KUSH

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ABBREVIATIONS USED IN THIS JOURNAL

AJSL – American Journal of Semitic Languages and Literatures.
AR – Ancient Records.
ASAE – Annales du Service des Antiquités d’Égypte.
ASN – Archaeological Survey of Nubia.
CPN – Contributions to the Prehistory of Nubia.
JEAS – Journal of Egyptian Archaeology.
LAAAA – Liverpool Annals of Archaeology and Anthropology.
LD – Lepsius: Denkmäler aus Ägypten und Äthiopien.
NZZ – Neue Zürichie Zeitung.
PM – Porter and Moss: Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs, and Paintings.
PN – Ranke: Die Ägyptischen Personennamen.
RCK – Royal Cemeteries of Kush.
R.d'Eg. – Revue d'Egyptologie.
SASOP – Sudan Antiquities Service Occasional Papers.
SNR – Sudan Notes and Records.
Urk. – Urkunden des Ägyptischen Altertums.
Wb. – Wörterbuch der Ägyptischen Sprache.
ZAS – Zeitschrift für Ägyptische Sprache.

The Editor is not responsible for the opinions expressed by contributors.
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Editorial Notes

This number of Kush, after reaching the stage of galley proofs in 1966, was held up owing to the fact that our former firm of printers, John Bellows, merged and was unable to continue printing for us.

I am glad to say however, that we have now reached complete agreement with the firm of Norman Brothers Ltd who will print our future editions.

In previous copies of Kush I have given brief résumées of the activities current within the respective year. However, as this particular number is long overdue I shall cover the activities of the past three years (1966–1969) in Kush XV, which is also ready for printing.

Thabit Hassan Thabit
The Archaeological Survey
from Gemai to Dal
Preliminary Report on the Season 1964-65

by A. J. Mills and H.-Å. Nordström

I. INTRODUCTION

FOLLOWING last season’s hurried reconnaissance survey from Gemai to Dal, it was decided that a proper archaeological survey of the area was necessary. Briefly, the plan of action was to begin at Gemai and work southward, making an intensive search for more sites and excavating those sites already known to be worth investigation. Thanks to the help of a number of other expeditions the entire area between the Gemai Rest House and the Saras School, has now been completely surveyed and excavated. The Finnish-Nubia Expedition completed the survey of the east bank of the Nile at Gemai and Murshid and excavated all the known sites within their concession; the Epigraphic Expedition of the German Academy of Science, Berlin, has recorded the rock pictures and the inscriptions in the area; the University of Colorado Expedition has made a survey of all the prehistoric remains on the west bank; the Combined Prehistoric Expedition has surveyed the prehistoric sites on the east bank; and the University of California Expedition has excavated the Pharaonic fortress on Askut Island. Our party has done the rest, i.e. the west bank of Gemai, the west bank of Murshid, the northern 8 km. of the west bank of Saras and an equal distance on the east bank of Saras. A total of 38 km. has been gone over carefully. In all, sixty-nine sites within the historical era—from the beginning of the A-Group to the end of the Christian period—have been investigated. Twenty-four of those were completely or nearly completely excavated. The remaining forty-five were tested or partially excavated.

The members of this Sudan Antiquities Service Expedition were Mr A. J. Mills and Mr H.-Å. Nordström, both employed by UNESCO. The crew of local labourers numbered about fifty on the average, and was directed by our two Qulti foremen, Reis Ibrahim and Reis Yusuf. We would like to thank the officers of the Sudan Antiquities Service, especially Sayed Thabit Hassan Thabit, the Commissioner for Archaeology, Sayed Nigm ed Din Mohammed Sherif, the Senior Inspector of Antiquities, and Arbab Hassan Hafiz, Technical Assistant, for all the help and encouragement they have given us. Special thanks go to

1 Kush XIII, pp. 1-12.
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Dr W. Y. Adams, our Chief of Mission, who has not only helped us with the great problems of archaeological tactics and logistics, but also with innumerable small details.

Mr Mills, accompanied by his wife, arrived in Nubia on 8 November 1964 and began the actual field work on 12 December. Mr Nordström and his wife arrived on 20 December and began field work immediately. Normally the surveying was conducted with two parties in two different areas simultaneously. Nordström covered the areas of Gemai West and Saras East and part of Saras West, while Mills surveyed Murshid West, part of Saras West and the islands in the river. Work continued without interruption until 28 April 1965.

2. Geographical Description

The area surveyed in the 1964–65 season is located south of the Second Cataract, within a reach of the Nile that is known as Batn el Haggâr: ‘Belly of the Rocks’. The work was confined to three main villages, Gemai, Murshid and Saras. Although similar in many ways, these village areas differ in the amount of arable land available. This condition has, as everywhere in the Nile Valley, a proportional bearing on the amount of habitation, both past and present.

Gemai West is the northernmost village and we will begin the geographical description here and move southwards. Here the alluvial plain is about 300 m. wide at the north end and extends southward through five small villages for some 1,500 m., gradually narrowing until it disappears where the rocky outcrops come right down to the river bank. Towards the north end there is a strip of cultivation about 100 m. wide by 400 m. long. The whole area of alluvium displays evidence of a much more extensive cultivation in the past, but this may have been within the past century. The bulk of the crops at present are grown on the steep seluka land. The western side of this alluvial strip is bounded by rather sharply rising rocky outcrops, which are cut at right angles at various intervals by deep, sandy wadis. The plain itself is interrupted occasionally by small, low outcrops of rock.

The modern dwellings of Gemai West number thirty-five and there was until recently a resident population of just over 250. Probably at no previous time has the area supported as many people. Ancient habitation is represented by seven sites of the Christian and X-Group periods, two sites of C-Group and Pharaonic date respectively, and one site of uncertain date.

Immediately to the south of Gemai West lies Murshid West. A right-angle bend in the river roughly divides the 9 km. of this village into two halves. The terrain in the northern half is rather rocky, the cliffs often descending straight into the river, with small pockets of alluvial land, both usable and fossil, at intervals. At the bend of the river this gradually blends, over about 1½ km. into the second half, where the river flows almost due east. Here the cliffs are
THE ARCHAEOLOGICAL SURVEY FROM GEMAI TO DAL

high and very close to the river and everywhere there is the coarse, yellow, wind-blown sand that is so characteristic of the west bank of the Nile in Nubia. This sand deeply covers virtually all the ground except the higher parts of the gebels. The river bank is very steep and supports almost no cultivation.

The only habitations in Murshid West are some fifteen houses, in four small villages, all fairly close together at the northern end, near Gemai. No people live in the southern three-quarters of Murshid West. A total of five sites, three Christian and two Meroitic, represents all the ancient occupation in this area. Murshid West seems always to have been barren.

At the southern end of Murshid the river makes another right-angle turn and resumes its normal north–south course through Saras. The west bank suddenly broadens out and there is a plain of fossil alluvium, some 2 km. long and 500 m. wide, which is lightly covered with wind-blown sand. It is bounded on the western side by gradually rising rocky outcrops. There are six modern dwellings, in two villages, which obtain their food from the seluka land here and on the opposite bank of the river, and from some irrigated land on the island of Farkeit. Eighteen sites within this relatively small area indicate that it has always been a favoured spot for habitation. Over two-thirds of these sites date from before the Meroitic period.

As one moves southward out of this plain, the rocky outcrops become more frequent and larger and there is a greater quantity of the yellow sand. There is only one more village before the end of the area reached by this season’s survey. Ancient use of this more rugged terrain was much more limited than further north, and there are only eight sites in all.

There are four large islands in the river along the northern part of Saras:—Mugufil, Farkeit, Askut and Kagnari. Only Askut, the smallest, has not been occupied in modern times. The bulk of the land of the other three islands is alluvial, and they support about fifty people. There are remains of Christian habitations on all the islands, as well as the Pharaonic fort on Askut.

Like the west bank, the east bank of the river at Saras can be divided into two areas. The northern 5 km. is very rocky and apart from the steep seluka land there is almost no cultivable alluvium. At the northern end of this reach there is a village of seven houses and a small area of alluvium that has formerly been under irrigation. At the southern end of this stretch of Saras there is another village of some fifteen houses and a rather larger alluvial area which, like the former, displays the remains of some cultivation. Of a total of eleven sites, eight are Christian and X-Group, and three are of pre-Meroitic date.

The southern part of the east bank at Saras tells a rather different story. Here the alluvial plain is wide, often as much as 1 km., and it is frequently broken by rocky outcrops. Much of the alluvium is fossil, but a good part of it

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2 This plain consists of three abandoned river channels. See Kush XI (1963), p. 83.
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has been cultivated. The modern villages, all of which are quite close to the river, are numerous and close together. The first 3 km.—that part of the plain which was surveyed in the 1964–65 season—contains three villages with a total of twenty-six houses. Ancient occupation here was also more concentrated than further north. There are eleven sites, principally pre-Meroitic in date.

3. Site Distribution

After the Reconnaissance in 1964 a total of twenty-nine sites were known within the area between Gemai and Saras. During the campaign in 1964–65 forty new sites were located within the same area, increasing the total number to sixty-nine. More than half of the new sites could be ascribed to the cultural groups preceding the Meroitic period.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td></td>
<td>Gemai West</td>
<td>Murshid West</td>
<td>Saras West</td>
<td>Saras East</td>
<td>Islands</td>
<td>Total</td>
</tr>
<tr>
<td>1.</td>
<td>10 (14.5%)</td>
<td>5 (7%)</td>
<td>26 (38%)</td>
<td>22 (32%)</td>
<td>6 (8.5%)</td>
<td>69</td>
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<tr>
<td>2.</td>
<td>A-Group</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>0</td>
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<tr>
<td>3.</td>
<td>C-Group</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>5</td>
<td>0</td>
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<tr>
<td>4.</td>
<td>Kerma</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<tr>
<td>5.</td>
<td>Pharaonic</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>4</td>
<td>1</td>
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<tr>
<td>6.</td>
<td>Meroitic</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>7.</td>
<td>X-Group</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
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<tr>
<td>8.</td>
<td>Christian</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>9.</td>
<td>Uncertain</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10.</td>
<td>Total sites as distributed among cultural groups</td>
<td>11</td>
<td>5</td>
<td>29</td>
<td>28</td>
<td>6</td>
</tr>
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Table 1. Distribution of the archaeological sites in the area surveyed 1964–65. The percentages in row 1 are based on the total number of site locations entered under F1. The percentages in column F are based on the total number of sites as they are distributed among the cultural groups. More than one cultural group is represented on the same site in 10 cases.
GEMAI - DAL SURVEY

MAP OF THE AREA SURVEYED

DURING THE 1964-1965 SEASON

SAYLE:

0 50 100 150 200

REFERENCES

Modern village.
River Nile.
180 metres above mean sea level
150,170 & 200 metres at Alexandria.

ARCHAEOLOGICAL SITES:

A-Group.
C-Group.
Karma.
Pharaonic.
Meroitic.
X-Group.
Christian.
Uncertain date.

Based on maps compiled by Dr W. F. Adams.

A. J. MILLS '65
THE ARCHAEOLOGICAL SURVEY FROM GEMAI TO DAL

The site map, FIG. 1 and Table 1 show the cultural and geographical distribution of the sites that were investigated by the expedition in 1964-65. The significant points of this distribution can be summarized as follows:

(a) The sites are all confined to the narrow river valley. No site was found further than 1 km. from the present flood plain.

(b) The early (pre-Meroitic) sites make up 45.5% of the total. 52% of the sites are dated to Meroitic and later periods. Sites of uncertain date represent 2.5%.

(c) The sites belonging to the pre-Meroitic era, i.e. dated to the A-Group, C-Group, Kerma and Pharaonic periods, are scarce in both Gemai West and Murshid West but are common on and around the wide alluvial plains on both banks of Saras.

(d) No Kerma sites were found on the west bank between Gemai and Saras.

(e) Meroitic, X-Group and Christian sites dominate regions with a fairly rocky terrain and limited cultivable land, i.e. the west bank of Gemai and Murshid, the southern part of the west bank of Saras, the northern part of the east bank of Saras and the islands.

4. A-GROUP AND C-GROUP CAMP SITES

Within the area surveyed potsherds from the early Nubian cultures were found almost everywhere on the surface, especially on the wide plains on the east and the west bank of Saras. Most of these sherds are much weathered. Probably they have been rather evenly distributed over the open areas due to wind erosion, and they have little significance as regards the study of habitation patterns during the A-Group and C-Group periods. In a few cases, however, it was possible to connect certain surface concentrations of sherds with well-preserved refuse layers and even structural remains from the actual periods. Such sites were found on locations which were at least partially protected from extensive erosion, often being situated on the southern side of a rocky outcrop.

Two camp sites were found on the west bank of Saras (11-M-7, 11-M-15) and one on the east bank of the same village (11-H-8). Two additional camp sites, previously recorded in Saras East (11-L-10 and 11-L-14), were subjected to test excavations this season.

11-M-15 is an extensive site located close to the river bank, with surface pottery scattered over an area of some 500 m. in a north-south direction. In the surface debris two small eroded mud-brick structures were found, associated with sherds of A-Group, C-Group and New Kingdom date. On a higher elevation, close to some rocky outcrops, a stone hut was investigated having mud-plastered interior walls and a mud-floor. In the fill sherds from the A-Group and C-Group periods were present together with a few sherds of the Kerma culture.
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11-M-7 is another important camp site on the western plain at Saras, located at a prominent rocky outcrop close to the river bank. The elevation of the site is c. 21 m. above the present median level of the river. The refuse layer was in parts up to 70 cm. thick. It consisted of two rather diffuse strata (Levels 1-2 and 3-4 respectively) that could be distinguished by remains of hearths and ash deposits found at different levels. There were no distinct demarcations between the layers. The lower stratum rested directly on very uneven rocky ground and coarse gravel. No structural remains were discovered. Potsherds, animal bones and amorphous fragments of white quartz were predominant in all layers. Other significant finds consisted of a few simple copper awls, one polished stone celt (in the bottom layer) and some grinding implements and hammerstones. A portion of a pottery stamp was found in Layer 2 in one of the test squares. It is made of a potsherd of hard greenish-grey ware (so-called Qena ware) and has a number of teeth ground or cut into a thin edge with an elliptic outline. This object is a true rocker-stamp, i.e. a dotted line is produced on a green or leather-hard clay surface by moving the tooth-edge rocker-wise. Many different patterns can be made with the same stamp by various modifications of the technique: parallel lines, triangular patterns, zig-zag patterns, bands of closely spaced dots, etc. (Plate I, a). Some sherds from the site have an impressed decoration that was evidently made with rocker-stamps of the same type as the one described here.

Coarse brown-grey wares with plain or scraped surfaces occurred in both strata in site 11-M-7 together with typical red-polished A-Group pottery with plain or rippled surfaces. Other sherds were of hard red or grey wares originating from Egyptian bowls and jars. The decorated pottery consisted chiefly of impressed and incised brown wares, often with polished surfaces. A number of the impressed sherds displayed zig-zag patterns and bands of closely spaced dots resembling some of the typical pottery from Shaheinab. Rectilinear motifs occurred as well, either incised or impressed with a tooth-stamp, forming parallel lines, herring-bone patterns, etc. In the top layer unmistakable C-Group pottery was found, including some black-topped red-polished sherds with incised geometric decoration.

A third habitation site with distinct stratification was investigated on the east bank of Saras, in the northernmost part of the great plain (11-L-14). The

3 Arkell, Shaheinab, pls. 29 : 2, 31 : 3-5, 32 : 2-6.
5 This site was originally located by Mr Anthony Marks, Columbia University Expedition, who made the first systematic survey of the archaeological sites south of Gemai during the season 1961-62. The writer wishes to express his gratitude for Mr Marks’ valuable information about site locations in Saras during the course of the 1964-65 season. See Kush xi (1963), pp. 70 ff. Site S5 on fig. 1 = 11-L-14.
SARAS EAST II-L-14
TEST A  Section A-A'

1-2 Fire places
3-4 Wood

Diagram showing silt horizons, level 1, level 2, silt floor, and the lowest level for sherds.
excavation was confined to a protected area south of a rocky outcrop. Here a well-preserved refuse layer (Layer 1, Fig. 2) was found on top of a hard alluvial silt floor. A second stratum was discovered in the silt itself (Layer 2, Fig. 2). The finds in this latter layer were covered by the silt, which must have been a result of a very high flood or a change of the course of the river. The exact elevation of the silt floor in question is not yet determined but it was estimated at c. 15 m. above the present median level of the river. The finds from the different layers consisted chiefly of potsherds, animal bones, and amorphous quartz, similar in composition to site 11-M-7.

The pottery from Layer 1 in site 11-L-14 is generally of A-Group and somewhat later date. Coarse brown and red-polished wares are predominant. Some sherds are of hard light red wares originating from Early Dynastic wine-jars. A fragment of a red-polished bowl with inflected rim has a form that can be compared with some Old Kingdom bowls from the 1vth-2vth Dynasty.6 The decorated pottery from Layer 1 consists mainly of sherds with incised and impressed patterns similar to those described above from site 11-M-7. In the top layer and on the surface around the site many sherds were found decorated with straight parallel lines of rectangular dots impressed with a rocker-stamp. These are probably of Early C-Group date. Layer 2 was dominated by coarse brown or polished red-coated wares of A-Group types. There was no imported Egyptian pottery. No decorated sherds of the local wares were found. On the whole, the find complex from this earlier flooded stratum appears to be clearly different from the finds in the upper layer. It can probably be dated to an early phase of the A-Group, preceding the Late Predynastic and the Early Dynastic periods.

5. A-Group and C-Group Cemeteries

One cemetery from the A-Group period was discovered this season (11-H-6). It is located on the broad alluvial plain on the west bank at Saras. The surface of the site was undisturbed, covered by Aeolian sand and loose silt. There was no evidence of superstructures. In a few graves, however, remains of stone slabs were found, indicating that the grave shafts had been blocked originally. One large, rectangular grave pit, unfortunately plundered, was lined with small-sized mud bricks. In all, forty-seven graves were found underneath the surface layer, dug into hard fossil alluvium. All of them were excavated. They consisted of oval or nearly rectangular pits of variable depth and orientation, usually containing a skeleton in contracted or slightly flexed position. A significant proportion of the graves consisted of infant burials in small shallow pits.

The rich finds from cemetery 11-H-6 indicate a dating to the end of the Late Predynastic and to the beginning of the Early Dynastic period. The finds

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6 Cf. Brunton, Mostagedda (1937), pl. 1, form 13H (2625 IV).
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were usually found inside the grave pits, grouped around the burials. A summary of the most significant objects is given as follows:

1. Pottery
   (a) Dishes and bowls of shallow or globular forms and deep bowls with restricted mouths and pointed bases, usually of a red-polished black-topped ware with plain or rippled exterior surface (FIG. 3: 3–8, 22–3).
   (b) A few bowls with pointed bases of a black-topped brown polished ware with triangular designs painted with red ochre on exterior.
   (c) A few bottles with a globular body, flattened base and a narrow cylindrical neck with red-polished exterior and rim and a coarse black interior surface (FIG. 3: 16). This form is uncommon in the A-Group cemeteries of Lower Nubia.
   (d) A few shallow bowls with the rim portion sharply folded inwards, of soft blackened ware with impressed designs on rim and exterior body. The decoration is executed with a tooth-stamp with square or rectangular teeth. These bowls were probably used as incense-burners.
   (e) Large or medium large jars with narrow necks and pointed bases of hard grey or light red wares. These are common Egyptian types often found in A-Group cemeteries (FIG. 3: 1 and 9). A few jars are of forms characteristic of the transition between the Late Predynastic period and 1st Dynasty (FIG. 3: 2).

2. One cylinder seal, found in grave 16, depicting a human figure standing in a boat. The style of this seal appears to be Archaic (FIG. 3: 15). The date may be set to the Late Predynastic or Early Dynastic period.

3. A few feather mounts for fans. The mounts are made of a mixture that seems to be composed of clay and resin.

C-Group cemeteries or small groups of graves dated to the C-Group period were located in Gemai West (11-D-11), on the west bank of Saras (11-H-5, 11-L-23, 11-M-5, 11-M-8, 11-M-10) and on the east bank of Saras (11-L-12, 11-L-29, 11-Q-38). They were all much disturbed and plundered. The finds consisted mainly of potsherds, beads and pendants.

Close to the A-Group cemetery described above there was a large cemetery of C-Group date, located on a low alluvial rise (11-H-5). The site consisted of sixty-nine graves. Most of them were deep oval pits of different orientation, surrounded by remains of crude superstructures of small stone boulders. Most of the graves on this site were plundered. A few, partially undisturbed, had burials in a contracted position. The finds from the cemetery consisted mainly of pottery, usually broken and spread out as sherds all over the site. A few vessels only were found in situ outside the superstructures.
PLATE I

11-M-7, A-GROUP AND C-GROUP HABITATION SITE
Right: Rocker-stamp from Test B, Layer 2. Left: Different impressed patterns made experimentally with the stamp.

11-M-19, KERMA CEMETERY. GRAVE 4
11-M-19, KERMA CEMETERY. GRAVE 6

facing p. 8
PLATE II

11-D-1, QASANTA UW CHURCH SITE. VAULTED BUILDING ABUTTING THE WEST SIDE OF THE CHURCH. LOOKING FROM SOUTH

11-I-1, CHRISTIAN TOWN SITE. GENERAL VIEW AFTER EXCAVATION. LOOKING FROM EAST
THE ARCHAEOLOGICAL SURVEY FROM GEMAI TO DAL

PLAN & CONTENTS of GRAVE 16 in A - GROUP CEMETERY 11-H-6. A J M '65

Fig. 3

9
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The pottery from site 11-H-5 is generally made up of the following wares and types:

(a) Sherds of black-topped red-polished, straw-tempered wares with plain surfaces, very abundant. They usually belong to bowls with restricted mouths and rounded bases of common C-Group types.

(b) A few bowls of black polished ware with incised triangular patterns and impressed rim bands on exterior. One sherd found on the site was of black polished ware with incised designs on both exterior and interior surfaces.

(c) Sherds or portions of bowls of black-topped red-polished ware with impressed patterns on the exterior surface. These patterns consist mainly of straight parallel lines of square or rectangular dots, executed with a tooth-stamp. The arrangement of the design is longitudinal; i.e. the impressed lines radiate from the base and meet the rim vertically. The design is sometimes associated with impressed or incised exterior rim bands.

The pottery assemblages from all the C-Group cemeteries within the surveyed area indicate a dating to the early half of the C-Group period. There are no inclusions of Egyptian pottery in these sites, such as is often encountered in the C-Group cemeteries in Lower Nubia.

6. THE SITES OF THE KERMA CULTURE

Of all the cultures investigated in the 1964–65 season, that of the Kerma people is the most sparsely represented. Only two sites, 11-M-19 and 11-L-28, were found. They are both plundered cemeteries, c. 5 km. apart. The first consists of about twenty graves dug in an alluvial deposit atop a small, rocky plateau some 200 m. from the river bank, at the north end of Saras East (PLATE 1, b–c). The second, somewhat larger, has sixty graves dug in a bank of fossil alluvium at the foot of the cliffs which bound the east side of the Saras East plain. The burials in this cemetery are fairly typical of the type found at Kerma. The graves are mostly east–west orientated and the burial was, in most cases, on a bed, the head to the west, and often accompanied by an animal sacrifice of a gazelle or a ram.

The pottery found on these sites conforms, generally speaking, to types found at Kerma. The bulk of this material is of the cruder variety of local Kerma wares and very few pieces of the fine Kerma 'beaker ware' were found.

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7 Cf. similar patterns on C-Group bowls from Aniba. Steindorff, Aniba, 1, pl. 51: 5–7.
THE ARCHAEOLOGICAL SURVEY FROM GEMAI TO DAL

The pottery is readily distinguishable from the C-Group wares, none of which were found on either site.

The most likely place of habitation of these people is the Pharaonic fortress on the island of Askut. No Kerma settlement sites were found, and no Kerma cemetery was associated with Askut fortress. To the north, there are no other Kerma cemeteries until the one associated with Mirgissa fort, S-3. Tentatively, it would appear that the Kerma people who were living in the Batn el Haggar area were only associated with the Egyptian forts and were not connected with the C-Group peoples, who were living in their own villages in the area.

7. PHARAONIC SITES

There are fifteen Pharaonic sites within the area surveyed in the 1964–65 season. A number of these are associated with the fortress on Askut Island. On the west bank just opposite the fort there are L-18, eight undecorated, rock-cut tombs, and L-22, a small cemetery of simple, rectangular graves containing extended burials. On Kagnarti, the next island to the south of Askut, there is L-26, a cemetery of some 250 graves crudely made in crevasses in rocky outcrops. Also probably connected with Askut is L-30, a site on the east bank that appears to be the remains of mining or quarrying activity. Further north, on the west bank of Saras just where the river turns east into Murshid, there is a high gebel. Atop this is a small, two-roomed stone structure, H-7, which was a lookout and/or signal post. The location commands a wide vista of the river and the surrounding country and can easily be seen from Askut. Possibly a heliograph or a fire signal from here could be seen at Mirgissa. Just below, on the plain, there is a small fishing camp, H-4.

The rest of the Pharaonic sites are small and relatively unimportant. There are two small camp or refuse sites at Gemai West, D-36 and D-37. At Saras West were a single rock-cut tomb, H-3; a small settlement consisting of half a dozen stone huts, M-13; a few rectangular graves, M-6; and a small cache of grindstones and pottery, M-12. On the east bank of Saras there is a stone hut associated with an A-Group campsit, H-8; and further south there are some graves in L-12, a cemetery that also has C-Group and Meroitic graves.

It seems obvious that Askut fortress was the next centre of Egyptian activity during the Middle and New Kingdoms south of Mirgissa, and that apart from the occupation there, settlement and other activity was slight.

9 Kush xi, p. 19. 10 See Kush xii, pp. 47 ff.
11 At low river the islands of Askut and Kagnarti are joined by a mud bar, and this proximity might explain why the seemingly unsuitable ground of the latter was used in preference to the west bank.
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8. Meroitic Sites

Five sites with remains of the Meroitic period were found within the area surveyed. Two of them consisted of small cemeteries of c. 25–30 graves, one located in Murshid West (II-I-20), and the other in Saras West (II-M-9). The graves in the latter site were of the usual Meroitic type, consisting of a sloping entrance shaft leading to a burial chamber situated at the end of the shaft. Nearly all the graves were orientated east-west. Some of those excavated had been re-used during the Christian period. Most of the graves from these two cemeteries appeared to be plundered or re-used. The few finds from the test excavations give enough evidence to date the original burials to the Late Meroitic period. Some of the sherd material consists of the characteristic thin cream-coloured ware with painted decoration, of Adams' Meroitic Ware 1A.13

Two habitation sites were investigated on the west bank. One was located in Murshid West (II-I-21), near the present flood plain and not far from the Meroitic cemetery II-I-20 reported above. Remains of two small separate buildings were excavated on this site, comprising mud-brick structures with a square or rectangular outline. One of them had a vaulted roof without any lateral entrance.13 The other site was found in the southern end of the area surveyed, on the west bank of Saras (II-Q-18). Its main feature was an enormous stone wall enclosing an area c. 570 m. long and c. 100–50 m. wide, bordered on the eastern side by the steep river bank (FIG. 4). The terrain within the enclosure consisted of high rocky outcrops separated by slopes and depressions filled with yellow Aeolian sand. The enclosure was built of rough angular stone blocks, forming masonry which was in places 2 m. thick and 1.7 m. high. Three gates were found in this enclosure, located on the western side. They all consisted of a simple opening, c. 3.5–4 m. wide. Parts of the wall were buried deep in accumulated sand; other parts were fully exposed.

Extensive testing was carried out within and outside the enclosure in search of remains that could provide clues about the purpose and the date of the wall. In the southern end of the enclosed area another minor wall was detected (FIG. 5). It was of semi-oval outline, c. 130 m. in diameter, and much cruder and thinner than the great wall. The area enclosed by it consisted of a very steep sandy slope at the river bank, bordered by a few rocky outcrops. On the slope, completely buried in wind-blown sand, there were remains of a mud-brick house, consisting of three small rooms and a few unconnected and denuded wall structures. The refuse in the rooms was made up of only one occupation level. A few large jars were found in the floor, filled with ash and pieces of charcoal. They had served as fuel containers for the fireplaces.

13 A similar building was excavated by A. Klasens in his 'Site A' at Abdallah Nirqi, near Abu Simbel.
Most of the pottery from these two habitations sites consists of hand-made coarse or smooth, uncompacted brown-grey wares of Adams’ Meroitic Group V. The decorated pottery consists mainly of these utility wares with an incised wavy-line pattern beneath the rim. They can be dated to the Late Meroitic period.

The extensive wall on site 11–Q–18 is probably associated with the Meroitic house within the enclosure. The purpose of the wall is, however, a question that must remain unanswered for the time being.

9. X-Group Sites

In only five sites is the X-Group culture represented. Of these, four continued to be occupied during the Christian period. At Gemai West a large cemetery, 11–D–39, is about 50% X-Group and 50% Christian. No definable settlement was recorded at Gemai West, although some X-Group pottery was found associated with Qasantauw church, 11–D–1. No X-Group remains were found in Murshid West, which is rather peculiar considering that both Meroitic and Christian settlements were found there. In Saras West there is a small cemetery, 11–H–2, consisting of plundered shaft graves. Further south is 11–L–17, a denuded settlement area with both X-Group and Christian pottery. At Saras East there are two small, plundered cemeteries, 11–M–2 and 11–M–21, with both X-Group and Christian graves in each case.

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For some reason X-Group settlement in the area surveyed in 1964–65 is sparse compared with that further north, and especially when the amount of settlement during the succeeding Christian period is considered.

10. CHRISTIAN SITES

As the Christian period is the most recent of those investigated by the survey, it was expected that the sites found would be numerous and would often be in a fairly good state of preservation. Such proved to be the case. Thirty-one Christian sites were recorded during the season, but only the more important of them will be described.

Churches. Two churches were excavated. The first, 11–D–1, at Qasantauw, Gemai West, was probably built near the beginning of the Christian era. This badly denuded building is rectangular, 16.50 m. × 11 m., and orientated approximately east–west. The interior is divided into a nave with an apse at the east end and two narrow aisles. No trace of other internal structures remains. Beneath the church were fourteen narrow vaulted tombs which were all empty. Beneath the nave was a crypt containing the burial of an adult.\(^{15}\) Abutting the west wall of the church, but not directly communicating, is a narrow vaulted brick building, 14.50 m. long and 2 m. to 2.25 m. wide, running at right angles to the nave (Plate II, a). This building was erected after the church was built. Its actual use is undetermined.

The second church excavated was at 11–I–1, Murshid West. It is a mud-brick structure which has been largely destroyed. The original church, built during the Early Christian period measures approximately 14.50 m. × 9.50 m. and is orientated east–west. The interior is divided almost equally into a nave with an apse at the east end and two aisles. There is a square room in each corner, that in the south-west probably having a staircase. Later, during the Classic period, the church was largely rebuilt. Less of this later structure remains, but it appears to have been constructed upon the walls of the earlier church with the addition of a tribune to the haikal. The quality of the planning and construction in this rebuilding is greatly inferior to that of the original.

Settlements. Fifteen habitation sites were investigated; three at Gemai, three at Murshid, three at Saras West, four at Saras East, and the remainder on the islands in the river at Saras. Although many of them are badly denuded, various types of structural remains were encountered. At 11–I–1, Murshid West, there is a large town on the leeward (south) side of a rocky outcrop with well-built two-storey dwellings of mud brick (Plate II, b). The lower storey consists of vaulted chambers of varying sizes, generally built directly on bed-rock (Fig. 5). These were entered from above and are sometimes interconnected.

THE ARCHAEOLOGICAL SURVEY FROM GEMAI TO DAL

Above them were other rooms which may have been flat-roofed or roofless, having simply low dividing walls. They are too denuded to ascertain their full original form.

One fortified settlement, 11-L-2, was investigated on Mugufil Island. It is a small area, about 60 m. x 22 m., enclosed within a heavy stone wall a metre or more wide. It stands on a high bluff overlooking the river at the south-east corner of the island. Inside the enclosure are about thirty rather small rooms built of mud brick and stone.

A third type of Christian dwelling is a small house built of stone, plastered with mud. These usually consist of two or three small rooms and include storage bins and sometimes an oven. At 11-M-14, 11-M-16, and 11-M-20 they were found as isolated buildings. On Mugufil Island the houses of 11-L-3 cover most of the island in small clusters of two to four buildings of the same type. Another site on Kagnari Island, 11-L-8, consists principally of a cluster of twenty or so of these houses on one rocky outcrop.

Cemeteries. Christian cemeteries were numerous. Thirteen were found, ranging in size from a few graves to over a hundred. Normally a cemetery can be linked to a nearby settlement. The graves are almost invariably a simple rectangular pit large enough to hold an extended burial. Low, rectangular mud-brick superstructures with a small lamp box at the west end, or rectangular stone superstructures were found quite often. However, the bulk of the graves either never had superstructures or they have completely disappeared.

Christian settlement appears to have been as extensive in Gemai, Murshid and Saras as it was further north in Nubia. Pottery dating to all phases of the period\(^1\) is found in the area, and it is rare to walk more than 500 m. along the river bank without finding some Christian sherds. As is the case in the Second Cataract, most of the insular land has been used, and on the river banks one normally finds a settlement wherever there is a small amount of arable land.

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\(^{1}\) For the dating and typology of Christian Nubian Pottery, see Adams, *Kush* x, pp. 245-88.
The 1965 Field Season of the Southern Methodist University

by Fred Wendorf, Joel L. Shiner, Anthony E. Marks, Jean de Heinzelin, Waldemar Chmielewski and Romuald Schild

The 1965 season began on the 10th of January and lasted until the end of February. It was designed as a short, intensive period of research with the purpose of solving particular problems related to prehistoric development sequences, to strengthen the data in certain areas where the evidence was weak.

Personnel included the following: Professor D. F. Wendorf, Director; J. L. Shiner, Field Director; J. de Heinzelin, Geologist; W. Chmielewski, Archaeologist; and Archaeologists A. E. Marks and R. Schild.

<table>
<thead>
<tr>
<th>Selected C-14 Dates</th>
<th>Periods</th>
<th>Nile Sequence</th>
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</thead>
<tbody>
<tr>
<td>3,650 B.C.</td>
<td>Nubian Ceramic</td>
<td>Quadrus Formation</td>
</tr>
<tr>
<td>4,494 B.C.</td>
<td>Nubian</td>
<td></td>
</tr>
<tr>
<td>5,750 B.C.</td>
<td>Final Stone Age</td>
<td>Arkin Formation</td>
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<tr>
<td>7,410 B.C.</td>
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<td></td>
</tr>
<tr>
<td>10,000 B.C.</td>
<td></td>
<td>Sahaba Formation</td>
</tr>
<tr>
<td>14,500 B.C.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15,850 B.C.</td>
<td>Nubian</td>
<td></td>
</tr>
<tr>
<td>20,750 B.C.</td>
<td>Upper Stone Age</td>
<td>Dibeira Formation</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nubian Middle Stone Age</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nubian Early Stone Age</td>
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</table>
1965 FIELD SEASON OF THE SOUTHERN METHODIST UNIVERSITY

Field headquarters for the expedition were at Abka and supplies were obtained from the railhead at Wadi Halfa airport.

The description of the field work is given in terms of a new practical system which should be easy to follow. If it were possible or even practical in Nubia to use the accepted age designations of Europe, the Middle East, North Africa, or the Pan African Congress, the problem would be simple. However, not one of these systems describes what happened in Nubia. Each system fits rather well certain parts of the general Nubian development, but only parts.

The concept of Nubian developmental stages may or may not apply outside of Nubia, since they were conceived for Nubia alone. They include no innovations in the concept of what constitutes culture change, but are general divisions backed by a rather complete and consistent series of C-14 dates.

NUBIAN EARLY STONE AGE

Excavations were continued by W. Chmielewski at Dibeira 8 and 8A. These enlarged the available sample of artifacts and permitted a more extensive mapping of artifact distribution. The sites produced a great number of finely made Acheulian bifaces, a number of which were made from small quartz pebbles.

NUBIAN UPPER STONE AGE

A major part of the 1964–65 field season was given over to a more detailed examination of Nubian Upper Stone Age sites, particularly those belonging to the Khormusan industry.

KHORMUSAN

Site 34 at Naq el-Ikhtyaria was again excavated. During the 1963–64 field season, indications of in situ artifacts were seen in a number of primarily geological trenches. The past season expanded these trenches with excellent results (FIG. 1).

Of particular importance, artifacts from the assemblage 34A were found in situ in sufficient number to permit a detailed typological study. It was found that the surface material, reported in 1963 (Solecki, 1963: 86) had given an incomplete picture of the assemblage. While denticulates and burins were numerous in the in situ collection, they were almost totally absent from the surface. This was not due to any stratigraphic difference but to surface weathering which broke down the edges of the flakes, obscuring the serrations, and making it impossible to note burin facets on the relatively soft ferrocrete sandstone which was used as raw material. With the addition of these tool types, it can now be stated with certainty that the assemblage of 34A is within the Khormusan industry and represents its earliest known manifestation.

The assemblage of 34A was found within a sand dune covered by a thin layer of silts which were part of the final Dibeira deposition. Under these silts,
Fig. 1. MAP OF SITES STUDIED DURING THE 1964-65 FIELD SEASON
within a thin layer of loose fill was found another assemblage of Khormusan artifacts. Unlike 34A, the raw material used included only a small percentage of ferrocrete sandstone, but much chert, fossil wood, and Precambrian rocks. Over 350 retouched tools and Levallois flakes were excavated. Preliminary study shows that they are within the same general level of development as the assemblage from ANW-3 (Wendorf, Shiner and Marks; 1965: xxiv–xxv), although they may be somewhat earlier. A charcoal sample was taken for radiocarbon age determination so this point will soon be clarified.

A survey within the town of Gemai East revealed another in situ Khormusan site. This site, 2004, appeared to be in the base of the Sahaba formation, at an elevation of 8 m. above present flood plain. As Gemai is above the Second Cataract, however, it is not certain that the Nile deposits there directly correlate with those below the cataract.

Excavations at Site 2004 cleared 30 sq. m. of a living floor, which was within a fluvial sand deposit, covered by partially eroded silts. The excavated area produced over 210 retouched tools and Levallois flakes, as well as one grinding stone. The assemblage contained all the normal Khormusan elements—large numbers of burins, denticulates and Levallois flakes—but showed a definite degeneration in flaking techniques and gave a general impression of poverty. Without question, the Khormusan of this stage was beginning to decline. The living floor was rich in burned fish bone but there were very few mammal bones. A large enough sample of burned fish bone was recovered to make a radiocarbon age determination possible.

Thus, by the end of the 1964–65 field season, five Khormusan assemblages have been found and excavated. They may be placed in chronological order as follows:

<table>
<thead>
<tr>
<th>Geological Position</th>
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<th>C-14 Date</th>
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<tbody>
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<td>sample taken</td>
</tr>
<tr>
<td>Dibeira/Sahaba interval</td>
<td>ANW-3</td>
<td>15850 ± 500 B.C.</td>
</tr>
<tr>
<td>Upper Dibeira</td>
<td>34 Upper</td>
<td>sample taken</td>
</tr>
<tr>
<td>Middle Dibeira</td>
<td>1017</td>
<td>20750 ± 280 B.C.</td>
</tr>
<tr>
<td>Pre-Dibeira</td>
<td>34A</td>
<td>sample taken</td>
</tr>
</tbody>
</table>

The work of the past field season did not appreciably change the picture of the Khormusan, except in that it expanded its known time range in both directions.

**SITE 440**

Additional excavation was made from 16 sq. m. of both occupational levels. This was done in order to obtain valid tool samples for detailed typological study. The excavated area produced only those tool types described from the 1963–64
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field season (Wendorf, Shiner, and Marks, 1965: xxiv). Studies are under way and it is still too soon to give any indication of the typological affiliations between 440 and other sites in the area, if such affinities exist.

SITE 2001

During a study of the prehistoric collections made by the Joint Scandinavian Expedition from 1961 through 1963, a site was brought to our attention which appeared to be post-Mousterian, but was typologically removed from the Nubian Final Stone Age. As the collection on hand was very small, it was decided to revisit the site and obtain a systematic artifact collection.

Site 2001 is situated on a low sandstone ledge, 18 m. above present flood plain, just north of the Cairo Road. Surface material covered an area of over 2,000 sq. m. Artifacts were found on the surface and up to 4 cm. in a loose Aeolian deposit.

Over 200 retouched tools were collected from a 40 sq. m. area. Technologically, they are very similar to the Mousterian, employing ferrocrete sandstone almost exclusively as raw material. Debitage is largely Levallois, and Levallois Nubian Cores, Type I are very common. The typology, however, differs markedly from the typical Mousterian assemblages. Of particular note are a group of finely made end-scrappers, quite distinct from the Mousterian types. In addition, there are large number of borers and burins as well as a few typical Mousterian tool types.

