear</th>
<th>(b) yellowish</th>
<th>(c) yellowish</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH</td>
<td>8.0</td>
<td>8.5</td>
<td>8.2</td>
</tr>
<tr>
<td>Dionic Reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total solids dried at</td>
<td>220</td>
<td>1,850</td>
<td>5,500</td>
</tr>
<tr>
<td>Total Hardness as CaCO₃</td>
<td>180</td>
<td>1,600</td>
<td>4,840</td>
</tr>
<tr>
<td>Total Alkalinity as CaCO₃</td>
<td>80</td>
<td>400</td>
<td>1,080</td>
</tr>
<tr>
<td>Excess Alkalinity as Na₂CO₄</td>
<td></td>
<td>440</td>
<td>1,100</td>
</tr>
<tr>
<td>Calcium as Ca</td>
<td>Nil</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>Magnesium as Mg</td>
<td>21</td>
<td>92</td>
<td>280</td>
</tr>
<tr>
<td>Other Cations as Na</td>
<td>7</td>
<td>41</td>
<td>92</td>
</tr>
<tr>
<td>Silicate as Si-O₂</td>
<td>35</td>
<td>316</td>
<td>1,011</td>
</tr>
<tr>
<td>Sulphate as SO₄</td>
<td>16</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Chloride as Cl</td>
<td>19</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Nitrate as N</td>
<td>28</td>
<td>428</td>
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<tr>
<td>Fluoride as F</td>
<td>5</td>
<td>Nil</td>
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<tr>
<td></td>
<td>0.6</td>
<td>1.4</td>
<td>3.7</td>
</tr>
</tbody>
</table>

(a) Sample Ka 79 University of Khartoum, a soft water from/18m x 3m x 3m, boat shaped galta on Jebel Qelli before much evaporation.
NOTES

(b) Sample Ka 78 University of Khartoum. A hard alkaline water, from a small galta on the same hill; considerable evaporation has taken place and the water replenished by percolation along joint plane.

c) Sample Ka 77 University of Khartoum. A very hard water from the same hill, a small remnant of water from a galta near the summit. Quite unfit for drinking.

Analyses by the Wellcome Laboratories, Khartoum.

The various types of gulut are the result of weathering on the different structural features of the rock. Many of the bare hill slopes are made up of overlapping sheet joints, which break up into rectangular blocks on the steeper slopes. At a number of localities where one sheet joint overlaps another at the surface a small recess is formed. Water soaks along the sheet joint above and forms a small pool at its lower end. Weathering is thus concentrated here and a long shallow oval depression is formed. It does not become very deep as the water tends to overflow sideways and flow off the rock surface, and because the sheet joints tend to spread the weathering attack laterally.

In the Beila group of hills, hollows up to 8 m. × 4 m. × ½ m. deep are found on foliated granites while on the sodic granites of the J. Qeili group a circular depression of 8 m. diameter and 3 m. deep has been recorded near the summit of the hill. Water in this shallow type of pool rarely lasts more than two weeks after a rainstorm and all are empty by mid-November. Evaporation is intense, percolation downwards along the sheet joints continues and birds and animals drink from the pools.

Deeper and more useful rock pools are associated with vertical joints in granite rocks. Rain water seems to move freely along some of the vertical closed joints and large elongated hollows occur. A slight surface depression usually accompanies the joint line and if water is held up a long pool will result. Weathering occurs around the margin and at the base of the pool and a canoe shaped depression develops. The sides are usually vertical or even overhanging and the margins hardened by the deposition of secondary minerals. Examples studied range in size from 1 m. × ½ m. × ½ m. deep to 18 m. × 3 m. × 3 m. deep, widths quoted being the maximum. Quite frequently a number of such hollows may occur along one major joint plane and amalgamation of these leads to a complex hour-glass shape. These hollows are very old features as spalling and pressure release joints have developed parallel to their sides and rim.

Water may remain in these pools for long periods. Even if it is used for drinking, replenishment occurs from upslope at least at the beginning of the dry season and some water remains well into January. Some sheltered pools if untouched may persist throughout the year.