Although the technological similarities with the Mousterian are striking, the geological position of the site seems to indicate that it is much more recent, certainly no older than the end of the Dibeira formation.

SITE 278

Additional excavations were carried out at Site 278. Sixteen sq. m. of in situ area was excavated at the southern end of the site, enlarging a previously excavated sample. A new area was excavated at the extreme northern end of the site, where 30 sq. m. was cleared. In this area a heavy concentration of artifacts was found beneath eroded silts of the Sahaba formation. Both areas produced retouched tools which appreciably added to the tool sample available from the 1963-64 field season.

NUBIAN FINAL STONE AGE

Both excavations and systematic collections were made at sites of this period.

Sebilian

Four new Sebilian sites were discovered during the past field season. Two sites were located north of the Cairo Road, sites 2013 and 2005, and two near Khor Musa, sites 2010A and 2010B. All were surface concentrations on the eroded surface of the Sahaba formation. As with those already reported
1965 FIELD SEASON OF THE SOUTHERN METHODIST UNIVERSITY

(Wendorf, Shiner, and Marks 1965: xxvii–xxviii), the new collections are all
very similar. They give no new insight into the development of the Sebilian,
and reinforce the position that the Sebilian did not evolve in Sudanese Nubia.
The new finds show, however, that there was an appreciable Sebilian occupation
of the area from 10,000 to about 8,000 B.C.

**Halfan and Qadan**

Site 1018, of the Halfan Industry, was re-excavated for the purpose of
obtaining a larger sample of artifacts. Adequate numbers of tools and debitage
are now available.

Site 2014 was added this season. It is also an assemblage of the Halfan
Industry, later than the type site 443. The collection will aid materially in
understanding culture change within the industry.

Four new sites of the Qadan Industry were collected in 1965. All of these
enlarge the body of data related to the cultural growth of an industry that is
independent of the Halfan.

Site 2009 is an early hunting camp on the banks of the Khor Musa Wadi
near the airport. The statistically adequate sample includes a large number of
stone points.

Site 2003 is on top of a Precambrian outcrop near the town of Gemai.
Its position indicates a high Nile later than the earliest Qadan sites.

Site 2012 is situated near Jebel Sahaba, and helps describe an intermediate
stage in Qadan development.

Site 2000, on the Abka Plain, is late in the sequence, just prior to the Nubian
Ceramic Age.

Site 1046 was collected in 1964, but additional material was collected this
season.

Site S-412 was discovered and excavated by the Scandinavian Joint Expedi-
tion in 1964. With their permission, the Southern Methodist University group
made geological investigations and additional excavations there. This key site
shows important relationships to the Qadan Industry, although it is earlier in
time.

**Sites of the Nubian Ceramic Age**

The two major expressions of the early part of the Ceramic Age were
investigated. One of these, designated the Abkan Industry, shows every indica-
tion of having developed out of the Qadan Industry. Abkan Sites are easily
identified by the plain ware pottery and the numerous borers and groovers.
Site 2007, collected this season, is a typical example.

Another expression of the early Ceramic Age is a variant of the Khartoum
Neolithic described by A. J. Arkell for Shaheinab. The pottery is quite similar
if not identical to that of Shaheinab, but the stone tools vary significantly.
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Many of the stone tools are made of imported Egyptian Flint. Sites 2006 and 2016, north of Abka are recently collected sites of this type. Last season, five other similar sites were collected.

Survey

One of the objectives of the 1965 season was the completion of the archaeological survey of the southern limits of the reservoir. The survey was completed with results predictable from earlier work in the area. The Batn el Hagar, due to closely encroaching hills of the Precambrian, afforded few opportunities for prehistoric sites. With a Nile higher than it is today, few of the present terraces would have been exposed. In spite of an intensive survey, no sites worthy of excavation were located.

Burials

The most important contribution made last season to the prehistory of Nubia was the excavation of a large Nubian Final Stone Age burial ground. The site was first discovered during the 1961–62 field season but at that time only one multiple burial was removed and the full significance of the find was not realized (Solecki, 1963: 86–89).

Late in the past field season, the immediate area of the original skeletal finds, Site 117, was tested as it appeared that there was at least one additional burial. It was soon seen that a number of burials were present. During a three week period of excavation, over 240 sq. m. were removed, uncovering fifty skeletons (Fig. 2).

All the skeletons had been buried in oval pits, most of which had large slabs of rock covering them. Burial position was, for the most part, uniform; the skeletons were on their left sides, heads to the east, facing south. Legs were semi-flexed with the heels at the pelvises and the arms were flexed with the hands at or on the face.

A number of double interments were excavated, each containing a young woman and child or a young couple. There was one large, mass grave which contained thirteen individuals. Almost all were in the typical burial position except for the last two to be placed into the grave. These were thrown in, without ceremony.

An important aspect of these finds were the association of retouched stone points which were the apparent cause of death of the majority of individuals. As many as twenty-seven points were found in one skeleton. These points made it possible to place these skeletons with a known lithic industry; the Qadan.

The dating of the skeletons was achieved in two ways; by the associated points and by a soil which had formed through the burial pits. Both systems placed these burials between 12,000 and 8,000 B.C.
Fig. 2. MAP OF BURIALS AT SITE 117

SITE 117
SAHABA, SUDAN

0 — 1 m.

APPROXIMATE POSITION OF BURIALS 10 AND 51 EXCAVATED BY COLUMBIA EXPEDITION, 1961-62

LIMIT OF EXCAVATION

LIMIT OF EXCAVATION
KUSH

The skeletons are of prime importance in the study of late Pleistocene and Early Holocene man in Africa. This group represents the largest single find of associated skeletons of this age in Africa. Their condition is good enough so that a full population study will be possible.

Anatomically, they are fully *homo sapiens* but show a number of primitive features; thick and heavy bones, a low and wide ascending ramus, a small mandibular flange, major alveolar prognathism, and large well-preserved molars. The individuals were large with heavy long bones, a number of which show mended breaks and pathologies.

The skeletons are now being studied by Dr Anderson at Southern Methodist University, under a supplemental National Science Foundation Grant.

CONCLUSIONS

The 1965 season accomplished all of its aims in gathering information on incompletely known periods of prehistory. The field work greatly strengthens the developmental sequences, and did not alter our earlier models of the several industries.

BIBLIOGRAPHY


Prehistoric Investigations on the West Bank in the Batn el Hagar by the University of Colorado Nubian Expedition

by Gordon W. Hewes

The third field season of the University of Colorado Nubian Expedition was devoted to investigation of prehistoric sites on the west bank of the Nile in the Batn el Hagar, supported by a grant from the U.S. National Science Foundation. Our concession extended from Gemai West to a point opposite Ferka, for a distance along the river of 120 km. As this area lay within the pool limits of the reservoir being formed by the High Dam at Aswan, it was below the 180-m. contour line, and hence nowhere more than 3 km. wide, usually much narrower, narrowing upstream until the 180-m. contour coincides with the mean river level. The majority of prehistoric sites in the concession therefore lie at the northern, downstream end (Map, fig. 1).

The party consisted of the writer, Dr Peter Robinson, Curator of Geology of the University of Colorado Museum, Mr Thomas Higel, Research Assistant, and Dr Roy Carlson, who joined the expedition toward the end of the season. Work in Nubia began on 27 October 1964, and ended on 2 January 1965, with a few days spent in Khartoum and in inspecting the Khor Abu Anga site in Omdurman. Because our excavations were exploratory rather than intensive, only a small crew of local workmen was required. Headquarters were at Adurma, a hamlet on the east bank, 6.5 km. north of Murshid Village. Most of our work was concentrated in a valley which runs diagonally from opposite Sigaga to a point across from Adurma; this valley is not named on published maps, so we have designated it Kárgan Valley after the local name of a cluster of houses near its northern outlet. Our task was to discover, map, collect from, and where feasible, to excavate in exploratory fashion prehistoric sites in a section of the Nile Valley which had not yielded much prehistoric evidence in previous reconnaissance efforts. Absence of a road in the rugged terrain on the west bank in the Batn el Hagar, and the sand-choked condition of the wadis and valleys help to explain the previous dearth of archaeological information on periods prior to the Pharaonic. The west bank contains some well-known

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1 The first season's work was reported by the writer in Kush xii (1964), pp. 174–87. Prehistoric work of the second season is described by H. T. Irwin and J. B. Wheat in Kush xiii (1965).
2 Cf. Map, fig. 1, in the paper by P. Robinson and this writer, this journal, p. 45 (Kush xiv).
SITES ON THE WEST BANK, BATN EL HAGAR

- sites found by Colorado Expedition, 1964
- sites found by Columbia Expedition, 1961-62

(see detailed map for Murshid West area)

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INVESTIGATIONS ON THE WEST BANK IN THE BATN EL HAGAR

Pharaonic fortresses such as Shelfak and Semna West, along with remains of C-Group, Meroitic, X-Group, and especially Christian Nubian times, most of which have been mapped and in some cases excavated by the Sudan Antiquities Service or by earlier expeditions. However, these sites lie without exception very close to the river, on or immediately adjacent to the present flood-plain, and are readily accessible by boat. At the start of our work only two prehistoric sites were indicated on the detailed site-map prepared by the Sudan Antiquities Service in the area of our concession—both petroglyph stations at Ukmma West.³

Our procedure in the field began with a careful comparison of the 1:15,000 aerial photographs and the 1:25,000 topographic maps (Archaeological Survey Map of Sudanese Nubia, Sudan Survey Department, Topo. No. S. 1039–61) in order to delimit the area below the 180-m. contour which might yield prehistoric remains. Using the aerial photographs on the ground, we then reconnoitred on foot, noting all artifact and débitage concentrations on tracing-paper overlays; data were subsequently plotted on the 1:25,000 base maps. Artifacts, débitage, fossil animal bones, molluscan shells, soil samples, and other portable specimens were collected. Larger sites were mapped using plane-table and alidade, and collections from these surfaces were made systematically in grid-squares—2 m. on a side except for the most extensive sites where 8-m. squares were used. Where there was indication of depth of deposit and possible stratigraphy, trenches were dug and profile drawings made. However, the bulk of our collection comes from the surface, though we do have from some sites significant numbers of artifacts from below the surface, in situ. Forty sites were given official Sudan Antiquities Service numbers; eighty-eight additional localities and traverses were mapped and noted, but designated only by our expedition field numbers. GXO 422 is not an archaeological site, but a locality where Corbicula shells were collected for Carbon 14 dating from a relict Nile deposit.

The Batn el Hagar or 'Belly of Stones' has been described many times, and it should be sufficient here to recall that it is a rock-bound gorge which has been cut by the Nile through a Precambrian basement complex, now peneplained, which terminates northward at the downstream end of the Second Cataract. Where there is a floodplain, it is narrow; in many places the river flows between high rocky banks. There are numerous islands and many rocks and rapids which impede navigation even in small boats. In contrast to the denuded east bank landscape of bare bedrock, boulders and cobbles presenting a dark brown aspect, the west bank is mantled with yellow wind-blow sand derived from the Nubian Sandstone formations to the northwest, from which the higher rocky

³ Cf. Map 1, sites A23 and A24, after R. Solecki et al., Kush xi (1963), p. 83 and fig. 1. Mr A. E. Marks surveyed the west bank in the Batn el Hagar for the Combined Prehistoric Expedition, but his findings have not yet been published; he reported that in the areas he visited there were very few sites, none of them particularly promising (oral communication, August 1964).
hills rise like Inselbergen. Beyond the present floodplain with its strip of vegetation, partly consisting of irrigated fields and palm-groves, both sides of the Batn el Hagar are absolute desert today, except for a few of the wadis near the south end, along the beds of which occasional trees and shrubs somehow manage to find sufficient moisture to survive. The total aridity of recent times is in marked contrast to the evidences of former moister epochs: molluscan shells in silt beds high above the present river level, relict patches of soils, bones of large bovids testifying to grassy plains, calcified root-systems of fairly large trees, chunks of travertine suggesting springs and seepage, and above all, prehistoric campsites adjoining relict watercourses well back from the modern Nile.

Our findings corresponded reasonably with our expectations. Although evidence of prehistoric occupation was notably less abundant than in the open country around Wadi Halfa, we found material ranging from probably before 30,000 B.C., Late Middle Palaeolithic, through the Upper Palaeolithic with one date of 11,700±300 B.C., down to Neolithic and A-Group material dated at 3,000 B.C. Significantly, no sites with handaxes were discovered by us, although they are abundant in the vicinity of Wadi Halfa, below the Second Cataract. We may assume that handaxe makers frequented the area of the Batn el Hagar, but at elevations above the 180-m. contour line which bounded our concession. We found no human skeletal material of prehistoric age, although such remains have come to light at Gezira Dabarosa and north of Wadi Halfa.

Below are listed major sites to which regular Sudan Antiquities Service site-numbers were given, along with brief descriptions and notes on collected specimens. Further comments are made in the section following this list, about sites 11-D-26, 11-D-27, 11-D-34, 11-I-13, 11-I-15, 11-I-16, and the Corbicula locality, GXO 422. Topographic references, including elevations, distances, etc., are to sheets of the 1:25,000 series of the Archaeological Survey Map of Sudanese Nubia mentioned previously. Elevations are only approximate; the lack of bench-marks and the fact that the contour interval on the 1:25,000 maps was 10 m. made it impractical for us to obtain greater precision during the time we were in the field. Periods assigned are of course very tentative, and further work may drastically alter their placement.

Murshid West (Map, fig. 1, in P. Robinson and G. W. Hewes’ paper, this volume).

11-D-14, 1,300 m. S. of 21°45' N., 700 m. W. of 31°10' E., elev. 175-80 m., on north-east side of small valley with a few small gastropod shells on the surface. No site outline. Small pebble cores and struck flakes, one large yellow chert core. No stratigraphy. Upper Palaeolithic?

11-D-15, 2,000 m. S. of 21°45' N., 1,250 m. E. of 31°10' E., elev. 150-5 m., on low bench about 3 m. above present Nile floodplain, area 200 m. north-south, 50 m. east-west. Crude flakes with some secondary chipping or fine retouch, small pebble

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cores, one large yellow chert flake 12 × 7.5 cm., with edge-flaking. Late Mesolithic or pre-pottery Neolithic?

II-D-16, 2,850 m. S. of 21°45' N., 1,050 m. E. of 31°10' E., elev. 175 m., on irregular rocky saddle and backed by higher rocky slopes; six roundish dry-laid stone structures occupy site, with sherd of several historic periods nearby. Two fragments of permineralized mammal bone. Cores, retouched flakes, finished side-scrapers (three). Late Upper Palaeolithic, Mesolithic to Neolithic?

II-D-17, 1,770 m. N. of 21°42' N., 700 m. E. of 31°10' E., elev. 150 m., on north-west side of main Káragan Valley channel. Scattered X-Group and Nubian Christian sherds. One subfossil distal portion of a large artiodactyl humerus, and a bovid tooth fragment. Grave-pits of probable X-Group age intrusive. Lithic remains Mesolithic or Neolithic?

II-D-18, 1,750 m. N. of 21°42' N., 620 m. E. of 31°10' E., elev. 150 m., on north-west bank of main Káragan Valley channel. Many X-Group and Christian Nubian sherds; three of plain handmade brown ware, one of incised reddish ware with herringbone incised pattern, possibly Neolithic. Lithic remains Mesolithic to Neolithic?

II-D-19, 1,575 m. N. of 21°42' N., 300 m. W. of 31°10' E., elev. 157-60 m., on north-west side of main Káragan Valley channel, centred on a prominent boulder cluster. Two large chert tortoise cores, one large chert chopper, small pebble cores, small flakes, five Levallois flakes, three 6–7 cm. long flake points, one in situ in indurated sand. Some Unio shell. Upper Palaeolithic, with a few items of early Mesolithic times from nearby sites.

II-D-20, 1,650 m. N. of 21°42' N., 750 m. E. of 31°10' E., elev. 150 m., bordered on north and north-west by edge of main Káragan Valley channel, on a prominent lobe of Nile silt with many intrusive graves of X-Group age. Lithic material seems to be limited to the surface, and includes pebble cores, one with a tabular striking platform, some retouched blades, ovate flakes, one large trianguloid end scraper, no Levallois flakes, large cores or backed bladelets; six possibly Neolithic sherds with waffle stamp, incised lattice, and impressed circle decoration, reddish brown in colour. The prehistoric items found may be Neolithic to early A-Group.

II-D-21, 1,400 m. N. of 21°42' N., 180 m. E. of 31°10' E., elev. 155 m., on west bank of main Káragan Valley channel. Surface has many kankar fragments apparently of ancient tree root systems. Scattered débitage, no real tools, a few utilized edges but no retouching. Probably the southern extension of II-D-27, q.v. Late Upper Palaeolithic or early Mesolithic?

II-D-22, 1,600 m. N. of 21°42' N., 75 m. E. of 31°10' E., elev. 163 m., on sloping ground well back of main Káragan Valley channel. Low truncate cone of compacted sand and gravel with large Unio shells and chert flakes, and kankar root-concretions on perimeter. Pebble cores, small utilized chert and some agate flakes, a chopper 6 × 5.5 cm. Late Upper Palaeolithic to Mesolithic?

II-D-23, 1,400 m. N. of 21°42' N., 350 m. E. of 31°10' E., on a large fan sloping up east from main Káragan Valley channel, elev. ranging from 150 to 160 m. Aside from one incised sherd, probably Neolithic, the collection includes many medium-sized flakes, retouched side-scrapers, a few large faceted-butt Levallois flakes, two small Mousterian points (‘Dabarosa points’), one fossil bone fragment. Several periods, Upper Palaeolithic to Neolithic.

II-D-24, 575 m. N. of 21°42' N., 160 m. E. of 31°10' E., on bench 6 to 7 m. above main Káragan Valley channel, elev. 165 m. Medium to large irregular flakes, some
KUSH

Levallois. Late Upper Palaeolithic? Possibly a game lookout with a good view of entire valley to west.

II–D–25, 500 m. N. of 21°42' N., 50 m. W. of 31°10' E., on rocky ridge west of main Káragan Valley channel, elev. 167 m. Fairly large basaltic flakes with edge utilization, one backed blade 1.3 cm. long. Late Upper Palaeolithic? Like II–D–24, a possible game lookout point.

II–D–26, 1,400 m. N. of 21°42' N., 200 m. E. of 31°10' E., on west bank of main Káragan Valley channel, forming an oval 10 × 20 m., slightly concave, with brown silt beneath a thin Nubian sand mantle, elev. 155 m. Numerous chert flakes, some with edge utilization, some in silt below, at depths of up to 30 cm. Unio and some Corbicula shell, kankar concretions, and fine grass rootlets in silt. One possible hearth area with charcoal and ash, not yet C14 tested. No animal bone. Late Upper Palaeolithic or early Mesolithic? Surface collected in 2-metre grid squares, with some exploratory trenching.

II–D–27, 1,450 m. N. of 21°42' N., 180 m. E. of 31°10' E., elev. 157 m., about 40 m. west of edge of main Káragan Valley channel. Resembles Site II–D–26, with sand over silt, but with a pebble conglomerate at base of silt, and without grass rootlets. Unio shell and Corbicula shell, chert flakes in the silt. Surface collected in 2-m. grid-squares. Late Upper Palaeolithic or early Mesolithic?

II–D–28, 2,175 m. N. of 21°42' N., 775 m. E. of 31°10' E., elev. 168 m., on rocky saddle overlooking Nile and Káragan Valley toward south-west, 100 m. from a rough dry masonry three-room structure. Seeming grave-pits proved to be empty and may have been grain storage cists instead. Numerous large, rough flakes of local grey granular schistose material, some cores. Sherds occur at east end of site. The lithic material is quite unlike anything else found on the west bank in the Batn el Hagar. Two sherds of waffle-stamped redware, probably unconnected with the lithic material. Upper Palaeolithic?

II–D–29, 1,600 m. N. of 21°42' N., 350 m. E. of 31°10' E., elev. 157 m., on north-west bank of main Káragan Valley channel, and north-east of II–D–19. Cores, including small pebble core with tabular striking platform, retouched side-scrapers, some medium-sized cores. One fragment of a large, subfossil artiodactyl bone. Late Upper Palaeolithic?

II–D–30, 1,650 m. N. of 21°42' N., 500 m. E. of 31°10' E., on north side of main Káragan Valley channel. One massive flake-core of yellow chert, quartz flakes and core, one retouched flake, one retouched flake of grey Egyptian flint. Mesolithic?

II–D–31, 1,550 m. N. of 21°42' N., 240 m. W. of 31°10' E., elev. 160 m. Similar in location and content to Site II–D–26. Flakes with utilization chipping, several small (2–2.5 cm.) flakes, one large irregular core 7.5 × 5 × 4.5 cm., yellow chert. Unio shell. Late Upper Palaeolithic?

II–D–32, 950 m. N. of 21°42' N., 75 m. E. of 31°10' E., elev. 160 m., at confluence of main Káragan Valley channel and a smaller western tributary channel, extending 40 m. south from apex of confluence. Small to medium flakes and cores, one fragmentary parallel-sided bifacially flaked item, much rolled.

II–D–33, 1,000 m. N. of 21°42' N., 300 m. W. of 31°10' E., near three small rocky eminences on Káragan Valley floor, elev. 160 m. Aside from one large sherd of historic period, large, crude flakes, cores, and a chopper. Corbicula shell. Similar lithic material to II–D–34, q.v. Early Upper Palaeolithic?
INVESTIGATIONS ON THE WEST BANK IN THE BATN EL HAGAR

II–D–34, 250 to 750 m. N. of 21°42' N., 500 to 800 m. W. of 31°10' E., elev. 168 m. to 172 m. on sloping fan with much rocky detritus including large chunks of yellow chert and blackish metamorphic rock. No stratigraphy, no molluscan shell, no bone. Large numbers of large, flattish flake scrapers and choppers, very rough irregular cores, few small flakes, one medium sized perforator(?), one small Lavellois flake, one flake point with retouched edge. Early Upper Palaeolithic?

II–D–35, 160 m. N. of 21°42' N., 530 m. W. of 31°10' E., elev. 167 m., perhaps a southern extension of II–D–34, above, with much the same lithic complex. Early Upper Palaeolithic?

II–I–10, 1,800 m. S. of 21°42' N., 200 m. E. of 31°10' E., elev. 175, in a side valley about halfway between Káragan Valley and present Nile, near some low rocks in the middle of a small plain. Small cores and core end-scrapers. Late Upper Palaeolithic?

II–I–11, 2,050 m. N. of 21°39' N., 900 m. W. of 31°10' E., elev. 170 m., on fairly steep slope overlooking south end of Káragan Valley. Numerous remains of large bovid, probably Bos sp., large crude flakes and spalls, disc cores, no Levallois technique; material nearly all dark grey chert. One small piece of grey Egyptian flint. Mesolithic? Possibly a kill site for one or more large bovids.

II–I–12, 1,650 m. N. of 21°39' N., 940 m. W. of 31°10' E., elev. 160 m., bordered on north and north-west by the south end of Site II–I–16, which is 1 to 2 m. higher. On terrace surface, separated from Site II–I–18 by a mass of boulders. Numerous Neolithic sherds, small flakes of chert and agate, some grey Egyptian flint, a few larger flake-points, a roughly flaked biface point 9 cm. long. A small hearth area. Late Mesolithic to Neolithic?

II–I–13, 2,150 m. N. of 21°39' N., 1,400 m. W. of 31°10' E., elev. 160–5 m., on west slope bordering south end of Káragan Valley, occupying an area 100 m. north–south and 75 m. east–west. At south end, a burial tumulus 3 m. in diameter with rocks forming its outer wall, containing sherds of a thin-walled wheel-made pot, and small human skeletal fragments. The tumulus is intrusive and of C-Group age, unassociated with the adjacent lithic campsite. The hard, pinkish sandy ground below a thin Nubian sand cover was littered with small flakes, many retouched, some strangulated points, mostly of Egyptian grey flint, along with some local Nile chert and pebble-cores, and a few agate flakes. One muller fragment, ostrich eggshell fragments, and many shells of a small gastropod. The lithic ensemble was remarkably homogeneous, and not similar to anything observed elsewhere in the area of our concession, and though Mesolithic, not in the local Batn el Hagar tradition (FIG. 6, J, and FIG. 7).

II–I–14, 1,950 m. N. of 21°39' N., 1,300 m. W. of 31°10' E., 160–5 m. elev., on slope bordering south end of Káragan Valley, resembling the situation of II–I–13, but with a quite different lithic complex, of local materials and tool-types. It too has a tumulus at its southern edge, a rock circle with sand fill, left unexcavated, but also probably C-Group in age. Chert cores and flakes of medium to small size, but the elongated small blades of grey flint are lacking despite the proximity of II–I–13. Late Mesolithic.

II–I–15, 1,900 m. north of 21°39' N., 950 m. W. of 31°10' E., elev. 163–7 m., from wadi edge to terrace top, and nearly continuous on the south with the north end of II–I–16. Lies almost directly across the valley from II–I–14. Nubian sand overlies silt and grey sands, with considerable gravel on the surface. Fossil mammal bone and tooth fragments, Unio and some Corbicula shell, several concentrations of Neolithic sherds, mostly on or near the wadi floor, and lithic material of presumably several different periods, ranging from large Levallois flakes to small, retouched side-scrapers, tiny backed blades, sometimes of agate, narrow perforators, small chert pebble cores, and a few
flakes of grey flint. At the north end of the site, fragments of several mullers and grinding slabs. Stratigraphic trenches revealed the underlying silt, which contained very few lithic specimens. Upper Palaeolithic to Neolithic.

II–I–16, 1,800 m. N. of 21°39′ N., 950 m. W. of 31°10′ E., elev. to top of terrace 167 m., with some occupation extending out to the wadi floor in Kāragan Valley. Trenching revealed a complex sequence of silt and grey sand, a cap of gravel just below the Nubian surface sand at the southern end, with some lithic material extending to a maximum depth of 2 m. The surface was heavily strewn with lithic material, débitage, large ovate tortoise cores, small pebble cores, large flakes, many with Levallois faceted butts, small Mousterian points (one in situ from the gravel layer), many retouched flakes, one good burin (also in situ, from the gravel), plus what appears on analysis of surface distribution data to form a separate and later complex, of backed bladelets, small retouched flakes, etc. of chert and agate. Along the west edge of the site, at the wadi floor, still another lithic assemblage, of very crude quartz flakes, associated with hearths and Neolithic to early A-Group sherds. Large quantities of Unio shell occur in the gravel layer, and the C14 date for the gravel is based on these shells: GXO 421, 11,700 ± 300 B.C. Charcoal from hearth material on the west side of the site—seemingly a living floor area, yields a C14 date of 2985 ± 130 B.C. (GXO 423). The earliest culture may be middle Upper Palaeolithic or earlier, with subsequent occupation in the Mesolithic, and finally Neolithic or Early A-Group times (Figs. 2 through 6–1).

II–I–17, 1,600 m. N. of 21°39′ N., 1,100 m. W. of 31°10′ E., elev. 152 m., lies in the middle of the southern mouth of Kāragan Valley; beneath the Nubian sand mantle is Nile silt, into which some artifacts and traces of hearths extend for 25–30 cm. The site is 40 m. north–south, 20 m. east–west, and the surface was systematically collected in 8-m. grid-squares. Abundant lithic material including many small pebble-cores and pebble-core scrapers, flakes with edge retouching, some agate, a few of grey Egyptian flint, ostrich eggshell fragments, and one ostrich eggshell bead, plain grey ware, Neolithic or early A-Group, fossil mammal bone, some of small animals, bovid teeth, Unio shell, some Corbicula and small gastropod, much burnt clay, some with pole impressions, grinding stones. Late Neolithic to early A-Group, possibly not long before 3,000 B.C., when a nearby part of II–I–16 was occupied.

II–I–18, 1,625 m. N. of 21°39′ N., 1,000 m. W. of 31°10′ E., 159–64 m. elev., on sloping edge of terrace on which II–I–16 is also located, but at a lower elevation, separated from it by an interval nearly free of artifacts or débitage, and from II–I–12 by a mass of boulders. The surface of the slope contains some incised and impressed Neolithic pottery, numerous worked chert, agate and occasional grey Egyptian flint flakes (some with chipping around edges except at butt end), pebble cores, along with fossil mammal bone and tooth fragments, presumably Bos. A few wheelmade sherds occur, probably Christian Nubian in age, and perhaps from the large Christian site, II–I–I, which lies about 1 km. east. The site is probably Neolithic or A-Group.

II–I–19, 1,450 m. N. of 21°39′ N., 700 m. W. of 31°10′ E., elev. 153 m., on the sandy sloping saddle between two massive rock outcrops which form part of a steep cliff at the edge of the present Nile, with the ruins of a small dry masonry structure, partly extended with mud walls, adjacent. The site provides an excellent observation point along this section of the river, and has been utilized repeatedly, down to recent centuries. Incised Neolithic or A-Group pottery and lithic material is mixed with Christian Nubian wheelmade pottery, pottery spindle-whorls, bronze rings or loops, ancient and modern glass, a cowrie shell, ostrich eggshell fragments, melon seeds, goat dung, much ash and charcoal, and the bones of small mammals, reptiles (turtle), and fish. Ground stone included several mullers and a polished adze of greenish slate. Test-trenching failed to reveal any stratification.
Fig. 2. SITE 11-1-16, LEVALLOIS TORTOISE CORES
(A) struck, chert-jasper breccia; (B and C) unstruck, metarhyolite.
Fig. 3. SITE 12-1-16, LEVALLOIS FLAKES
(A) without edge chipping, metarhyolite; (B) denticulate edge chipping, red brown chert-jasper; (C) cream-red metarhyolite(?
(D) cream-red chert; (E) brown chert, from gravel layer (Cf. F. Wendorf et al., 1963, fig. 8, p. xxx).
Fig. 4. SITE 11-I-16, MISCELLANEOUS CORES

(A) Levallois core with overshoot removal, yellow chert; (B) double-ended core, brown chert; (C) brown chert, from gravel layer; (D) struck in one direction, brown chert; (E) pyramidal core, greenish-brown chert-jasper breccia, from gravel layer.
Fig. 5. SITE 11-I-16

(A) side-scaper, retouched on bulbar surface, yellow-brown chert-jasper breccia; (B) blade, eddish chert-jasper breccia; (C) scraper, metarhyolite; (D) notch, yellowish-pink chert-jasper breccia; from gravel layer; (E) angle-burin, grey-brown chert, from gravel layer; (F) discoidal scraper, tan quartzite, from gravel layer; (G) "fingernail" scraper, retouched, chert-jasper breccia.
Fig. 6. SITE II-1-16, A THROUGH J; SITE II-1-13, J

(A) Mousterian point, yellow-brown chert; (B) Mousterian point, brown chert, from grave layer; (C) flake point, yellow chalcedony; (D) retouched blade, yellow-brown chert; (E) backed bladelet, brown chert; (F) double-angle backed bladelet, brown chert; (G) double-angle backed bladelet, brown chert, from gravel layer; (H) retouched flake, brown chert; (I) discoidal scraper, yellow chert; (J), II-1-13, microburin on small snapped flake, grey flint.
Fig. 7. SITE 11-I-13 (all of grey flint except for I and J)
(A) steep-sided blade; (B) retouched blade; (C) scraper, S-curved; (D) retouched blade; (E) retouched flake; (F) retouched blade; (G) retouched blade; (H) flake point; (I) flake point, brown chert; (J) borer, brown chert; (K) end-scraper; (L) blade-core.
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Saras West

11–L–20, 75 m. N. of 21°37’30" N., 700 m. W. of 31°06’ E., elev. 150 m., in a silt bank along the south side of Khor Shiba, near its mouth. Exposed in the nearly vertical cut-bank of the silt are chert flakes, cores, and a few sherds of finely incised and impressed reddish or brownish ware, along with large and small mammal bone fragments, ostrich egg shell. The lithic material is fairly crudely struck, and includes chert, agate, and quartz. Neolithic or Early A-Group?

11–L–21, 405 m. N. of 21°37’30" N., 2,550 m. E. of 31°03’ E., elev. 175 m., on east side of a small valley parallel to the Nile which lies 625 m. east. On the rocky surface (mostly outcropping quartz), twenty-eight lithic specimens—thick to medium sized flakes, some utilized, but without Levallois technique or fine retouch, and small, irregular cores, one small bifacially flaked chopper, 6 × 5 × 2.4 cm. Possibly late Middle Palaeolithic.

11–Q–16, 100 to 300 m. S. of 21°36’ N., 2,400 m. E. of 31°03’ E., elev. 173–6 m., on a long rounded hill covered with rough gravel and cobble, at north end of a small valley parallel to the Nile; archaeological material scattered thinly over the hill without significant concentrations: forty-eight roughly chipped thick flakes, rough cores, without Levallois technique or fine retouch, but with utilized edges; small pebble cores. Late middle Palaeolithic?

11–Q–17, 350 m. S. of 21°36’ N., 2,450 m. E. of 31°03’ E., elev. 180 m., on gravel and cobble ‘pavement’ on high ground at south end of small valley parallel to the Nile. Several large chert flakes with edge utilization, large bulbs of percussion. Fifty m. farther south-east, elev. about 185 m., an isolated Nile ‘oyster’ shell. Middle Palaeolithic?

11–U–5, 1,400 m. S. of 21°33’ N., 2,375 m. W. of 31°03’ E., elev. 153 m., on silt at mouth of small valley west of Shelfak ruins; much quartz, flakes of Nile chert, small pebble cores, sherds of incised and cord-marked ware and some plain ware, of Neolithic or A-Group aspect, plus subfossil bovid bone in situ in silt. Neolithic or early A-Group?

11–U–6, 240 m. S. of 21°33’ N., 2,150 m. W. of 31°03’ E., elev. 170 m., consists of a small patch of silt and sand adjoining a large rocky outcrop on the west side of the hill which rises back of Shelfak fortress [11–U–7], facing a possible ancient Nile side-channel or overflow channel. Finds included three massive chert tools, one in situ in the silt soil, one a large Levallois tortoise core, and two flakes, one with Levallois faceted butt. Middle Palaeolithic?

Attiri

16–J–18, 10 m. N. of 21°24’ N., 1,550 m. E. of 30°57’ E., elev. 170 m., on east side of mouth of a wadi, 350 m. from the Nile, with surface sand and underlying deposit of promising depth. Numerous sherds of finely to roughly incised ware of Neolithic or A-Group age, with a few wheel-made sherds. Small chert and agate flakes, backed blades, pebble cores, ostrich egg-shell, small bovid teeth and bone fragments, one permineralized fish vertebra. Excavation of this site was carried out in October and November, 1965.

16–O–11, 100 m. S. of 21°24’ N., 1,525 m. E. of 30°57’ E., elev. 172 m., on north side of rocky outcrop at mouth of a wadi (cf. 16–J–18, which lies opposite). Petroglyph locality only, with representations of cattle.

In addition to 16–O–11, above, a petroglyph was noted on the south side of Ambikol Island, 950 m. N of 21°18’ N, 2,050 m. E of 30°51’ E, facing Tikhhain Island and the main Nile channel. It depicts at least five long-horned cattle, facing downstream. Other petroglyphs were noted during our survey, but lay in easily accessible areas or bore painted numerals indicating that they had been already recorded.
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Some of the sites briefly noted in the foregoing list merit further discussion. Sites 11–D–26 and 11–D–27, which lay not far apart on the west side of the main wadi in Káragán Valley (Map, FIG. 1, p. 45, in P. Robinson and G. W. Hewes’ paper, this volume), and which presented rather similar stratigraphy and artifact content, were partly excavated to obtain profiles of the silt and sand layers underlying the thin wind-deposited Nubian sand mantle. Although a charcoal sample was obtained, it has not been submitted for C14 dating of Site 11–D–26. Both sites appear to fit into what Wendorf et al. have termed the ‘Qadan Sequence’ of Mesolithic aspect, two sites of which, in the Wadi Halfa area, were C14-dated to 10,000–9,000 B.C.5 The absence of pottery and grinding tools, ostrich eggshell, and extensive use of red agate may indicate that these sites fall in the vicinity of 7,000 B.C., and in any case at a time when the channel in Káragán Valley was a seasonal stream with significant amounts of vegetation, judging from the root-concretions.

Site 11–D–34 appears to differ greatly from the two previous Mesolithic campsites, and could date from a time when the Nile had a major channel flowing through the Káragán Valley, crossing a height of land at about 175 m. elevation, in contrast to a present height of about 143 m. above sea level for the Nile at this point in its course. The scattered implements, on a rock-strewn fan, several small sandy channels testifying to the effects of very rare rainstorms, suggest that they have been derived from perhaps several former concentrations, long since dispersed by sheet erosion. The absence of bone, shell, and hearths rules out C14 dating, and judgment about the age of the site must be based on typology. On this rather uncertain basis, it would not be unreasonable to suggest an age of 30,000 B.C., near the transition from Middle to Late Stone Age, particularly since one of our sites, 6–G–30, in the Gezira Dabarosa region with an industry of generally smaller-sized tools and cores, is dated by C14 at 34,000 B.C.

GXO 422 is the reference number of a Carbon 14 sample tested by Geochron Laboratories, Inc., Cambridge, Massachusetts, U.S.A., consisting of Corbicula shells collected from a relict Nile silt bed in the middle section of Káragán Valley, about 178 m. above sea-level. The possible bearing of the age of these shells, found in living position, on the ancient history of the Nile in this area is discussed in the paper by Dr Peter Robinson and the writer in this volume.

Site 11–I–13 was not excavated, since there seemed to be no depth of deposit, but the surface yielded a large quantity of lithic material, including much grey ‘Egyptian’ flint from the First Cataract or farther north, belonging to a distinctive tool-making tradition of Mesolithic aspect but not closely related to any of the Mesolithic or late Late Stone Age industries hitherto described in

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Sudanese Nubia. Palma di Cesnola illustrates a few pieces from Abka very similar to some found on 11–I–13, including a lame étranglée. The lithic material cannot be equated with the 'Halfan' or 'Abkan' traditions described by Wendorf et al., nor does it approach the very crude late Neolithic or early A-Group complex being studied by W. Buckles for sites at the south end of the Gezira Dabarosa concession of the University of Colorado Expedition, and the living surfaces on the wadi floor adjoining 11–I–16, both dated to about 3,000 B.C. The heavy dependence on imported grey flint rather than local Nile chert pebble suggests an intrusive population, possibly ordinarily engaged in steppe hunting farther to the west and northwest, which occasionally chose this secluded area in the Batn el Hagar when it was necessary to camp close to the Nile (during very dry seasons?). This is entirely conjectural, and would only be supported by discovery of similar material farther out in the western desert, and especially to the north, close to sources of the grey flint which these people liked to use. The lack of pottery and the presence of a single fragment of a milling stone are perhaps insufficient reasons for guess-dating this site to the later Mesolithic, c. 5,000 B.C.

Site 11–I–15, on the opposite side of the same valley, and practically abutting the north end of 11–I–16 was apparently repeatedly occupied, by populations of several successive prehistoric traditions, from Late Stone Age to Neolithic, leaving surface remains of widely divergent character. Although the site was partly trenched, no superimposed artifact-bearing layers were discernible. The grinding stone users preferred the northern end of the site; pottery occurs there and along most of the base of the terrace, on or close to the wadi floor; the older, more massive material, and little or no pottery, tended to be higher, on the terrace top or part way down the slope toward the wadi. Site 11–I–15 can be interpreted more clearly in relation to 11–I–16, where the separation of successive cultural occupations seems somewhat clearer.

11–I–16 (cf. figs. 2 through 6–I) was the most complex and productive of the sites found in our season's work in the Batn el Hagar. It was probably occupied for a considerable period prior to the formation of the gravel layer which caps its southern portion, and the formation of that layer included artifacts and débitage washed in together with Unio shells, neither showing significant abrasion. This suggests that the sources of the artifacts and chipping debris as well as the molluscan shells lay quite close—perhaps not more than a few dozen metres distant on surfaces now eroded away. The hydrographic event responsible for the formation of the gravel layer occurred during the early 12th millennium B.C., and close to the time when the Nile channel ceased to flow through the Kāragan Valley (a few centuries after the gravel layer deposition). At that time, clearly, 11–I–16 and its neighbouring sites already occupied such as 11–I–15, must have been deeply inundated, at least at high Nile, possibly during

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6 A. Palma di Cesnola, Kush viii (1960), pl. xvi, figs. 3, 4, 5, 9, 10, p. 233. Our figs. 6–J, 7.
most or all of the year. At this time also, the hilly section to the northeast must have formed a large island.