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Smaller less significant hollows occur at the intersection of two major vertical joints. These are triangular in shape and quite shallow, probably because the two joints allow fairly ready percolation of water and the pools do not last for long after the rains.

On flat or gently sloping rock surfaces irregularities may give rise to small pools of water which can in time develop into weather pits similar to those found on Dartmoor, England, and recorded in many other parts of the world. They are apparently not associated with any major structural feature. They are usually circular in shape and have a small overflow channel which leads excess water down slope. Most are very small—about 1 m. in diameter and a few centimetres deep—but some examples up to 4 m. in diameter and 1 m. deep have been recorded. They are used temporarily for drinking water.

Major hollows and caverns of the taffoni type are not common in the Butana though many occur locally in the Red Sea hills area. They are not very important as sources of water except for the small temporary pools which may be found within the cavern.

A few hollows analogous to the granite gulut occur on the serpentine rocks which outcrop in the Qal’a en Nahl area. Most of the serpentine hills are well weathered and covered by loose rock debris and vegetation, so that conditions are not favourable to the formation of weathering hollows, but in two areas where massive rock outcrops occur, pits have developed along vertical joints much in the same way as they have done on the granite. They are narrow and very deep, and the surface is in the shade of overhanging rocks for most of the time. Evaporation is thus very low and water is retained in the galta throughout the year. One galta forms an important emergency source of water for over 1,000 local people at the end of the dry season.

A large number of superficially similar pools occur in outcrops of the Nubian sandstone series in the Gedaref area. However, though they are similar in function to other gulut most of them appear to be artificial. They occur in silt-stones or fine mudstones which are characterised by a close angular joint pattern. The natural surface is often broken up by chemical weathering along the joints into a series of small angular fragments and these appear to have been removed and shallow excavations made into the friable underlying material (Plate LXIV, b). The rocks are almost horizontal and in areas where good water supplies are available, almost the entire outcrop may have been excavated to form a series of tanks. Thus most of these galta fields have a negligible surface catchment area and were apparently filled by hand from adjoining haffirs, in much the same way as hollow tebeldi trees are filled in Eastern Sudan. As Nubian outcrops of the right type of rock are few, these gulut are not common; they are only found in the south of the area where rainfall is heaviest. The absence of gulut fields in the north, even in appropriate Nubian strata, is confirmation that they were man-made as no-one would dig gulut in these areas too dry to fill the necessary feeder haffir.
a. A large g alta on the summit of Jebel Qeili. Photographed in August, 1962, after heavy rain. Formed in sodic granite.

b. Canoe-shaped g alta developed along a vertical joint on Jebel Qeili. Note the spalling parallel to the sides of the hollow and the white salt-encrusted residue.
a. GALTA DEVELOPED AT THE CONTACT BETWEEN SHEET JOINTS. GRANITE HILL NEAR QALA EN NAHL

b. TANKS EXCAVATED IN NUBIAN SANDSTONE OUTCROPS NEAR GEDUREF
NOTES

A brief consideration of the weathering and structural characteristics of the other rock types indicates their unsuitability for the formation of similar pits and hollows. The basalt has few hard rock outcrops and these are of a splintery rock which is not suitable for holding water. The fine grain of the rhyolitic rocks makes them very resistant to weathering, and only in a few localities have small weathering hollows been recorded. Massive quartzitic outcrops are similarly resistant to chemical attack and only very small hollows are found. The other rock types have similar characteristics or like the more massive basic igneous rocks are so susceptible to breakdown that they disintegrate entirely and almost invariably form low ground covered by alluvial deposits.

Deep weathering hollows of the galta type have seldom been recorded in temperate regions and in the humid tropics they appear to be confined to the few areas of massive bare rock outcrops. It appears fortunate that they should be well developed and common in a semi-arid environment where their ability to conserve water makes a significant contribution to the total water supplies of the area.

In many areas the gulut still play a significant part in the life of the region. In the Butana and in Gedaref district, both regions of impermeable clay plains and isolated hills, there is a severe seasonal shortage of drinking water for man and beast. In the north this has resulted in a nomadic economy, in the south many villages are involved in transhumance. Crop cultivation and animal grazing is based on a village settlement near the hills during the wet season and is followed by a gradual migration of men and animals towards the rivers or the more permanent well fields as the dry season progresses.