The site was reoccupied subsequently, and most of the smaller flake material found at the surface probably dates from a time after 11,200 B.C. If the early, more massive Levallois flakes and cores resemble what Wendorf et al. have called 'Early Khormusan', this smaller tool-tradition falls generically into the 'Halfan' sequence. Precise correspondences are unlikely, owing to the considerable time spans of both traditions, the differential availability of raw material, and probably ecological differences in the Batn el Hagar which might have dictated somewhat different tool-kits, than those used in the more open country north of the Second Cataract. The subsistence of the Upper Palaeolithic and Mesolithic occupants probably depended in part on hunting of large game, for which there are several pieces of bovid (Bos?) tooth as evidence. Much later, around 3,000 B.C., the western edge of II–I–16 was the residence of a pottery-using, seed-grinding people with a very crude quartz tool kit who hunted small game such as gazelle, and either wild ass or zebra, and may have kept goats. No evidence of agriculture or fishing was noted. Ostriches were fairly abundant at this period, judging from the amount of broken egg-shell; whether ostriches had been rarer previously, or the earlier big-game hunters did not bother to collect their eggs, is undetermined. Still later, in C-Group times, two tumuli were constructed across the valley, adjoining former Mesolithic campsites II–I–13 and II–I–14. As evidence for a C-Group community does not appear in the vicinity, the tumulus-builders might have come from across the river, near the modern village of Sigaga.

The Batn el Hagar with its rugged, hard-rock topography was probably never the most favourable part of the Upper Nile Valley for human settlement, however the climate may have differed from its present almost total aridity. Yet wild game must have frequented the area despite its steep, rock-bound gorges, and some species may have found the cover afforded by its broken terrain more suitable than open plains and flat-topped mesas. Indeed, game has not yet abandoned the Batn el Hagar, and the writer on several occasions observed fair sized flocks of gazelle on the West Bank. With the coming of agriculture, this area became less attractive to man than it had been as a hunting-ground. Although intensive river fishing developed in the narrow channels of the Second Cataract around Abka, and downstream at some late Mesolithic sites in the Wadi Halfa region, we found little evidence of the use of Nile fish on any of our prehistoric sites. Site II–I–19 yielded some large fish bones, but it had obviously been occupied into late historic times. Evidence for a considerable agricultural population in the Batn el Hagar in Christian times is explained by

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the advent of the *saqiya* (irrigation wheel) and the defensive character of late Christian Nubian settlement, for which the topography of the area is ideally suited.

The writer would like to express the thanks of the third season’s party of the University Nubian Expedition to Sayed Thabit H. Thabit, Commissioner for Archaeology, and Sayed Nigm ed Din Sherif, Senior Inspector of Antiquities, both of the Sudan Antiquities Service, for many kindnesses shown in the field and in Khartoum.

**References**


Comments on the Late Pleistocene Geology of the Wadi Káragan, Murshid District, Northern Province, Sudan*

by Peter Robinson and Gordon W. Hewes

THE Wadi Káragan is a valley on the West Bank of the Nile which forms the hypotenuse of a triangle, the two legs of which are formed by the Nile River at Murshid Bend. Wadi Káragan varies from one-half to 1 km. in width, and is approximately 7 km. in length. The course of the Wadi is in two segments, the north segment dips north-easterly and joins the Nile at Káragan Village 6 km. north of Murshid Bend. The southern segment dips southward and joins the Nile opposite Sigaga Village, approximately 2 km. west of Murshid Bend (FIG. 1). A small interior basin a half-km. in width is present at the crest. The crest of the Wadi is approximately 178 m. above mean sea level (MSL) at Alexandria. The surface is formed in part by blow sand, in part by a lag concentrate of pebbles, and in part by a poorly developed channel, the result of sporadic runoff.

Bedrock, generally visible only at the Wadi side, but forming occasional hills piercing through the sand, is composed of crystalline Precambrian rocks of diverse types. Structural lineations are obvious in this Precambrian complex and certainly some of the major lineations control the location of the present Nile River, in the Batn el Hagar.

The course of the Nile River at Murshid Bend forms a right angle. The upstream leg of the angle is east–west in orientation and is continued past the bend of the river by the valley of Khor Sila. Khor Sila is remarkably straight in plan and therefore probably controlled by local structure in the Precambrian basement rocks. The Nile has cut a notch into the mouth of Khor Sila (FIG. 1) and could bypass the mouth at extremely high water, cutting a new channel. Similar potential bypass channels occur in the area between Wadi Káragan and the present river course; the Nile could have adjusted to the present course in stages. Several of these potential channels have Nile silts in them, particularly near site 11–1–1.

The topography of Wadi Káragan today is controlled, to some extent, by dune sands. The prevailing wind direction is north or north-northwest; long (1/4 to 1 km.) but narrow (25 to 125 m.) dunes tend to develop in the lee of the

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Fig. 1. A MAP OF THE MURSHID DISTRICT, NORTHERN PROVINCE, SUDAN SHOWING THE LOCATION OF MAJOR SITES AND GEOGRAPHIC FEATURES
small hills of crystalline rocks projecting through the wadi surface. Many of these hills are located near the valley sides, a situation common in the present Nile Valley.

Opposite the south end of Wadi Káragan at Sigaga village a small delta of gravel is present in the Nile River; it is immediately below the mouth of the small khor that cuts through Sigaga. The top of the delta is roughly flat and approximately 2 m. below the high water level. The gravel has been carried downstream as much as 100 m. producing a small gravel bar in an area where most of the river bank is either Precambrian bedrock or unconsolidated river silt.

Some fifty concentrations of archaeological materials have been located in Wadi Káragan and several of these are sites with depth. In general, the oldest sites (age based on lithic typologies) are near the crest of the Wadi and the youngest sites are closer to the Nile River.

In our opinion Wadi Káragan was at one time a channel of the Nile River, possibly only used at flood time but because of its width (essentially equal to that of the modern Nile), more likely to have been a main channel than a high water bypass. Near the crest of the valley, on its East bank, in the southern segment, one of us (Hewes) located a red silty sand with many shells of the bivalve Corbicula (GXO 422, 12,970 ±300 years B.P. or 11,020 B.C.) with both valves attached and with the axis of the shell perpendicular, indicating burial in living position. Buried in what appears to be the same sand near the centre of the valley and in both the southern and northern reaches, we have found tools of Late Palaeolithic age, generally made of black, fine-grained meta-quartzite. Tools of this variety seem to be limited to that area near the crest; they have not been found nearer the Nile. Closer to the Nile, at 165 m. above MSL, a second cultural complex has been found. This culture is preserved in both segments of the wadi but is best displayed, geologically, at site 11–I–16 in the south segment, where the artifact-bearing deposits are as much as 190 cm. thick.

Description of Site 11–I–16

Site 11–I–16 is a terrace at approximately 165 m. above MSL one-half km. north of the present Nile River and on the east side of the southern segment of Wadi Káragan (FIG.2). Two small knolls of Precambrian crystalline rocks are present: one at the north end of the site, and one approximately one-third of the way south of the north end. This terrace is capped by a gravel generally composed of subangular pebbles 5 to 10 cm. in diameter, but containing some pebbles which seem to be cores or debitage of human manufacture. Some recognizable tools are present in this gravel, as are many large shells of the bivalve Unio.

Aggradational sequence:

Top of deposit

1) Gravel, containing pebbles, artifacts and Unio shells, truncating unit 2. Unit is locally finer-grained near top and may have red silty, sand surface. 0–50 cm. thick. Date, from Unio shells, GXO 421, 13,650 ±300 B.P. or 11,700 B.C.
(2) Intercalated fine gravel and silty sand and beds of grey sand with vertical pipes of silty sand 1-2 cm. thick. Unit 2 found on top of and east side of unit 3. Contains some artifacts. 0-190+ cm.

(3) Yellow sand with vertical pipes similar to those of unit 2. May have facies change locally to red silty sand. Demarcation of change vertical. 0-7800 cm.

(4) Brown silt with kankar nodules intercalated into unit 3 at south end of site. Unit 3 is present both above and below this silt. 0-50+ cm.

*Note.*—Unit 3 has a convex upward profile; all others are convex downward.

Degradational sequence:

(5) Brown silt with kankar nodules similar to unit 4 but above unit 3 and channelled into it. 0-50+ cm.

(6) Several grey silts each successively channelled into the preceding one and off-lapping down slope. This sequence forms the present surface of the wadi floor and is locally covered by unconsolidated blow sand. Charcoal from a habitation site in this silt sequence is dated at $4,935 \pm 130$ years B.P. or 2,985 B.C.
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The oldest sediment unit at this site (unit 3 of section) is an unconsolidated sand containing well-rounded, frosted grains of medium to coarse size, and apparently represents an ancient dune. The upper surface of this unit is convex with the crest in line between the two knolls. In places the uppermost part of this yellow sand contains vertical pipes of brown sandy silt; small horizontal tubes of 3 to 6 mm. diameter may project from the larger vertical pipes. These pipes are interpreted as the remains of ancient root systems. Channelling into the sand on the east side of its crest, between the crest and the present east wall of the valley, is a sequence of brown, silty sands interlaminated with grey, loose sands containing more of the brown vertical pipes (unit 2). Some of the brown silty sands have gravel lenses at their base, and not one sand unit is continuous over any significant distance. Unit 2 is truncated by and covered by the gravel (unit 1) which forms the top of the terrace, and which is also the youngest unit of the aggradational sequence. The gravel of unit 1 is primarily composed of pebbles of metamorphic rocks. The source of this gravel is certainly nearby and the deposit would most likely come from one or both of two tributary khors: the nearest would be the small khor at Sigaga village where a gravel bar (delta) has been formed recently, probably the result of a flash flood. The other nearby source could be Khor Sila if the mouth of the khor once extended westward to the south end of Wadi Káragan. Moving westward towards the centre of the valley, and down the slope of the terrace, a sequence of off-lapping deposits is present. Immediately west of the surface of the terrace the yellow sand (unit 3) crops out. Some distance from the crest, varying from 3 to 10 m. horizontally, this unit grades laterally into a reddish brown silty sand which may be an old soil. Nodules of kankar are present in this red sand. Their irregular distribution and shape indicate that they probably formed in place. This unit is channelled into by a brown silt (unit 5) containing kankar nodules at the north end of the site. At the south end of the site a brown silt (unit 4) underlies the red 'soil' (unit 3) and is in turn underlain by more yellow dune sand (unit 3). These units are in turn channelled into by a sequence of three or more grey silts not containing kankar. Near the valley floor one of these silts contains artifacts of Neolithic aspect as well as burnt bones and charcoal (see Carlson, this volume). The present valley floor, immediately west of the site, is approximately 157 m. above MSL.

We infer the following history of Wadi Káragan. The Nile River cut and occupied a wide valley in the Murshid Bend area sometime prior to the Late Palaeolithic. This channel was narrowed as the river adjusted its channel to local structures (the present right-angle course at Murshid Bend). Conditions similar to those existing today prevailed: the climate was extremely arid and dunes formed in the lee of small knolls such as those at 11–16.

During the 12th millennium B.C. the Nile then reoccupied part or all of the Wadi Káragan, probably on several occasions. Near the crest of the wadi shells of Corbicula (11,020 ± 300 B.C.) are present in living position. At the southern
end of the valley the Terrace of site 11–I–16 contains at least two episodes of deposition post-dating and covering the earlier dune formation; the younger of these episodes contains *Unio* shells (as a part of the gravel and not in living position) dated as $11,700 \pm 300$ B.C. The dates of the *Corbicula* and the *Unio* are roughly contemporaneous and correlate with the Bölling interstadial of Europe.

The brown kankar silt present below the red ‘soil’ in the south end of 11–I–16 represents part of this aggradational sequence. After the deposition of the gravel and the brown kankar silt in the south end of the site, and the deposition of the brown kankar silt in the north end of the site, a red soil was developed. This developed on the gravel (unit 1) surface (as indicated by small remnants still there) and on the yellow dune sand (unit 3) which forms the base of the entire site and in silts (units 4, 5). At both the north and south ends of the site the gradation from red soil to dune sand is sharp and almost vertical, and would indicate, perhaps, that some cover existed at this point (3 m. from the end crest at the north end; 10.5 m. from the crest at the south end) which protected the dune sand from being developed into a soil. The most logical cover would be extension of the gravel unit.

Subsequent to the soil formation a sequence of grey silts was deposited further and further down slope by successively less high floods of the Nile. Near the valley floor in Neolithic times (see Carlson, this volume) people lived and had camp sites possibly near the edge of the Nile at high water. Since that time much of the area has been covered by blow sand, generally accumulating in the lee of the knolls.

The climatic sequence that can be inferred from this indicates: (1) an early period of desert conditions; (2) a reddish soil was formed, the soil-forming processes being somewhat different in the sand where a red soil occurs or in a silt where a brown kankar soil occurs. After this a gradual change to the present conditions of extreme aridity took place. The red soil post-dates the formation of the gravel containing *Unio* shells dated at $11,700$ B.C. and pre-dates an occupation site dated at $2,985$ B.C.

Fairbridge (1963, p. 100) mentions a locality in the southern Batn el Hagar where he found *Corbicula* shells in living position with a date of $9,700 \pm 300$ B.C. and he correlated this deposit with the Alleröd interstadial of Europe. Assuming the accuracy of the C14 determinations on mollusc shells (there is some doubt: de Heinzelin and Paepe, 1965, p. 48) and assuming that our correlation of the deposits in the Wadi Kårğan with the Bölling interstadial is correct then both the interstadials post-dating the main Würm (the Gotiglacial retreat) seem to be reflected by sediments present in the Batn el Hagar.

The red ‘soil’ that post-dates the gravel (unit 1) on site 11–I–16 and the deposition of the *Corbicula* further north indicates a wetter climate than that existing today and than that existing prior to the deposition of the silts and gravel on top of the dune at 11–I–16. Ancient root systems present on top of similar
yellow sands and at about the same elevation near site II-D-26 in the north-eastern part of Wadi Káragan may indicate the same moister climate. This might correlate with the 'interglacial warm phase' mentioned by Fairbridge (1963, p. 105). This argues against the statement by Butzer (1965, p. 157) that such sites as Abka and Ukma are questionable. It is quite possible that the red 'soil' of Wadi Káragan is equivalent to the Older Dryas and therefore older than Fairbridge's 'interglacial warm phase'. It is also possible that the Wadi Káragan and other Batn el Hagar moister climate deposits are equivalent to the Younger Dryas or Boreal phases of Europe.

We have little evidence for the age of the initial cutting of Wadi Káragan at the wadi itself. However, a gravel-choked khor entering the Nile on the East bank at the village of Adurma and opposite the north end of Wadi Káragan contains unrolled artifacts (FIG. 3) no younger than Middle Palaeolithic age (H. Irwin, oral communication). This might indicate a pre-Würm or early Würm
LATE PLEISTOCENE GEOLOGY OF THE WADI KARAGAN

age for the incision of this tributary khor and its filling with gravel and, by inference, for that portion of the Nile it enters and perhaps also, Wadi Káragan.

The lack of pre-Würm age deposits in this region may be more apparent than real. We have not seen any wadis in Murshid district that have bare, bedrock-floored, channels near the Nile. Indeed those that are present are choked with sediments of diverse character; de Heinzelin will report on them and the interesting story they have to relate. The wadi at Adurma indicates the presence of deposits of at least Middle Palaeolithic age; it is possible that similar or older deposits are buried elsewhere.

The lack of soils and silts similar to those found on the University of Colorado concession at Dabarosa (Irwin and Wheat, in MS), 30 km. north of Murshid, would be easily explained by simple erosion or burial. North of the second cataract the terrain is quite different; a rise in river level of 5 m. would inundate a significant portion of the surrounding area. This has happened artificially during the first year's accumulation of water of Lake Nasser. The water edge in January 1965 was as much as 1 km. farther from midstream than it was one year before. The narrowness of the valley in the Batn el Hagar would necessitate a rise of several tens of metres to produce significant lateral spread. A significant increase in volume would certainly obliterate all evidence of prior deposits in the main valley; it would tend to increase the chances of accumulating such a record in tributary wadis.

Analysis of the topographic maps of the Nile Valley in the northern Batn el Hagar shows that the contours below 200 m. reflect a youthful topography indicating recent down-cutting of the Nile and its tributary wadis. The 200-m. contour, however, indicates the existence of a valley, 2 to 5 km. in width, located essentially where the modern river channel is. Perhaps the Nile has been located, in the Batn el Hagar, near its present channel for a long time and was at grade on the pediment that is located at 190–230 m. above MSL and appears to end at the change from a metamorphic rock to Nubian sandstone terrain at the north end of the Second Cataract. De Heinzelin and Paepe (1965, p. 36) note that the old surface north of the Second Cataract is south-sloping and at 200–230 m. above MSL; they postulate structural control for the south-sloping unit.

At Gemai the 200-m. contour of the East bank makes an abrupt swing to the north-east whereas the Nile flows to the north-west. Unfortunately, the topographic mapping of the area north-east of Gemai is yet to be completed. We suggest that the possibility that the Nile flowed north-eastward prior to the development of the blockfaulting described by de Heinzelin and Paepe be considered. This could provide a non-structural explanation for the south-sloping old surface in the Halfa area and also explain what appears to be a discrepancy in observations: that the Nile in the Halfa area is quite young and that the Nile in the Batn el Hagar is much older.
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ACKNOWLEDGMENTS

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A Neolithic Site in the Murshid District, Nubia

by Roy L. Carlson

The University of Colorado's third Nubian expedition, financed by the National Science Foundation, discovered a number of prehistoric sites during the course of its survey of the west bank of the Nile from the Second Cataract south to Firkka during the 1964-65 field season. The results of the survey, the participants, etc. are discussed in an article in this volume by G. W. Hewes, expedition director. One of the most promising localities discovered is a former channel of the Nile whose upstream end is opposite the village of Sigaga about 2,500 m. upstream from the bend of the Nile at Murshid, and whose downstream end emerges at the present-day village of Káragan. We christened this former channel 'Wadi Káragan', and use this term to designate the locality as well. Test excavations carried out at one site, 11-I-16, near the upstream end of Wadi Káragan, revealed both a Palaeolithic and a Neolithic component. This short paper is a preliminary report on the Neolithic component only.

The Site

11-I-16 is situated about 250 m. inland from the west bank of the Nile opposite Sigaga, and is from 10 to 15 m. above the present Nile floodplain. The topography and the geological deposits suggest that Wadi Káragan was in remote prehistory a former channel of the Nile, and that more recently its upstream end was an embayment or backwash at a time when the river flowed at a higher level than it does today. The location of the site is shown on the map in Robinson and Hewes' article in this volume (p. 45), and the geology is discussed by Peter Robinson, expedition geologist, in the same article.

At its upriver end at 11-I-16, Wadi Káragan is floored with river silts which run roughly north-south. To the east of the silt, dune sand rises upward first to a gravel terrace and eventually to bedrock outcroppings. To the west of the exposed silt, dune sand again rises to the bedrock flanking the west side of the former channel. Artifacts were discovered both in and on the silt deposit, and in and on the gravel terrace to the east. Both locations are included in the designation, 11-I-16. The artifacts from the gravel are of Palaeolithic types, and those from the silt, Neolithic. Only those objects associated with the silt are described in this report.

Collections were first made from the surface of the site by 8-m. grid squares. Next a 1-m. wide test trench was run from north-east to south-west down the slope from the aforementioned gravel terrace, through the dune sand, and into the silt deposit on the wadi floor. At the margin of the silt and dunes sand, and

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Fig. 1. PROFILE AND EXTENT OF FEATURE 1 AT 11-1-16
A NEOLITHIC SITE IN THE MURSHID DISTRICT, NUBIA

completely covered by dune sand, a saucer-shaped concentration of charcoal and ash with associated burned bones, pottery, and stone artifacts was revealed in the wall of the trench. This find is designated Feature 1 and its profile and horizontal extent are shown in Fig. 1.

The profile indicates alternating periods of silting and sanding with human occupation on the margins of the silt and sand. At the north-east end of the profile yellow, wind deposited sand extended from the surface to 55 cm. below, the bottom limit of the excavation. Various lenses in the yellow sand begin to make their appearance about 1.25 m. to the south-west of this corner in the following order from top to bottom: (1) a lens of mixed sand and silt about 3 cm. thick, sporadic in occurrence, and possibly attributable to rodent activity; (2) a layer of white ash from 1 to 3 cm. in thickness; (3) a layer of mixed black sand and ash which follows along below the white ash; (4) a layer of reddish sand, probably a result of the burning above; (5) a layer of hard grey silt, and below it at one point a thin lens of kankar silt. This grey silt thickens to the south-west and continues below the present excavation. At the south-west end of the profile, 23 cm. below the surface, there appeared a lens of red, black, and white ash within the silt stratum, suggesting a second feature similar to Feature 1.

Feature 1 was excavated to the limit of the white ash horizontally, and through the red sand, vertically, and proved to be roughly oval in outline, but without features that would indicate that it was the remains of a burned structure. The west edge of the white ash was difficult to follow. It graded into hardened river silt and suggested that there had been at least one partial inundation of the site after the deposition of Feature 1. The northern and eastern edges of the white ash rested on dune sand and were well marked. A number of rodent tunnels were observed throughout the deposit. A group of six fire-cracked rocks with directly associated charcoal, sherds, animal bones, and quartz flakes was inclusive within the black ash and red sand lenses in the north-eastern part of the feature (Fig. 1). A charcoal sample in direct association with these stones yielded a date of 2,985 ± 130 B.C. (Geochron Laboratories no. GXX 423.) At the same level as these hearth stones but actually within the yellow sand below, were the casts of two oblong objects, possibly pieces of wood, and of two piles of coprolites, probably human. Sherds, chipped stone, and both burned and unburned bone occurred throughout the white ash, black ash, and red sand of Feature 1.

A narrow trench was excavated to the south-east of Feature 1, and what appeared to be a fire pit inclusive within the silt layer was partially excavated. The pit was 55 cm. in diameter and 25 cm. deep. It contained ash, burned bones, and essentially the same artifactual complex as was associated with Feature 1. The stratification would suggest that this pit is slightly, though not significantly, earlier than Feature 1. A carbon sample was collected but has not yet been dated. Below this firepit, another layer of dune sand was partially exposed at the time excavation ceased.
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ARTIFACTS

The artifacts from Feature 1 and from the surface of the silt nearby consist of potsherds, flaked stone artifacts mostly of quartz, a few fragments of milling stones, two fragmentary pointed bone objects, and pieces of incised ostrich egg shell.

CERAMICS

A total of 154 sherds was recovered. All of them are from hand-made vessels, and none are painted. No complete vessels were found, but some indication of the sizes and shapes present can be projected from the rim and wall curvature of the sherds (FIG. 2). The fabric is suggestive of Nile silt and is basically similar for all sherds except that the fabric varies from fine to coarse depending on the amount of quartz sand present. Particles of a soft white substance which effervesce slightly under a drop of hydrochloric acid are present in many sherds. All of the sherds except possibly the slipped red ware appear similar to what Adams and Nordström (1963: 17) call ‘sandy mud ware’, which aptly describes the fabric of these types. The sherds are best classified according to type of surface treatment even though it is realized that one complete vessel may have been surfaced with several techniques.

Plain: A plain brown ware is the most abundant type at the site; 120 sherds (70%), of which nineteen are rim sherds, were found. The surface is smooth, but not polished, and is sometimes pitted where carbonaceous material has burned out (PLATE III, i, j). The surface colour is generally brown, but grades into both grey and red-brown. The fabric is either fine or coarse depending on the amount of sand present, is crumbly, and is the same colour as the surface. Vessel walls thin towards the rim, and rims are simple, flat to rounded, and without indentations or other forms of decoration. Certain shapes can be inferred: (1) both large and small shallow bowls (FIG. 2, a, c); (2) carinated bowls (FIG. 2, b); and (3) neckless jars (FIG. 2, d). Several thick (2 cm.) sherds from what are probably the bases of very large jars were also found. Sherds of this plain brown ware were found in Feature 1, in the firepit, and on the surface.

Brushed: Sixteen sherds (10%) including one rim sherd exhibit multidirectional striations on both the inner and outer surfaces as if they had been brushed while damp with a fibrous bundle (PLATE III, d, e). The one rim sherd is rounded without decoration. Surface colour and fabric are the same as in the preceding type. All are probably jar sherds. Sherds with this surface treatment came from both Feature 1 and from the surface.

Red slipped: Eleven sherds (7%) of a slipped red ware were found. Eight of these have a fine red-brown fabric without large quartz grains and five of these probably belong to the same vessel, a large tumbler (FIG. 2, f; PLATE III, a, b). The surfaces of these sherds show the horizontal marks of the polishing stone. The vessel wall thins towards the rim, and the rim is decorated with shallow
SHERDS OF THE KARAGAN PHASE

a, b, slipped red ware, fine fabric.  c, slipped red ware, coarse fabric, surface weathered.  d, e, brushed.  f, g, pseudo-ripped.  h, polished.  i, j, unpolished brown ware.  a is 3.9 cm. long

facing p. 56
FLAKED STONE ARTIFACTS OF THE KARAGAN PHASE

a, f, g, h, scrapers.  b-e, perforators.  h-j, microliths.  l, m, flakes with faceted striking platforms.  n, o, points.  p, q, denticulates.  r, burin as denticulate.  s, burin.  t, hammerstone.  u-w, cores.  All are quartz except j which is chalcedony.  a is 3.9 cm. long
A NEOLITHIC SITE IN THE MURSHID DISTRICT, NUBIA

circular indentations, probably made with the finger. Sherds of this fine red ware came from Feature 1 and from the surface. The other three sherds have a fabric coarsened by the inclusion of abundant grains of quartz sand. All three sherds came from the surface. One sherd (FIG. 2, e; PLATE III, c) is a rim sherd with badly weathered indented decoration on the rim.

![Diagram of rim sherd profiles and probable vessel shapes](image)

**Fig. 2.** RIM SHERD PROFILES, AND PROBABLE VESSEL SHAPES

*a-d*, unpolished brown ware. *e-f*, slipped red ware

**Polished**: Three small sherds (2%) are of a plain brown to black polished ware. Both interiors and exteriors are very smooth and show horizontal marks of the polishing stone (PLATE III, h). The paste is solid black. All three sherds came from Feature 1.
Rippled: Two sherds (1.5%) exhibit ripple marks on the surface, but are not strictly speaking ripple ware. One (Plate III, f) has faintly undulating ripples on the exterior surface, a fine grey paste, and was found in Feature 1. The second (Plate III, g) is a rim sherd of a bowl from the surface. The rim is diagonally incised with fine grooves; vertical ridges extend downward from the rim producing a rippled effect.

Indented: Two sherds (1.5%) of a ware with texted decoration were found on the surface on the opposite side of the wadi from Feature 1. They are not directly associated with Feature 1 and have no counterparts in the assemblage from in and near Feature 1.

Flaked Stone

Both artifacts and samples of débitage were collected. The most common material found was quartz (88%). The other 12% is mostly chalcedony, with a few flakes of chert and of Egyptian flint. Only six flakes (1%) of the latter material including one burin and one burin spall were recovered. Retouch on flakes struck from quartz is frequently very difficult to recognize because of the granular nature of the material; a series of small conchoidal fractures may appear as the result of one blow and resemble retouch. This is bothersome in attempting to sort faceted from unfaceted flakes.

In general the industry is a flake industry in which flakes were struck from small pebble cores of quartz and occasionally of chalcedony, and then either used as is, discarded, or modified by retouch into a finished tool. The vast majority of the cores (Plate IV, u–w) were made from quartz pebbles. The series of cores and flakes indicates that cores were prepared by first driving off a number of comparatively large flakes, crescentic to oval in outline, at approximately right angles to the longitudinal axis of the original pebble in order to form a striking platform. The flakes derived in this manner show a positive bulb on one face toward the cortex, and a negative bulb or bulbs from preceding flake removal on the other. Some quartz cores, particularly the smaller ones, were discarded at this point. The larger cores were started in this same manner, and then additional flakes were removed roughly parallel to the longitudinal axis of the original pebble. Some cores show flakes removed every which way. No double-ended cores are present in the assemblage.

A few cores and flakes show faceting on the striking platform which is indicative of a more careful preparation of the striking platform by the removal of small flakes prior to detaching the flake desired. This is particularly evident on one small core of red chalcedony (Fig. 3, a), and present to a lesser degree on three quartz cores. Only three flakes, all of quartz, show this type of faceting (Fig. 3, b, c). These amounts are negligible when compared with the number of cores and flakes which do not show careful preparation of the striking platform. Recognizable core tools are limited to the category of denticulates, and even these are dubious, to my mind, as finished tools. The majority of artifacts were made
Fig. 3. OBJECTS OF FLAKED STONE, BONE, AND OSTRICH EGG SHELL OF THE KARAGAN PHASE

a, chalcedony core with faceted striking platform.  b, c, quartz flakes with faceted striking platform.  d, e, quartz perforators.  f, g, quartz microlith(?).  h, quartz point(?).  i, burin.  j, burin on denticulate.  k, indented ostrich egg shell.
l, m, bone objects
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from flakes. The following flaked stone tool classes are recognized: (1) perforators; (2) scrapers; (3) burins; (4) denticulates; (5) notched flakes; (6) microliths; and (7) points. Examples of all these classes came from both the excavations and from the silt surface near Feature 1.

Perforators: Objects classed as perforators have a narrow pointed tip projecting from an otherwise nondescript flake (FIG. 3, d, e; PLATE IV, b–e). All five examples show significant retouch both at the tip and to both sides of the tip.

Scrapers: Scrapers are nondescript flakes retouched unifacially on one edge (PLATE IV, f, g, k). Eight are side-scrapers of quartz on a slightly convex edge, one is the same only of chert, and one (PLATE IV, a) is an end-scraper with minor retouch on a narrow chisel-like tip.

Burins: Four flakes exhibit burin blows struck from a retouched edge (FIG. 3, i, j; PLATE IV, r, s). Three of these are of quartz and one is of Egyptian flint. At least three other flakes exhibit points formed by the removal of two convergent burin spalls. There is one definite burin spall of Egyptian flint, and four probable burin spalls of quartz. It is impossible to definitely classify the latter as burin spalls because of the lack of a well defined bulb of percussion, a situation consistent with the material from which they were made.

Denticulates: This term is employed herein for flakes or core fragments which exhibit on one edge a series of rather large, irregular, flake scars (FIG. 3, j; PLATE IV, p r). Ten of these objects are cores, and three of them are flakes. Eight are of quartz, and seven of chert or chalcedony.

Notched flakes: Three irregular quartz flakes exhibit a single shallow notch produced by the unifacial removal of several flakes. The notches are 4 to 6 mm. wide and 1 to 2 mm. deep.

Microliths: This term is used to categorize a number of small stone implements which resemble the segmentoids, crescents, etc. of blade traditions. Four microliths are small quartz flakes of roughly crescentic outline (FIG. 3, f; PLATE IV, h) which show retouch around the edges. A fifth quartz flake (FIG. 3, g; PLATE IV, i) shows similar retouch, but is trianguloid in outline. The status of these objects as artifacts is questionable and is dependent on recovery of a larger series. One microlith (PLATE IV, j) is a small chalcedony flake of trapezoidal outline and triangular section. This artifact came from the firepit near Feature 1.

Points: Two quartz artifacts of sub-triangular outline (FIG. 3, h; PLATE IV, n, o) are tentatively classified as points. Neither exhibit any cortex of the original core, both are thinned towards the margins, and both have irregular retouch along the edges.

Pecked and Ground Stone

Objects of pecked and ground stone are limited to three small quartz nodules (PLATE IV, t) which show battering scars, four fragments of milling stones which show wear on either one or both faces, and to one large lump of red, ochreous sandstone which has been ground on both faces.
A NEOLITHIC SITE IN THE MURSHID DISTRICT, NUBIA

Bone and Egg Shell

Two fragments of pointed bone objects (Fig. 3, l, m) were recovered. They possibly functioned as awls. Fragments of ostrich egg shell were abundant on the surface and in Feature 1; a number of them exhibit faintly incised criss-cross lines which suggest decoration (Fig. 3, k). One bone point came from Feature 1, and the other from the backdirt of the trench which cut through Feature 1.

Faunal Remains

Somewhere between 500 and 1,000 bone fragments were found in Feature 1 and in the firepit south of Feature 1. Many were partly mineralized and many were charred. All the mammal bones had been fractured and splintered, possibly to obtain the marrow. The bones were sorted and the mammal bones with articulated ends were identified generically by Elaine Anderson of the University of Colorado Museum. The vast majority of the remains are of gazelle (Gazella sp.) and include sixty-six fragments representing most of the bones in the body and skull of both juveniles and adults, and fifty-one teeth or fragments thereof. Zebra or wild ass (Equus sp.) is represented by one tarsal and the proximal end of one metatarsal. There are five bones from a large bovid of which three, patella, ulna, and phalanx fragments, are suggestive of cattle (Bos sp.). Hare (Lepus sp.) is represented by three bones, the distal end of a proximal phalanx, the mid-section of a scapula, and the head of a femur. Eighteen fish bones were also recovered. The remainder of the bone fragments are not identifiable.

Conclusions

Definitive conclusions are somewhat limited by the comparatively small sample of artifacts obtained, but this limitation is compensated somewhat by the specific associations of these artifacts with each other, with the radiocarbon sample of roughly 3,000 B.C., and with the faunal remains which indicate that one manifestation of one culture within a short time span is represented. The sample obviously does not include all the potentially recoverable content of this culture at this period of time, but that which is present is deemed sufficient for a preliminary definition of the Kāragan phase.

The flaked stone technology of the Kāragan phase is crude, simple, and of an epipaleolithic nature including perforators, scrapers, burins, denticulates, notched flakes, possibly points, and pseudo-microliths made from flakes struck from quartz pebble cores. Trapezoids and possibly other geometrics of chalcedony are of limited occurrence. Bone was also ground to make tools and ostrich egg shell was incised.

The phase would appear to be on the very frontier of attaining a Neolithic status, if not already at that point. Simple grinding implements of stone probably for use with either ochre or seeds or both are present. A plain, unpolished, hand-made, brown pottery with variable amounts of sand temper
was used, and is the most common ware in the phase. The same pottery with a brushed or with a polished surface is also present in minor amounts as is a well-made, slipped red ware with an indented rim. The bones recovered which could be Bos could unfortunately also be from various never-domesticated genera of bovids. The hunting of land mammals, especially gazelle, was an important economic activity judging from the number of bones found. Fishing was also practised in this riverine habitat. Ground stone implements and pottery are the general hallmarks of the Neolithic, and in Nubia those sites with a preponderance of quartz débitage are generally classed as Neolithic even though actual evidence for plant or animal domestication is absent.

The Káragan phase was in existence at a time when there was more moisture in the Nile Valley than there is at present, but at the same time in a period of decreasing moisture. The stratification at 11-1-16 shows an off-lapping sequence of Nile silts alternating with deposits of wind-blown sand. In general this correlates with the evidence for increased moisture and higher Nile levels observed by many investigators (Arkell, 1953: 7-9; Wendorf, 1965: 34) for this period of time. Decreasing moisture may well have had an important effect on the subsequent prehistory of Nubia.

The origins of the Káragan phase are probably local. The lithic industry more closely resembles that which Wendorf et al. (1965: 33) describe from collections in what they call the Abkan group of sites than it does with other described material, and these authors suggest a possible derivation of this industry from one of their local Mesolithic traditions. The pottery of the Káragan phase is generically similar to that of the ceramic horizon of the 4th millennium B.C. which stretches from lower Egypt to Khartoum, but is more specifically Nubian than anything else.

The Káragan phase is judged to be immediately pre-A Group in time in the region of the Second Cataract, although it could well be contemporaneous with the A-Group of regions further north. The Káragan phase may well belong in the same cultural continuum as the local A-Group, but differs in lacking the elements of Egyptianization found in A-Group. A-Group is a marginal Bronze Age phase or culture, whereas the Káragan phase is considered to be Neolithic without metallurgy.

Additional excavations at 11-1-16 and at other Neolithic sites on the west bank of the Second Cataract planned for the 1965-66 field season should expand our knowledge of the Káragan phase.

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A-Group and C-Group in Upper Nubia

by Hans-Åke Nordström

THE investigations of A-Group and C-Group sites, described in a previous report in this issue of KUSH (pp. 5 ff.), have furnished us with data that shed important new light on the old question of the chronological and cultural relationship between these two main cultures, which dominated the Nubian scene during the 3rd and parts of the 2nd millennium B.C. There seems to exist a fairly clear line of development from the classic Early Dynastic A-Group to a C-Group-like assemblage, especially in the two camp sites 11-M-7 and 11-L-14 in Saras, reported above. The least we can say is that the two groups have occupied the same site in more than one case and that there is no evidence of any break in the occupation. It appears to be possible, at this point, to go a little bit further and discuss this correlation in more detail.

1. The Problem of Definitions

A-Group—particularly in the classic phase—is easy to distinguish from the other cultural groups in Nubia. It has been found on many sites all the way from Shellal to Saras, south of the Second Cataract. The pottery assemblage, the habitation pattern, and the grave types are practically the same within that area. The dating of the classic A-Group can be fixed rather firmly to the Late Predynastic and Early Dynastic periods. Of the pottery belonging to this group, red-polished plain wares and red-and-black rippled wares are predominant in the cemeteries, together with hard red or grey wares of Egyptian origin. On the habitation sites there is great variety of utility wares, among which brown coarse or scraped or brown polished wares are most common.

The whole problem concerning the C-Group is far more complex. With the words 'C-Group pottery', do we refer only to the well-known assemblage of pottery wares and types that have been found repeatedly in specific cemeteries in Lower Nubia, such as Dakke and Aniba,1 or do we include in this definition all the different combinations of local Nubian wares with which C-Group-like pottery may be associated, perhaps only as a minor constituent? This question has a significant bearing on the problem of the southern geographical limit of the so-called C-Group culture. If the definitions for that culture are extended too much we will never be able to establish any limits.

We can state that C-Group in the 'classic' sense, i.e., as it occurs in Lower Nubia during the Middle Kingdom and the Hyksos period, has not yet been

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found south of the Second Cataract. We can also note, however, that C-Group-like pottery assemblages, consisting of the ordinary black-topped plain wares and black or red-polished wares with incised or impressed decoration, have been found in Batn el Haggar. It is evident from the stratigraphic data that this C-Group-like pottery from the area south of the Second Cataract is related to the A-Group pottery on the same sites. It seems to be in much closer contact with the A-Group than on any sites in Lower Nubia. The important fact is, however, that not all of the pottery wares and other objects typical of the C-Group in Lower Nubia are represented. Whether this is due to chronological, geographical or cultural differences is difficult to say. All these factors may be involved.

2. *A-Group and Khartoum Neolithic*

A significant part of the decorated pottery of A-Group date, found in the camp-sites in Saras and in the Wadi Halfa district, shows a close relationship with pottery from Neolithic sites in central Sudan, such as Shaheinab² and Shaqadud.³ The Scandinavian Joint Expedition excavated many habitation sites where combinations occurred involving typical plain polished or rippled A-Group pottery and a pottery decorated with patterns of Shaheinab types.⁴ Two camp sites from Saras, excavated by the present writer, contained the same combinations (II-M-7 and II-L-14, reported above).

The decorated pottery from the A-Group sites in Saras is clearly different from the pottery of Early Khartoum type encountered in Nubia, which appears to be of earlier date. The Early Khartoum pottery is hard and unpolished, of grey or pink colour, usually containing a large proportion of fine to medium-textured sand, and often decorated with impressions of a coarse tooth-stamp.⁵ The A-Group sherds are soft or of medium strength. The surfaces are often brown or grey and uncompacted. Other sherds are polished, either uncoated or coated with red ochre. The A-Group sherds are definitely of local origin. The clay employed is alluvial. The texture of the fabrics displays a wide variety — some sherds are rather sandy, some have a significant inclusion of a micaceous mineral, others are relatively fine-textured. They all break with a black or dusky brown fracture, similar to most of the utility and decorative pottery in both A-Group and C-Group.

The decorated pottery surfaces from Shaheinab itself are very similar to the A-Group material in this respect. Most of the sherds are brown or dark grey,

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A-GROUP AND C-GROUP IN UPPER NUBIA

and were usually polished before the decoration was applied. Uncompacted surfaces occur as well. Other sherds are coated with a thin layer of red ochre and polished. The fabrics, however, are quite different from the Nubian material. The Shaheinab sherds have a characteristic inclusion of fine to coarse-textured sand in the paste; the sand grains are sub-rounded or rounded and range in size between 60–800 microns (1 micron = 0.001 mm.). The siliceous grains are often spotted with ferric oxide—a feature typical of the sands around Khartoum but seldom encountered in the Nubian pottery.

The similarities between Khartoum Neolithic and Nubian A-Group pottery involve mainly the treatment of the surface and the decoration itself. Many of the patterns that occur in the two sites at Saras have direct counterparts at Shaheinab and Shaqaddud (fig. 1). They are usually executed with rocker-stamps of different fineness and material, such as shell, bone or a re-used pot-sherd. Other patterns, such as finger-nail impressions and cord-like impressions, are also present. The rim tops of the Nubian pottery are often decorated as well, much in the same manner as at Shaheinab. The impressed pottery from the A-Group—especially the wares with polished, uncoated or red-coated surfaces—has been found in both habitation sites and cemeteries in close association with Egyptian pottery and other finds that clearly point to a dating to the Protodynastic period. It is thus characteristic for the classic A-Group phase and does not seem to occur in any earlier context. Using established methods of archaeological inference we could claim, therefore, that the dating of all similar pottery in Khartoum Neolithic ought to be revised to fit this chronology. However, the problem is not that simple. We are in the unique position of being able to suggest four possible answers as regards the relationship between A-Group and Khartoum Neolithic. All of them are

6 Arkell has stated that much of the decorated Shaheinab pottery was covered by a slip, either brown or red (Arkell, Shaheinab pp. 69, 73–5). In all ceramic literature the term slip refers to a suspension of clay in water, applied to the pot during the drying stage. Usually a slip consists of a white-burning clay applied to a red-burning basic material. There is no evidence of any deliberately applied slip in the pottery from Shaheinab. This is the case as well for all the locally made pottery of A-Group and C-Group date in Nubia. Slips are present only on some of the Egyptian pottery and on some of the Nubian pottery of Meroitic and later date. The red coating on red-polished wares from Nubia and Shaheinab is not a slip. It is a red ochre, consisting chiefly of ferric oxide, which dissolves in warm hydrochloric acid leaving a minor residue of siliceous material. This has been confirmed by a large number of microchemical tests on the pottery in question, carried out by the writer. Cf. Lucas, Ancient Egyptian Materials and Industries, 3rd ed. (1948), p. 432.


8 Arkell, op. cit., pls. 31 : 4–5, 39 : 2–3.

9 Arkell, op. cit., pl. 37 : 1–2, 6–8, 12, 14, 16–17, 29–38.

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entirely plausible until archaeologists have walked the long way along the Nile from Saras to Khartoum, excavating every habitation site they happen to find.

(1) There was a slow diffusion of pottery types and decorative ideas, developed in central Sudan during the 4th millennium, reaching Nubia in Early Dynastic times. (2) There was a diffusion of the same ideas from north to south, developed in Nubia and perhaps further north, reaching the central Sudan some time after the Early Dynastic period. (3) There was a development of the same general pottery ideas in central Sudan and in Nubia before, during and perhaps somewhat later than the Early Dynastic period. Similarities are due to the fact that the two regions belonged to the same cultural sphere. (4) The same development took place in Nubia and in central Sudan independently, at the same time or at different periods, without any direct or indirect cultural connexion.

Judging from the present evidence we can conclude that answer No. 3 is more flexible and a little more likely than the others. It has at least a fair chance
A-GROUP AND C-GROUP IN UPPER NUBIA

to survive future archaeological research while the other answers may prove improbable.

3. The Transition Between A-Group and C-Group

There is one combination of an impressed pattern and a red-polished ware which seems to form the horizon marker between the A-Group and the C-Group in Batn el Hagar. The pattern consists of straight parallel lines of dots, impressed with a rocker-stamp having rather fine square or rectangular teeth. (FIG. 1: 11-12). The lines are usually displayed vertically over the surface, radiating from the base of the pot. Sometimes the dotted lines run horizontally, parallel to the rim. The sherds with this pattern are of a red-polished ware with a black, smoothly polished interior and a thin, black top. They occurred frequently in top layers of the two camp-sites 11-M-7 and 11-L-14 in Saras and they were encountered as well on site 11-H-5, a C-Group cemetery on the west bank at Saras. The same pattern has been found previously on C-Group bowls in Lower Nubia.\(^\text{10}\)

This red-polished, black-topped pottery with parallel dotted lines is the only known, clearly distinguished ware that fits into the gap between classic A-Group and classic C-Group. It is probably contemporary with the Old Kingdom. Technically it is related to the whole complex of polished wares with impressed decoration that occur in A-Group and Khartoum Neolithic. Stylistically it is a strict simplification of the more elaborate patterns that belong to the Early Dynastic phase in Nubia. This decorated ware has probably a geographic distribution which is different from that of the classic C-Group. It seems to be more common south of the Second Cataract than in Lower Nubia.

In view of the data presented here we may be allowed to suggest the following hypothesis concerning the general relationship and the transition between A-Group and C-Group in Nubia:

The classic A-Group and the classic C-Group can be readily separated from each other both as regards the find material and their chronological position. The former belonged to the Late Predynastic and Early Dynastic periods. The latter reached its peak during the Middle Kingdom and the Hyksos period. However, there is an evident cultural relationship between the two groups. The classic phase of both A-Group and C-Group was developed under somewhat similar conditions, in rather close contact with Egypt, during times when peaceful trade relations prevailed. Both groups belonged to the same cultural and social sphere, which was different from the Egyptian and more African in character. This sphere included the main parts of Nubia between the First and Fourth Cataracts as well as the central regions of the Sudan. The interconnexion

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\(^\text{10}\) Cf. for instance Steindorff, *Aniba*, vol. 1, pl. 51: 5-7 and *ASN* (1909-10), figs. 187-8, 195-6.
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between habitation centres in Nubia and central Sudan had an important influence on cultural development during the transitional phase between A-Group and C-Group. The transition itself—more manifest in Upper Nubia than further north—appears to have been a result of a continuous influx of cattle-breeding tribes from the south, which may have started already during the Early Dynastic period. This movement—pushing towards the north—marks the end of the classic A-Group phase and was probably the main cause for the Egyptian raids during the Old Kingdom. The raids were designed to check the continuing large-scale influx into Lower Nubia. When the opportunity came—perhaps after the collapse of the Old Kingdom political structure—the people south of the Second Cataract were able to move northwards in increasing numbers to form permanent settlements in Lower Nubia, where the classic C-Group phase was fully developed during the Middle Kingdom and the Hyksos period.
The Nubian B-Group

by H. S. Smith

A. Reisner’s original analysis of the Nubian culture groups has been so amply confirmed in most of its major theses by subsequent excavation that its conclusions and terminology have been almost universally adopted, with only minor modifications, as the basis of the history of the ancient inhabitants of Nubia. It is therefore an effort to remember that Reisner arrived at his results on the evidence of a single season’s work in the extreme north of Nubia, and that certain of them, being based on sparse and ambiguous evidence, were tentative in character. An instance is his hypothesis that Lower Nubia was inhabited during the Egyptian Old Kingdom by a distinct native culture group which he termed the ‘B-Group’.

This hypothesis was based, in the absence of settlement sites, entirely on the comparative analysis of cemetery material, and is summarized by Reisner in the following sentences: ‘After the Early Dynastic period the connexion between Egypt and Lower Nubia hangs by the merest thread until the New Empire is reached. In this gap, Nubia, we know, was not deserted; and the most probable sets of graves to be assigned to this gap are the groups labelled B-Group and C-Group at Shellal. . . . The comparison of the B-Group cemetery 7:200–268 with the Early Dynastic cemetery 7:300–360 . . . shows clearly that the B-Group graves are immediately after the Early Dynastic graves in date. They are in types of graves, burials and contents, the descendants of the Early Dynastic graves, but differ sufficiently in orientation, pottery, etc., to show that they are not Early Dynastic. The graves at other sites presenting the same characteristics as Cemetery 7:200–268 increase the material for this comparison without changing essentially any point in it.’

It is clear from this passage that Reisner started work with an expectation of finding cemeteries of the Old Kingdom period in Nubia, and that his identification of the ‘B-Group’ rested

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2 Reisner discovered few settlement sites, and none which he assigned to the B-Group. Later Firth and Somers Clarke suggested that certain fortifications at Ikkur and Buhen South (Kor) might be of Old Kingdom date, but this was shown to be groundless, first by W. B. Emery, Mission Archéologique de Nubie, The excavations and survey between Wadi es-Sebua and Adindan, 1929–31 (henceforth abbreviated ASN, 1929–31), 1 (Cairo, 1935), p. 26, and later by T. Säve-Söderbergh, Ägypten und Nubien (Lund, 1941), pp. 30–6. Emery has recently discovered an industrial settlement north of Buhen fort of Old Kingdom date, see Kush xi, pp. 116–20.

3 ASN, 1907–8, 1, p. 332.
primarily on his analysis of the grave groups in the first large cemetery he
discovered, Cemetery 7 at Shellal.

Reisner’s successor as the Director of the Archaeological Survey from
1908–11, C. M. Firth, accepted Reisner’s definition and dating of the ‘B-Group’
and assigned graves in a fair number of cemeteries to it. Though in the intro-
ductions to his three volumes he re-stated Reisner’s conclusions about the
‘B-Group’, adding some original comments of his own,4 he did not re-argue the
case for its separate identity or date. In 1910–11 H. Junker excavated a large
cemetery at El-Kubanieh South, a few miles north of the First Cataract, which
proved to contain material related to that discovered in Nubia. Junker also
accepted Reisner’s ‘B-Group’ hypothesis, and in his publication he set out the
material published as ‘B-Group’ in the first two Nubian survey volumes (which
alone had appeared at that time) in three chronological phases: ‘The early
B-Group’, ‘the B-Group proper’, and ‘the late B-Group’.5 These phases
were not based upon independent analysis but upon statements of date by
Reisner and Firth, for Junker’s purpose was simply to facilitate comparisons
with material from El-Kubanieh South. He concluded that the graves in the
north-eastern portion of that cemetery should be assigned to the ‘B-Group’,
but that those in the southern portion, despite their similarity to certain graves
in Cemetery 17 at Bahan in Nubia which Reisner had termed ‘B-Group’,
should properly be termed ‘Late Predynastic’. This led him to the following
conclusion: ‘I think that a number of the graves which have been assigned to
the B-epoch or left undetermined, are also to be placed in this period before the
A-epoch. It is outside the scope of the present work to enter into a critique of
all the examples which come into question; only a single case will be dealt with
in detail’;6 and he then proceeded to show that the Bahan graves which he
considered directly comparable with the southern portion of Kubanich must
also belong the ‘Late Predynastic’.

Junker’s work of re-analysis has not to my knowledge been followed up in
print, principally no doubt because little material has been assigned to the
‘B-Group’ since 1919, the date of his publication. W. B. Emery and L. P.
Kirwan, who undertook the second archaeological survey of Egyptian Nubia in
1929–31, working from Wadi es-Setu’a to the Sudanese frontier, found only
two cemeteries in which they felt able to identify any graves as ‘B-Group’,
and the majority of these they termed ‘Late B-Group—Early C-Group’, thus

5 H. Junker, Bericht über die Grabungen der Akademie der Wissenschaften in Wien auf
den Friedhöfen von el-Kubanieh Süd : Winter 1910–11 (henceforth abbreviated Kubanich
THE NUBIAN B-GROUP

leaving their status in doubt. On the last archaeological survey of Egyptian Nubia in 1961, I attributed a single grave to the 'B-Group'. Recent archaeological surveys of northern Sudanese Nubia do not appear from their published preliminary reports to have discovered any material that they have cared to label 'B-Group', and to the best of my knowledge the same is true of the many other expeditions which have been working in Nubia during the current UNESCO archaeological campaign. It seems timely, then, to follow up Junker's work and complete his re-examination of the evidence for the 'B-Group'; for although many archaeologists no doubt hold their own reservations about it, it continues to figure in general historical works on Nubia.

In theory, this re-examination poses two formal questions:—

I. Is the 'B-Group' a separate cultural group, distinct from all other Nubian cultural groups?

II. If so, to what date should it be assigned?

Unfortunately these two questions, though logically distinct, have been inextricably confused in the excavators' treatment of the material, for in some cases the criteria they have used are apt only for answering question I, in others only for answering question II. In practice it is always difficult to distinguish between (a) the process of assigning material to a particular cultural group, and therefore by inference dating it, and (b) of dating it, and thence assigning it to a particular group. Where a high proportion of plundered and empty graves have been assigned to the group, as in the case of the 'B-Group', and the material is sparse, the distinction becomes much more difficult to maintain. It has therefore been necessary to treat separately the evidence from each cemetery or group of graves termed 'B-Group' and the excavators' arguments concerning them. In most cases the discussion inevitably centres on date, but in others on cultural features. In order to avoid confusion, I set out the issues posed with the answers as I see them.

(Ia) Did Reisner's original comparative work on Cemetery 7: 201–268 suffice to prove the separate existence of a 'B-Group' culture distinct from other Nubian cultures? A negative answer appears justified on the following grounds: (i) the argument used by Reisner to show that 7: 201–268 constitute a cultural group is confused and inadequate; (ii) the evidence of the graves themselves

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cannot be shown to support their homogeneity; (iii) even granted their homogeneity, Reisner distinguished them from the 'Early Dynastic' of 7:301–361\textsuperscript{11} and from the 'C-Group' of certain other cemeteries,\textsuperscript{12} but not from the 'Predynastic' culture groups; (iv) the material from those of the graves 7:201–268 which contained grave-goods is consistent with their belonging to other Nubian culture groups, especially the Predynastic groups.

(Ib) Did the data used by Reisner and his successors at other cemeteries suffice for the attribution of graves to the 'B-Group' as initially defined by Reisner? The answer to this is in most cases a clear negative, because the high proportion of plundered and empty graves renders the type of statistical evaluation used by Reisner for 7:201–268 worthless.

(Ic) Did the criteria used by Reisner's successors for assigning graves to the 'B-Group' accord with those used by Reisner? None of his successors used his criteria in the way he used them, while there are several clear and important instances where Firth and Emery used quite different criteria.

(Id) If the criteria used by Reisner's successors failed to conform with Reisner's own, did they nevertheless serve to establish the existence of a distinct cultural group, which might plausibly be assigned to the Old Kingdom period? No; the criteria used by Reisner's successors are not of themselves adequate to define an archaeological group.

(IIa) Did Reisner's original analysis of 7:201–268 prove that all or any of those graves should be dated to the Old Kingdom? No; Reisner's reasons for dating these graves later than 7:301–361 are mainly negative, and are inadequate. The datable material in the graves should be assigned to other periods, principally the Predynastic.

(IIb) Were the graves subsequently attributed to the 'B-Group' all of approximately the same date as 7:201–268? No; the datable graves appear to vary in date from early in the Predynastic period to the Second Intermediate period.

(IIc) Are the graves attributed to the 'B-Group' in each individual cemetery or group of graves consistent in date? In some cases, the datable graves appear to be reasonably consistent in date, in other cases they are certainly not so; in no case can every grave in a cemetery or group be proved to be of one date.

(IId) Are there graves among those attributed to the 'B-Group' which can positively be dated to the Old Kingdom? Four graves may, with some probability, be dated to the viih Dynasty;\textsuperscript{13} but these were all defined by excavators as belonging to the 'Late B-Group' or 'Late B-Group–Early C-Group', and there can now be no doubt that they belong culturally to the C-Group. Otherwise no alleged 'B-Group' grave can be dated on good grounds to the Old Kingdom period.

\textsuperscript{11} ASN, 1907–8, p. 43. \textsuperscript{12} ASN, 1907–8, p. 336. \textsuperscript{13} See below, pp. 80 and 112.
THE NUBIAN B-GROUP

Cemetery Analysis

The terminology used in the following analyses requires explanation. Reisner's sequence of cultures down to 1,000 B.C. runs as follows:—'Early Predynastic', 'Middle Predynastic', 'Late Predynastic', 'A-Group', 'B-Group', 'C-Group', 'New Empire'. The three sub-divisions of the Predynastic were intended by Reisner to correspond roughly with Petrie's sub-division of the Egyptian Predynastic into 'Amratian', 'Gerzean', and 'Semainean', as he considered the material to be related in type and date; but his criteria were somewhat different from Petrie's. The 'A-Group' includes material that would in Egypt be dated to the very end of the Predynastic period and early 1st Dynasty, together with some distinctively Nubian material; but owing to his theory of 'cultural retardation' in Nubia, Reisner considered that the 'A-Group' should be dated to the 1st–2nd Dynasties, and probably the 3rd as well. He, Firth and Emery therefore use the term 'Early Dynastic' and occasionally 'Late Predynastic–Early Dynastic' as synonymous with 'A-Group'. As the 'B-Group' was thought to follow the 'A-Group' and broadly to cover the period of the Old Kingdom, the term 'Old Kingdom Nubian' is used as a synonym, especially by Firth. The 'C-Group', originally thought by Reisner to cover the period of the xiiith–xvith Dynasties, was thence termed 'Middle Kingdom Nubian'; later work showed that its date extended from the end of the Old Kingdom into the xviiith Dynasty. 'New Empire' is identical with the Egyptian 'New Kingdom' (xviiiith–xixth Dynasties); Emery occasionally used the term 'D-Group'.

My own practice has been, so far as possible, to keep the terms 'A-Group', 'B-Group', 'C-Group' to describe the Nubian archaeological groups, and to use Egyptian dynastic terminology, together with such expressions as 'Old Kingdom', etc. strictly for dating purposes. In the case of the Predynastic it is less easy to maintain a logical separation between dating and archaeological group. For the Egyptian Predynastic I have chosen to use Petrie's old terminology, for though I am well aware that his sequencing requires radical revision, on which certain scholars are at present engaged, and that his terminology is often considered superseded, it remains true that no agreed system has yet replaced his sequence-dating, and for my present purpose his corpusse and those of Brunton provide the most convenient material. While retaining 'Amratian' and 'Gerzean', however, I have dropped 'Semainean', and have used the question-begging but highly useful term 'Protodynastic' to describe material which should belong immediately before the time of Hr−hj. Where terms are placed between quotation marks they are the original excavator's; where not so they are my own.

Method also requires comment. Reisner's arguments for considering the 'B-Group' a separate cultural group were largely statistical comparisons of certain features of burials; these I have met so far as possible with countervailing numerical arguments, without by any means implying faith in this type of argument when based on such partial material. Where however, as often, the evidence is too sparse to allow group characteristics to be demonstrated, I have concentrated on rebutting any argument put forward by the excavator, and upon showing that the grave goods might better be attributed to some other Nubian group. This is usually in practice a matter of comparative typological work on the grave-goods; and in general I have used Nubian material for this purpose, so that the hypothesis may be met on its own grounds. But in the case of the Predynastic I have not scrupled to use Egyptian material, partly because the Nubian material is so sparse, but also because Reisner himself so used it, being convinced of the cultural and temporal identity of the Nubian and Upper Egyptian Predynastic.

Unfortunately I have not had the opportunity to examine the original Nubian material in the Cairo and Aswan Museums, and am unlikely to be able to do so in the
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near future. As many of the objects from the graves are not illustrated, and the illustrations in the earlier Survey volumes, though often good considering their date and the exceptionally difficult conditions under which all archaeological survey in Nubia takes place, do not meet modern standards of accuracy, my detailed comparative work cannot be as accurate as is desirable. I have therefore refrained from reproducing illustrations which may not be accurate, and from entering into greater detail than they can well bear witness to. It is for this reason that I have in the main used secondary sources for my comparative material, for too great reliance on minute detail would be out of place. I trust, however, that this procedure, though very far from the ideal, will nevertheless be adequate to support my major points.

Reisner's Cemeteries

Cemetery 7: Graves 201–268

Shellal

These graves were situated on two slight ridges in a topographically compact group above the plain in which the old village of Shellal and graves 301–361 lay. They had probably originally formed but a part of an extensive burial ground, for Reisner identified denuded graves on adjacent knolls and ridges.14 There were sixty graves in the group.15 Nine contained animal burials, with which no grave goods were buried other than an occasional dog-leash. Of the fifty-one burials containing human burials, thirty-two were plundered, and twelve of these contained no grave goods except body wrappings. The remaining nineteen may be taken as having been undisturbed, though as in some cases they were exposed by denudation this cannot be certain in every case. Four of the nineteen contained no grave goods other than wrappings. Thus there are fifteen undisturbed and twenty plundered graves which provide material for comparison in the form of grave goods.16

Reisner's fundamental analysis of these graves begins:—"Now it may be laid down as an obvious principle, borne out by excavations in later cemeteries in Egypt, by present-day practice in primitive communities, and by our knowledge of family ties, that small uniform groups of similar graves may be considered to be of one community and one date, unless direct evidence appears to the contrary. Isolated graves in that group, however, can only be counted part of the group when they present the uniform characteristics of the group. It may be assumed, therefore, that the knoll containing graves nos. 201–268 contains the cemetery of one community during one short period. The graves are fairly uniform in character and present distinct differences from the Early Dynastic groups. At the same time they present sufficient similarity to the Early Dynastic graves to indicate that they are not far separated from them in date".17

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14 See ASN, 1907–8, p. 33, and Plans IX–X. Graves 201–268 occupied the area marked A.
15 Graves 244–249 were not used, while 242–243 were not graves; the total is thus only 60.
16 Figures taken from Reisner's grave catalogue, ASN, 1907–8, pp. 33–42.
17 ASN, 1907–8, pp. 42–5.
THE NUBIAN B-GROUP

This paragraph appears to present Reisner's sole argument for considering 7:201–268 as belonging to a single archaeological group, for in the last two sentences he introduces the question of date with which the remainder of his analysis is concerned. The argument is not a model of clarity. When a cemetery is excavated there can be no initial presumption that the graves all belong to one cultural group and one date. If, however, the types of graves, the features of the burials, and the character of the grave goods show marked similarities one to another, it may be proper to deduce that the cemetery belonged to one cultural group, and under certain circumstances to one date, though for these deductions to approach certainty it must be shown that all the graves conform. It may be that Reisner's first two sentences mean this and no more; but if so, his phrase 'small uniform groups of similar graves' is tautological, as 'similar' and 'uniform' will mean the same thing; while the self-contradictory expression 'isolated graves in that group' must be re-interpreted to mean 'individual graves in that group'. But if this really is Reisner's meaning, these two sentences provide no justification for the 'therefore' in his third sentence: 'It may be assumed therefore that the knoll containing graves nos. 201–268 contains the cemetery of one community during one short period', for this could only properly be assumed after it had been shown that the graves showed a sufficient measure of similarity. Reisner does indeed state in the next sentence that the graves are 'fairly uniform in character', but does not demonstrate it; presumably he considered it self-evident from his statistical summary of these graves. This point will be examined below.

But Reisner can hardly be held to have intended such a non sequitur; and the possibility that he had something different in mind when he wrote his first two sentences should be considered. As he regularly uses the word 'isolated' elsewhere to mean 'topographically isolated', it seems possible that this is what he intended here. If so, when he speaks of 'small uniform groups of similar graves' he may really have been thinking of 'small groups of graves united by topographical proximity' like 7:201–268. His argument would then run: any small group of similar graves in close physical proximity to one another should be dated to one community and one date unless there is 'direct evidence to the contrary, though graves which are topographically isolated from that group must not be included unless they show the same characteristics; as 7:201–268 are a small group situated close together on a single knoll, they should therefore be considered a priori to belong to one community and one date. If this is what Reisner meant, then the 'therefore' in his third sentence is explained, but what can be thought of the 'obvious principle' in his first? The 'direct evidence to the contrary' can in fact only mean evidence that the graves are not 'similar', but in some important particular dissimilar to one another; thus it is essentially the 'similarity' of the graves that is the primary condition of their being considered to belong to one community and one date, while the topographical proximity and 'smallness' of the group are only secondary arguments. Reisner's
own practice on the Nubian survey is clear; he attributed small topographically
united groups of graves to one community and one date when he did not think
he could point to any significant differences between them, as in the case of
7:201–268, but he had no compunction in doing the opposite when he thought
he could spot a distinction. There are cases of this from this very Cemetery 7
at Shellal which will be discussed in the section on the ‘late B-Group’ graves
below. In order then, to ascertain whether Cemetery 7:201–268 can in fact be
properly considered to have belonged to ‘one community and one date’, our
primary task is to examine the evidence for Reisner’s statement that they are
‘fairly uniform in character’.

Since over half the graves are plundered, no high degree of similarity can be
demonstrated, for the plundered graves may have contained very dissimilar
material. But it can be seen from the following table that the grave types and
burial features preserved do not show much homogeneity.

<table>
<thead>
<tr>
<th>Grave types</th>
<th>39 oval, 4 circular, 3 rectangular, 4 rectangular with rounded corners, 10 irregular or uncertain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burial position</td>
<td>All contracted, 20 on left side, 10 on right side, 2 on back (‘accidental’).</td>
</tr>
<tr>
<td>Head orientation</td>
<td>3 south, 6–8 north, 15 east, 8 west.</td>
</tr>
<tr>
<td>Body covering</td>
<td>12 with matting alone, 5 with matting and goatskin, 3 with goatskin only.</td>
</tr>
<tr>
<td>Multiple burials</td>
<td>3 double burials as against 23 single burials.</td>
</tr>
</tbody>
</table>

Reisner, however, considered that the very diversity in certain features, e.g. head
orientation, was characteristic of this group, so this must be considered.

The head orientation most typical of the C-Group is easterly,19 that typical
of the A-Group southerly,20 while in the Nubian Predynastic groups it is very
inconstant. Multiple burials occur regularly in the Predynastic groups and
A-Group, but are very rare in the C-Group.21 Burial on the right side pre-
dominates in the C-Group, on the left in the Predynastic and A-Groups.22
Rectangular, oval and circular graves of broad proportions occur in all three
groups; the most typical feature of C-Group graves, their circular stone super-
structures, were not apparent at Shellal because of denudation, and all that can
be said is that very narrow graves, which occur in the C-Group, do not occur in
the other groups.23 Burial in matting and skins is common to all three groups.
If the features of the intact graves among 7:201–268 are considered together

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18 *ASN*, 1907–8, p. 43. Reisner says one; see, however, graves 201, 233.
19 *ASN*, 1907–8, p. 336; *ASN*, 1910–11, p. 21: cf. however the more accurate
20 *ASN*, 1907–8, p. 324.
21 For the A-Group see *ASN*, 1907–8, p. 325; *ASN*, 1910–11, p. 16. Positive
evidence concerning Predynastic less frequent; see e.g. Cemetery 17, graves 5, 7, 58, 66.
For C-Group see *ASN*, 1909–10, p. 13.
23 *ASN*, 1907–8, pp. 300–2.
THE NUBIAN B-GROUP

with the slender indications obtainable from the grave goods, we obtain the following data:

<table>
<thead>
<tr>
<th>Grave No.</th>
<th>Grave Type</th>
<th>Burial</th>
<th>Side</th>
<th>Head</th>
<th>Grave Goods</th>
<th>Features consonant with</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Narrow oval</td>
<td>Single</td>
<td>On back</td>
<td>E</td>
<td>Undistinctive</td>
<td>C-Group</td>
</tr>
<tr>
<td>202</td>
<td>Broad oval</td>
<td>Double</td>
<td>Left</td>
<td>WSW</td>
<td>2 red-polished bowls</td>
<td>Pre. or A-Group</td>
</tr>
<tr>
<td>204</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>E</td>
<td>Leather cap with shells</td>
<td>Any</td>
</tr>
<tr>
<td>207</td>
<td>Broad irreg.</td>
<td>Single</td>
<td>Right</td>
<td>ENE</td>
<td>Speckled stone oval palette</td>
<td>Pre. or A-Group</td>
</tr>
<tr>
<td>208</td>
<td>Broad rect., rounded ends</td>
<td>Single</td>
<td>Left</td>
<td>E</td>
<td>Leather phallus sheath?</td>
<td>Any</td>
</tr>
<tr>
<td>209</td>
<td>Broad rect.</td>
<td>Single</td>
<td>Right</td>
<td>E</td>
<td>Undistinctive</td>
<td>C-Group</td>
</tr>
<tr>
<td>213</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>NW</td>
<td>Smooth ware bowl</td>
<td>Pre-A-Group</td>
</tr>
<tr>
<td>222</td>
<td>Broad oval</td>
<td>Double</td>
<td>Left</td>
<td>SSW</td>
<td>Smooth light ware bowl</td>
<td>Pre. or A-Group</td>
</tr>
<tr>
<td>226</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>NNW</td>
<td>Empty</td>
<td>Pre.-A-Group</td>
</tr>
<tr>
<td>233</td>
<td>Broad oval</td>
<td>Single</td>
<td>Back</td>
<td>E</td>
<td>Undistinctive</td>
<td>C-Group</td>
</tr>
<tr>
<td>234</td>
<td>Broad ovoid</td>
<td>Double</td>
<td>Left</td>
<td>SSW</td>
<td>Red-polished black-topped pot</td>
<td>Pre.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31 black stone axe head</td>
<td>Any</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32 cylindrical ivory beads</td>
<td>Any</td>
</tr>
<tr>
<td>235</td>
<td>Broad oval</td>
<td>Single</td>
<td>Right</td>
<td>W</td>
<td>Undistinctive</td>
<td>Any</td>
</tr>
<tr>
<td>240</td>
<td>Broad oval, narrow grave pit</td>
<td>Single</td>
<td>Right</td>
<td>ESE</td>
<td>Small soft brown ware cup</td>
<td>Pre.-A-Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>34 red-polished brown ware cup</td>
<td>C-Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35 trapezoid stone palette</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>Broad oval</td>
<td>Single</td>
<td>Right</td>
<td>W</td>
<td>Horn spatula; ostrich feathers</td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>Circular</td>
<td>Single</td>
<td>Right</td>
<td>ESE</td>
<td>Large grinding stone; wooden hairpin; bracelet; red jasper and shell beads; tortoiseshell crescent armlets</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>NE</td>
<td>Empty</td>
<td>Any</td>
</tr>
<tr>
<td>260</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>SE</td>
<td>Undistinctive</td>
<td>Any</td>
</tr>
<tr>
<td>263</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>NW</td>
<td>Horn spatula; coral or shell cylinder beads</td>
<td>Any</td>
</tr>
<tr>
<td>267</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>NE</td>
<td>Empty</td>
<td>Any</td>
</tr>
</tbody>
</table>

24 Only grave goods which may be distinctive are selected for mention.
25 'Perhaps fallen over from a contracted position on left side', Reisner.
26 ASN, 1907–8, p. 34, fig. 15, Nos. 3 and 4, cf. W. M. F. Petrie, Prehistoric Egypt Corpus (henceforth PEC), types P2a, P11a.
27 ASN, 1907–8, pl. 63.d.3.
28 ASN, 1907–8, p. 34, fig. 15, No. 6, cf. p. 322, fig. 286, No. 5 and p. 326, fig. 293, No. 15.
29 ASN, 1907–8, p. 34, fig. 15, No. 11.
30 ASN, 1907–8, pl. 66.b.28. Considered by Reisner of Predynastic type (p. 45); not exactly paralleled by Egyptian Predynastic types.
31 ASN, 1907–8, p. 34, fig. 15, No. 2, cf. PEC, types B 22.c, B 22.d, B 20.d.
32 ASN, 1907–8, pl. 63.d.9.
33 Ivory cylinder beads are in Egypt very uncommon after the Protodynastic.
34 ASN, 1907–8, p. 34, fig. 15, No. 8. 35 Ibid., No. 9.
36 ASN, 1907–8, pl. 63, c.15. 37 ASN, 1907–8, pl. 66.b.29.
38 ASN, 1907–8, pl. 66.b.52. 39 Red jasper beads are extremely rare before the MK.
40 ASN, 1907–8, pl. 66.b.17, 18. 41 ASN, 1907–8, pl. 66.b.30.
The last column shows that of these nineteen intact graves, seven have features that are consistent with their belonging to one of the Predynastic groups or the A-Group, four have features consistent with their belonging to the C-Group, while eight might belong to any of these groups. It is not contended that each of these graves necessarily did belong to the stated group, for without examination, the grave-goods, which must be considered the final test, are far too scanty for certainty, but the analysis does show that Reisner’s assumption that these graves are ‘fairly uniform in character’ does not follow from the facts.

The next portion of Reisner’s analysis contains his comparison between 7:301–361 and 7:201–268. In this he is concerned with date. His argument is that 7:201–268, considered as a group, differ from the ‘Early Dynastic’ graves 7:301–361 in certain important respects, and therefore cannot be considered to date from the same period; that they lack the characteristic pottery of the preceding groups, and that they must therefore be later. This argument clearly loses validity if 7:201–268 do not represent the graves of a single cultural group, for any statistics drawn from them as a unit are then meaningless. But as this is the basic argument for the date of the ‘B-Group’, it should be examined on its own assumptions. Reisner’s table of comparisons may be summarized:

**Graves 7:301–361 (A-Group)**

- Burials contracted, 52 on left side, 2 on right.
- Head orientation: 50 S., 4 W.
- 8 wrapped in mats.
- 21 multiple burials, 9 single.
- No animal burials.
- Abundance of pottery forms, Corpus Types Early Dynastic — i-x, including black-mouthed types.

**Ivory:** bracelets 3, ring 1, pendant 1, cups 2.

**Bone:** bracelets 3, ring 1.

**Shell:** bracelets 3, pendant 1.

**Beads:** disc, ball, cylindrical, barrel shapes; carnelian, amethyst, ‘beryl’, haematite, bone, shell, blue and black glazed.

**Pendants:** variety in both form and material.

**Shells:** 6 types.

Slate palettes of several forms; quartz, limestone and granite palettes; granite and sandstone handmills.

Rubbers of quartz.

Resin in 10 graves, malachite in 9, pebbles in 22.

**Graves 7:201–268 (B-Group)**

- Burials contracted, 20 on left side, 10 on right.
- Head orientation: 3 S., 6–8 N., 15 E, 8 W.
- 20 wrapped in mats or skins.
- 3 multiple burials, 23 single.
- 9 animal burials.

‘With exception of one light-coloured bowl, all the pottery is of coarse ware or black-mouthed ware of similar types to 301–361’.

**Ivory:** bracelets 4, anklets 1, spoons 3, figure 1.

**Bone:** bracelet 1, hairpin, piercers 3.

**Shell:** scraper.

**Beads:** disc and cylindrical shapes only; carnelian, ‘beryl’, red jasper; ivory, bone, white shell, coral, green glazed.

**Pendants:** ‘beryl’ 1, and pebbles.

**Shells:** 3 types, great preponderance of *Oliva ancillaria*.

Slate palettes irregular or broken; speckled stone and pebble palettes; granite and slate handmills.

Rubbers of diorite, sandstone, and black stone.

Resin in 4 graves, malachite in 9, pebbles in 13.42

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42 *ASN, 1907–8*, pp. 43–4.
THE NUBIAN B-GROUP

Reisner sums up:—' There are a number of other points of difference, as in the amount of leather, which is far greater in nos. 201–268 than in nos. 301–361. Two stone mace-heads occur, one in no. 229 and the other in no. 230; and two stone axe-heads, one in no. 230 and one in no. 234. Mace-heads of this form have hitherto been found only in the Predynastic period, as in our Cemetery 17 at Bahan. The axe-heads have hitherto not been found at all in graves; but there were a number found by us in the archaic camp at Meris (Cemetery 41 : 300). These axe-heads and mace-heads together with the ivory figure (from No. 224) may, I think, be taken as evidence of the early date of the cemetery, and are among the facts that seem to me to indicate that the group nos. 201–268 have, on the one hand, a number of marks of the Predynastic period—contracted burials in mats and skins, bracelets, hairpins, spoons and piercers of ivory and bone, beads, slate and granite palettes and rubbers—and on the other, a number of distinct differences—irregular orientation, but more often east and west than south, a large proportion of the bodies on the right side, a small number of multiple burials, only black-mouthed and coarse Nubian pottery, very few hard stone amulets, pendants and beads, with an abundance of small spiral shells (in some cases sewed in leather work). The graves are entirely lacking in the pottery which is characteristic of the Predynastic period as represented by Cemeteries 17, 23, 30, 40, 41, 43, 44. It is clear, I think, that this early B-Group is later than the Late Predynastic or Early Dynastic groups (nos. 301–361), but not separated from it by any great length of time'.

Reisner has here shown that there are distinctions between 7 : 201–268 and 7 : 301–361. But the differences which he lists might just as well indicate that 7 : 201–268 were the earlier group as the later. The lack of any regular rule for orientation of burials could only have chronological significance if it could be shown that orientation was always regular in the Predynastic but not so in the Old Kingdom. In Egypt in the Predynastic period the trend is from rather irregular orientation to a fairly constant southerly rule, while in the Old Kingdom westerly orientation is normal; in Nubia, the Predynastic progression seems to have been the same, for, as Junker has pointed out, the graves in Cemetery 17 at Bahan termed by Reisner ' Early Predynastic ' show irregular orientation with a predominance of heads to the east. Thus this feature of the ' group ' 7 : 201–268 would point rather to a Predynastic date than an Old Kingdom one. The same is true about the lack of uniformity about the side on which the body was laid; this is also paralleled in the Bahan graves. The smallness of the proportion of multiple burials is again a hazardous criterion for dating: Reisner's

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45 _ASN_, 1907–8, pp. 115–33. The figures for Cemetery 17 are: 'Early Predynastic' burials: nine between north-east and south-east; four north; two south. 'Mid-Predynastic' burials: three between north-east and south-east; one south.
46 Cemetery 17. 'Early Predynastic' burials: eight on left side, five on right side, one partially on back.
argument is presumably that there was a decrease in the proportion of multiple burials after the A-Group, but in fact several large ‘Late Predynastic—Early Dynastic’ cemeteries show few or no multiple burials.  

Reisner’s two arguments concerning the pottery must be taken together. That ‘the graves are entirely lacking in the pottery which is characteristic of the Predynastic period’ would be a strong argument against their belonging to that date if the majority of the graves were intact, but as nineteen out of fifty-one were plundered it loses much of its force. In any case I believe that there is Predynastic pottery in these graves; for Reisner’s statement that ‘with the exception of one light-coloured bowl in 7: 222 all the pottery is of a coarse ware or of black-mouthed ware of similar forms to 301–361’ is not entirely accurate. Reference to the grave record shows that of the twelve whole pots from 7: 201–268, two (7: 202: 3 and 4) were ‘dull polished, red outside, black inside’; one (7: 240: 4) was ‘red-polished brown ware’; one (7: 234: 4) was ‘thin black-topped ware’; one (7: 230: x) was of ‘red-painted smooth brown ware’, in addition to 7: 222: 1, mentioned by Reisner. The recorded sherd material shows a ‘red-polished’ sherd from grave 225, ‘polished sherds’ from graves 215 and 224, ‘incised sherds’ from grave 224, and a fragment of ‘white line-decorated pottery, probably accidental’ from the surface débris of grave 233, together with ‘black-mouthed’ sherds from graves 203, 241 and 253. Only about half the material thus fits Reisner’s description. In the absence of photographs or full profiles, it is unwise to be dogmatic about these few pots. There are, however, Predynastic parallels for the black-topped pot 7: 234: 4, and the red-polished bowls 7: 202: 2 and 4. The ‘smooth ware’, ‘smooth brown ware’ and ‘black-mouthed ware’ bowls were admitted by Reisner to be of similar types to those found in 7: 301–361; the wares, which may well be no more than variant descriptions of the common A-Group brown ware which differs in appearance and surface according to firing conditions and burnish, are assigned by him to his ‘Late Predynastic’ and ‘Early Dynastic’ groups. It is a mere assumption that they continue later. The most distinctive type is a small saucer sieve of ‘smooth brown ware’ in grave 220, which has a parallel from Cemetery 200, grave 87, of the A-Group. On the other hand, the ‘incised

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47 e.g. Cemetery 103 at Dakka, *ASN, 1909–10*, pp. 97–104. More impressive perhaps is that in Cemetery 102 at Dakka, containing over 500 graves, mainly of ‘Late Predynastic’ date, only twelve are recorded to have contained multiple burials, *ASN, 1909–10*, pp. 51–80.

48 These whole pots are all drawn and numbered in *ASN, 1909–10*, p. 34, fig. 15. Unfortunately, the drawings are outlines without sections, and are to a very small scale.

49 None of the sherd material is illustrated.

50 Given above notes 31 and 26 respectively.

51 See Reisner’s Pottery Corpus, LP. Types II and ED Type II, *ASN, 1907–8*, p. 322, fig. 286; p. 326, fig. 293. On the subject of this ware, see below, p. 96.

52 *ASN, 1929–31*, p. 308, fig. 292, No. 2.
THE NUBIAN B-GROUP

sherds' and 'polished sherds' from the débris of grave 224, being unillustrated, might equally belong to the Gerzean, the A-Group or the C-Group, though incised wares are much the commonest in the last named. This rectangular grave was cut through a dog grave, and according to Reisner 'appears to be later', though there is no way of fixing the date of the animal burials in this cemetery, the fact is perhaps suggestive. That the other contents, Oliva ancillaria shells, a pebble, and a mass of leather, perhaps a bag, are also undistinctive is most unfortunate; for this grave contained a damaged ivory figure with upraised arm and phallus or phallus sheath, which is certainly the most remarkable object from 7: 201-268. The meaning of the 'fragment of white line-decorated pottery, probably accidental' from the débris of grave 233 is enigmatic, for unfortunately this description leaves too many possibilities open; the sherd might conceivably have been of the familiar 'Amratian' white cross-lined pottery, but equally well of the whitish ware of some Egyptian Middle Kingdom bowls with incised decoration of straight and wavy lines. The features of the burial are closest to those of the C-Group; the burial contents were undistinctive.