When the first rains start in May or June the inhabitants are eager to reach their hill-foot settlements to plant their grain crops and prepare their houses for the wet season. Because there is insufficient percolation from the first showers, wells do not rise at the beginning of the rains, and haffirs seldom fill until the heavier storms provide adequate run-off, so the first returning villagers rely on gulut for their water supply. They bring few animals with them at first for the gulut formed on the granite hills are too small to provide water for both man and beast. Then as the rains progress, small pools form in depressions in the clay, and the animals can now be brought back across the plains before the ground becomes too wet and impassable.

In many areas wells are located in stream courses which flood at the height of the rainy season. The wells become inaccessible because of the mud, and are in any case filled with debris-laden flood water. Haffirs, which have to be sited in deep clay, are usually some distance from the village, which clings to the well-drained sandy soil of the hill foot. They are too hard to reach during the rains and their water is usually very muddy. Thus the villager turns to the gulut as the main and purest source of wet season water supply. The rock pools are conveniently near, they contain clean water which has run directly off the bare rock, and they can be reached without trampling in the mud. In many cases, the villagers have cleaned out stone debris from the pools and improved water storage by adding a small cement dam on the downslope overflow side of the pool.
When the rains cease, wells are cleaned, and the muddy water in haffirs clears. Rock pools then cease to be used. An exception to this pattern of use occurs in the serpentine area of Gedaref. Here one deep galta is so well protected from evaporation and contamination by an overhanging slab of rock that the water is not used until May or June when wells are salty and haffirs are dry.

In the northern part of the Butana area, the people are true nomads, gulut are used until they dry up or the residue becomes too salty as the result of evaporation. In a wet year such as 1961 they were used into October, although clear well water was by then available, ‘conserving’ well water for later use.

In the past gulut were even more important. Rock pictures of giraffe, cattle, elephant and other animals occur near gulut in Gedaref and the Butana. Similar pictures are common in the northern and western Sudan and are generally assumed to be the work of neolithic hunters. It seems likely that the first people to use the gulut were hunters. Certainly the hills on which most gulut are sited provide a good view of the surrounding plain and would be good vantage points from which to watch for game.

Apart from the hunters another people seemed to have lived in the area. Many of the granitic hills of the area provide evidence of hill-top occupation sites. Querns, polished stone tools, sherds, hut circles and remnants of agricultural terracing are common. As yet, none of these sites has been discovered on a hill where there are no gulut. Thus there is considerable evidence to suggest that gulut formed the main source of water for the earliest settled population of the area. These people were cultivators and probably had few domestic animals. It would not be satisfactory to live on a hill top while folding flocks below, nor are granitic gulut generally large enough to water both men and beast.

There is considerable evidence indicating that in Neolithic times, the climate of Sudan was wetter than at present. If this were so, the clay plains would have been wet and inhospitable for a longer period of the year and gulut would provide drinking water for a correspondingly longer period. Their dryness, water supply and security would account for the selection of granitic hills as settlement sites.

No evidence has been found of the dry season habitation of these early peoples but it seems likely that some migration occurred. However at this time the river Rahad was certainly in a different position and the migration of this meandering stream must have covered or destroyed evidence of the former river side camps. In any case, dry season camps would doubtless be of flimsy construction. It is almost impossible today to find evidence of camp sites abandoned only twenty or so years ago.

Gulut are associated with other types of archaeological evidence. A series of hollows, in two rows of six, are often found and engraved on the rock surface near gulut. These formed a gaming board. The game is played by moving pebbles from hole to hole and variations of it are common throughout savannah Africa (Davies, R., 1925; Owen, 1938). To use a water point as a meeting place for social
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intercourse is still common among nomads, or among people living in dispersed settlements.