Thus the pottery evidence does not appear to be homogeneous, nor does it reveal that contrast with Nubian Predynastic and A-Group wares which Reisner considered entitled him to attribute to it a later date. Rather it suggests that had these graves been less thoroughly plundered, the pottery evidence might have

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53 ASN, 1907-8, p. 37, fig. 22 and text.
54 ASN, 1907-8, pl. 66.b.20. The figurine is now in the Aswan Museum numbered F.120 Catalogue 406. It has a pointed nose, no eyes and no mouth. There are four horizontal incisions round the waist and a damaged phallus or phallus sheath. The legs are separately modelled; the lower parts of the legs and feet are broken off. The right arm extends forward from the body and then bends up. The left arm is broken off. The present height of the figurine is c. 4\frac{1}{2} in. I am indebted to Dr P. J. Ucko for these details. He has kindly commented to the following effect: that he knows of no clear parallel to this object among either bought or excavated ivory figurines from the Nile Valley. Pottery figurines with four incised horizontal lines round the waist do occur in C-Group graves (ASN, 1908-9, pls. 39, a and b) but these certainly represent females, and the incisions may be thought to represent rolls of fat. The arm position is to some extent at home in the Amratian period, whose figurines are characterized by a variety and freedom of arm position (Ucko forthcoming, 1965a), including one male Amratian pottery figure from grave 96 at Hu with right arm extended forwards (Petter, Diospolis Parva, pl. x, No. 17: now University College 10796: Ucko No. 12). Among a group of bought ivory figurines usually dated to the Predynastic period are five with phallic sheaths (Ucko forthcoming, 1965b). They have few obvious parallels with excavated Predynastic figures, although it may be significant that the manufacture of a male ivory figure with a sheath is attested in the Amratian period in Egypt, but is unknown in Early Dynastic and Old Kingdom times, apart from the material from the Hierakonpolis deposit, and the Abydos 'Archaic temple', which is not strictly datable.

55 ASN, 1907-8, p. 38. 56 See above, p. 77, table.
shown conclusively that the majority of graves 201–268 belonged to Predynastic or A-Group times.

Similarly, the poverty of 7:201–268 in hard stone amulets, pendants and beads cannot well be used to show that these graves are later than 7:301–361. If arguments ex silentio are to be used, the absence of barrel beads of amethyst, carnelian, and ' beryl' should mean that these graves pre-date the introduction of these types in Egypt in Protodynastic times. The same may be said of the absence of amulets; this would indeed be remarkable even in the poorest graves of the Old Kingdom period. The presence of ivory cylinder beads in graves 204 and 234 also suggests a date earlier than 7:301–361, for these are in Egypt unusual after the end of the Predynastic period; possibly the black and white stone pendant (unillustrated) from grave 253 may have belonged to a class common in Egyptian Predynastic burials. There remains the abundance of leather work and of shells. Leather clothing was common to all the indigenous Nubian culture groups; its survival in graves is very much due to chance, dependent on the atmosphere in the grave, and its presence cannot be considered significant. The 'small spiral shells' mentioned by Reisner are Oliva ancilaria as Junker argues, they are to be expected, and do in fact occur, in poor graves of all periods.

Thus on the one hand the differences between 7:301–361 and 7:201–268 on which Reisner relied to show that the latter were later do not in any instance demonstrate this, and in some cases suggest rather that they were earlier. On the other hand, the parallels which Reisner quotes for classes of objects from 7:201–268 are none of them with the Egyptian Old Kingdom, but all with the Egyptian Predynastic. These classes include the bracelets, hairpins, spoons and piercers of ivory and bone; the beads; the slate and granite palettes and rubbers; the mace-heads; the axe-heads; and the figurine. Concerning these one must agree with Reisner's verdict, though he does not cite many parallels. This defect is difficult to remedy, as most of the material is illustrated rather inadequately, or not at all. Concerning the mace-heads, however, there can be no doubt; though their shape is indistinct in the photograph, Reisner's remark in the text that they were of similar form to those found in Cemetery 17 proves conclusively that they were disk mace-heads of the type considered by Petrie typical of the Amratian period. Their materials 'black and white speckled stone' (grave 229) and 'pink and black speckled stone' (grave 230) must correspond with Petrie's specimens from Egypt, which are generally of granite, diorite or black and white porphyritic rock.

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57 These ' beryl' beads and pendants (ASN, 1907–8, pl. 68.a.3) were examined by Lucas and shown to have been either olivine or green felspar (Lucas, Ancient Egyptian Materials and Industries, 4th ed., revised by J. R. Harris, p. 390 with footnote 7).
58 ASN, 1907–8, pl. 66.e.13.
60 ASN, 1907–8, pl. 63.d.5, 10.
61 ASN, 1907–8, p. 44.
62 ASN, 1907–8, pl. 62.c.
63 Petrie, Prehistoric Egypt, pl. xxv and p. 22.
THE NUBIAN B-GROUP

I here tabulate the plundered graves which contain material that may be datable, in the same manner as the intact burials above:—

<table>
<thead>
<tr>
<th>Grave No.</th>
<th>Grave Type</th>
<th>Burial</th>
<th>Side</th>
<th>Head</th>
<th>Grave Goods(^{64})</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>211</td>
<td>Broad oval</td>
<td></td>
<td></td>
<td></td>
<td>3 'beryl' pendants, 14 'beryl' disc beads, 35 red jasper disc beads, 6 glazed steatite cylinder beads(^{65})</td>
<td>A-Group ?</td>
</tr>
<tr>
<td>215</td>
<td>Rectangular with rounded ends</td>
<td>Single</td>
<td></td>
<td></td>
<td>Fragment of black-mouthed ware bowl, like 202:3: 'polished' ware sherds</td>
<td>Pre.-A-Group ?</td>
</tr>
<tr>
<td>216</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>W</td>
<td>Half oval slate palette</td>
<td>Pre.-A-Group ?</td>
</tr>
<tr>
<td>220</td>
<td>Broad oval</td>
<td></td>
<td></td>
<td></td>
<td>Smooth brown ware cup: black-mouthed polished ware bowl: small smooth brown ware saucer sieve;(^{66}) carnelian disc beads</td>
<td>A-Group</td>
</tr>
<tr>
<td>224</td>
<td>Broad rect.</td>
<td>Single</td>
<td>Left</td>
<td>NE</td>
<td>Ivory figurine;(^{67}) 'polished' and 'incised' potsherds</td>
<td>Amratian or C-Group</td>
</tr>
<tr>
<td>229</td>
<td>Circular</td>
<td>Single</td>
<td>Right</td>
<td>WNW</td>
<td>Black and white speckled stone mace-head(^{68})</td>
<td>Amratian</td>
</tr>
<tr>
<td>230</td>
<td>Broad oval</td>
<td></td>
<td></td>
<td></td>
<td>Oblong slate palette; pink and black speckled stone mace-head;(^{69}) ovoid slate palette; red and white basket; black stone axe-head;(^{70}) ivory bracellet; goat(?)-horn;(^{71}) part of red-painted smooth brown ware cup</td>
<td>Amratian</td>
</tr>
<tr>
<td>237</td>
<td>Broad oval</td>
<td>Single</td>
<td>Left</td>
<td>ENE</td>
<td>Tortoiseshell armlet(^{72})</td>
<td>Pre. ?</td>
</tr>
<tr>
<td>241</td>
<td>Broad rect.</td>
<td>Single</td>
<td>Left</td>
<td>E</td>
<td>Black-mouthed sherds</td>
<td>Pre.-A-Group ?</td>
</tr>
<tr>
<td>253</td>
<td>Circular</td>
<td>Single</td>
<td>Left</td>
<td>NNW</td>
<td>Bone spatula;(^{73}) gazelle or goat horn; black and white stone pendant; parts of black-mouthed ware pan(^{74}) and cup; ivory bracelets</td>
<td>Pre.-A-Group ?</td>
</tr>
<tr>
<td>266</td>
<td>Broad oval</td>
<td>Single</td>
<td></td>
<td></td>
<td>Fragments of ivory spoon</td>
<td>Pre. ?</td>
</tr>
<tr>
<td>268</td>
<td>Oval</td>
<td></td>
<td></td>
<td></td>
<td>Fragments of ivory spoon</td>
<td>Pre. ?</td>
</tr>
</tbody>
</table>

\(^{64}\) Only grave goods which may be distinctive are selected for mention.

\(^{65}\) *ASN, 1907–8*, pl. 68.a.3.

\(^{66}\) *ASN, 1907–8*, p. 34, fig. 15, Nos. 7, 5, 12 respectively.

\(^{67}\) *ASN, 1907–8*, pl. 66.b.20.  
\(^{68}\) *ASN, 1907–8*, pl. 63.d.5.

\(^{69}\) *ASN, 1907–8*, pl. 63.d.10.  
\(^{70}\) *ASN, 1907–8*, pl. 63.d.8.

\(^{71}\) *ASN, 1907–8*, pl. 66.b.40.  
\(^{72}\) *ASN, 1907–8*, pl. 66.b.17.

\(^{73}\) *ASN, 1907–8*, pl. 66.b.41.  
\(^{74}\) *ASN, 1907–8*, p. 34, fig. 15, No. 1.
Thus among the plundered graves, two are most probably of Amratian date, one doubtfully so; six are likely to belong to the late Gerzean or A-Group; three more may perhaps belong to some part of the Predynastic, though the evidence is very shaky. The other graves yield too little for any attempt at dating.

To sum up, 7:201–268 do not, as Reisner thought, appear to represent 'the cemetery of one community during one short period'. The majority of the better preserved graves show features which are common to the Nubian Predynastic and A-Groups, though in date these graves probably range from the Amratian to the Protodynastic. A few graves, however, may be attributable, on the basis of burial characteristics rather than contents, to the C-Group. This is not surprising, when the topography of the cemetery is taken into account; as will be shown below, 75 A-Group and C-Group graves occur together on the knolls across the valley to the south which may once have formed part of the same cemetery. If these conclusions are correct, the conception of a Nubian 'B-Group' has no valid basis. 76

Cemetery 7: Late B-Group graves

The graves in Cemetery 7 classified by Reisner as 'Late B-Group' were situated on a series of knolls bordering the Shellal plain, south of Knoll A on which the 'Early B-Group' graves 201–268 were situated. They shared these knolls with graves attributed by Reisner to the 'C-Group' and the 'E-Group'. 77 With our increased knowledge of the C-Group culture since the first Nubian

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75 See p. 85 below.

76 In this treatment I have ignored entirely Reisner's comparison between the 'B-Group' and the 'C-Group' (ASN, 1907–8, pp. 333–5), for in it he simply assumes that graves 7:201–268 and their congener have been demonstrated to represent Nubian indigenous culture in the Old Kingdom, and uses them as a standard against which to measure the C-Group culture as he then understood it. Doubtless he may have considered that the contrasts this comparison afforded in some measure confirmed his 'B-Group' hypothesis; but such contrasts are of course equally to be expected if 7:201–268 are mainly of Predynastic–A-Group date.

77 ASN, 1907–8, Plans IX and X. From north–south details are:—Knoll H: five graves, all 'Late B-Group' (175–178, 276); Knoll B, directly adjoining: thirty-eight graves, twenty-five C-Group (161–163, 172–174, 183–189, 196–200, 271–275, 277–278), twelve E-Group (164–171, 179–182), one 'Late B-Group' (190); Knoll C, very near Knoll B: twenty-two graves, fourteen E-Group (138–140, 148, 151–160), six 'Late B-Group' (141–147), one Early Dynastic (149); Knoll K, immediately adjoining Knoll C, partly covered by Moslem cemetery: five graves, all 'Late B-Group' (131–135); Knoll E, south-west of Knoll K with part of old village of Shellal occupying intervening space: twenty-two graves, twenty-one 'Late B-Group' (109, 111–130), one E-Group (110) (on p. 58 of ASN, 1907–8, No. 118 is a misprint for No. 110, cf. Table on p. 57). It is quite probable that all these knolls were originally part of one large cemetery, split up by water erosion and the intrusion of the modern village (cf. ASN, 1907–8, p. 45).
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survey, we can confidently designate as C-Group all the graves on these knolls (with the exception of graves 149 and 190A). This is a change of nomenclature rather than analysis. Reisner points out the strong contrast between his 'Late B-Group' graves and the 'Early B-Group' ones and notes that the most characteristic objects found are the beads. These are for the greater part of blue-glaze, and show certain forms which are known in Egypt in the period between the viith and xith Dynasties—the 'crumb' beads and the small amulets (see pl. 69, b.1) in nos. 114, 117'. 78 Thus Reisner correctly divined the date to be assigned to some of these graves; he attempted no contrast between them and the C-Group graves, and his reasons for naming them 'Late B-Group' rather than 'Early C-Group' seem to have been that the head orientation was not uniformly east (nine north, seven east, four south, two west) as he considered it to be in C-Group burials, and that 'Pottery is rare and is confined to a few black-mouthed bowls'. 79 In fact this last statement is not accurate; eight graves contained 'black-mouthed' bowls or sherds thereof, four contained 'incised' ware, 80 three 'red ware', 81 four 'hard smooth greenish ware' or 'fine smooth white ware' bottles of the well-known C-Group type, 82 and one sherd which Reisner himself recognized as New Kingdom. 83 When considered with other distinctive objects 84 and the predominance of the rectangular grave type, 85 this pottery shows quite clearly that the affinities of these graves are wholly with the C-Group, though they are of rather varying dates within that period.

Two graves within this area, however, certainly belonged to an earlier group. In the case of grave 149 on Knoll C, this was acknowledged by Reisner, who attributed it to the 'Early Dynastic'. 86 The presence of a small wavy-handed

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78 ASN, 1907–8, p. 45 and pls. 69.b.1., 70.b.17.
79 Graves 121B, 131B, 143, 145, 150, 190B, 177, 276.
80 Graves 121B, 150, 128, 190B.
81 Graves 145, 177, 178.
82 Graves 109, 121A, 131B, 134; compared with ED Type VII.3 (ASN, 1907–8, p. 328, fig. 298) and drawn (ibid., p. 53, fig. 37, 2); cf. ASN, 1929–31, pl. 35, Types C. XIIa, XIIb, with description p. 593.
83 Grave 128.
84 e.g. Copper mirror of tapering form 7:117:1 (pl. 65.d.1, cf. pl. 65.d.2, from Cemetery 41, grave 423); mother-of-pearl hair ornament 7:121:8 (pl. 70.b.8, cf. pl. 70.b.15 from Cemetery 41, grave 529 and ASN, 1908–9, pl. 37.b.2 from Cemetery 87, grave 29); the necklace (pl. 69.b.4), girdle (pl. 69.b.6) and amulets (like pl. 70.b.18, 19), all from grave 123. The beads and amulets from grave 114 quoted by Reisner (see note 78 above) are plainly the earliest datable objects in any of these graves, and are of importance for the question how early the C-Group appeared in Nubia.
85 Twelve rectangular, five rectangular with rounded ends, ten oval, two circular, one oblong, ten indeterminate.
86 ASN, 1907–8, p. 21.
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jar of hard pink ware⁸⁷ and a slate palette of turtle shape shows that it belongs to the earliest part of the A-Group. Grave 190A on Knoll B was cut through by a 'Late B-Group' grave 190B. Reisner seems to have considered 190A to belong to the 'Early B-Group' and says that it is 'dated by its copper implements and electron beads to about the 11th to 17th Dynasties'.⁸⁸ This opinion was a natural one at the time at which Reisner wrote, before Emery found the horde of copper implements at the tomb of Dr at Saqqara; the grave may now equally well be thought to belong to the first half of the 1st Dynasty.⁸⁹ Thus Knolls B and C contained graves of both the A-Group and the C-Group. According to our analysis Knoll A containing 7:201–268 also shows this combination. Since Reisner states that the lower slopes of these knolls and the 'Small Khor' between them contained 'pans' which had once been the bottom of graves,⁹₀ it seems probable that the whole area before denudation was used as a cemetery in Predynastic-A-Group times and re-used by the C-Group.

Cemetery 14: 1-21, 41, 43

Khor Ambukol

These twenty-three graves lay together on a mud-bank north of Khor Ambukol, and were heavily denuded. The shape of the graves was indeterminate in twenty cases; thirteen were completely empty of grave-goods, and of these at least seven had been plundered. There were no multiple burials, and only one animal burial. The human burials were contracted, nine being on their right sides, eight on their left. Five were buried with their heads to the east, six to the north, two to the west, and one to the south. In these circumstances, only the grave-goods provide clues indicating group or date, and these are sparse.

However, both graves 6 and 18 contained broken ivory combs, which can be seen from the photographs to have belonged to the well-known Predynastic type with a gazelle or other mammal carved at the top; in the former case only

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⁸⁷ ASN, 1907-8, p. 329, fig. 300, No. 6.
⁸⁸ ASN, 1907-8, p. 45, repeated, p. 334. Grave records, p. 51, where he admits that the copper tools and 'gold (sic) beads' might date as early as the 1st Dynasty.
⁸⁹ For 7:190A:1 (pl. 65.a.15), cf. Emery, Great Tombs of the First Dynasty, p. 47, fig. 24; for 7:190A:2 (pl. 65.b.8); cf. Emery, op. cit., p. 31, fig. 19, 1; no parallel for 7:190A:3 (pl. 65.b.9), a heavy copper axe, occurs in the tomb of Dr at Saqqara, but cf. Quibell, Catalogue Général du Musée du Caire, Archaic Objects, Nos. 14525 and 14528, pp. 280-1 and pl. lix, from Amélineau's excavations at Abydos, and a model of this form from the tomb of Hf-shm-wy at Abydos, see Petrie, Royal Tombs of Abydos, II, pl. xlv, now at University College; presumably the introduction of the implement proper was somewhat earlier than the model. The gold or electron spiral beads and ball beads from the necklace 7:190A:7 (pl. 68.b.4) are paralleled by beads in the famous bracelet attributed by Petrie to the tomb of Dr, see Petrie, Royal Tombs, II, frontispiece, 3. The ivory armlets 7:190A:5 are unusual (pl. 66.b.19); the rest of the material in the grave is undistinctive.
⁹₀ ASN, 1907-8, p. 33.
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the feet of the animal are preserved, in the latter all but its head.91 Mammal-headed combs are said by Petrie not to occur later than S.D. 42.92 As these two have rather shorter teeth than those from Cemetery 17 at Bahan,93 and most of the examples from Egypt, they may, if Petrie’s criteria are correct, belong at the end of the series. In grave 16 was found a ‘lozenge-shaped slate palette, worn centre’, while close to grave 6 was discovered a ‘small diamond-shaped slate palette’. Unfortunately neither is illustrated, but slate palettes of this shape are in Nubia practically confined to the ‘Early Predynastic’ and ‘Middle Predynastic’ graves in Cemetery 17 at Bahan, from which there are no less than twelve examples, referred to indifferently as diamond- or lozenge-shaped.94 The type is well-known from Amratian graves in Egypt.95 Rectangular palettes of ‘hard crystalline purple stone’ from grave 1, and of alabaster from grave 14 are less precisely datable. Pottery is in short supply. A ‘small ladle, coarse red-brown ware’, either round or oval, came from grave 17; a ‘dull black-ware bowl’ with milled rim and pointed bottom from grave 7a; and from grave 7b, which underlay 7a, two hemispherical bowls of ‘brownish-red ware, black-mouthed, dull-polished; covered with the marks of the rubbing pebble’.96 The drawings of these are not detailed enough for parallels to be convincing, but they fit a Predynastic A-Group context. A puzzling sherd, found together with a black-mouthed flat-bottomed bowl97 in the débris of grave 5, is described in the grave record as an ‘incised potsherd of fine pinkish-brown ware’; the drawing shows clearly that it is the same piece which is illustrated in a plate with C-Group pottery, and described as having a ‘hard pink-grey surface, black interior, punctured pattern’.98 Neither ware nor decoration seem to me in character for the C-Group; pricked decoration can occur occasionally on A-Group pottery, but I cannot quote a precise parallel.

To sum up, it cannot be shown that these burials belonged to a single cultural group. If they did so, it must have been to the Predynastic group, for

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91 **ASN**, 1907–8, pp. 142, 144 and pl. 66.b.31 and 33. Compare **PE**, pl. xxix, 1 from Naqada grave 1649 (S.D. 38); Petrie, **Naqada and Ballas**, pl. lxiii, 59 (from grave 1586, S.D. 33–46); ibid., 63 (from grave 1687, S.D. 35); ibid., pl. lxiv, 87; Brunton, **Mostagedda**, pl. xl, 14 (from grave 1880, Amratian); Brunton, **Matmar**, pl. xvii, 38 (from grave 2632).
92 **PE**, p. 29.  
93 **ASN**, 1907–8, pl. 66.a.16, 17, 18.  
94 **ASN**, 1907–8, pl. 63.a.1–4, 6, 7, with details of provenance given in the list of plates, plates vol., p. 12. Only one (pl. 63.a.4; 17 : 47 : 2) comes from a grave termed by Reisner ‘Middle Predynastic’. Similar objects come from Cemetery 41, grave 217 (‘B-Group’) and Cemetery 43, grave 23 (‘Late Predynastic’).
95 **PEC**, pl. lviii.  
96 This pottery is drawn in **ASN**, 1907–8, p. 141, fig. 92, except the last two bowls, for which Reisner’s reference should, I think, be corrected to p. 34, fig. 15, Nos. 5 and 7.  
97 **ASN**, 1907–8, p. 141, fig. 92, No. 1.  
98 Grave record, **ASN**, 1907–8, p. 142; drawing, p. 141, fig. 92, No. 4; photograph, pl. 61.b.2; description, plates vol., p. 11.
graves 6, 16, 18 can be firmly dated to that period, and graves 7a, 7b and 17 probably so. There is no evidence that any of them date from the Old Kingdom.

Cemetery 17: 'B-Group' Graves  

Forty-one graves in this cemetery were described by Reisner as 'B-Group graves and graves of indeterminate date'. Topographically, they were scattered among the 'Early Predynastic' and 'Middle Predynastic' graves of which the cemetery otherwise consists. They differ from the Predynastic burials only in that they contain very little good dating material. Junker has shown convincingly that they also belong to the Predynastic period, and his detailed arguments need not be repeated.\(^9^9\) It is worth noting, however, that there were fifteen animal burials scattered in this cemetery, which Reisner inclined to assign to the 'B-Group'. If Junker is right, there is little reason for assigning these animal burials to any group other than the Predynastic, though of course they cannot strictly be dated.

Cemetery 22: 'B-Group' Graves  

Reisner says in the introductory matter to his record of this cemetery, which mainly contained C-Group and Christian burials:—'The main question in regard to the cemetery concerned the empty circular pits—especially those in the animal cemetery. These were probably plundered graves of a period anterior to the C-Group. Nos. 32 and 38 contained scattered sheep bones, probably from superimposed sheep burials. No. 120 contained an infant contracted on the right side, head west. Thus it seems as if the eastern slope was first occupied by a B-Group (or earlier) cemetery which gradually grew to the west during the C-Group period'.\(^1^0^0\) The only interest of this passage is that it is the first example of the tendency to ascribe all empty circular graves to the 'B-Group' rather than to the earlier groups to which they might equally belong.

Cemetery 23: 'B-Group' Burials  

Reisner divided this cemetery into three areas, of which Area B contained New Kingdom and Area C animal burials. Area A contained, according to Reisner's analysis, six 'Late Predynastic-Early Dynastic' burials at the southern end, four 'Early Dynastic' or 'Early B-Group' burials immediately to the north of these, and 'fifty-nine graves of the Old and Middle Kingdoms (B- and C-Groups)' on the top and northern parts of the knoll.\(^1^0^1\) The 'B-Group' graves did not therefore form a topographically separate group.

The four graves 14, 17, 18 and 45 are characterized by Reisner as 'containing palettes, beads and stone vessels of the Early Dynastic or early B-Group'.

\(^9^9\) Kubanieh-Süd, pp. 26–7. See ASN, 1907–8, pp. 133–9.  
\(^1^0^0\) ASN, 1907–8, pp. 180–1.  
\(^1^0^1\) ASN, 1907–8, Plan XVI.
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14, a plundered grave, the burial with head to the south, contained a broken slate palette and 'carnelian, crystal and black-glaze disc beads, and shell beads'. 17, an oval grave, contained two burials with their heads to the north, two pebble rubbers, small lumps of resin and a broken slate palette of the same form as the long lozenge-shaped palette with worn centre from the early Predynastic grave 17 : 74 : 1 at Bahan. 102 18 was a plundered grave, yielding only a 'diorite(?) palette'. 45 was a plundered grave, burial with its head to the south, containing the following:—beads: three serpentine barrels, disc beads of 'carnelian, garnet, lapis lazuli, crystal and translucent green stone, cylindrical beads of translucent green stone'; pendants: five oval, two of shell, two of carnelian, one of crystal; one 'diamond-shaped, of carnelian', two 'like a tooth with four roots' (claw?), of 'translucent green stone'; ivory pin, fragmentary; a squat shouldered toilet-jar of 'translucent green stone', with two pierced lug handles at the shoulder, base ring, and sharp everted plain rim, 103 and a 'diorite toilet-jar' of similar type but lower and squatter; 104 and two plain brown ware, small, hemispherical bowls. These objects date this grave with fair certainty to the Protodynastic period; 17 is dated, on the evidence of the palette, to the Amratian or early Gerzean; 14, 18 are not datable. There is no evidence that these four burials form a contemporaneous group.

The fifty-nine burials on the top and northern part of the mound were treated together in the report, some being designated as B- or C-Group, others left indeterminate. Twenty-four graves were of Reisner's 'Archaic Type VIIa', one of 'Archaic Type VIIb', deep narrow rectangular graves with round and rectangular corners respectively, which are commonest in the C-Group. 105 Six were designated either 'oval' or 'Archaic Type Ib'. Four were termed 'oblong', 'rectangular with rounded ends', or 'Archaic Type IIa'. Reisner considered these two types typical of the period 'Predynastic-B-Group'. 108 The other twenty-four were of indeterminate shape. These grave types might be thought the basis for distinguishing between 'B-Group' and C-Group, but caution is necessary; firstly because Reisner assigned at least one Type VIIa to the 'B-Group' (23 : 36); secondly because, in the actual typing of the graves, the distinction became so narrow as to be of doubtful value; 107 thirdly because broad oval graves do occur in the C-Group. 108

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102 ASN, 1907-8, pl. 63.a.3.
103 ASN, 1907-8, pl. 64.g., cf. PE, pl. xxxvii, 18, 20, 23.
104 ASN, 1907-8, pl. 64.f., cf. PE, pl. xxxvii, 16, 17.
105 ASN, 1907-8, p. 302, figs. 255 and 256.
106 ASN, 1907-8, p. 300, figs. 245 and 246.
107 Graves 10 (130×70 cm., 30 cm. deep), 34 (105×40 cm., 40 cm. deep), 35 (105×75 cm., 85 cm. deep) are ascribed to the deep narrow type VIIa, while graves 8 (135×70 cm., 75 cm. deep) and 9 (125×75 cm. 70 cm. deep) are described as oval. Admittedly, the date of these latter is left indeterminate.
108 ASN, 1929-31, p. 482, fig. 454, grave C.1—contrasts with C.8, p. 485.
Only six graves are assigned in the text, either positively or tentatively to the 'B-Group':—one Type Ib (12), one Type IIa (26), one Type VIIa (36), three indeterminate (13, 24, 42). Three burials were on their right sides, heads between south-south-east and north-east, that is, in the normal C-Group position (12, 13, 36); one was on the right side with head north-north-west (26), like the C-Group burials in 22, 28; one was on the left side, head south (42), and one indeterminate (24). In 12 were an ivory (?) bracelet and blue-glaze disc beads. 13 contained blue-glaze and carnelian disc-beads and scraps of malachite. 24 contained blue-glazed quartz disc beads,\(^{109}\) and white shell (?) disc beads. 26 contained blue glaze disc beads. From the débris of 36 came a tortoiseshell bracelet and two pieces of thick red-polished ware. In 42 there was a 'rough slate palette' and, in the débris, a sherd of red-polished black-mouthed ware with a narrow rim band of lightly incised inverted triangles and short vertical lines and a body band of short vertical lines, and a red-polished black-mouthed incised ware offering bowl of the most common C-Group type.\(^{110}\) 42 is thus a C-Group grave; there are no adequate criteria for dating the others, nor much reason for distinguishing them from the graves around them. Though most of the fifty-nine graves on this knoll were undoubtedly C-Group, there are a few which may have belonged to the Predynastic or A-Group, e.g. 28 (pottery and beads), 29 (pottery evidence ?), 85 (pottery evidence ?), 106 (palette, ivory hair-pin). The variation in grave types noted above may be due to this lack of homogeneity.

\[\text{Cemetery 41 : 201-243} \quad \text{Meris-Markos}\]

In the centre of the Meris-Markos plain lays a 'Late Predynastic–Early Dynastic' settlement. To the south of it were two patches of graves contemporaneous with it, and further away two groups of C-Group graves. To the north of the settlement, but not very close to it were graves 201–243, which Reisner assigned to the B-Group; a little north of this were two patches of very heavily plundered 'Early Dynastic' graves.\(^{111}\) Of the forty-three graves in this group at least twenty-five were plundered and eleven totally empty; only twelve contained more than one object. Reisner says of them: 'The graves were greatly denuded and plundered anciently. Little pottery was found. But the burial position, type of grave, irregular orientation, hide and matting, palettes, malachite, tortoiseshell bracelets, shells (\textit{Oliva ancillaria}), and other objects—all

\(^{109}\) In Egypt, glazed quartz occurs in the Gerzean and Archaic periods as a material for beads, but also in the Middle Kingdom. An example occurs from grave 23 : 41 which Reisner attributed to the C-Group, while Emery assigns this type in Nubia to the C-Group (\textit{ASN}, 1909–31, p. 534, type 27).

\(^{110}\) \textit{ASN}, 1907–8, p. 156, fig. 99, 15 and 16; the latter is shown also in pl. 61.b.5 as 'C-Group pottery'. Cf. \textit{ASN}, 1909–10, pl. 31 for this type of offering bowl (Emery's type XVII.c).

\(^{111}\) \textit{ASN}, 1907–8, Plan XXV.
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bring the graves into the same class as Cemetery 7: 200–268. These graves differ considerably from the C-Group graves, such as are found in Cemetery 41: 500, and are certainly earlier (B-Group). 112

The proportions of grave types (74.4% oval, 2.3% circular, 9.3% rectangular) correspond well enough with 7: 201–268—and with Predynastic and A-Group cemeteries in general. There were three animal burials. Fourteen human burials were on the left side, twelve on the right, two on the back. The head orientation on the other hand differs radically from 7: 201–268 in being rather consistent, twenty burials being orientated between north-west and north-north-east, five more between north-east and east, and only one to the south and one to the west; all that can be said about these proportions is that they are exceptional, and offer no indication to what culture group or date these burials belong. The other features mentioned by Reisner—hide and matting, malachite, tortoiseshell bracelets, Oliva ancillaria—also have little significance in Nubia for the culture group or for date. Three slate palettes (from graves 207, 216, 217) are of the diamond shape which occurs in the early Predynastic graves in Cemetery 17, though not of so pronouncedly elongated a form. 113 There is also a rectangular palette of ‘hard green stone’ (grave 205) 114 and an oval palette of unspecified stone (grave 215). An ivory bracelet and two ivory pins occurred in grave 238, an oval ivory or bone dish in 212, and an ivory dish of unspecified form in 228. 115 In graves 208, 217 were found copper needles. The pottery evidence is difficult. On the one hand it certainly does not accord with Reisner’s criterion for the ‘B-Group’, ‘only black-mouthed and coarse Nubian wares’, for of the sixteen vessels and sherds recorded, six were of red-polished ware, two of plum-polished ware, three of black polished ware, two of brown ware painted red inside and out, one of ‘red-brown ware’, as against one red-polished black-mouthed and one ‘brown ware’. On the other hand, while the red-polished, black-polished and plum-polished sherds may well accord with a Predynastic A-Group date, there are two vessels which cannot easily be fitted into an early context. Grave 206 contained a bowl, stated to be of ‘brown’ ware, with a sharp carination and everted rim, 116 features which apparently never occur together in Nubian Predynastic or A-Group pottery, but which do occur in Middle Kingdom imports to Nubia. 117 From the débris of grave 214 is recorded

112 ASN, 1907–8, p. 211.
113 ASN, 1907–8, pl. 63.b.12, cf. pl. 63.a and above notes 94, 102.
114 ASN, 1907–8, pl. 63.c.18.
115 Neither illustrated. An oval ivory dish comes from Cemetery 17, grave 9 (ASN, 1907–8, pl. 66.a.1), re-dated by Junker to the Predynastic, and another (unillustrated) from Cemetery 142, grave 6 (ASN, 1910–11, p. 216), see below, pp. 107–108.
116 ASN, 1907–8, p. 211, fig. 145, No. 2.
117 ASN, 1929–31, pl. 35, C.XIV.d., also found in Kuban fort, ibid., pl. 14, XIV; cf. also Brunton, Qau and Badari, 11, pl. lxxxviii, 89K for a First Intermediate Period example.
'the lower part of a pot of red-brown ware, type somewhat like NE V.6',\textsuperscript{118} which is a drop-pot of the type typical of the late Second Intermediate Period and early xviiith Dynasty. The shape is so distinctive that it seems unlikely that the recorder, Blackman, was mistaken, even though the whole vessel was lacking.

The evidence from these graves is quite inadequate to prove that they belonged to a single cultural group. Taken as a whole the evidence of the grave-goods suggests that there were among them a considerable number which were of Predynastic date, but there may have been one or two graves of the late C-Group. There is no evidence for an Old Kingdom date.

\textit{Cemetry 45: 'B-Group' Graves} \hspace{1cm} \textit{Shem Nishai}

This cemetery consisted of six different patches of graves, number A–F, of which the southern group D–F concern us. Block E, the southernmost, contained ‘Early Dynastic with some B- and C-Group’ burials; the southern part of Block D contained ‘Early Dynastic (graves) probably forming the continuation of Block E’, the northern part ‘B-Group with some C-Group’; while Block F, between the two but a little to the west, were ‘all oval graves of B-Group type’.\textsuperscript{119} In view of Reisner’s remark that there had been widespread plundering and \textit{sebbakh}-digging in the area, it is possible that the three blocks originally formed part of one large cemetery, but as Reisner distinguishes them in date they are best dealt with separately.

\textit{Cemetry 45: Block F: 201–242}

Of these forty-three graves Reisner published thirty, of which thirteen were oval, three rectangular, four rectangular with rounded ends, three circular, and one a circular beehive grave. This contradicts Reisner’s general statement ‘all oval graves’, but agrees well enough with 7: 201–268, except in the presence of a bee-hive grave. Twelve burials were on their right sides, seventeen on their left. Seventeen had heads to the north, seven to the south, two to the east and two to the west; this preponderance of northerly orientations (40\%) agrees well with Cemetery 41 (47.5\%), tolerably with Cemetery 14 (27.3\%), but poorly with Reisner’s other cemeteries (Cemetery 7: 15.7\%; Cemetery 17: 3.8\%; Cemetery 23: 18.2\%). Ten graves at least of those recorded had been disturbed, ten were totally empty of grave-goods, and no grave contained a good tomb-group. The contents were practically confined to pottery, in which Reisner contended the ‘B-Group’ graves were very poor; fifteen of the thirty published graves contained pottery, a high proportion in view of the plundering. Of twenty-one recorded whole pots and sherds, eight were of red-polished black-topped ware, three red-polished, two pink ware, one coarse thin black ware, and

\textsuperscript{118} ASN, 1907–8, pp. 212 and 337, fig. 306, No. 6.

\textsuperscript{119} ASN, 1907–8, pp. 258–9 and Plans XXVII, XXVIII.
seven coarse red ware; the 'black-mouthehd' ware considered typical of the B-Group by Reisner did not occur. These wares were all in use in Nubia in the Predynastic and Early Dynastic periods. Of the fourteen complete vessels drawn in outline without sections in the publication, eight are unfortunately bowls of such common shapes as to be useless for dating purposes. The 'coarse pink ware dipper' or ladle (45:216:2) is an object not dissimilar from 14:17:3, except that the handle is flat to the rim and not tilted upwards. Five intact red-polished black-topped pots occur. 45:201:1 is evidently an oval bowl of boat-shaped profile; these occur in Gerzean contexts in Egypt and in Predynastic and A-Group graves in Nubia. 120 45:201:2 is a globular vessel with upturned plain rim; it appears from the drawing to have been a rather squat example, but the type is well attested for the Egyptian Predynastic and the Nubian A-Group. 121 45:208:1 also has Egyptian Predynastic parallels, though most tend to be a little taller; 122 the plain flaring cup 45:227:1 is another common black-topped type, both in the Egyptian and Nubian Predynastic. 123 45:210:1 is, however, most probably a local product; the shape is one more normally assigned by Reisner to his 'black-mouthehd' ware. 124 The rest of the material from the graves, quartz palettes from 206 and 217, bone needles from 206 and 220, shell ornaments and leather objects, is not distinctive.

While there can be no proof that these graves all belonged to one archaeological group, they may have done so. But if so, that group must, on the pottery evidence, have been the Nubian predynastic, though the evidence is too sparse to provide a date range within that group. There is no evidence for an Old Kingdom date.

Cemetery 45: Block D

The northern patch of graves in this block (257–314) are described by Reisner as 'B-Group, with a few C-Group graves'. 125 He publishes eleven of these, three of which (257, 267, 284) he considered to be C-Group. 126 Of the

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120 ASN, 1907–8, p. 259, fig. 212, No. 2, cf. PEC, pl. xv, forms F 11a, b, 12 (UC 5737, 5738, and 1611, all from Naqada). For a Nubian 'Middle Predynastic' example, see 17:66:6 (ASN, 1907–8, fig. 86, No. 9). For the A-Group see Kubanich-Süd black-mouthehd ware, type IX (p. 63, Abb. 23), and several red-polished ware examples, e.g. 76:105:3, 76:109:1 (ASN, 1908–9, p. 114, figs. 73, 75).

121 ASN, 1907–8, p. 259, fig. 212, No. 3. Cf. Ayrton and Loat, El-Mahasna, pl. xxx, 69.a. For A-Group examples, cf. Kubanich-Süd black-mouthehd ware type IV; rather similar vessels also in Cemetery 76 (ASN, 1908–9, p. 44.a.3, p. 113, fig. 71, and p. 117, fig. 82).

122 ASN, 1907–8, p. 259, fig. 212, No. 4. Cf. PEC, pl. iv, B.31.f, and Brunton, Mostagedda, pl. xxxiii, B.20.

123 ASN, 1907–8, p. 259, fig. 212, No. 5. Cf. PEC, pl. iv, B.29.a; ASN, 1907–8, p. 317, fig. 278a.5 and p. 321, fig. 285, 11.


125 ASN, 1907–8, p. 259.

126 ASN, 1907–8, pp. 267–8 taken with p. 259.
remaining eight, 258 (oval) and 269 (rectangular) exhibited male skeletons contracted on their left sides with heads to the south, and no grave goods; it is difficult to understand why these were not attributed to the A-Group, like the similarly orientated burials in the southern patch. Of the other six graves, five were oval, one circular. Four burials were on the left side, two on the right; four heads were orientated between north-east and south-east, two to the north. 262 and 275 contained pottery which Reisner himself compares with ‘Early Dynastic’ types; 276 contained ‘black-topped potsherds’, 277 a few small green-glazed beads and a flint flake; the other two were empty. At least five of the eight graves had been plundered. There is no good reason for considering these graves form an archaeological group, and certainly none for dating them to the Old Kingdom.

Cemetery 45: Block E

Reisner says ‘Block E’ forms the main part of the cemetery and contains the earliest graves, about twenty-four distinguishable as Early Dynastic, with a few later graves of the B- and C-Groups;\(^{127}\) in the grave record, however, the ‘B- and C-Group’ graves are not identified. This block, therefore, provides an interesting test-case of Reisner’s ‘B-Group’ criteria. Of the twenty-five burials with heads orientated towards the south (the normal A-Group position), exactly six were empty graves. Four burials were orientated approximately to the east; one (405) contained a bright red-polished pink ware bowl with vertical burnish lines on the interior, and is thus undoubtedly A-Group, while the remaining three were empty graves. One burial (491) was orientated north, and contained a red-polished black-topped bowl (Type E.D. II; 6); another (493) was orientated west, and contained nothing. Of the remaining thirteen graves in which the burial orientation could not be ascertained, eleven contain material which with more or less certainty suggests an A-Group date. It results that there are only twelve graves which could well be claimed for the ‘B- or C-Groups’, and these are without exception burials which were empty or virtually empty of grave goods, for the very good reason that they had been plundered.