The gulut on the Nubian sandstone are associated with watering stock. They are artificial, and were probably constructed long after the natural weather pits in the basement rocks were in use. Their association with haffirs suggests that they are a product of historical times. The earliest haffirs known are those of Meroitic age at Naga and Musawwarat and the spread of haffir construction into the Butana probably post-dated these 2,000 year old constructions. In Neolithic times the Nubian sandstone areas were probably little populated and the gulut probably date from the Christian (500–1500 A.D.) or Fung periods (1500–1820). Local tradition, admittedly not always reliable, says they were built by the Arabs who with their beasts infiltrated the Sudan from the seventh century onwards. No pottery has been found in association with these gulut so that they were possibly used by people who drew water in skins. This would suggest that they were used by nomads, probably Arabs, and not by settled peoples.

Unfortunately there is not yet sufficient evidence to suggest dates when the hunters, agriculturalists and nomads variously inhabited Gedaref and the Butana.

In historical times new water finding techniques spread throughout the area. With slightly increased aridity, rainy seasons may have been shorter and more permanent sources of water were necessary. Wells were dug, and the technique of digging shallow haffirs to hold drinking water for cultivators or watering beasts spread southward. It became possible to site settlements away from gulut and if security was not important the more congenial hill-foot areas replaced the hilltops as the sites of wet season villages. However, as we have shown the gulut still made an important contribution to the water economy of many areas. In periods of crisis, their old importance returned. There is considerable evidence that in the Fung period, during times of uncertainty, villagers fled to the hilltops once more. Here gulut would provide a safe emergency source of water.

In the southern part of the region gulut are used much less now than in the past. Often they are difficult to reach, whereas the hauling of water from wells has become easier with simple pulleys. Moreover, wells have now been deepened and lined, their mouths built up above flood water level, so that they do not easily become silted and clean water is available even in the rains.

Northwards, in the Butana, gulut, which served as meeting places and camping sites for several thousand years, still provide the local people with an important source of water for part of the year. Subsequent centuries of well-digging, haffir construction and modern water conservation techniques have failed to alter this.

L. BERRY AND A. M. S. GRAHAM
THE SURVIVAL OF A CHRISTIAN NUBIAN POTTERY STYLE INTO MODERN TIMES

During the course of work in Nubia (1961–1964), I came across three pots whose decoration seemed to have obvious bonds with Christian Nubian pottery. One of these, and the most impressive, was collected by Dr Kronenberg, the Government Ethnologist at that time, who was kind enough to show it to me, and the other two were found in a deserted house in Serra West after the owners had abandoned it to go to Khashm el Girba.

Dr Kronenberg found his pot in the village of Hillet el Kenuz (also called Hillet el Matoki), where it was hanging from a roof rafter inside the house. This village was inhabited entirely by people from Egyptian Nubia who settled there after the first raising of the Aswan Dam, and the owner of the pot said that it had been brought from Shellal. (FIG. 1, Pot No. 1).

There was no possibility of enquiring where the other two pots had come from, but I found them in the store room of House No. 14, Serra West main street, where from their position they had apparently been used for ladling grain or flour from the big storage bins. Both from their use and from the fact that they had been left behind, they were clearly of no particular value to their owner.

The first pot (No. 1) is an open bowl with a ring base, has rather thick walls, and is altogether a rougher object than any of the true Christian wares. The decoration, however, both in colour and design was much like the latest decorated ware of the Christian period, called by Dr Adams¹ Ware R.11, and consisted of an orange-red slip inside and out, though darker outside, and burnished. The design was painted with a matt black pigment.

The other two pots, of which one is shown in FIG. 1, No. 2, were identical except for size (the smaller one only has been drawn) and the slip and decoration were executed as in Dr Kronenberg’s pot, though the colour of the body slip was paler. The measurements of the larger pot were: diameter, 21.4 cm. and height, 12.6 cm.

It is suggested that Ware R.11 is by far the most important ware of the late Christian period², and it was possibly the only one made in Nubia after 1100 A.D. The uniformity of its style points to a limited number of centres of manufacture, which are unlikely to have been in Sudanese Nubia since none has been found there.

It seems likely that these three pots came from Egyptian Nubia—one is stated to have done so—since many of the people of Serra were from that area. Moreover, our

² Loc. cit.
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landlord, a Serra man, said that such pots came from Shellal but were no longer made, and there were very few still in use.

It seems unlikely that the traditional designs and decoration of the Christian period were carried on in Egyptian Nubia, at least, until comparatively modern times, though there is nothing to suggest that they still continue to-day.

MARGARET SHINNIE

Fig. 1.
A BRIEF NOTE ON THE RECENTLY DISCOVERED
TORA CITY OF KEBELEH

In June 1965 I was camping in the northern foothills of the Jebel Marra massif near the Rokirroh suq, which lies on the now rarely used Turra—El Fasher road. One morning I followed for nearly an hour a well marked footpath that starts just by the suq and leads southwards into the hills (see FIG. 1). Leaving the footpath and climbing one of the flat topped lava flow hills I was amazed to find spread before me a large city. I attributed the city to the ancient Tora civilisation, a mysterious people from which the present day Fur proudly claim descent. Later study of the available aerial photography showed that the site occupies approximately eighty-five acres.¹

![Fig. 2. A typical compound with chambered house.](image)

The northern section of the city contains tightly packed compounds with narrow paths, some of which are paved with stones. The compound walls are of dry-stone construction, some of the stones being over a metre square. Stone lintels are still in position over the entrance to some of the compounds. Within the compounds there are buildings, roughly circular in outline and constructed of rubble filled dry-stone walling, which in places may be 3 m. high. There is a single entrance, sometimes

¹ A. J. Arkell has inquired whether this can possibly be the site marked ‘? ruins’, north of Konda village, which is shown on PL. XIII in his article on Darfur antiquities (SNR, xx, pp. 103–4). However, I do not believe that it is the same site.
giving direct access to the interior and in other cases leading to a blank wall over which there must have been some form of ladder (FIG. 2). The blank wall shown in the sketch is an integral part of the wall and not a later construction. The interior consists of a series of rooms intercommunicating by means of low passages. In some dwellings slabs of basalt are still in position, roofing the passages. Small cupboards have been built into the walls in some of the rooms. A few buildings may have one room that is below ground level.

In the central section of the city some of the buildings have all their rooms below ground level and the entrance is by means of a low tunnel below the walls. Stone lintels still roof the narrow passages between the rooms and in a few buildings the actual rooms are roofed with stone slabs covered by earth. In a few examples the roofing appears to be of recent origin, of timber covered with soil.

In the southern section the compounds are less tightly packed. They were not examined during the visit but later examination of a photograph taken from a light aircraft (PLATE LXV) suggests that they may be of a later date than the remainder of the city. Here was seen what can best be described as a series of massive dry-stone masonry blocks, all orientated in the same general direction (the compass bearing was not recorded but believed to be east-west). The blocks were either square, oblong or circular in shape, three or more metres high and perhaps 5 m. or more in breadth. Some of the circular blocks have a low ledge about half a metre high encircling them (FIG. 3, a). The oblong blocks had what appeared to be a raised ‘sentry box’ let into one of the ends (FIG. 3, b). All the blocks appear to be of solid masonry; the tops are level and found to contain pieces of broken pottery. I can only conjecture as to the function of these blocks. Perhaps they are platforms of audience such as those in the upper palace at Uri² although it is difficult to imagine why there should be so many grouped together. (Yes, I think this rules platforms out. A.J.A.).

² Arkell, SNR, xxvii, p. 187. For other platforms of audience see Tunisi, Voyage au Ouadai (1851), p. 95, and Arkell, SNR, xx.
PLATE LXVI

BROKEN POTTERY FROM KEBELEH
TORA CITY OF KEBELEH

Alternatively they could be graves, resembling the prehistoric stone barrows mentioned by Balfour-Paul\(^3\). The presence of the pottery suggests that the deceased’s household goods might have been piled on top of the ‘grave’. The former Commissioner of Antiquities, A. J. Arkell, has examined representative pieces of the pottery (PLATE LXVI) but was unable to recognise any of the markings.

It was unfortunate that I had no camera available when I discovered the ruins. Later I was able to fly over the area and obtained the view of the southern section of the city with its masonry blocks (PLATE LXV).

It is hoped that this brief account will encourage further exploration and archaeological work in the area. A study of the aerial photography has already shown that there are two large circular enclosures to the north east of Kebeleh which might be of interest. These two sites have been marked on the sketch map.