Cemetery 49

Khor Dehmit

Reisner says: ‘Along the northern bank of Khor Dehmit, in the alluvial knoll, there were sixteen graves, possibly the remnant of a larger cemetery. Ten of these graves (Nos. 4, 7, 9–16) were orientated north-and-south, and presented Early Dynastic characteristics. The other six were orientated east-and-west, and were of later date, probably B-Group, as no characteristic C-Group potsherds were found’.\(^{128}\) Of these six ‘graves’, 8 was a buried modern pot. Graves 1–3, 5, 6 are all described as Reisner’s ‘Archaic Type VIIa’, which

\(^{127}\) ASN, 1907–8, pp. 259, 268–76. \(^{128}\) ASN, 1907–8, p. 283.
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are narrow rectangular graves, most common in the C-Group. No burial was preserved intact and all were apparently plundered. Four out of five burials contained potsherds (a high proportion for the 'B-Group'), none of which are illustrated. Nothing can be inferred about the group or date of these graves.

*Cemetery 50: Graves 100–110*  
*Metardin*

Reisner says: 'Across the khor from graves 1–87 (Early Dynastic) there were two small groups of graves (100–104, 105–110: Plan XXIXB), all orientated east–west. They include circular graves (105, 106, 107, 108a); oval graves (101, 110): broad rectangular graves (Arch. Type II; 100, 103, 109), and narrow rectangular graves (Arch. Type VII or New Empire type; 102, 104, 108b). Nos. 101, 109, 110 contain remains of burials contracted on the right side, with heads to the east. Practically nothing was found except one anomalous black-bottomed bowl and a few potsherds, but these all belonged to the B-Group rather than the C-Group. It is certain that the group is in general later than graves 1–87 (Early Dynastic) and earlier than graves 200–244 (C-Group).'

When the negative character of Reisner's criteria for 'B-Group' are considered, it is easy to understand how he came to attribute groups of virtually empty graves like these to it. But there are clearly not sufficient grounds for the assumption that these graves belong to a single cultural group; the three burials in which the position and orientation of the skeleton is preserved show C-Group custom if they show anything; the grave types are ambiguous; while Reisner's admission that the only whole pot preserved is 'anomalous' undermines his attribution of the pottery to the 'B-Group', for the sherds (coarse red ware, dull black polished ware, red-polished ware with black-polished interior) are quite undistinctive.

**FIRTH'S CEMETERIES**

When Firth took over the Nubian Survey, he naturally continued to use the classification of the material evolved by Reisner. But groups of topographically related graves which could be demonstrated to have the same characteristics as 7:201–268 were few; for where there had been little or no plundering, the grave-goods showed that the burials belonged to groups other than the 'B-Group', and where there had been plundering, it had in general been too thorough for comparative statistical work on the graves to have any value. Firth nevertheless thought that a considerable number of graves should be assigned to the 'B-Group'. His principles seem to have been these:—in C-Group cemeteries, he termed 'B-Group' any grave which appeared to him on the basis of stratigraphy or grave type to be earlier than the C-Group, providing it contained no distinctive grave goods; in Late Predynastic and A-Group}

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129 *ASN, 1907–8,* p. 294, fig. 243, 1.  
130 *ASN, 1907–8,* p. 293.
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cemeteries he attributed to the 'B-Group' any grave which he considered showed signs of decadence. His three main criteria for decadence seem to have been:— (i) poverty in grave goods; 
(ii) certain grave types; 
(iii) the presence of certain types of pottery. 

(i) Poverty was judged on what was found, irrespective of whether the grave had been plundered or not. (ii) Firth seems to have started with the preconception that circular graves were characteristic of the later A-Group and the B-Group;¹³¹ and on the basis of evidence from Cemetery 77:100 discussed below,¹³² he soon became convinced that beehive graves should also be considered characteristic of the 'B-Group'.¹³³ (iii) Firth correctly distinguished for the first time the pottery wares of local manufacture in 'Late Predynastic' and 'A-Group' graves from the abundant imported Egyptian wares. The commonest of these wares was the 'red-polished black-mouthed', of which Firth considered the 'smooth coarse ware' merely a less well finished variant.¹³⁴ As these were the wares which Reisner considered typical of the 'B-Group' graves, Firth very naturally considered that this locally-made pottery continued in use after the collapse of the A-Group culture in a restricted and decadent range of types. This supposition depended, however, on the belief that Reisner's 'B-Group' graves were later than the A-Group graves, and has no independent validity. For this is not a case of a decorated or luxury ware, where a theory of 'degradation' may be adduced from the evidence of internal typology or technological change; this is a coarse hand-made ware of Nile clay with a little added chopped straw, fired at relatively low temperatures in conditions where the degree of oxidization varied, the degree of burnishing followed the whim of the potter, while the shapes in question are the very simplest types of hemispherical and near hemispherical bowl. These shapes occur in these wares in both the 'Late Predynastic' and the 'A-Group',¹³⁵ and though it is suggested that the bowls of

¹³¹ This is curious, because in fact only 10.8% of the graves in Reisner's 'B-Group' cemeteries were circular, while the type is at least equally common in the A-Group and the late C-Group, and probably commoner in the Predynastic. See above, p. 88.

¹³² See p. 100 below.

¹³³ The proportions per cent of the various grave types assigned to the 'B-Group' by Reisner, Firth, Emery and Junker are:—

<table>
<thead>
<tr>
<th></th>
<th>Oval</th>
<th>Circular</th>
<th>Rectang.</th>
<th>Bee-hive</th>
<th>Indeterm.</th>
<th>No. of graves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reisner</td>
<td>46.0</td>
<td>10.8</td>
<td>15.2</td>
<td>0.4</td>
<td>27.6</td>
<td>250</td>
</tr>
<tr>
<td>Firth</td>
<td>14.5</td>
<td>32.2</td>
<td>12.5</td>
<td>27.0</td>
<td>13.8</td>
<td>150</td>
</tr>
<tr>
<td>Emery</td>
<td>39.5</td>
<td>10.5</td>
<td>Nil</td>
<td>44.7</td>
<td>5.3</td>
<td>38</td>
</tr>
<tr>
<td>Junker</td>
<td>2.4</td>
<td>83.5</td>
<td>1.2</td>
<td>Nil</td>
<td>12.9</td>
<td>85</td>
</tr>
</tbody>
</table>

A radical difference emerges between Reisner's and Firth's conceptions of 'B-Group' grave types, with Emery and Junker following Firth rather than Reisner.


¹³⁵ See ASN, 1907–8, p. 322, fig. 286, and p. 326, fig. 293.
the 'B-Group' were thicker, Firth changed his mind on this point as the following statements will show:—Reisner, *ASN* (1907-8), p. 333: 'The greater part of the pottery is thick black-topped and the forms are mostly bowls'; Firth, *ASN* (1908-9), p. 12: 'The pottery is confined to one or two small bowls of thin coarse red ware lightly pebble-burnished and apparently of local manufacture'; Firth, *ASN* (1909-10), p. 10 seems to imply that thin red-polished black-mouthed ware is typical; Firth, *ASN* (1910-11), p. 18: 'Two main types may be distinguished, a thick red-polished black-topped ware, like the Predynastic or Early Dynastic ware, but lacking the sense of form of the one and the thinness of the other. There is also a series of bowls of roughly hemispherical shape'.

In view of this uncertainty, it does not seem probable that Firth would have arrived at his theory of the continuance of the black-mouthed ware in a degraded form but for his preconceptions concerning the 'B-Group' and its date; but, however that may be, the theory could only be substantiated by demonstration that a grave containing a 'degraded' type was certainly later in date than the end of the A-Group on independent grounds.

It may be appreciated then that though, granted the 'B-Group' hypothesis, Firth's motives in assigning numbers of plundered and for the most part completely empty graves to the 'B-Group' were rational enough, these graves do not, with the exception of 77:100, provide any new evidence for the existence of a distinct Nubian cultural group during the Old Kingdom period.

**Cemetery 69 Mo'alla**

This was in the main a C-Group—New Kingdom cemetery, but a patch of graves 150 m. east of the main body are said by Firth to be 'Early Dynastic and B- and C-Group' (graves 29-39) while another group 400 m. to the south-east were assigned to the B- and C-Groups (graves 100-103). Of the latter group, No. 100 was an empty oval grave. No. 101 was a long narrow rectangular grave exhibiting the remains of a stone cairn; the burial was extended on its back, head north-east. Grave 102 was also rectangular with a stone cairn; incised sherds were found in the débris. Grave 103 was rectangular with rounded ends; the burial was contracted, partly on its left side and partly on its back, head north-east; in the grave there were sherds of a black-mouthed ware bowl, and a pebble. Graves 101 and 102 fulfil the conditions for the late C-Group; graves 100 and

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136 Hardly any of this 'B-Group' pottery is illustrated by Firth, so it is difficult to introduce more precision into the matter. It is interesting, though hardly surprising, that the 'B-Group' is the only Nubian group for which none of the Nubian Survey volumes provides a pottery corpus (or indeed a corpus of any other class of material). In the Plates material from 'B-Group' graves is in general shown with A-Group or C-Group goods.

137 It is demonstrated below, on the other hand, that the thick hemispherical bowls occur in the early A-Group, see p. 111.

138 *ASN*, 1908-9, pp. 66-74.
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103 are indeterminate. Graves 29–39 included six rectangular, two oval and three indeterminate graves, all plundered. The measurements show some of the graves (29, 35, 37, 38, 39) to have been of the long narrow type which is most common in the C-Group. Grave 38 exhibited a ‘ring of stones from lower course of stone superstructure’, and contained a bowl of finely polished black ware and the brim of a bowl of incised ware. Graves 34 and 35 contained rectangular slate palettes and shell beads. No other grave contained anything, and the position and orientation of the burials was not ascertainable. There is thus no adequate evidence that these graves form an archaeological group; Firth was clearly right in assigning 36 to the C-Group; probably 38 belongs to that group too, while the rest are quite indeterminate.

Cemetery 73  
Gerf Husein

Of the thirteen graves said to be ‘B-Group’ in this cemetery, three (3, 4, 5) were in sand 200 m. east of the cemetery, six (110–114) in sand 25 m. to the north, the remainder scattered among the Early Dynastic and C-Group graves of which the cemetery was mainly composed. Firth says, ‘Had the graves been intact it would have been a most valuable site, as some of the material is evidently transitional, and marks the close of the Early Dynastic and B-Group periods’.139

Graves 3–5 showed two burials on right side, one on left, the head orientation varying between north-north-west and south-south-west. Grave 4 was oval, the others indeterminate. Grave 3 contained a small bowl of discoloured pink ware; grave 4 a pot of black-topped brown ware, unpolished, a spoon of ‘pale green steatite or serpentine’, and three decayed shell bracelets.140

In graves 110–114, the outlines were not preserved; two burials were orientated local north, one each to the other cardinal points. Grave 111 contained pieces of ostrich-shell, a rough sandstone palette, a shell palette, rubbing pebbles, and haematite paint; 112A two deep bowls of smooth brownish ware with ‘strongly marked shaping marks on lower part’, and a stone palette; 112B a bowl of soft pink ware, fire-stained; a quartz cylinder bead, not bored; two flint flakes, one ‘roughly serrated’ and a ‘much decayed ivory knife-handle’, in addition to gypsum, haematite, a rubbing pebble and a shell.141

The remaining graves, 48, 57, 60 and 99 were all rectangular; the burial in 48 was on its right side, orientated south and in 99 it was on the left side, orientated west. Grave 48 contained a bowl of ‘smooth coarse red ware’, a sandstone palette, shell bracelets and pendant, and ‘circular ostrich-shell pendants’. Grave 99 contained a similar bowl, shell rings and pendant, green-glaze beads, and two bracelets of thin copper band. Graves 57 and 60 were empty. There are no sufficient grounds for distinguishing these graves from Predynastic or A-Group graves.

139 ASN, 1908–9, p. 98.  140 ASN, 1908–9, pp. 103–4.  141 ASN, 1908–9, p. 104.
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Cemetery 76

Graves 1, 2, 8, 20 are empty circular graves in the New Kingdom Cemetery 76A.\(^{142}\) In the A- and C-Group cemetery 76 : 59–146, one oval grave (72) and eight circular graves were attributed by Firth to the 'B-Group'; all were empty.\(^{143}\) His reasons were (i) that grave 107 cut into the foot of the rectangular grave 105; (ii) that the empty grave 106, which was parallel-sided with rounded ends and 'apparently C-Group' was cut through an empty circular grave.\(^{144}\) It appears plausible to argue from these facts that all the empty circular graves belong to the period between the end of the A-Group and the beginning of the C-Group, but this does not necessarily follow. (i) proves that a circular grave is later in date than 105, assigned by Firth to the 'Early Dynastic period'. This grave 105 contained a bowl of thin smooth red ware, a bowl of red ware with milled rim painted and polished, a rough slate palette, resin, together with one (illustrated) bowl of red-polished black-mouthed ware with a plain upturned rim. This type occurs in Nubian graves with vessels of Late Gerzean types.\(^{145}\) Grave 105 should therefore belong to the earliest part of the A-Group, and all that can be said about grave 107 is that it is later than this. (ii) proves that a circular grave was earlier than grave 106, which being completely empty itself cannot be dated. There is thus no proof that these circular graves belong to a separate group, as they could belong to the A-Group, or that they date to the Old Kingdom.

Cemetery 77 : 100

Gedekol South

Of this cemetery Firth says: 'Cemetery 77 : 100 was dug in a small mound of softer soil, but the graves had been almost entirely cleared out in the search for fertilizing material to spread on the fields below. Although only half-a-dozen of the twenty-seven graves contained human remains or pottery in position, and only two burials were undisturbed, the cemetery is of considerable interest as exhibiting the transition from the Early Dynastic to the B-Group (Old Kingdom) period. In Cemetery 77/1, the early C-Group graves immediately succeed graves of this type and actually imitate them. The graves of 77/100 are circular, mud-plastered inside, and were originally covered with beehive rubble domes, either in imitation of certain graves of beehive section and typical of the Early Dynastic or Late Predynastic period in Nubia, or because the soft strata in the desert was too shallow to accommodate deep graves of this form. This stonework, which may be compared with the corbel vaulting in mud brick of Early Dynastic graves in Egypt, would serve both as a protection to the burial and

\(^{142}\) ASN, 1908–9, p. 123. \(^{143}\) ASN, 1908–9, pp. 119–20. \(^{144}\) ASN, 1908–9, p. 110. \(^{145}\) ASN, 1908–9, pl. 44.a.1, cf. 79.138.2, found with small squat jar with side-handles and painted decoration, ASN, 1908–9, p. 143, fig. 123.2 and 3 (compare PEC, pl. xxxvi, Types D.68 A–B, S.D. 39–61); 136 : 3 : 13, found with cylindrical black ware barrel-shaped jar with pierced side handles, ASN, 1910–11, p. 201, fig. Nos. 11 and 13 (cf. PEC, pl. xix, Types 80 C–H).
as a monument marking the site of the grave, and may possibly have suggested the superstructures of C-Group graves. Burial was, so far as could be judged by the few surviving bodies, contracted on the left side, laid on matting and linen, and with the head south-west or west (approximately local south). The pottery, while some few vessels of Early Dynast c type are preserved, tends to degenerate into the forms found in the B-Group'.

This paragraph is of importance, for from these conclusions arose a change in Firth's conception of 'B-Group' grave types, which later influenced Emery. Firth illustrates two of these graves; 115 exhibits a single course of rough stone masonry immediately round the mouth of a nearly circular grave, while 116 exhibits six courses of rough stone masonry, each overlapping slightly internally, rising immediately from the slightly contracted mouth of a circular grave; the lowest two courses are shown below what is apparently intended to represent the old desert surface, while the next two courses were sanded up. The following points may be made: (i) there is no necessary connexion between this grave and tumulus arrangement and the subterranean beehive grave type; (ii) tumuli have now been found on a high-level site at Tunqala West over oval, circular and rectangular round-ended graves, which are proved by pottery and objects to belong to the A-Group; (iii) Firth's parallel between these circular stone structures and the brick corbel-vaulting of rectangular Early Dynastic graves in Egypt is of doubtful relevance architecturally and proves nothing about date; (iv) that even if there is a relation between this type of grave and the subterranean beehive type, this is no argument for considering them 'transitional' between the 'Early Dynastic' and the 'B-Group', for, as Reisner acknowledged, these subterranean beehive graves belong to the 'Late Predynastic' and the earlier part of the A-Group in Nubia. As Firth and Emery subsequently used the beehive type as evidence that a grave belonged late in the A-Group or to the B-Group, it is important to demonstrate the correctness of Reisner's view. Of those published beehive graves which contain any significant quantity of material, forty in all, no less than twenty-three contain either wavy-handled jars, globular lug-handled jars of Petrie's 'Decorated' ware with red whorl patterns, or slate palettes in the form of animals, birds or fishes, all categories of object typical of the Gerzean period. Moreover, in Cemetery 78 at Gerf Husein, where all the graves were of the circular beehive type, mud-plastered internally, the pottery and potmarks were unmistakably of Late Gerzean type and included 'Decorated' lug-handled jars. Firth himself remarks: 'This cemetery is interesting as showing that the circular beehive section grave was a typical form of the Late

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146 *ASN*, 1908–9, pp. 123–4.
147 Smith, *EES Survey*, pp. 64–9, Cemetery 268. Denudation is doubtless the reason for the rarity of A-Group tumuli.
148 Cemetery 40: 73; Cemetery 45: 437, 442, 464, 467, 470, 494, 497; Cemetery 50: 10, 27; Cemetery 73: 46; Cemetery 79: 67, 73, 138, 168, 188; Cemetery 80: 10, 15; Cemetery 99: 82, 85; Cemetery 134: 42; Cemetery 136: 13.
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Predynastic period. Against this range of well-attested Predynastic beehive graves, there are a few which may date a little later, perhaps to the Proto-
dynastic, but it is difficult to find reason for placing a single published beehive grave later than this. The only argument, apart from Firth’s quoted above, for the late date of the beehive graves is Emery’s observation that they do not occur in the A-Group cemetery at Faras. This argument proves nothing, for apart from a few graves found in Cemeteries 215 and 216 at Abu Simbel, beehive graves do not occur south of Mediq.

Thus, if the ‘corbel-vaulted’ graves of Cemetery 77:100 are related to the beehive type, they should belong early in the A-Group, not later than it. But in fact the date of these graves should be decided, as always, on the grave-goods they contain, rather than theories about the grave type. Of the twenty graves all but one (115) had been plundered, and only four contained anything at all. Grave 101 held (1) a deep globular bowl of red-polished black-mouthed ware, which can be shown to occur with wavy-handled jars and with lug-handled jars of Petrie’s ‘Decorated’ ware, i.e. in early A-Group graves dating to the end of the Egyptian Predynastic; (2) a deep bowl or pot of smooth pink ware, broken, unillustrated, but of a typical Late Predynastic and A-Group ware; (3) a ‘quartz’ palette with straight ends and well-rounded sides; this type is regularly made of ‘quartz’ or ‘alabaster’, and occurs almost exclusively in A-Group graves containing late Predynastic palettes and pottery, and at the southern end of Lower Nubia with the typical haematite painted A-Group cups; also, not in situ, (i) a broken cylindrical ivory cup, not illustrated;

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149 ASN, 1908–9, p. 7.
150 e.g. Cemetery 30: 46, 47; Cemetery 45: 441, 463; Cemetery 136: 5, 9.
152 The southernmost cemeteries to be termed ‘Predynastic’ by the excavators also lie in the Seyala-Mediq area.
153 ASN, 1908–9, pl. 44.a, 6; cf. 76: 125: 2, found with squat jar with perforated side-handles of Petrie’s ‘Decorated’ ware and wavy-handled jar; 79: 166: 6 found with squat jar with perforated side-handles of ‘Decorated’ ware; 111: 11: 3, found with wavy-handled jar; Kubanieh Süd, p. 62, Abb. 22, ‘Schwarzgesäumte Typ IV’, centre vessel, probably that from 21.h.2, in which there occurs a wavy-handled jar of Junker’s Type I.
154 Cf. Reisner’s Late Predynastic Types IV, V, Early Dynastic Type V; ASN, 1907–8, p. 322, figs. 288, 289; p. 327, fig. 296.
155 ASN, 1908–9, pl. 45.d, 6. Cf. 137: 12: x, found with sherd of orange ware bowl exhibiting red-painted basket patterns; 142: 3: 7, found with degenerated double-bird palette; 40: 33: 4, found with squat jar with pierced side handles of ‘Decorated’ ware; 40: 73: 11 with wavy-handled jar and pebble-burnished bowls; 40: 42: 9 with wavy-handled jar; 73: 22: 10, with cylindrical jar with cord pattern and ivory toilet spoon with square bowl; 79: 177: 4, with pebble-burnished ware. All of these are termed ‘quartz’ in the publications; the following, termed ‘alabaster’, all occur in Emery’s cemeteries and are of less careful forms:—166: 21: 2, found with wavy-handled jar; 166: 24: 5, with red-painted pink ware jar; 215: 14: 16, with haematite-painted ware decorated ‘tumbler’, likewise 215: 23: 3; 215: 27: 14.
these occur in Nubia in graves from the ‘Early Predynastic’ down to early A-Group graves; (ii) a large bowl of red-polished black-mouthed ware with pointed base, which occurs in typical A-Group graves; (iii) resin; (iv) a rubbing pebble; (v) a flint flake; (vi) *Natica melanistoma* shells pierced for suspension. Grave 114 contained, not in situ, (i) a bowl of red-polished black-mouthed ware, unillustrated; (ii) a ‘bowl red-painted and polished with two pot-marks (bow and arrow and serpent)’; examples of this type with potmarks date in Nubia from the ‘Middle Predynastic’ to the A-Group, but the marks themselves, not being illustrated, cannot be used for comparison; (iii) a ‘small bowl smooth red ware (polished)’, unillustrated; (iv) a rubbing pebble. Grave 115 contained (1) a deep drinking-cup with rounded base of red-polished black-mouthed ware, the general shape being typical of the A-Group, though it is commoner with a pointed or slight flat bottom; (2) a ‘bowl smooth coarse red ware, black inside, red painted and polished’, a common, though undistinctive, A-Group bowl type; (3) a ‘small jar smooth red ware’, barrel-shaped, not necked and with a simple roll rim, paralleled both in Predynastic Egypt and in A-Group graves; (4 and 5) feather fans, an ornament confined in Nubia to

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157 *ASN*, 1908–9, p. 124, compare with p. 142, fig. 120, 1, from 79:135, a typical rich A-Group grave. Cf. also 101:594A:9; 111:9:3; 148:44:6, all firmly dated to A-Group.

158 *ASN*, 1908–9, p. 124, compared with fig. 120, 2, again from 79:135. The shape is common in this ware, cf. Reisner Corpus types MP II, i; LP III, 3; ED V, 7. Examples with pot-marks are 23:47:2, Late Predynastic: 7:360:2, A-Group, though different from the marks Firth describes.

159 *ASN*, 1908–9, p. 125, fig. 93, 1. Occurrences of very similar types in securely dated A-Group graves are, e.g. 79:135:30, 79:142:3; 76:66:3; 137:1:36, from the most splendid of all A-Group graves, clearly belongs to the period immediately before the rise of the 1st Dynasty in Egypt; cf. also Reisner types LP II, 3, 4 (*ASN*, 1907–8, p. 322, fig. 286), *ASN*, 1929–31, pl. 34, Type XXI.a, and *Kubanien Süd*, p. 62, Abb. 22, Schwarzgesäumte Ware Type V.

160 The nearest parallel appears to be from Naqada, *PEC*, pl.X, P.34.b (S.D.41, 46). The following examples from A-Group graves in Nubia all have slightly more pronounced necks and roll rims than Firth’s drawing (*ASN*, 1908–9, fig. 93, 3) allows to 77:115:3; but are closely parallel to it:—79:66:3, found with a barrel-shaped pot of ‘Decorated’ ware; 79:135:6 and 79:178:3; 111:72:1; 136:3:1.
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graves of the A-Group period;¹⁶¹ (6) a quartz palette with green malachite stain, not illustrated, but quite probably of the same type as that in grave 101; (7) a ‘string of green-glazed beads’, not illustrated. Grave 116 had been cleared out, but in the debris outside the grave was found (i) ‘small cup of coarse red ware with incised pattern’, unillustrated; in view of the ware and the expression ‘cup’, which is hardly applicable to C-Group incised ware types, it seems probable that it belonged to a well attested class of red ware drinking vessels with incised vertical zig-zag patterns below the mouth which occur in A-Group graves.¹⁶²

These four graves belong then, on the evidence of the grave goods, to the earlier part of the A-Group. There is nothing that suggests a later date. The grave types, burial positions, and orientations, and grave goods alike fail to fit Reisner’s criteria for the ‘B-Group’; and Firth does not attempt to argue that the material in the graves evinces decadence. His sole argument concerned the grave-type, which is known to exist in A-Group times. Neither this ‘corbelled’ grave type, nor the subterranean beehive type, the date of which has been argued above, should be accepted as evidence for attributing any grave to the Old Kingdom.

Cemetery 77/1

Firth says: ‘The further patch of graves comprised in this cemetery and numbered 77/1, was of somewhat later date. A small cemetery of the B-Group unmixed (sic)¹⁶³ with the degenerated Early Dynastic graves typical of 77/100, has been succeeded by graves of the earlier C-Group type. The whole cemetery had been so destroyed by sebbakhin that it was difficult to determine exactly the sequence of the two groups’.¹⁶⁴ In the tomb register there are recorded six circular graves with remains of superstructures or rubble vaults (12, 13, 23, 27, 33, 34), in three cases exhibiting a slight beehive section (13, 23, 34), in two cases internal plastering (33, 34). Only grave 13 contained an intact burial, on right side with head south, the material found with it being useless for dating purposes.¹⁶⁵ The other graves of the cemetery were oval or rectangular, sometimes

¹⁶¹ For parallels, see ASN, 1907–8, pl. 66.c, from the A-Group grave 45:498, items 3 and 7; an unillustrated example 30:5:1, found with a cylindrical jar with painted net pattern; and Smith, EES Survey, pp. 66 and 68, fig. 16, No. 7, from A-Group grave 268:10.
¹⁶² See ASN, 1908–9, pl. 44.b.6 and 7, from 79:86:2 and 79:92:1, both well dated A-Group graves; ASN, 1909–10, pl. 27.b.1, 2, 3, 5, respectively from 101:617:13, 101:611:5, 101:571:1 and 101:591:4, all well-dated A-Group graves, the last containing a wavy-handled jar; ASN, 1910–11, fig. 2, opposite p. 99, from 110:212:3.
¹⁶³ It would seem that this is an error for ‘mixed’, as above Firth says: ‘In Cemetery 77/1, the early C-Group graves immediately succeed graves of this type’ (sc. the 77/100 ‘corbelled’ type).
¹⁶⁴ ASN, 1908–9, p. 124.
¹⁶⁵ Oval sandstone palette; flint flakes (ASN, 1908–9, pl. 38.a.3, 7, 8) rough slate palette, fragments of shell bracelet and sherds of coarse red ware.
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with traces of superstructures. Firth says of the pottery recorded:—‘The incised and other potsherds found in the surface deposit of this cemetery cannot be referred to any particular graves with certainty; when found, each piece was given the number of the nearest grave. The fact of the C-Group pottery being deposited outside the superstructure would render it particularly liable to displacement. The C-Group potsherds seem to be of a somewhat early type. The fragments of one incised bowl of black ware with a pattern of punched triangular dots recalls the incised ware of the Early Dynastic period’.\textsuperscript{166} We may conclude that Firth was right in thinking that there had been a re-occupation by the C-Group of an earlier cemetery, but that this earlier cemetery is likely to have been of the same type and period as 77:100, and that there is no good evidence that ‘the early C-Group graves immediately succeed graves of this type’.

Cemeteries 79 and 80 \hspace{1cm} Gerf Husein

Firth says: ‘A few of the later graves on the edge of these cemeteries must be of this period (the B-Group), as also the numerous shallow circular graves which are scattered among the Early Dynastic burials’.\textsuperscript{167} Presumably some of the empty circular and circular beehive graves mentioned\textsuperscript{168} are intended; all the recorded burials in either cemetery which contain anything demonstrably belong to the Late Predynastic–Early Dynastic period, and mostly to the earlier part of it.

Cemeteries 82 and 83 \hspace{1cm} Gerf Husein

Firth says: ‘Cemeteries 82, 83, 85, 88 contained a few graves of this period’,\textsuperscript{169} i.e. the ‘B-Group’. The nine graves recorded from Cemetery 82 are of the same construction as those in Cemetery 77:100, which was Firth’s reason for assigning them to the ‘B-Group’; all were plundered, and nothing datable found. Cemetery 83 contained fourteen graves, of which Firth assigned four doubtfully to the ‘B-Group’.\textsuperscript{170} In no case is the outline of the grave preserved; the two intact burials were on their right sides, heads to west and north-west respectively; they contained only a bowl and a cup of coarse red ware, malachite and leather. There is nothing distinctive about these graves.

Cemetery 85 \hspace{1cm} Koshtamna

There were evidently some sixty graves in this cemetery, mostly of the Ptolemaic-Roman and Christian periods,\textsuperscript{171} but Firth only publishes five graves, which he characterizes as B-Group.\textsuperscript{172} Three graves were oval, two rectangular, without visible superstructures. One burial was on its left side, head local

\textsuperscript{166} ASN, 1908–9, p. 127, p.81, fig. 29, a known C-Group ware.
\textsuperscript{167} ASN, 1908–9, p. 13.
\textsuperscript{168} ASN, 1908–9, p. 151.
\textsuperscript{169} ASN, 1908–9, p. 13.
\textsuperscript{170} ASN, 1908–9, p. 156.
\textsuperscript{171} ASN, 1908–9, pp. 32, 41.
\textsuperscript{172} ASN, 1908–9, p. 157.
north; two on their right sides, heads local south. The only illustrated object, a mother-of-pearl pendant from grave 58 would seem to be a C-Group type.\footnote{ASN, 1908–9, pl. 37.b.20. In the text this reference is erroneously set against the mother-of-pearl bracelet from grave 56, but the number of the object can be read and is correctly given in the list of plates. A rather similar object from the C-Group grave 58/7 is illustrated by Firth beside it (pl. 37.b.19), but see also Steindorff, \textit{Aniba}, 1, Taf. 27.e1 from grave No. 635 (ivory).} The copper awl in a wooden case and the barrel-shaped bone beads from grave 29, and the nearly circular slate palette with incised edges and mother-of-pearl bracelet from grave 56 would not be inconsistent with a C-Group date, but in fact the evidence is totally inadequate for assigning these graves to any group.

\textit{Cemetery 86/500} \hspace{1cm} \textit{Koshtamna}

This was the remnant of a large cemetery destroyed by \textit{sebbakh}-digging. The graves, of which only five are published, were circular, in two cases mud-plastered internally, in one case walled with bricks and mud-plastered internally, and in one case walled with stones and mud-plastered internally. The only burial was an 'intrusive' C-Group burial of New Kingdom date,\footnote{ASN, 1908–9, pp. 157–8. Firth calls the intrusive C-Group burial in 504 'early C-Group', but the presence of blue glass ball beads must surely indicate a date not earlier than the xviii \textsuperscript{th} Dynasty.} the remainder of the graves were completely empty except for a quartz palette in the débris of 502.

\textit{Cemeteries 87 and 88} \hspace{1cm} \textit{Koshtamna}

In these two cemeteries Firth attributes a number of empty or virtually empty circular and circular beehive graves to the B-Group. In Cemetery 87, the circular grave 96A lay under part of the tumulus of the C-Group grave 96, which proves it to be earlier, but it cannot be known how much earlier.\footnote{ASN, 1908–9, p. 177, fig. 164, and remark on p. 13.} In the nine 'Early Dynastic or B-Group' graves in Cemetery 88, five out of six burials had their head orientated to the south, the characteristic orientation of the A-Group, though this alone cannot of course prove their date. The only objects found were an oval quartz palette, an oval slate palette, and a red-polished bowl, ancienly riveted.\footnote{ASN, 1908–9, p. 158.}

\textit{Cemetery 92} \hspace{1cm} \textit{Aman Da‘ud}

In this Early Dynastic cemetery, re-used in the New Kingdom and X-Group periods, there were a number of empty circular graves which Firth attributed to the 'Late Early Dynastic or B-Group period', on the basis of the grave type, which may equally well have belonged to the Predynastic, the A-Group, or the late C-Group. One other plundered circular grave (no. 16) is said to be 'probably of the B-Group period'; it contained a bowl of thin hard yellow
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ware, a flint point, sherds of a red-polished black-topped bowl, and sherds of black incised ware, all unillustrated.\textsuperscript{177} The incised black ware might conceivably belong either to the Predynastic (Petrie Class N), to the A-Group, or to the C-Group. Thin hard yellow ware would, however, be abnormal in the Predynastic period; as there appear to be no other C-Group graves in the cemetery, while there are twenty or more of the A-Group, the latter seems the more likely date, but no certainty is possible.

\textit{Cemeteries 93, 95, 98, 98\textsl{}/1000}

Dakka

About fifty graves in these four cemeteries are allotted by Firth to the ‘B-Group’, on the basis of grave types, thirty-eight or more being of the circular beehive type, three oval, and at least one circular. In Cemetery 93 there was one intact burial, containing a ‘small beaker of red-polished black-topped ware’, and a ‘pebble palette’; and the rest were empty.\textsuperscript{178} In Cemetery 95, the oval graves 1 and 2 held burials on their left sides with heads to the local south, the position considered characteristic of the A-Group. Grave 1 contained bowls of smooth red and brown ware; Grave 2 contained two bowls of thin smooth red ware and two red-polished black-topped beakers. These contents would accord with a Predynastic-A-Group dating, but do not allow greater precision. Both graves are said to have been ‘apparently intruded upon by circular beehive graves’.\textsuperscript{179} If this statement is based on a correct observation, then it provides the only clear evidence that graves of the beehive type belong late in, or persisted after, the ‘A-Group’, and would then be of crucial importance; Firth, however, gives no section and no supporting evidence, nor does the word ‘apparently’ induce confidence, when Firth’s thesis concerning beehive graves is taken into account. These two doubtful instances can hardly be held to weigh against the strong positive evidence for the beehive being typical of the earlier part of the A-Group period,\textsuperscript{180} particularly since graves 1 and 2 cannot be precisely dated. Cemetery 98 contained thirty-four empty graves of circular beehive shape,\textsuperscript{181} and Cemetery 98\textsl{}/1000 an unspecified number more.\textsuperscript{182} None of these graves are published, and none contained anything; the only object mentioned is ‘a pottery incense-burner of the earliest period’\textsuperscript{183} of polished brown ware from Cemetery 98\textsl{}/1000, which though a unique object, shows the characteristic techniques of A-Group incised ware—triangular pattern areas filled with scratched lines, scratched chevron borders, and crudely incised guide lines. There is no compelling reason for considering the graves in any of these four cemeteries to belong to one community and one date, and if they do so, there is no evidence that they belong to the Old Kingdom period.

\textsuperscript{177} \textit{ASN}, 1908–9, p. 199. \hfill \textsuperscript{178} \textit{ASN}, 1909–10, p. 41.
\textsuperscript{179} \textit{ASN}, 1909–10, p. 42. \hfill \textsuperscript{180} See above, pp. 99–100.
\textsuperscript{181} \textit{ASN}, 1909–10, p. 46. \hfill \textsuperscript{182} \textit{ASN}, 1909–10, p. 111.
\textsuperscript{183} \textit{ASN}, 1909–10, pl. 27, f. 1 and 2.
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Cemeteries 111 and 113/50

Kuban-El-Allaqi

Firth says in his introduction:—‘B-Group graves certainly occurred in Cemeteries 111, 113, 134, 140, 142, 144, 148, but the groups of graves were generally rather continuations in use of the Early Dynastic burying places than separate cemeteries’.\textsuperscript{184} This statement shows that Firth had now abandoned Reisner’s criteria for the ‘B-Group’ based on ‘small’ uniform groups of graves, and had resorted to picking out ‘poor’, i.e. plundered, graves of certain types from A-Group cemeteries. In Cemetery 111, a large late Predynastic and Early Dynastic cemetery with a few intrusive C-Group burials, ‘the latest archaic graves are to the south end of the cemetery and comprise a few which may be assigned to the Old Kingdom Nubian period’.\textsuperscript{185} These are not identified in the grave record, apart from three graves belonging ‘either to the B- or the C-Group’. Two of the burials are on the left side, heads west-south-west, one on the right side, head north. None of the material is illustrated, but the presence of a wooden pillow under the skull in 82, of two or more strings of blue-glaze beads at the waist in 80, and of ostrich egg-shell discs with central hole, a mother-of-pearl penannular ring, and gold barrel-beads in 88, taken together, would suggest a C-Group date. In Cemetery 113/50, the Early Dynastic portion of Cemetery 113, but cut into by late C-Group graves, there were fourteen empty denuded graves of bee-hive section, eight empty rectangular graves, and one empty circular one. A double-bee-hive grave contained a sherd of pink ware, and two indeterminate graves, burials on left side, heads orientated north-west, contained sherds of A-Group wares.\textsuperscript{186} There is no good reason for distinguishing these graves from the rest of Cemetery 113/50.

Cemetery 134

Maharraqa

This was a much plundered but extensive Early Dynastic cemetery. Firth suggests a possible ‘B-Group’ date for the plundered grave 31, but this contained ‘star-shaped green glaze beads, amulets of green glaze, and a copper knife blade’,\textsuperscript{187} which strongly suggests the C-Group. He also assigned to the ‘B-Group’ eleven ‘rectangular graves with rounded ends, some internally plastered’, which ‘had been surmounted by cairns’ (nos. 71–81); the only recorded contents are a ‘small spherical toilet-jar in plum-painted ware, and two bronze arrow-heads from no. 72’.\textsuperscript{188} The facts strongly favour Firth’s alternative suggestion that these graves belong to the C-Group, and if the identification ‘bronze’ is accurate this is practically a certainty.

Cemeteries 140, 142, 144 and 148

Seyala and Mediq

Firth says that ‘B-Group’ graves certainly occurred in these cemeteries.\textsuperscript{189} Cemeteries 140 and 144 were, however, not published. In Cemetery 142,

\textsuperscript{184} ASN, 1910–11, p. 38.
\textsuperscript{185} ASN, 1910–11, pp. 98, 110.
\textsuperscript{186} ASN, 1910–11, pp. 127–8.
\textsuperscript{187} ASN, 1910–11, p. 197.
\textsuperscript{188} ASN, 1910–11, p. 196.
\textsuperscript{189} ASN, 1910–11, p. 38, quoted verbatim above.

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originally a rich and important A-Group cemetery but heavily plundered, he published ten graves. The oval grave no. 2, containing a contracted burial on its right side with head west-south-west, covered with goatskins, with which were a 'large oval speckled stone palette with green malachite stain and four rubbing pebbles' is singled out by Firth as 'apparently a B-Group grave'.\(^{190}\) presumably on the evidence of the skins and the head orientation. He says of grave 6 that it 'may be as late as the Old Kingdom'. This grave contains a remarkable ivory comb of straight-sided but slightly tapering form with teeth of medium length. On the head of the comb stand two mammals with long necks inclined forwards; one is smaller and presumably a young animal. Firth identified them as giraffe.\(^{191}\) Among the mammal-headed combs of the Predynastic period, I do not know of an example showing two beasts. The shape of the comb as a whole and the manner in which the animals, notably the legs, are cut out, nevertheless suggest to me that this object belongs to the Predynastic, though until a parallel is forthcoming, this is a subjective judgment.\(^{192}\) Also in this grave was a slightly curved ivory 'wand' with incised decoration.\(^{193}\) I can quote no close parallel in ivory. Two decorated wooden objects found in an undisturbed Badarian grave (no. 5716) at Badari, and described by Brunton as 'throwsticks', present interesting parallels in their decoration.\(^{194}\) At one end they show a band of incised diapera like the bands of incised diapera at either end and at intervals across 142:6:1, while lengthwise down the centre of the objects runs a triple line of incised dots where 142:6:1 shows a plain triple incised line. There, however, the similarity ends, for the 'throwsticks' have a much more pronounced elbow; and the incised ellipses on 142:6:1 are absent. There was also a 'long boat-shaped ivory dish' in this grave, unfortunately not illustrated. The only illustrated object of this class found in Nubia comes from grave 17:9 at Bahan, which contained nothing distinctive, but was in the portion of the Cemetery re-dated by Junker to the Predynastic.\(^{195}\) The other grave-goods, a fragment of a small alabaster vessel, wood, malachite and a mother-of-pearl bracelet are unusable for dating purposes. Though the date of this grave cannot be held to be certain, and Firth may have reasons for his dating which he does not give, the balance of the evidence is in my view strongly in favour of a Predynastic date. Certainly the contents of the grave accord ill with the 'poverty' of the 'B-Group'.

Cemetery 148\(^{196}\) was an 'Early Dynastic' cemetery of sixty-seven graves; Firth says: 'The stone axes hitherto chiefly associated with the "B-Group"

\(^{192}\) For reference to some Predynastic mammal-headed combs, see above note 91.
\(^{193}\) \textit{ASN}, \textit{1910–II}, pl. 20 f.
\(^{194}\) Brunton, \textit{Badarian Civilization}, pl. xxiii, No. 29 and p. 32.
\(^{195}\) \textit{ASN}, \textit{1907–8}, pl. 66 a.1; unillustrated examples occur in Cemetery 41, graves 212 and 228.
\(^{196}\) Not located on Firth's map, but presumably in the Mediq area on the basis of his consecutive enumeration of cemeteries.
graves and archaic settlements were found in position in graves 12 and 23A'.\textsuperscript{187} The only other ‘B-Group’ contexts in which these axes were found were graves 230 and 234 in Cemetery 7 at Shellal;\textsuperscript{198} their range in Nubia is such that they are dangerous evidence to use for dating purposes.\textsuperscript{199} In fact, there are no axe-heads recorded from grave 148 : 12, but two from 148 : 13; the stone is not recorded, they would appear from the photograph to be hammered, and are of a narrow celtiform shape.\textsuperscript{200} The associated red-polished black-mouthed pots in grave 13 are not illustrated. The stone axe from 148 : 23A is neither illustrated nor described, nor are the ‘black and white stone palette’ and ‘bowl, red-polished black-mouthed ware’ found with it, but Firth betrays some consciousness that this latter did not differ materially from the A-Group pottery of the cemetery in his remark ‘Grave 23A may possibly be as late as the B-Group period and the bowl 148 : 23A : 2 may be re-used from the earlier burial’.\textsuperscript{201} The earlier burial referred to is that in 148 : 23, which partially underlay 148 : 23A, and contained, apart from several red-polished black-mouthed bowls (one decorated with red-painted stripes), a copper chisel and a slate palette. Firth remarks on the ‘instructive’ change from metal to stone, but the chisel and the axe are instruments with rather different functions; if change-over there was, these two graves (in the absence of illustrations of the pottery) provide no exact evidence as to when it took place, for copper chisels occur in the Gerzean.\textsuperscript{202}

**Emery’s Cemeteries**

**Cemetery 215**

Emery says: ‘This cemetery was situated a short distance to the west of Abu Simbil Cemetery 214 and lay in the mouth of a large “wadi” to the north of the great Temple of Abu Simbel. It consisted of over a hundred graves of the early dynastic and a few of the B- and C-Groups and is of importance as it appeared to give a continuous series running through to the C-Group period’. This claim must be met if our view is correct. Emery’s initial argument runs as follows:—

‘In all the graves which contained typical early dynastic pottery the head of the skeleton, when in position or approximately so, was orientated towards the west. Certain exceptions to this rule, graves 1, 8, 29, 55, were burials of children.\textsuperscript{203} On the other hand in the following graves the body was orientated to the east,”

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\textsuperscript{187} *ASN, 1910–II*, p. 220.  
\textsuperscript{198} See *ASN, 1907–8*, pp. 38–9.  
\textsuperscript{199} Examples occur in the Predynastic A-Group camp at Meris Markos (41 : 305a, *ASN, 1907–8*, p. 216), but have been found also on Middle Kingdom fortress sites.  
\textsuperscript{200} *ASN, 1910–II*, pl. 20.g.2.  
\textsuperscript{201} *ASN, 1910–II*, p. 223 with figure.  
\textsuperscript{202} *PE*, p. 26.  
\textsuperscript{203} The grave record gives the head orientation in grave 1 as west; in grave 8, the head as west, and the burial as that of a male adult; in grave 29, likewise. Thus only grave 55 properly belongs in this list, to which, however, may be added grave 7, burial of child, head south-east, ‘Early Dynastic’.

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north-east, or south-east; graves 7, 8, 24, 31, 35, 61, 62, 63, 67 to 70, 72 to 75, 78 to 82, 84 and 89. The type of these graves was, for the most part, a shallow, oval pit cut into the upper sand levels. Grave 70 had the remains of an oval or perhaps a circular stone superstructure similar to those in the C-Group cemeteries. Of these graves no. 8 contained a necklace of mottled black and white stone beads of C-Group type (see ASN 1907-8, pl. 69.b.2.). Grave 24 contained two pottery vessels of smooth, coarse ware, very thick in section and similar to two bowls of the B-Group period from Cemetery 45 (see op. cit. p. 259, fig. 212, nos. 6 and 13). From grave 61 came a small grey limestone seal of a type which occurs in Egypt in the Old Kingdom (cf. Brunton, Qau and Badari, i, pl. xxxii, nos. 4 and 5, 11th Dynasty). A similar seal was found by the late Mr Firth in Cemetery 101, grave 440 with pottery termed C-Group (cf. ASN 1909-10, pl. 36 and p. 134). Grave 70, with stone superstructure, contained a blue-glaze button seal of a type common in Egypt during the 11th Dynasty (cf. Brunton, Qau and Badari, i, pl. xxxii, 93 and 94). The bowl with it was of a thick, coarse, red-polished, black-topped ware more usual in the C-Group (cf. grave 30) than in the early dynastic graves. Four similar seals were found in Cemetery 101 of C-Group date (ASN 1909-10, Cemetery 101, graves 92, 403, 426, and 612. Grave 426 contained a typical C-Group bowl, black-topped with incised rim). Grave 73, not included in the above list as the bones were displaced and insufficient to indicate the orientation of the body, contained a green-glaze lion amulet (cf. Qau and Badari, ii, pl. xcv, 15, of the First Intermediate Period). Sherds of C-Group pottery were found on the surface of this cemetery (fig. 444) but no fragments of Qeneh ware and the incised brown ware, so common on the surface of the great Middle Kingdom cemeteries, occurred. It is not improbable therefore, that these shallow, oval graves may be attributed to the late B-Group or early C-Group period. The uniform change in orientation of these graves marks a clear line of division from those of the early dynastic group'.

Emery’s distinction of these east-orientated graves from the south-orientated A-Group graves in this cemetery is clearly justifiable, as some of them exhibit C-Group characteristics and contain C-Group objects. Only two points need to be argued: (i) whether there is any warrant for describing them as ‘Late B-Group–Early C-Group’ rather than simply ‘C-Group’; (ii) the range in date of the graves. Emery himself gives cause for believing that graves 8, 30 and 70 are C-Group graves and draws attention to the presence of typical C-Group surface sherds. Of the other graves, no. 20 contained a punched leather cap of C-Group type; 35 contained (like 30 and 70) a red-polished

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204 Graves 7 and 8 do not belong in this list, see note 203. The orientation of the burials in 24, 73, 74 and 80 is not given in the grave record. On the other hand, graves 20 and 30, where the burials are east orientated, should be added to this list.

205 ASN, 1929-31, pp. 450-1.
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black-topped offering bowl of the typical form C.XVII.c. and green faience disc-beads; \(^{206}\) 62 contained blue glaze ball-beads (rare in Egypt before the First Intermediate Period); 73, in addition to First Intermediate Period amulets, contained green glazed ball-beads of types confined to the C-Group; \(^{207}\) 81 contained a rough brown ware jar with flaring rim, like 101 : 65 : 5, 101 : 91 : 7 \(^{208}\) and others from that classic C-Group cemetery, together with a remarkable double-sided black steatite seal, which is discussed below; \(^{209}\) 107 contained a black crumb-bead, type 106, \(^{210}\) which is again confined to the C-Group in Nubia. Material from graves 24 and 61 is discussed below: the other eleven graves were empty. All these grave goods, like the easterly orientation itself, show that these graves, whatever their range of date, belong culturally to the C-Group. Apart from his dating of the seals, discussed below, Emery gives but one reason for assigning these graves to the ‘B-Group’, the presence of the thick smooth coarse ware bowls of types A.XXII.a and A.XXI.f in grave 24. His parallels for these are not fortunate, for they are Cemetery 45 : 216 : 1, described in the tomb record as a ‘bowl of irregular shape, pink ware’ and 45 : 233 : 2, described as a ‘small bowl, roughly made, red ware’, the section being given in neither case. \(^{211}\) But there is evidence to hand from Cemetery 215 : 6A and B. Grave 6A contained a rough brown ware jar, type A.V.b, a red-polished black-topped bowl, type A.XIII.b., a sandstone grinder, and a brown ware bowl of type A.XXI.f, and is rightly dated by Emery to the A-Group. 6B underlay 6A and contained an alabaster grinder and the thick hemispherical brown ware bowl, type A.XXII.a. Type A.XXII.a therefore should belong earlier than the main A-Group series rather than later than it. \(^{212}\) Grave 24 should then be dated at latest to the A-Group, and as no head orientation is recorded for the burial, nothing militates against this. There are no other grounds for attributing ‘B-Group’ characteristics, even if accepted as defined by Reisner, to these graves.

The second matter, the range in date of these easterly orientated graves, depends entirely on the three imported stamp seals found in them. The grey limestone seal from grave 61 is indeed of the same general form as those quoted

\(^{206}\) Ascribed, ASN, 1929–31, p. 461, to bead type 35, loc. cit. p. 534, fig. 485, which is a ball bead with metal caps of Middle Kingdom type, stated in the description to be of carneelian with silver ends (p. 535). For the pottery types quoted here and below see loc. cit., pls. 33–6.

\(^{207}\) ASN, 1929–31, p. 534, fig. 485, types 27 and 31–2.

\(^{208}\) ASN, 1909–10, p. 120, fig. 148/5 and p. 122, fig. 154/7.

\(^{209}\) See discussion below, pp. 112–24.

\(^{210}\) ASN, 1929–31, p. 539, fig. 491.

\(^{211}\) ASN, 1907–8, pp. 263, 264.

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by Emery from Cemetery 101, grave 440,213 and from Brunton, Qau and Badari, i, pl. xxxii, nos. 4 and 5,214 though in Emery's drawing it appears lower and less conical.215 The two Qau examples come from grave 1085. This is dated by Brunton to the 11th Dynasty, but this is a sequence-date. Brunton's sequence for the Qau graves of the Old Kingdom—First Intermediate Period was based on pottery, the initial sorting of the material being effected by means of three pottery types, thought to be successive, with other material intercalated.216 This sequence stands up well to criticism as a sequence, but it is linked with normal 'Dynastic' dating only at one point, the 11th Dynasty, by alabaster jars inscribed for 'Anknes-Pepi, queen of Pepi I, and for Neferkare' (probably Pepi II rather than any of the later kings of that name). As Brunton himself makes clear, his '11th Dynasty' sequence is not necessarily co-terminous with the Dynasty, but may run a little later, as these stone vessels provide only a terminus post quem. The early end of his sequence is not tied to Dynastic chronology by any insessional evidence, and it is a matter of judgment what period the earlier archaeological groupings of his sequence cover. There may in fact be some reason for believing the historical 11th Dynasty to be too early a date for his earliest sequence group.217 But in any case, these two Qau seals do

213 Firth's photograph of this seal gives the impression that it was engraved on the base (ASN, 1909–10, pl. 36.e.14), but as he does not reproduce the design on pl. 41, as does he does with other seals, this impression may be wrong. There seems no doubt that the pottery found with it in grave 440 really is C-Group (note particularly the parallels between 101:440:1 and Type C.XV.b, 101:440:2 and Type C.XVIII.b), and the 'pearl bracelet sections' 101:440:ii must almost certainly be the familiar C-Group and pan-grave rectangular mother-of-pearl type (cf. ASN, 1909–10, pl. 36.d.5).

214 Cf. also Brunton's drawing of tomb group 1085 on pl. 43, and Petrie, Buttons and Design Scarabs, pl. v, 293–4.

215 ASN, 1929–31, p. 467, fig. 438, 1.

216 Brunton, Qau and Badari, i, pp. 5–8, especially p. 6.

217 I should be inclined to quote the contents of grave 1085 itself for this. For Reisner was of the opinion that the change over from cylinder seal to stamp seal came early in the 11th Dynasty (Reisner, Naga ed-Dur, iii, p. 119); he also places the 'bread-pot' type 6e (Brunton, Qau and Badari, ii, pl. lxxvi) as the latest of its class and admits that it can continue into the 11th Dynasty (Reisner, loc. cit., p. 84, fig. 36, 9 and in Mycerinus, p. 221, fig. 71, 5). Of the nineteen bead types recorded by Brunton from the grave (Qau and Badari, ii, pl. lxx), at least six have their floruit in the '11th–12th Dynasty' groups (Types 75.k.10, 78.c.12, 78.p.14, 78.p.16, 86.c.28, 86.n.16, see Brunton, loc. cit. pls. c–cii); while vessels of the bright red-polished 'Medium bowl' ware of forms similar to those found in grave 1085 continue into Brunton's '11th Dynasty' group (for 88x, now University College 17659, compare 88.p, r, s, loc. cit. pl. lxxxi; for 90.1, now U.C. 17660, and 90.m, compare forms 90.n, p, q). But what would chiefly influence me is the lizard design on the stamp seal, for if Brunton is right in placing these as early as the 11th Dynasty, and in dating Nos. 62–72 (Qau and Badari, i, pl. xxxii) up to the 11th Dynasty, then the lizard design will have been in vogue for approximately 400 years, which seems a long time. A closing up of the earlier part of Brunton's sequence (which
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not date 215 : 61 : 1, for the design engraved on its base is very different from
the well-articulated and firmly engraved lizards on the Qau examples; it is a
mesh of weakly scratched lines, that may conceivably be intended for a lizard, but
may merely be a geometrical pattern. I have not found an exact parallel, but
rather similar meshes of lines occur on button seals which Brunton places later
in his sequence ('vth Dynasty') and even on an early scarab ('viiith Dynasty').

The pyramidal type of stamp-seal also continues into his 'vth Dynasty' and
'vth Dynasty' groups, so that purely on Egyptian evidence, there is no necessary
reason for supposing the seal from 215 : 61 to be earlier, at any rate, than the
historical vth Dynasty. In my view, the evidence of the double-sided black
steatite stamp seal from grave 81 tends to confirm this date. The type is
admittedly an unusual one, for which there is no exact parallel in the sequence-
dated series from Qau or in Petrie's corpus of button seals, but it is clearly a near
congener of the circular button seal with loop for attachment on the back, which
is assigned by Brunton to the 'vth–viiith Dynasties' in his series. The
design on the base shows a series of scratched lines, perhaps intended to portray
some reptile, which are very reminiscent of the design 215 : 61 : 1; but the
design on the top, also incised, is of the familiar geometrical pattern of triangles
quartering the field, which occurs on the blue-glazed button seal 215 : 70 : 2
and the exact parallels which Emery quotes for it (Brunton, Qau and
Badari, 1, pl. xxxii, nos. 93 and 94). There are grounds, therefore, for think-
ing that all three seals are of approximately the same date, namely Brunton's
'vth Dynasty', which is the one point in his sequence dated by inscriptions.
These seals, taken with the similar ones from the undeniably C-Group graves in
Cemetery 101 quoted by Emery, may thus constitute important evidence for the
thesis that the C-Group appeared in Lower Nubia during the vth Dynasty and
were responsible for the troubled conditions there of which we read in the
inscriptions of the Aswan caravan leaders Harkhuf, Sabni, and Pepinakht.
But they cannot, I think, be used to prove continuous use of Cemetery 215
throughout the ivth and vth Dynasties.

Note 217 continued

of course ignores the very much greater historical lapse of time under the ivth, vth and
vith Dynasties as compared with the viith, viith and ixth, so that his 'ivth Dynasty'
group were equated with, say, the latter part of the historical vth Dynasty, might perhaps
be worth consideration.

218 Button seals; Brunton, Qau and Badari, 1, pl. xxxii, 85 ('vth Dynasty'), 91
('vith Dynasty'), 101 ('viiith Dynasty'); scarab, ibid., pl. xxxiii, 137 ('viiith Dynasty').
219 Ibid., pl. xxxii, Nos. 55–96.
220 Sethe, Urkunden des Alten Reichs, 1, pp. 120–40, particularly pp. 125–7, 135–8;
see Säve-Söderbergh, Ägypten und Nubien, pp. 27–30; E. Edel, Inschriften des Alten
Reichs V, Die Reiseberichte des Hrw-حتف, in Fichow, Ägyptologische Studien, pp. 52–75;
Emery has a further section designed to show that there are graves in Cemetery 215 that fill the time-interval between the A-Group and the earliest of the graves we have been discussing. It runs:— ‘There were also in this cemetery thirteen graves of the “Bee-hive” type (Type B.1), Nos. 85, 109–112 116–122. In only one of these, grave 85, were any objects found. These were a black stone inscribed cylinder seal of 1st Dynasty type (cf. Petrie, Scarabs and Cylinders, pl. ii) and a small red ware unguent pot with a cream slip. (See fig. 443 and Petrie, Corpus of Prehistoric Pottery, pl. 1, late form 53 k. with Sequence date 78–80, from Mahasna.) Such objects would, in Nubia, tend to be later than in Egypt and would suggest that the “Bee-hive” graves may be considered as the latest graves in the early dynastic group (see ASN (1907–8), p. 302, where it is claimed that the “Bee-hive” type disappears in the B-Group period; on the other hand, it does not occur at Faras). As such, these graves would then serve as a connecting link between the early dynastic graves and those attributed to the B-Group or early C-Group period.’

We have already shown that the pottery and objects from the richer bee-hive graves prove that these graves belong, as Reisner thought, to the Late Predynastic and the early part of the A-Group period. With this the evidence of the pot and the cylinder-seal from grave 85, if taken at face value, would agree. Emery, however, adopts the argument of Reisner that imported Egyptian objects should be dated later in Nubia than they are in Egypt because of the retardation of Nubian culture.221 This argument was used especially by Reisner in connexion with the A-Group; while admitting that the material found in the graves was that typical of ‘Late Predynastic’ or very early 1st Dynasty graves in Egypt,222 he thought that in Nubia, they must cover the period to the end of the 1st, or possibly the 11th, Dynasty. Junker has shown clearly that this is no more than an assumption, and that the reasons Reisner gave in support of it are of little weight. His criticisms need not be repeated here.223 But Junker substituted a remarkable argument, based partly on alleged parallels with the modern imports of Egyptian Qeneh and Ballas wares into Nubia. Its main thesis is that, by the time the great change in culture came into Egypt at the beginning of the 1st Dynasty, the repertoire of what the Nubian population wished to import from Egypt was a closed one, and that, while they would not accept the new dynastic types in use in Egypt, traditional types which they had always imported continued to be made in Egypt and exported to satisfy this demand.224 Junker’s conclusion is that the A-Group cemeteries certainly reach in date to the end of the 1st Dynasty; that they probably continue later, but that it is uncertain whether they continued to the end of the 11th Dynasty or into the 11th.225 Junker’s detailed argument

221 First put forward by Reisner in his original analysis of the Nubian groups, see ASN, 1907–8, pp. 320, 325, 331–2.
222 e.g. ASN, 1907–8, pp. 32–3, 331. 223 Kubanieh Süd, pp. 6–8.
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cannot be analysed here, but certain considerations may be advanced. It is of course perfectly understandable that culture in Nubia should lag behind that in Egypt, and indeed it is clear that throughout Dynastic times its inhabitants lived at a lower level of material prosperity and civilization. Thus one might expect local manufactures to copy traditional types, some of them no doubt imported. But the artifacts in A-Group graves cannot in most cases be local copies, but must have been imported from Egypt; in the case of the seal in 215:85, the hieroglyphic inscription alone must prove this, but it is equally true of the slate palettes, for which the stone (greywacke) came from the Wadi Hammamat, and certain classes of pottery (the ‘wavy-handled’ and ‘decorated’ wares), which are made from a special fine grey clay, which is confined to the area of Qena, Ballas and Sohag. What is argued, then, is that Egyptian-manufactured objects ought to be dated anything up to 350 years later when found in Nubian graves than they could possibly be in Egypt. There seem to be only two possible lines of argument. The first is that the Egyptian artifacts took this time to find their way from the centre of manufacture in Egypt to the Nubian graves. Even allowing for greater difficulties at Silsileh and the First Cataract than in later times, a few months at the most must have sufficed for the actual transport. They may have been in domestic use before being buried, for which a single lifetime seems a generous allowance; while if the pottery was imported specifically for funerary purposes, this would not apply. It seems unlikely that in general an object would be buried in Nubia more than fifty years later than its manufacture in Egypt; there may have been exceptional cases of ‘heirlooms’, but these always are exceptional, and the bulk of the imported material in A-Group graves is hardly of a character to have been treasured. The second is Junker’s argument, that artifacts of Predynastic type continued to be made in Egypt specially and solely to satisfy a Nubian import demand, long after they cease to appear on any Egyptian site, and long after the Dynastic repertoire is fully established. There is no direct evidence for this hypothesis, and Junker’s arguments by analogy, whatever may be thought of their relevance, really only apply to pottery. Junker’s theory cannot be demonstrated to be impossible, for the evidence simply does not allow of this; but given the knowledge of 1st Dynasty civilization we now have, it seems highly implausible. I prefer then to assume that imported Egyptian artifacts in Nubian graves are for practical purposes to be dated very little later than they would be in Egypt, and that the dates of the early Nubian cultures, like those of the later ones are to be fixed on the basis of the datable Egyptian material. In this case, the A-Group begins in late Gerzean times and ends little or no later than the middle of the 1st Dynasty. The cylinder seal in grave 85 will fit perfectly well within this range, and so will the pottery.

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In Cemetery 215, then, Emery was correct in his basic division of the graves between two groups, the A-Group and the C-Group, and in placing the C-Group graves at the beginning of the C-Group period. But his claim that there was a continuous series of burials covering the period between them cannot be maintained, and the cemetery provides no evidence for an independent ‘B-Group’ culture.

Cemetery 216  
Abu Simbel

One bee-hive grave with mud-plastered interior (no. 17) in this mainly C-Group cemetery was assigned to the ‘B-Group’ by Emery. A brown ware deep bowl with milled rim of A-Group type (Corpus A. XV) was found on the surface.\(^228\)

Cemetery 254  
Ballana

I myself attributed a single plundered bee-hive grave to the ‘B-Group’ in this cemetery,\(^229\) erroneously accepting Firth’s view that the bee-hive grave type was characteristic. The grave contained sherds of pink ware with a potmark, which must have come from one of the typical A-Group wine jars, and demonstrates the true date.

JUNKER’S CEMETERY

Kubanieh South: North-eastern area

Junker says:\(^230\) ‘A little north of the main part of the cemetery, particularly in the 10-m. square 27.p–29.v,\(^231\) were laid bare a considerable number of shallow circular and oval graves, which had no recognizable direct relationship with the latest graves of the A-Group and must in all probability be distinguished from them. Unfortunately they were all completely plundered and partly cut through by the graves of the Middle Kingdom. A C-Group date need hardly be considered for them, for all traces of incised ware and stone superstructures, etc., are missing, they lie too close together, and in any case the re-use of such a cemetery in the Middle Kingdom is unthinkable since the C-Group was contemporary with that period. So only the ‘B-Group’ or a period before the A-Group come into the reckoning. The sparse remains of the grave-goods may next be given: of pottery there were only sherds: black once, red-and-black-polished (rotschwarzpolierte) eight times, red twice, yellowish once, greenish once. Rough pieces of flint occurred twelve times, rubbers three times, shells twice. There was one piece of ostrich-egg shell with incised design. Considering the condition of the graves it is not impossible that one or two sherds, such as the greenish one, from the neighbouring Middle Kingdom graves, also mostly plundered, got into the rubbish of these earlier burials. In view of these

\(^{228}\) ASN, 1929–31, p. 478.  
\(^{229}\) Smith, EES Survey, p. 36.  
\(^{230}\) Junker, Kubanieh Süd, p. 25.  
\(^{231}\) Kubanieh Süd, cemetery plan.
finds as a whole, probably only the 'B-Group' comes into consideration. The black-red (schwarzrote) sherds, some of them badly weathered, certainly came mostly from the Nubian black-mouthed ware, which maintained itself throughout the B-Group period and also occurred in the latest A-Group graves like 26.n and 20.p; moreover not a trace was found of all the things which must occur at least in fragments from any period but the B-Group period; palettes, beads, etc. Thus the supposition that during the time following the A-Group period burials were interred on the lower lying ground nearer the river (26–29), joining the last burials of the main cemetery along the lines q–r, is better founded than any other.'

In this cemetery eighty-seven out of eighty-nine graves were plundered, and fifty-nine were completely empty. Junker's positive reasons for considering the graves to belong to the 'B-Group' are very frail. Even if all the 'black-red' sherds were from black-mouthed ware this proves nothing, as this ware occurs frequently in the Late Predynastic and A-Group periods. Of the other material, it may be said that the flint flakes are in much higher proportion than in other 'B-Group' cemeteries, while incised ostrich-egg shell is a notable feature of Predynastic A-Group graves.\(^{232}\) Junker's negative grounds are still less convincing; nothing can safely be deduced from the absence of certain types of material from a cemetery so completely plundered. Indeed, the whole thesis of the 'poverty' of the 'B-Group' is largely based on the insecure inference that because plundered graves were found empty or virtually empty they had never contained any significant material. Junker himself admits that the 83.5% of circular graves is a much higher proportion than in the Nubian 'B-Group' cemeteries, but dismissed this as 'of little weight in comparison with the other facts'.\(^{233}\) Probably the most potent factor in Junker's mind was the topography of the cemetery, for his discussion of these graves is only part of a longer argument devoted to showing that the plundered graves at the southern end of the cemetery were of Predynastic, and not 'B-Group', date. He concludes the paragraphs quoted above: 'But since a double B-Group cemetery can hardly be assumed in the same necropolis, it follows that the southern group between lines e and h\(^{234}\) must belong before the A-Group. Then we have a great unified layout (grosse einheitliche Anlage) of the three periods; in the south the period before the A-Group, in the main portion the A-Group, to which in the north the B-Group cemetery forms the continuation.'\(^{235}\) Cemeteries in the Nile valley, as elsewhere, often exhibit a logical topographical development through a

\(^{232}\) *ASN, 1909–10*, pl. 11.d and e (Cemetery 102:96:5 and 102:102:6) provide the most complete examples. Both these graves contained lozenge-shaped palettes and are likely to belong to the 'Late Predynastic' period, to which 96 was attributed by Firth (loc. cit. p. 52).

\(^{233}\) *Kubanieh Süd*, p. 25, note 1.

\(^{234}\) *Kubanieh Süd*, Cemetery plan.

\(^{235}\) *Kubanieh Süd*, p. 25.
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period of time; but then quite as often they do not; the dating has to be used to


demonstrate the development, theories of development can not safely be used to
demonstrate the date. Junker was certainly right in attributing his southern
group to the Predynastic period, but this does not at all exclude the possibility
that the graves at the north end also belonged to some part of that period of
indeterminate length. But in fact neither the homogeneity nor the date of these


heavily plundered graves can be established on the evidence available; the only
secure inference about them is that they pre-date the Middle Kingdom.


The examination of these cemeteries has shown, I think, (i) that the evidence
from them does not suffice to support the hypothesis that a distinct indigenous
population group with a definable culture was settled in Lower Nubia during the
Old Kingdom period, (ii) that there is no single grave among them which can be
demonstrated to belong to a date between the mid 1st and the viith Dynasty.

But this does not amount to proof that no burials were made in cemeteries along
the edges of the valley during this period, for it can still be argued that among
the thousands of plundered and undatable graves found in cemeteries between
Aswan and Semna a proportion may have belonged to an Old Kingdom popula-
tion, and that there may be cemeteries of this period which have remained
undiscovered. Those who wish to adopt this view should, however, realize its
implausibility. Lower Nubia from Aswan to Semna up to River Level 180 has
now been archaeologically surveyed from end to end, by far the greater part of it
by the exhaustive methods outlined by Reisner in the first Nubian Survey
volume; it is in fact doubtful whether any area comparable in size has been
so completely examined, even in western Europe or the United States. In the
process well over three hundred cemeteries have been investigated, reasonably
spread along the whole length of this reach of the Nile; some of these
"cemeteries" were really necropolises comprising several large cemeteries of
widely varying dates. That among the many tens of thousands of graves
excavated, not a single one can be convincingly shown to belong to the period of
not less than 400 years between the end of the 1st Dynasty and the beginning of
the viith, cannot be attributed to chance. It might be suggested of course that
such graves have been discovered, but that their date has not been correctly
recognized because they do not contain imported material datable on external
evidence. The difficulty in the way of such an explanation is to discover the
graves to which to apply it; each of the definable archaeological groups in Lower
Nubia contains a wealth of imported material, either from north or south, by
which its date can be fairly closely fixed, and this applies equally to periods when


\[236\] *ASN*, 1907–8, pp. 7–13.

\[237\] Now that it is known that there was an Egyptian settlement at Buhen in the ivth–vth Dynasties, this hypothesis does not in itself appear very probable.
we know that Nubia was under foreign government (e.g. the Middle Kingdom, the New Kingdom, and the Romano-Meroitic period), and periods when we know that it was independent (the Second Intermediate Period, the period of the 'X-Group', and the Christian kingdoms). As there is no body of material from Lower Nubia that cannot be referred to one or other of these groups, except for those graves which are undatable because they are plundered and virtually empty, the conclusion must be that the putative Old Kingdom graves have in every case been so plundered as to be unrecognizable, but that this is true of no other Nubian group. Considering the mass and wealth of material from Lower Nubia, I find this unacceptable. I therefore think that the evidence should be taken to show that few if any burials were made during these five hundred years or more along the edges of the Lower Nubian Nile.

The explanation of this cannot, however, be that there was no indigenous population anywhere between the latitudes of the First and Second Cataracts from the end of the 1st to the beginning of the 11th Dynasty, for two hieroglyphic inscriptions attest the contrary. It was this fact that originally influenced Reisner in forming his 'B-Group' hypothesis, and has subsequently helped to secure its continued acceptance. The earlier inscription is the fragmentary victory stela of King Ḥc-shm from Hierakonpolis, on which the stricken foe is shown with the Sti hieroglyph on his head. The later is a year-name of King Snfrw on the Palermo stone, part of which reads b3 Nhśyw w in.t skr.w 'nh-šw 7,000 mnmn t 200,000 ' Hacking up the Nhśyw-w, bringing (home) seven thousand living captives and 200,000 cattle'. Though the term Ṭš-št is used both in the wider sense of Nubia generally and in the restricted sense of the first nome of Upper Egypt, there can be virtually no doubt that the wider sense is intended in Ḥc-shm's stela since (i) as early as the victory relief of King Dr on Jebel Sheikh Suliman at the northern end of the Second Cataract a bound enemy is designated with the Sti hieroglyph; (ii) the people of the first nome of Upper Egypt can hardly have been considered as enemies by Ḥc-shm, as Hierakonpolis seems to have been his centre of authority. The term Nhśyw used by Snfrw is only used of the people living beyond the southern boundaries of Egypt. The extent of Snfrw's campaign may be indicated by the fact that the earliest inscriptions both at the diorite quarries in the desert west of Toshkeh and at the Old Kingdom smelting settlement north of Buhen fort both date from the reign of Snfrw's successor Hwfw. Thus the population conquered by Ḥc-shm and that

240 G. Posener in *KUSH* vi, pp. 39 ff.
241 A. J. Arkell, *JEAL*, vol. 36, pp. 27–30, with fig. 1 and pl. x.
243 *ASAE*, vol. 33, pp. 65 ff. and 38, pp. 369, 678 ff.
244 *KUSH* xi, pp. 116–20.
deported by Snfrew inhabited in all probability an area between the First and Second Cataracts.

Is it possible to reconcile the existence of the considerable population suggested by Snfrew’s figures in this area with the lack of cemeteries along the valley edges? Vercoutter has already pointed out that the proportion of beasts to humans carried off by Snfrew (nearly 30:1) strongly suggests that his opponents were pastoralists, while the inscriptions offer no indication that they were a settled population. There is reason to believe that areas for a considerable distance either side of the Nile which are now desert at that time supported timber and vegetation. This vegetation may not have been adequate for permanent pasturage, but may well have supported migrant herds. Indeed, G. W. Murray discovered a cattle cemetery, unfortunately of uncertain date, far out in the eastern desert, and human burials, again of uncertain date, have been found in ‘Grassy Valley’ in the Sahara. Unfortunately, very little work has been done in the deserts to amplify and confirm these discoveries. If, however, we accept Vercoutter’s inference that Snfrew’s enemies were pastoralists, and add the hypothesis that they were nomadic pastoralists, then the lack of contemporary cemeteries along the valley edges may be explained, for nomads are normally buried, like their beasts, where they drop; it is only settled and semi-settled populations who concentrate their graves in communal cemeteries near their villages. Two small fragments of evidence perhaps lend some colour to this suggestion. At the Old Kingdom smelting settlement at Buhen, Emery’s preliminary estimate is that only 5% of the sherds were local Nubian, which might be interpreted to mean that there was no considerable settled local population. At the diorite quarries in the desert west of Toshkeh, a hieroglyphic inscription on a chisel has been interpreted to mean that the workmen there were Egyptians and not locals.

Snfrew’s figures are often considered a gross exaggeration, and cannot of course be checked. They appear, however, in a year name, and must have been extracted from the official annals; the captives and flocks were brought home to Egypt, and there must have been many officials in a position to know the true figures. Judgment on the matter is subjective; my own view is that ancient figures should be accepted until there is good reason for distrusting them.

J. Vercoutter in SNR, xl., p. 10. He takes the view that the proportions in Snfrew’s figures may be trusted, if not the figures themselves.


T. Säve-Söderbergh, Ägypten und Nubien, p. 10.
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Unfortunately, there is not to my knowledge any other evidence to confirm this tentative hypothesis that the inhabitants of Nubia in the Old Kingdom were migrant pastoralists, and further work in the deserts bordering Nubia is required to prove it right or wrong. Having advanced it, however, I must at least suggest how it may have come about that there was a settled population in Nubia up to some time in the 1st Dynasty (the Predynastic and A-Groups) and again from some time in the 11th Dynasty onwards, but not during the intervening period. If it is accepted that the date of the end of the A-Group culture is to be determined by the dates of the latest imported Egyptian artifacts found in A-Group graves, judged on Egyptian archaeological criteria without reference to theories of Nubian retardation', then that date is unlikely to be much later than the reign of King 'Wdi-mw', and might I think be as early as King Dr. 252 In this case, the Nubian campaign of King Dr, attested on the relief at Jebel Sheikh Suliman, which in all probability followed up a campaign by his predecessor Hr-ḥḫ3, 253 may well have been the main cause of the disappearance from the valley of the settled A-Group population. On Dr’s relief, the contorted figures represent those slain in battle, the large standing figure with his hands secured behind his back holding the Stl sign represents the chiefs taken hostage, the small bound figure tethered by the neck to the stern of a boat represents the people deported. 254 There is evidence then that Dr practised the policy of deportation later adopted by Snfrw. If Arkell’s suggestion that the two wheel-like objects, surmounted in one case by a hawk, in the other by an object of uncertain nature which Arkell suggested might be the ‘royal placenta’, represent the hieroglyphic sign for ‘town’, nitw-t, then we should deduce on the analogy of the representations of hawks and other symbolic royal beasts hacking up towns on certain

252 This opinion is very tentative; complete re-analysis of the A-Group material which cannot be undertaken here, would be required to substantiate it. It is based on the statement of Reisner: ‘The cemeteries which I propose to date to the Early Dynastic period have for the greater part, the characteristics of the Predynastic period or the early 1st Dynasty’ (ASN, 1907-8, p. 331); on that of Junker: ‘The finds from that epoch (sc. the A-Group) would in an Egyptian cemetery certainly point to the end of Prehistory and the beginning of the dynastic age’ (Kubanieh Süd, p. 6); on Wainwright’s sequence-dating of the imported pottery from the A-Group cemetery excavated by Griffith at Faras, which gave S.D. 77-81 on Petrie’s system, LAAA, viii, p. 12), and on my own desultory studies of the material.

253 A tablet of King Hr-ḥḫ3 from the royal tombs at Abydos (W. M. F. Petrie, Royal Tombs, ii, pl. iii, 2 and pl. xi, 1) the ‘smiting of Stl’ is mentioned. Säve-Söderbergh mentioned the possibility that this might refer only to the conquest of the first nome of Upper Egypt (Ägypten und Nubien, p. 7). Now that Arkell has re-discovered and properly published the King Dr relief, showing that he reached the Second Cataract area, the probability that Hr-ḥḫ3’s label refers to a campaign in Nubia beyond the First Cataract seems to me greatly enhanced.

Protodynastic palettes\textsuperscript{255} that King \textit{Dr} razed the settlements.\textsuperscript{256} Such a policy of slaughter, deportation, and razing of settlements, accompanied no doubt by the firing of crops and looting of livestock might well have had the effect, especially if repeated from reign to reign,\textsuperscript{257} of driving the surviving A-Group Nubians to save their remaining beasts by abandoning their settled existence along the river for a wandering life on the hills, which was doubtless less comfortable but more secure. Such a life would also provide better opportunities for surprise attacks on convoys of merchandise to Egypt\textsuperscript{258} without becoming so easy a prey to massive Egyptian retaliation. The Egyptians might in these circumstances have been well satisfied at being left in control of the river route, and have continued to discourage Nubian settlement along the banks by means of a ‘ scorched earth’ policy, with occasional major punitive expeditions like those of \textit{Hfr-smn} and \textit{Snfru}. It is interesting in this connexion that the Pharaohs of the Old Kingdom did not find it necessary to build great garrison forts (as they were certainly capable of doing)\textsuperscript{259} like their Middle Kingdom successors; the Old Kingdom smelting settlement at Buhen has a thick but unsystematically planned and roughly built stone wall as its only protection.

During the late \textit{vth} Dynasty and the \textit{vth} Dynasty, the Egyptian Pharaohs became increasingly dependent on families of powerful local nomarchs, whose title had become in effect hereditary, for the collection of taxes, the raising of military levies, and the organization and leadership of expeditions. In the \textit{vth} Dynasty, responsibility for the ‘ Door of the South’, that is the frontier at the First Cataract, came into the hands of the nobles of Aswan, who themselves undertook and led the Egyptian expeditions into Nubia, while nomarchs of other nomes held titles connected with frontier intelligence and one, \textit{Wni} of Abydos, led an expedition into Nubia.\textsuperscript{260} As we have the accounts of these expeditions in the tomb inscriptions of their leaders, while we have no similar information about Egyptian expeditions in the \textit{vth} and \textit{vth} Dynasties apart from that of \textit{Snfru}, it has always been tempting to interpret these inscriptions as showing an increase in Egyptian activity in Nubia in the \textit{vth} Dynasty. But it must be remembered that tomb biographies giving details of men’s careers do not occur

\textsuperscript{255} W. M. F. Petrie, \textit{Ceremonial Slate Palettes}, pl. G.19.
\textsuperscript{256} That A-Group settlements were sufficiently developed to qualify in Egyptian eyes as \textit{nswt} is I think shown by the settlement at Afyeh, which contained quite solidly built stone houses (Smith, \textit{EES Survey}, pp. 59–61; site subsequently excavated by an Indian expedition).
\textsuperscript{257} There may of course have been campaigns by \textit{Dr}’s immediate successors, of which we have no record.
\textsuperscript{258} We have of course no direct evidence for such convoys, so early, but the use of ebony in the 1st Dynasty in Egypt, and probably also that of ivory, predicates them.
\textsuperscript{259} Shown by the great archaic forts at Hierakonpolis and Abydos, and inferential evidence from the Zoser pyramid complex.
in the 17th and 18th Dynasty mastabas of high officials grouped round the royal pyramids in the necropolis of Memphis; they begin only when nomarchs came to have such independence that they built rock-tombs near their local capitals, that is in the late 18th-early 19th Dynasty. The diorite quarries in the desert west of Toshkeh were used throughout the 17th and early 19th Dynasty, and so was the smelting settlement at Buhen, but the latest inscription at either place belongs to the reign of King Dd-k3-rk ʾIssi. Our lack of royal inscriptions of the 17th and 19th Dynasties precludes any certainty, but it looks rather as though these two enterprises had to be abandoned at about the time when the central Pharaonic authority was no longer able to mount large military expeditions, and the keeping open of the Nubian trade-route became dependent on the enterprise of the nobles of Elephantine, whose resources must inevitably have been small.