The area is readily accessible. The easiest route is via Tarni, on the El Fasher-Melemm road. The approach from Turra is very difficult due to the steep climb from Kasuru, although it is possible to travel fairly easily in the reverse direction.

I am grateful to Rev A. J. Arkell for reading this note and appending his comments.

G. E. WICKENS

*Hunting Technical Services Ltd.*

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\(^3\) *History and Antiquities of Darfur*, pp. 4–6.
Reviews


Mme. Tubiana collected her material among the Zaghawa living north of Wadai in the Chad Republic in the years 1956-57. The results of Mme. Tubiana’s researches were presented in many publications, some of them in collaboration with Prof. Joseph Tubiana. In the book under review she describes and analyzes the preislamic beliefs and rites which have survived among a population that seems to have been islamized for a very long time and whose members claim and feel to be Muslim. The progressive disappearance of these customs caused Mme. Tubiana to pay special attention to religious phenomena, which soon had become the core of her field-work. The preislamic survivals are fragmentary or fully interconnected with the social and political life, and the evaluation of their role required a full-scale study of Zaghawa social and political institutions. Some of the preislamic rites give status and sanction political roles even if they are opposed to Muslim values and beliefs. Mme. Tubiana’s discussion of this antagonism is of general interest for the student of religious syncretisms and political assimilations.

Fertility is the leitmotiv of Zaghawa preislamic beliefs and rites. Among the most important ones are the enthronement rites of the tribal chief who becomes rainmaker, and the annual rain rites and agricultural sacrifices. The sacred places are mountains, rocks, trees, or wadis (well documented by numerous photographs), which are not by themselves the divinity but its abode, although sometimes it is difficult to draw this distinction because the tree or the stone may at the same time be the spirit as well as the seat of the spirit. Snakes are occasionally considered as manifestations of the divinity, as ancestors and protectors of specific clans. Prayers for direct assistance or mediation to God iRu are addressed to them. iRu is identified with Allah. The cult places are always connected with specific clans. The sacrifices are performed by the chief in the name of the clan or the tribe, or by one or several of the chief’s maternal cousins who are directly associated with him. On occasions this association is expressed in a relationship between clans and not between individuals: all males of a certain clan are considered as maternal cousins of the chief’s clan. Clan traditions explain this: it is the perpetuation of the ancient alliance between the invaders who became chiefs, and the original owners of the land. The choice of animals for sacrifices shows a tendency to mark the hierarchy of clans, the sacrifice of more valued animals being reserved for clans with higher status. The sacrifice of a pregnant animal is more valued than that of a female which is not, a female one is superior to a male, camels are superior to cattle, and cattle to sheep.
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It is perhaps the low level of generalization at which this book is written, which accounts for the feeling of reality it engenders. Obviously Mme. Tubiana saw the point that generalizations about large and diverse groups of people are usually bound to be unsatisfactory, when she limited her researches to the Zaghawa and restricted the comparison to neighbouring and culturally similar populations, the Bideyat Bilia, Teda, and Daza, and she remains still in the neighbouring area when extending her comparison further to Wadai and Darfur. But the minute details are occasionally confusing for the reader, who sometimes gets lost in names, places, and events.

Mme. Tubiana’s picture of the impact of Islam on Zaghawa traditional culture and the underlying social and political forces of this process of proselytism is a work of meticulous scholarship. It is not, as so many studies are, convincing only because we come out at the other end with something we know already. Not only anthropologists will find this book interesting and rewarding, but also archaeologists specialized in the Sahara and the Sudan. It is to be hoped that Mme. Tubiana will extend her researches to the Zaghawa living in the Republic of the Sudan.

ANDREAS KRONENBERG,
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This volume is the first of a projected six volumes giving the definitive publication of the excavation and scientific study of the Sudan’s greatest ancient monument, the remains of the temple built by Amenophis III (1408-1371 B.C.) on the left bank of the Nile near a village of the Northern Province called Soleb, and sometimes written Sulb, as if derived from the Arabic word for ‘loins’.

Sandbanks, winds and currents render the crossing of the Nile very difficult here, and the road from north to south has of recent years followed the right bank, so that only the more determined have succeeded in seeing what the ravages of time and stone-quarriers have left of this large and beautiful building. (Fig. 130 on p. 154, an oblique photograph from the air, gives an excellent idea of the temple and its situation in 1963.) Archaeologists, historians and others will therefore be most grateful to Signora Schiff Giorgini and her collaborators for recording all that can now be learned about this great and historic temple, and will wish her every success in completing her project, for which the present fine volume promises well. It is almost entirely devoted to a record of the visits paid to Soleb between 1813 and 1907 by travellers and archaeologists, and gives extracts from their books and unpublished manuscripts, illustrated by facsimiles of sketches, etc. Signora Schiff Giorgini could not have possibly devised a more valuable preface to the account of her mission,
KUSH

than this record of a century of exploration of Soleb, which not only leaves us full of admiration for the pertinacity of these early travellers and of gratitude for the thoroughness of some of them, but full of admiration for the care and imagination with which the extracts have been made. Some of them give us important information about inscriptions which were in the temple but which no longer exist, particularly with regard to the lists of names of conquered peoples.

The remainder of this volume gives a short outline of the six seasons 1957-1963 which the Mission spent at Soleb, and of which readers of KUSH have already had short accounts in Vols. vi, vii, ix, xi and xii.

A. J. ARKELL
Review

RECHERCHE SUR LES MONUMENTS THEBAINS DE LA XXV\textsuperscript{e} DYNASTIE DITE ETHIOPIENNE. J. LECLANT (Institut français d'Archéologie orientale. Bibliothèque d'Etude, t.xxxvi), Le Caire 1965, pp. xlvi + 454, 35 text figures; 88 plates.

Textual sources for the history of Thebes during the period of the Kushite supremacy are relatively meagre. The study of a potentially rich source of information, viz. the statues of princes, princesses, and officials of the period found in the Karnak cache, is still in its infancy, many of the pieces being still unpublished. The reconstruction of the history of Thebes at this time must therefore be based very largely on the study of the surviving architectural remains.

Professor Leclant's work is divided into two parts: the first (pp. 3-193) supplies a long-felt need, namely a detailed inventory of the known Theban monuments of the Twenty-fifth Dynasty. By 'Twenty-fifth Dynasty' is understood primarily the reigns of the kings from Shabako to Tanwetamani (Tanutamun), although it has been necessary to take account also of the latter part of the Twenty-third Dynasty and the reign of Pi'ankh, as well as the parallel line of Divine Adoratrices; and a number of other monuments bearing erased cartouches or the name of Psammetichus II, who was responsible for the erasure of many of the Kushite Kings' names. The monuments on the east (right) bank of the river are dealt with first, from north to south. Each is described and the name(s) of the builder(s) determined where possible, and the deity for whom it was erected; each monument is also provided with an exhaustive bibliography—a particularly valuable and time-saving feature.

The second part of the book (pp. 197-403) is devoted to a synthesis of the results obtained from the material given in Part I. Such a synthesis is admittedly provisional in view of the gaps in the sources and the unequal value of the material that is available.

Chapter I contains a useful discussion of the architectural and stylistic characteristics of the xxv\textsuperscript{th} Dynasty monuments. This is followed by a study of the various deities to whom were dedicated the buildings listed in Part I of the book. In the third chapter are discussed the princes and princesses, as well as certain officials, named on the monuments.

The work concludes with no fewer than ten indices, which greatly facilitate its use.

Prof. Leclant's work was originally submitted to the Faculty of Letters of the University of Paris as the main thesis for the Doctorat ès-Lettres in June 1955. The documentation and bibliography therefore stop prior to that date, though some later bibliographical material has been added (Bibliography, pp. xxvii-xlvi).

It need hardly be stressed how useful it is to have conveniently assembled within one work so much material which has hitherto been widely scattered and even unpublished. Professor Leclant is to be congratulated on the production of an extremely valuable work which will for a very long time remain an essential instrument to all engaged in research on the history of both Egypt and Nubia under the Twenty-fifth Dynasty.

D. M. DIXON