If there is truth in this suggestion, it is not unreasonable to suppose that the re-settlement of the valley in Lower Nubia by the C-Group, which would seem on the evidence from their graves to have occurred during the 19th Dynasty, more probably in the latter part of it, was due to the cessation of full-scale centrally organized expeditions and regular shipping convoys up to Buhen. Without these to police the valley, settled life on the cultivable river margins would once more have become viable and attractive. The well-known and much-discussed history of the journeys made by the Elephantine caravan leader Ḥr-hw.f may confirm this suggestion. For whereas on his second journey to the land of Ṣlm, Ḥr-hw.f was able to set out ḫr ḫw.t ṣḥw on the Elephantine route, i.e. the direct route up the Nile valley, and to return by way of the residence of the ruler of Stw and Ṣr.t apparently without difficulty or molestation, on his third journey he set out ḫr ḫw.t ṣḥw on the oasis route, and was under necessity of obtaining a military escort from the ruler of Ṣlm in order to return through Ṣr.t. He says: ‘Now when the ruler of Ṣr.t, Stw and Wṣw.t saw how strong and numerous were the troops of Ṣlm who had come down with me, together with the company who had been sent with me, then that chief sent to give to me oxen and goats and conducted me by the routes of the highlands of Ṣr.t i.e. it was only when the chief saw that Ḥr-hw.f had a strong force from Ṣlm with him that he provided him with baggage animals and gave him a safe conduct. This change of circumstances in Lower Nubia through which a local chieftain was powerful enough to obstruct an Egyptian expedition has often been thought to be the result of the irruption of the C-Group into the valley, surely correctly. What may be significant is that Ḥr-hw.f’s forces were inadequate on this occasion without reinforcements from Ṣlm; for though it may be argued from this that Ḥr-hw.f’s forces were inadequate because of a new factor in the

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262 K. Sethe, Urkunden des Alten Reichs, i, pp. 124-7.
263 Ibid., p. 127.
264 See references given above, note 220, which represent divergent points of view.
situation, the presence of the C-Group tribes, it may be argued with equal propriety that it was the weakness of the forces accompanying the Elephantine caravan leaders which had encouraged the Nubian tribes to combine under a single leader and bar the trade route—i.e. re-occupy the Nile valley.

If any substance be granted to this almost entirely hypothetical reconstruction of events, one further question arises, namely, whether the C-Group who re-occupied the valley may represent the nomad pastoralists of the period from the middle of the 1st Dynasty to early 11th Dynasty whose existence I have posited. There can at present be no clear answer to this. But if the nomad pastoralists were in origin the A-Group people driven out of the valley, and if they returned thither, perhaps mixed with other elements, as the C-Group, then one might expect A-Group and C-Group culture to exhibit some close affinities. It is notable then that Adams has recently asserted that there is 'obvious cultural affinity' between the A-Group and the C-Group, and has even gone so far as to suggest that 'they are in fact almost certainly remains of the same population at different stages of culture growth, and perhaps augmented by immigration in the case of the C-Group'.

Since Adams wrote, further evidence has become available, which shows that A-Group and C-Group burial habits were considerably more like to one another than has been possible to deduce in the past. In Cemetery 268 at Tunqala West, which being away from any wadi and at a relatively high level had not been affected by denudation like most A-Group cemeteries, there were found (i) tumuli built of courses of dry undressed stone over the mouth of the grave, of approximately circular shape; (ii) an offering place constructed of upright stones placed at right angles to the tumulus containing offering pottery; (iii) what were in all probability uninscribed grave stelae.

If Adams's view is further confirmed, then the suggestions I have made above concerning the population of Nubia during the period between the 1st and 11th Dynasties become considerably more plausible. But they are at best very tentative, and are only advanced in an attempt to reconcile the inscriptive evidence with what I consider to be the right interpretation of the cemetery material.

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267 This article owes much to the constant help and acute but kindly criticism of Dr D. M. Dixon and Dr P. J. Ucko, to both of whom I am profoundly grateful. The work of B. G. Trigger, *History and Settlement in Lower Nubia* (Tale 1965), appeared after this article had gone to press.
Semna South Fort and the Records of Nile Levels at Kumma

by Jean Vercoutter*

During the winter of 1956–57 the Sudan Antiquities Service undertook some excavations at Semna South. The field work was supervised at first by myself, in January–February, then by Sayed Thabit Hassan Thabit, now Commissioner for Archaeology, from February until the end of March 1957. The campaign lasted but a little more than two months, during which we explored most of the South Fort and made a limited trial digging in the Meroitic cemetery which lies between the great Semna West Fortress and the South Fort.

Description of the Site and of the Fort

The South Fort, which was not excavated by G. A. Reisner, lies about 1 km. south of the western fortress (see Fig. 1 and Plates v–vi). Except for a trial— and unauthorized—digging in 1884, the site had never been explored prior to our work; it is not mentioned either by Porter and Moss in their remarkable Bibliography or in Dunham and Janssen’s excellent ‘Semna-Kumma’. It is only cursorily dealt with by Somers Clarke and L. Borchardt in their respective studies on the Egyptian fortification system of the Second Cataract.

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* I wish to express here my warmest thanks to my friend Prof. W. Y. Adams who took the trouble of retyping entirely my manuscript while correcting my somewhat uncertain English. J.V.

1 Work was done from 10 January to 20 March 1957. Besides Sayed Thabit Hassan Thabit and myself the staff was composed of Ahmed Moh. Ibrahim, Antiquities Officer; Moh. Osman el Fiki and Arbab Moh. Ahmed, Technical Assistants, Osman el Hassan, Mason. Workers were under the authority of the Chief Foreman, Ibrahim Mubarak from Qift.

2 In SNR, vol. 12 (1929), pp. 149–50, G. A. Reisner states: ‘The southern fort at Semna . . . is difficult of excavation because of the superstition of the local inhabitants . . . None of the locals would work on the site, and their fear was transmitted in some degree to our Egyptian workmen’. It seems that in 1957 none of the superstitious fears noted by Reisner had persisted, since we had no difficulties in excavating the site. No one, either ‘local’ or Egyptian, objected to the work.

3 Cf. ibid., p. 150: ‘During Wolseley campaign an “Englishman” . . . dug two or three trenches which were shown to me’.

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It is generally agreed that Semna South is the first name which appears, as the southernmost in the list of southern fortresses of the Ramesseum Onomasticon⁵ under the entry of (?) mnnw n Dz ir-h3st (?). The reading is not certain, Gardiner notes:⁶ ‘ seems certain, has not quite the normal form’. Furthermore, there is a cut in the manuscript just after the last sign,⁷ so that there is a slight possibility that the name is not even

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⁵ For the list and its bibliography see Säve-Söderbergh, Ägypten und Nubien, p. 81 and note 2, to which is now to be added Gardiner, Ancient Egyptian Onomastica, I, p. 10.
⁶ Gardiner, loc. cit., Plates, pl. ii, a, nr 170A–171.
⁷ Ibid., pl. ii.

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Fig. 1. SEMNA AND VICINITY

C, Muslim cemetery; G, Gindikol Island; Gl, Mountain overlooking Kumma; H, Modern houses; K, Kumma fort; MC, Merotic cemetery; MKC, Middle Kingdom cemetery; MN, Magnetic north; MV, Modern village of Semna West; N, Main channel of the Nile; OS, Possible overflow-chute; Q, Quarry; RP, Rock pictures; SaSp, Sand spur; Ss, Semna South fort; St, Water stairway; Sw, Semna West fort; TS, Townsite(?); V, Barred valley.
complete. Since the name $D_3$ ir-$h_3st$ does not seem to appear elsewhere in the Egyptian texts, the reading cannot be ascertained. During the 1957 excavations we did not find any evidence to prove or disprove it.

The fort stands on a low plain and commands the stretch of land along the river between the rocky promontory on the east bank, some 1.5 km. south of the granite barrier which forms the Semna Cataract, and the Western Fortress. It is a small structure, the greater part of which has been destroyed by wind erosion; however, I have been able to ascertain the plan of the building (see FIG. 2), except where it is covered by the small so-called ‘sheikh’ which is in fact a Christian-Nubian domed church of sun-dried bricks, where the inhabitants of Semna West village, at the time of the dig, were storing fodder for their cattle. The fort proper, which is built on an ancient alluvial terrace of the Nile, is composed of the following (see FIGS. 2 and 3):

(a) a glacial of stone similar to the glacial of the western fortress, surrounding the complete structure. In the south we made a cross section of it, and found it to be a little above 10 m. wide and built of granite slabs encased in silt.

(b) an outer girdle wall of sun-dried bricks, 4 m. wide.

(c) an inner ditch, 7 m. 50 in width. With the limited manpower at our disposal we were unable to clear it entirely down to the bottom, so that its depth remains unrecorded.

(d) a main wall, over 12 m. at its base, with projecting square bastions at each angle. This wall together with its bastions is built on a flat artificial terrace cut into the natural silt terrace.

(e) an open inner space in the middle of the building, nearly square (34 m. 30 x 33 m.).

In the north-eastern corner of the open space was the entrance to a subterranean stairway (see PLATE IX, a) built of large slabs of granite which passed under the main girdle wall (d), the inner ditch (c), the outer girdle wall (b) and the

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8 Gauthier does not even mention it in his DG and it does not appear in the inscriptions found either at Semna or at Kumma (see Dows Dunham and J. Janssen, Semna-Kumma, Second Cataract Forts, 1, Boston (1960), passim).

9 The colourful story related by Reisner in SNR, vol. 12 (1929), pp. 149-50, relating how the place came to be a ‘Sheikh’, seems to have been entirely forgotten by the present inhabitants.

10 Cf. Dunham-Janssen, loc. cit., p. 5 and pl. 1, a and c; pl. 3, a; Map III and Sections Maps IX-XIV.

11 The following measures have been recorded at Semna South: north wall: small bricks, length 27, 28 and 30 cm., breadth 15, 16 cm., thickness 8 and 9 cm.; ordinary bricks $32 \times 15 \times 8.9$ cm. South wall: l. 32, b. $14/15 \frac{1}{2}$, th. 8/9 cm. Northwestern angle: $31/32 \times 15/16 \times 8/9$. Wall at foundation level $27 \times 13 \times 8$. Southwest outer corner: $28\frac{1}{2} \times 14 \times 9$ cm.
Fig. 3. CROSS-SECTION OF THE FORTIFICATIONS AT SEMNA SOUTH FORT
SEMNA SOUTH FORT AND RECORDS OF NILE LEVELS AT KUMMA

glacis (a). We were able to clear it below ground for a length of about 50 m., when we had to stop for lack of air for the workers. To try and find the lower issue of the stairway tunnel, a trial trench was dug northward from the top of the glacis. A huge deposit of Nile silt was found (see FIG. 4 and PLATE IX, b, c), on which I shall comment later, but unhappily we were again obliged to stop the dig at some 14 m. from our start because of the presence of a modern cemetery.

Excavations in 1957

About four-fifths of the inner enclosure was excavated in 1957, leaving only the south-eastern angle unexplored. There was no evidence of any building of the Middle Kingdom: the surface of the silt terrace is bare and not even flattened. It appears that the fort, as seems to have been the case also at the Middle Kingdom fort at Dabenarti,\textsuperscript{12} was never inhabited permanently. The men of the garrison either occupied it for a limited period at a time, coming from the main fortress at Semna West where they had permanent houses, so that they could be satisfied with a simple camping ground at Semna South; or, perhaps they occupied the fort only in an emergency, for instance when the district was in open rebellion or when the coming of a fleet sailing north or southward was

\textsuperscript{12} Dabenarti has recently been surveyed and explored again by the University of California (see KUSH XI (1963), p. iv, and Leclant, Orientalia, vol. 33 (1964), p. 380 (-17). As at Semna south there was no evidence of structures inside the girdle wall.
announced by the outposts. However, a scarab was recovered from the rubble (see FIG. 5) and an offering table of the Middle Kingdom\textsuperscript{13} has been found re-used in a Christian house (see PLATE VII, a), so that there is a possibility that a small Middle Kingdom settlement once existed there, the remains of which were entirely destroyed by the Christians when they built their village. This would account too for the fact that the entire surface of the inner enclosure is in such a state of disturbance.

The Middle Kingdom fortifications, for their greater part, must have been already in ruins when the Christians established a settlement at Semna South. This is clear from the fact that the new arrivals had to build a new—and rather awkward—girdle wall of stones along the west side of the fort. The main Egyptian wall accordingly must by then have entirely disappeared but for its foundation layer.

The Christian remains were but partly excavated by us. The village certainly extends south and eastwards towards the church (see FIG. 2), which undoubtedly was included in the fortified Christian town. The houses gave evidence of extensive rebuilding. They are built either of mud brick and stone, or of coarse masonry of rough stones encased in silt (see PLATE VIII, b). A few of them still showed the typical Christian vaulting (see PLATE VIII, a in V). The pottery was entirely of the coarse utility ware types\textsuperscript{14} and undecorated; no objects were found besides pots of various shapes. On the whole, the Christian settlement gave the impression of having been inhabited by a rather poor community.

Besides the work in the fort, herewith summarized, a trial digging was done in the Meroitic cemetery (see FIG. 1 in MC) where big round tumuli can be seen.

\textsuperscript{13} Khartoum Museum no. 11, 897, $1.46\frac{1}{2} \times 32$ cm. Red granite. In the middle three basins are cut, and various offerings engraved. The inscriptions, which are almost completely worn away, are disposed in the following manner from right to left: a \textit{hetep-di-neswet} formula; two lines in the middle (\textrightarrow) and two columns on each side $\downarrow$. Besides this offering table the only object recovered which can be dated to the Middle Kingdom is a small scarab (Khartoum Museum no. 11, 765) of black hard stone, much worn ($20 \times 13 \times 7$ mm.). Cf. fig. 5 above. The flat side is engraved with what looks like a proper name, possibly preceded by a title mr (?)...? Nb-n-s ? (cf. Ranke, PN, 185-17), or, possibly, Nb-nht (ibid., 185-24). The first sign or group of signs is illegible. Around the name and along the edge a succession of ‘nh and nfr signs (cf. Newberry, ‘Scarab-shaped Seals’, CGC, pl. xi, no. 36.704). This object could be xiith Dynasty or from the Hyksos period, cf. Stock, \textit{Die erste Zwischenzeit Ägyptens}, Rome (1949), p.43, fig. 63.

\textsuperscript{14} Cf. W. Y. Adams’ article on Christian Nubian Pottery, KUSH x (1962), pp. 275-6. The pottery of the settlement ought to be studied by a specialist: it seems to be of the late Christian period.
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One of these was excavated and yielded typical decorated Meroitic pottery, a necked pot and a goblet, of the late period (see PLATE VII, b, c).15

As may be seen from the above brief report on the work done in 1957, the excavation of Semna South can hardly be considered as complete. Half only of the inner girdle wall has been delimited. The outer system of fortifications—main girdle wall, inner ditch, outer wall, and glacis, is well worth further investigation. Of the Christian settlement only about half has been cleared, the pottery has not been recorded, and the Meroitic cemetery is practically untouched. There are moreover other points of interest at Semna South besides the fort proper and the Meroitic necropolis; while excavating the Middle Kingdom fort, I noticed below the foundation level of the main girdle wall and near to its south-western bastion (see PLATE V in E), a certain number of black and red sherds which could be either A-Group or Kerma—probably the first, as if there had been a proto-dynastic or first dynasties settlement preceding the Middle Kingdom occupation. Also, to the west of the fort (see PLATE V at D) one can still see the remains of an extensive occupation site, as well as the traces of a fortification system running north-west and south-east and seemingly embracing Semna West and Semna South in the same complex. Accordingly, it seems of the utmost importance for the history of the site that new excavations are undertaken at Semna South before its flooding under the waters of the new Aswan Dam.

The Problem arising from the 1957 Excavations

I have mentioned above (see p. 129), the fact that while clearing a part of the northern glacis of the south fort, so as to find where the masonry stopped and where the subterranean stairway discovered in the fortress could have led, we found a deposit of Nile silt covering the masonry of the glacis (see FIGS. 3 and 4). At the point where we had to stop the work, because of the presence of the modern cemetery, the deposit reached a thickness of about 8 m. and covered the stone work entirely (see PLATE IX, b, c).

I first made sure that the deposit could not be the result of the disintegration of the girdle walls of the fort; however: (a) I could not find any remains of sherds, bricks, broken bricks and layers of Aeolian sand as would have been the case should the layer of silt have been the result of a progressive decaying process of the structures above during a long period of time; (b) the sediment layer consisted of pure silt deposited in perfectly horizontal levels (see PLATE IX, b); (c) the silt was homogeneous and from all points of view undistinguishable from the silt which is normally deposited every year along the river banks during the receding of the flood.

Such being the case, viz. a large deposit of silt on a sloping masonry structure, the possible explanations were that after the building of the glacis there had

15 Cf. W. Y. Adams, Kush XII (1964), pp. 131–2 and fig. 1, A.2; fig. 6, H.2.
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been either: (a) a regular flooding of the complete structure by the desert wadi, provided that the wadi ran permanently for a considerable period of time around 1800 B.C.; or (b) a rise of some importance in the Nile level at the same period, leading to a heavy silting in places where the sediments could not be washed out by the current during the subsidence of the river.

Explanation (a) could be ruled out since there is no important wadi in the vicinity, and the small *khors* coming down from the nearby hills could not possibly have yielded an amount of silt sufficient to account for the deposit observed. Accordingly, I was left with explanation (b): that is, *after* the building of Semna South Fort and its glacis there was a local rise in the Nile level with the result that silt deposited heavily over the masonry. Since we were at Semna, one could not avoid associating the silting at Semna South with the records of the high Nile levels at Kumma (Semna East), but a few hundred metres north-east of the southern fortress.

As is well known, just below the Egyptian fort at Kumma, engraved on the rocks and still *in situ* there are a number of hieroglyphic inscriptions (see Plate X) which are supposed to record the various levels of the high Nile from year 3 of Amenemmes III (c. 1847 or 1835 B.C.), to the 4th year of Sebekhotep I (c. 1782 or 1772 B.C.), that is for a period of at least sixty-five years and probably around seventy years. According to the engraved records the *flood* level during this period was on the average at about 8 m. above the present flood level. One can see that there is a close relation between the two facts observed: a silting covering a structure most probably built in the reign of Sesostris III, that is some time between the campaign of year 8 (around 1870/1868 B.C.), and the death of the king (around 1843/1838 B.C.) on one hand, and on the other the recording of flood levels some 8 m. above the present ones. The two facts are, I believe, in too close a relation to be fortuitous, so that we have to look for an explanation accounting for the rise in level some time after 1870/1843 and before 1847/1835 B.C., within a margin of about twenty-three years or a little more—less if the south fort was built after the 8th year of Sesostris III’s reign.

*The Problem of the Nile Records at Semna*

The presence of the high Nile levels recorded at Kumma and Semna has been explained in various ways:

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16 See below, pp. 151, 153 and n. 96, for the bibliography concerning the records of the Nile levels.

17 Differences in absolute dating are according to the dates given by R. A. Parker (*Calendars of Egypt*, p. 69—first date), and those proposed by Edgerton (*JNES*, 1 (1942), p. 314—second date); cf. Vandier, *L’Egypte*, 4 ed., p. 629, where the various dates are given with others.

18 See n. 17 above.
SEMNA SOUTH FORT AND RECORDS OF NILE LEVELS AT KUMMA

(1) The recording is of no real value. The Egyptians did not intend to mark the true level of the river and accordingly the inscriptions were not related to the real rise during the flood;¹⁹

(2) The climate during the Middle Kingdom was less dry than at the present day and accordingly the discharge of the Nile was bigger so that the water level was higher than today;²⁰

(3) The rock barrier at Semna which formed a natural dam has been progressively eroded after the recording.²¹

I intend to show below that the inscriptions are in fact a true recording of the high Nile levels, and that there were no appreciable changes in the climate since the Middle Kingdom, at least not enough to account for a difference of 8 m. in the level of the Nile.²² Hence, we are left with the theory of the erosion of a

¹⁹ This seems to be the view of Somers Clarke, who strongly emphasizes the fact that: ‘With the water at the level of Inscription 1, nearly every part of the masonry enclosing the steps (i.e. the masonry on which the inscriptions are written), would be immered and in all probability, carried away’ (JEA, vol. 3, p. 175), to which he adds: ‘If the waters rose to the level of these inscriptions the fortress would have been inaccessible except by boats . . .’ and he concludes: ‘Thus I venture to believe that if the waters at Semna-al-Sharq actually rose to the highest levels indicated and did so a considerable number of times, that fortress and much of its masonry substructure would inevitably have been ruined’. Despite the very cautious way in which he states the facts, it seems clear that Somers Clarke did not believe in the accuracy of the recording.

²⁰ This is, it seems, the explanation advocated by A. J. Arkell (see History of the Sudan, p. 66). Recently R. W. Fairbridge (Kush xi (1963), pp. 96-107), followed by W. Y. Adams (JEA, vol. 50 (1964), pp. 104 and 107), admitted ‘periodic oscillations of a few metres’ in the discharge rate of the Nile from the Middle Kingdom to the modern times (Fairbridge, loc. cit., p. 107). He does not give any explanation for these oscillations, but in the long run they can hardly have had causes other than climatic. Incidentally, one of the main arguments of Fairbridge for the discharge variations is the Semna Flood Marks of the Middle Kingdom, which he takes at their face value (Ibid., p. 104). See also B. G. Trigger, History and Settlement in Lower Nubia (Yale Univ. Publ. in Anthropology, vol. 69), New Haven (1965), pp. 28-32—Trigger follows Fairbridge.

²¹ A natural and progressive erosion of the rock barrier during the three millennia and a half which followed the Middle Kingdom is the explanation usually accepted after the important article written by J. Ball, ‘The Semna Cataract or Rapid of the Nile: A study in River Erosion’, Quarterly Journal of the Geological Society of London, vol. 59 (1903), pp. 65-79. G. A. Reisner (SNR, vol. 12 (1929), p. 160), while accepting Ball’s explanation in general, pointed out that it did not explain the sudden fall, and advocated a rapid erosion of the western channel. However, Fairbridge (see f.n. 20 above) now disputes altogether Ball’s conclusion on the ground that ‘the rock barrier at Semna is a fine-grained crystalline rock not susceptible to rapid disintegration’. Trigger (see f.n. 20 above) supports Fairbridge’s views.

²² This is my main objection to Fairbridge’s theory of the periodic oscillations. I quite agree that the Nile discharge rate is remarkably inconstant today (Fairbridge, loc. cit., p. 104), but not to the point of raising the level by 8 m. The topography at Semna shows that if such had been the increase the barrier would not have acted as an ‘automatic flood control’ (ibid.), since most of the barrier is much below the contour 160 m. above sea level (see diagrams below pp. 137-148), which is the level reached by the inundations in the time of Amenemmes III.
natural barrier after the Middle Kingdom recordings of the levels. However, the discovery of the Nile silt deposit over the Middle Kingdom structure at Semna South renders this explanation—already objectionable—obsolete or at least open to discussion. Accordingly we have to consider too the possibility of an artificial dam built by the Egyptians at Semna either during the very last years of Sesostris III's reign or the beginning of that of Amenemmes III. This supposed dam would account for the silting of a reservoir upstream, and consequently of part of the Semna South fortress.

It is worth while to mention that the existence of an artificial dam at Semna was already considered by the very first observers of the site. As early as 1895, after an inspection at Semna, Sir W. Willcocks wrote: 'It struck me when I was there in 1892 that probably King Amenemhat (of Lake Moeris fame) had tried to bar the river with a dam in the hope of creating a reservoir', and if Ball rejects the idea it is simply because he was unable to find any remains of the supposed artificial dam. Had he known the facts observed by us at Semna South, Ball might have changed his mind. I do not think it necessary to stress the importance for the history of the Sudan, of Egypt, and of technology, if in fact a dam was built across the Nile as early as 1850 B.C.

The Documents in the Case at Semna

After the above-mentioned observation at Semna South my first step was to consult irrigation experts and accordingly I saw the late H. A. W. Morrice at Khartoum. We considered together the facts. The first reaction of Morrice was to say 'impossible'. Then, as an afterthought he added: 'After all, for people who have been able to build the pyramids it wouldn't have been such a problem to build a dam at Semna, provided that ...' and he gave me the facts which, in his opinion, had to be collected or observed to strengthen the theory—which is still a theory—of the artificial dam. To the facts mentioned by Morrice, I added a few of my own, concluding that in order to establish beyond doubt that Amenemmes III built at Semna either a 'dam', in the true meaning of the word, or a structure to bar the river at least during the inundation period, we ought:

(a) to find an overflow-chute, through which the Nile waters could have been diverted during the process of the building.

(N.B.—this condition proved to be useless with the supposed technique utilized by the Egyptians, but I did not know it at the beginning of my enquiry);

(b) to find a quarry from which the stones for the dam were taken;

25 J. Ball, loc. cit., n. 21, p. 68: 'It would appear to be no difficult matter to dam up the river by a filling of heavy blocks in the central channel, but I failed to find any evidence of the former existence of an artificial dam at the place.'
SEMNA SOUTH FORT AND RECORDS OF NILE LEVELS AT KUMMA

(c) to find somewhere some traces or evidence of the ruined dam;
(d) to check if by any chance there was a mention in the known texts of the building of the dam by Amenemmes III.

Before examining those various points we have first to take into consideration the possibility of an accidental filling of the various channels of the rapid, after an earthquake, for instance, or a landslide of the rocks forming the barrier. This possibility was already considered by Horner as early as 1850 and was rejected by Ball after a careful study of the rock, a ‘very hard red and grey gneiss’, so that we can safely reject the possibility.

We have also to determine if the inscriptions are or are not at the levels actually reached by the water.

The records of inundation at Kumma as well as at Semna West all follow the same pattern with only very minor variations:

‘Water-edge (r) of the flood of the year X ... under the Majesty of the King of Upper and Lower Egypt N ... May he live eternally until eternity’.

The use of the word ḫrpy shows that the records deal only with the inundation not with anything related to the Nile proper; the formal ending ‘nh(w) ꜫt further proves that the records were engraved during the lifetime of the king mentioned. Accordingly the only query which could possibly be raised concerns the meaning to be given to the word ꜫr which I translate ‘water-edge’.

In its literal sense of ‘mouth’ hence ‘opening’ and ‘door’, r is frequently used in more or less geographical contexts, for instance in compounds such as r-hȝt ‘river-mouth’ (Wb. 11, 398). It is in fact to the same etymology that belongs r-mw, abbreviated r, ‘water’s edge’ (lit. ‘mouth of the water’). This


*J. Ball, loc. cit., pp. 69–73.*


*As shown by de Buck (see f.n. above), the name for the Nile proper is ḫttw not ḫrpy.*

*Faulkner, A Concise Dictionary of Middle Egyptian, Oxford (1962), p. 146, s.v. r and Wb., ii, 397 which correctly translates ‘wasserlinie’ and refers to the Semna records.*
meaning, which is well attested in other contexts, tallies so well with the Semna records that it seems useless to examine any other possibility such as 'door' or 'opening', which all give much less satisfactory meanings. Furthermore, that the Egyptians wished to record the precise level reached by the flood waters is fully proved first by a small but significant detail in the actual engravings, and second by the heights actually recorded when compared with the hydrographs of the Nile floods as established by the modern Irrigation Services of the Nile Valley.

At least four of the actual records show the sign r cut horizontally in its middle by the upper line which frames the record proper (see FIG. 6 and PLATE X, b). This shows conclusively, in my opinion, that they are real records of the height actually reached by the water at a given year. If not, it would be impossible to explain why the engravers, obviously skilled workmen, slipped four times and always at the same sign.

The second point which serves to prove that the inscriptions at Kumma record a higher local level of the flood during the second half of the xiiith Dynasty than that of today is given by the comparison between the Nile discharge rate in September at Aswan, as observed from 1903 to 1942, and the heights of the flood as they can be established (with unavoidable flaws) from the Middle Kingdom records at Kumma (see FIG. 7). A number of the Egyptian recordings unhappily are lost, but all that are left enter within the margin of the known graphs and a single glance at the diagram (FIG. 7) shows that had they all been preserved the curves would have been basically comparable to the modern recording. A further proof could be added with the study of the inundation records at Karnak, where the Nile valley is much larger and accordingly the actual rise in level is much less than in the Second Cataract area, but such a study would carry us too far from our present purpose.

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31 See the instances quoted by Wb., Beleg., 11, 392 (10): t³.k tw hr r Hr-c' h 't' 'Wash thyself at the water-edge of Kher-ahat' (BD.169), and inr n r 'A stone of the water-edge'. Furthermore, Steindorf found at Aniba a similar record of the high Nile (see below, p. 138 and f.n. 34).

32 See RIS. 19, Semna-Kumma, p. 135; RIK. 1 and RIK. 3, ibid., p. 139 as well as RIK. 29, ibid., p. 145; the very fact that there are four instances of such a practice eliminates the possibility of an error of the carver and shows that the Egyptians wished to record as precise a level as possible.

33 Cf. Leegain, 'Les Crues du Nil...'; ZAS, vol. 34 (1896), pp. 119–21. The lowest level recorded at Karnak is -0.92 (from a local o point), and the highest—an exceptional flood according to Leegain +0.875; that is, a difference of 1 m. 70 which is a rather low figure. The famous description of the variation in levels by the classical authors (12 cubits [=± 6 m. 30]=Starvation; 13=Want; 14=Joy; 15=Security; 16=Abundance and delights; 18=Disaster) refers probably to the heights at Memphis; see, lately, J. Besançon, L'Homme et le Nil, Paris (1957), p. 82.
SEMNA SOUTH FORT AND RECORDS OF NILE LEVELS AT KUMMA

At Aniba, on one of the blocks at the base of the main wall runs the inscription: [image]

"Year 6, under the Majesty of the King of Upper and Lower Egypt Khakheper-Ra (Sesostris II) may he live for ever, water-edge (r) of the Inundation..."

The block has now fallen down from its original position but an excellent photograph taken in 1912 and the drawing done at the same time [see FIG. 8], show that the inscription records an actual high level of the Nile. Accordingly, the word r, ‘water-edge’ or ‘level’, was already in use at the time of Sesostris II to mark the actual level reached by the flood waters. If one takes together: (a) the peculiar way in which the records are actually engraved at Kumma;

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34 Steindorff, Aniba II, pp. 11–12 and pl. 2. The stone on which the inscription was written has fallen down, possibly as a result of a very high flood subsequent to the excavations in 1912–14 (cf. U. Hölscher, loc. cit., p. 12), which shows that its original location was within the range of the floods.


I37
(b) the comparison between variations in the flood discharge in modern times and the variations of the heights recorded during the Middle Kingdom; (c) the fact that at all periods, the Egyptians did in fact record the levels of the flood, and that for this purpose Semna was as good a place as Aswan; (d) that under Sesostris II at least one high Nile level was recorded near a fort just as Amenemmes III and his successors did at Semna; all these facts taken together show that the records at Semna refer beyond doubt to actual levels reached by the inundation in given times.

![Diagram](image)

**Fig. 8. Diagram showing position of the high Nile record at ANIBA**

GW, Girdle wall; HNL, High Nile level in the time of Sesostris II; N, Nile; NH, Normal level of the Nile; Q, Quay III; SF, Stone footing.

Since such is the case only one more point must be considered, viz. the possibility of a tremendous change of climate at the end of the Middle Kingdom which could have accounted for a general higher level of the river. It is true that the Middle Kingdom forts have stone channels to evacuate water, but

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38 The famous *Palermo Stone* (cf. Breasted, *AR*, 1, §§ 76 et seq.), gives at the bottom of each year division a certain number of cubits, palms and fingers which have been thought to be records of the floods; however, this is open to doubt (cf. Breasted, ibid., § 83). None the less Egyptians did have official records of floods. See below p. 148 and f.n. 76.

37 At Semna, cf. Dunham-Janssen, *Semna-Kumma*, pl. 49, a); at Uronarti, cf. *Kush viii* (1960), plan 1 (in room 1); at Mirgissa, cf. *Kush*, ibid., plan 4 (the drain goes from room XXXII to the eastern postern). A similar duct was found by us at Mirgissa during the 1964–65 excavation campaign. At Kor there are 'impluvium' (cf. *Kush iii* (1955), pl. v, b). Similar structures have been found at Mirgissa also during the last campaign.
before taking this fact as evidence of a higher regular rainfall at the time when the forts were built, one has to remember that the Egyptians considered rain water—at least in Egypt—as an emanation of the god Seth\textsuperscript{38} and accordingly filled with evil powers: the less it touched the structures, the better. Hence, the huge gargoyles in the Graeco-Roman temples of Egypt\textsuperscript{39} at a time when the rain must have been more or less the same as today. Thus there is no indication whatsoever that the climate might have been very different during the Middle Kingdom.

All possible general explanations, such as an erosion of a natural barrier after the recordings, an accidental and temporary filling of the pass or a wetter climate, can be ruled out, and since the rock inscriptions are true records of real high floods one might safely have concluded, considering the heavy silting at Semna South, that the Egyptians did in fact build a dam at Semna. However, the problem proved to be even more intricate than expected as a result of a new find in the Second Cataract area.

The Problem of the Askut Flood Record

During the winter of 1963–64 Prof. A. Badawy found at Askut a record of a high Nile level,\textsuperscript{40} which runs:

\begin{center}
\includegraphics[width=0.5\textwidth]{image}
\end{center}

\textit{Water-edge of the inundation of the year 3, under the Majesty of the King of Upper and Lower Egypt Sekhem-ka-Re,\textsuperscript{40bis} may he live for ever until eternity, when Iwnkhêt was Commander in Chief of the (lit. in) fort which was built by Sesosiris j.v.}


\textsuperscript{39} Cf., for instance, Chassinat, \textit{Le Temple de Dendara}, Cairo (1934), pls. xxv to xxx where the lion-headed gargoyles are quite visible cf. C. de Wit \textit{Chron. d’Egypte} 39, 1954, p. 29–45, and Derchain, \textit{Bi.}, Or. 22, 1965, p. 158.

\textsuperscript{40} I wish to thank here Prof. A. Badawy who generously allowed me to copy the text and use it in this paper, as well as Prof. Fr. Hintze who provided me with an excellent photograph.

\textsuperscript{40 bis} Amenemhet-Sonbef. The second king of the xith dynasty according to J. R. Beckerath, \textit{Untersuchungen z. politischen Geschichte der zweiten Zwischenzeit in Ägypten}, (Ägyptolog. Forschungen, Heft 23), 1965, pp. 222 and 227. Beckerath (\textit{ibid.}) assigns tentatively high floor level RIS. 9, dated of the first year, to this name.
The actual level of this inscription is $\pm 153$ m. above sea level.\textsuperscript{41} Making allowance for the fact that Askut is about 5 m. below Semna in absolute height above sea level, this figure is in keeping with the recorded heights of the floods at Kumma.\textsuperscript{42} Since Askut lies some 20 m. north of Semna, it is impossible to relate this record with a supposed dam built across the river between Kumma and Semna West, and accordingly it could be a proof of a general and regular mean low Nile around 141 m. above sea level\textsuperscript{43} at the time of the XIIIth Dynasty.

The problem raised by the Askut flood record, with reference to the theory of a dam at Semna, is of such importance that it must be dealt with in detail here. The main argument against a general increase in the level of the Nile (which is suggested by the Askut record, if it can be taken at face value) is that if we accept a rise of 8 m. or even 6 m. in the level of the high Nile at the end of the Middle Kingdom, we must accept a similar increase in the level of the low Nile. At Askut there is no natural rock barrier as at Semna; accordingly, unless we admit a tremendous but very short-lived change in the overall flooding pattern at this time,

\textsuperscript{41} The altitude was worked out by J. L. Despagnie, topographer of Mirgissa Excavations, during a visit to Askut in December 1963. Relative elevation of the top of the inscription above the level of the water on the 16 December 1963 was 17 m. 41. The main difficulty was to work out the absolute level a.s.l., since there was no cadastral survey of Askut island, nor any map at a sufficiently large scale. The figure given has been worked out by using: (a) the Nile levels given by the Sudan Almanac, 1963, and (b) the height 159, a bench-mark shown on the map 'Abka' Sudan Survey at 1:50,000. Accordingly, the figure 153 is approximate; the margin of error could be as great as 1 m. since we had no means of ascertaining the height of the Nile on 16 December. The river was going down at that time, and I have estimated that it was about 2 m. above low level, which is round 133 m. a.s.l. at Askut. Hence the figure: $133 + 2 + 17.41 = 152.41$.

\textsuperscript{42} Cf. for instance, the records RIK. 29 at level 159 m. 98 a.s.l. or the inscription of year 30 of Amenemmes III (now in Berlin) when the flood reached level 160 m. 17 a.s.l., the highest ever recorded (the water was then only 81 cm. below the mud-brick walls of Kumma!). Making allowance for the difference in absolute elevation a.s.l. between Semna and Askut, which is approximately 5 m., the flood recorded by RIK. 29 would have reached 154 m. at Aksut, or a bit more or less according to the topography of the site.

\textsuperscript{43} Judging by Semna records (see f.n. 42 above), 153 m. at Askut corresponds to a very high flood (which might explain the recording itself). The mean flood level at Semna has been worked out by Lepsius' expedition to be about 11 m. 84 above low level (cf. Chart, pl. xxxii in Dunham-Janssen, Semna-Kumma). Thanks to Mr F. Hinkel, who provided me with the absolute levels of the foundations of the two temples (Semna West = 168 m. 90 a.s.l.; Kumma = 161 m. 95 a.s.l.) we can see that low level at Semna was in 1844 at $+138$ m. 92 a.s.l., accordingly the low level at Askut must have been $\pm 133$ m. 92 which is the basis from which I worked out the figure given here. (Difference between the mean high level and low level at Semna in modern times is 11 m. 84; as a working hypothesis we have taken the same figure for the difference between flood level and low level at the end of the Middle Kingdom. Since mean high level at Kumma during the IXth Dynasty was at 19 m. 14 above the modern low level [see Chart quoted above], the Middle Kingdom low level would have been mutatis mutandis at 146 m. 22 at Semna and at $\pm 141$ m. at Askut).
the mean level of the low Nile must have been 8 m. higher than today, as was the high Nile. However, if such had been the case a number of Middle Kingdom forts below Semna and Askut would have been either permanently or intermittently flooded, including the lower fort at Mirgissa and the forts of Kor and Buhen, not to mention other sites in Lower Nubia. At Semna, the average level of the flood at the end of the Middle Kingdom was about 157 m. 56;\textsuperscript{44} the average height today is about 150 m. 76.\textsuperscript{45} Taking these figures into consideration, the normal level of the low Nile (if we agree that it was consistently higher than today, as suggested by the figures both at Askut and at Semna) must have been about 156 m. above sea level, which means that the lower structures at Mirgissa, among others, would have been periodically under water.\textsuperscript{46} This is quite impossible, as they are built of mud brick which has lasted until the present time. The same argument would apply to the Middle Kingdom fortifications at Buhen, which are at \pm 122 m. above sea level.\textsuperscript{47} The girdle wall here had begun to disintegrate, in 1965, when the water reached only level 123 m. Aniba, also, would have been flooded if there had been a general fluctuation in the level of the Nile of the magnitude suggested by the records.\textsuperscript{48} Moreover, the water stair at Semna West (which is fairly well preserved, as Reisner\textsuperscript{49} has noted) goes down as

\textsuperscript{44} This figure comprises the average of seventeen levels recorded at Semna-Kumma and reduced to sea level (cf. the chart quoted f.n. 43 above).

\textsuperscript{45} Cf. Ball, ‘The Semna Cataract’, etc. . . ., p. 69.

\textsuperscript{46} The mud-brick houses of the Middle Kingdom, enclosed by the lower girdle wall at Mirgissa, may be ascribed to Sesostri III’s reign, since we have a radio carbon date for this wall (échantillon GSY-296, dated 3780±200 or 1830 B.C., by the ‘Laboratoire du Radiocarbone’ (CNRS), Gif-sur-Yvette, France). The foundations of the houses excavated are at level ±140 a.s.l. Some of the houses nearer to the Nile, which have been spotted but not explored, are certainly below this level since the town is built on a slope. Accordingly, all these structures would have been affected yearly by the supposed mean high flood of the Middle Kingdom which at Mirgissa would have been about 147 m. 84 a.s.l. The highest floods recorded at Semna, if they had been a general phenomenon, would have reached respectively 149 m. 76 and 149 m. 95 a.s.l. at Mirgissa, and would have flooded not only the houses near the river but also the girdle walls, whose foundations are much below these levels. The excavations, so far, have not revealed any evidence that this happened: the mud-brick structures are in perfect condition and show only the effects of wind erosion (see below, f.n. 126, p. 161).

\textsuperscript{47} See UNESCO, Projet de Sauvetage des Monuments Nubiens (Rapport Général de P. Gazzola), n.d. (October 1960), Chart (Tableau) 8. The New Kingdom temple according to the chart was at level 142 a.s.l., but the Middle Kingdom level was much lower (cf. W. B. Emery, report in KUSH XIII (1965). The recent rise resulting from the new Aswan Dam, which reached only the level + 125 m., was sufficient to destroy the north-eastern corner of the Middle Kingdom girdle wall, built at the beginning of the xixth Dynasty, and about half of the Middle Kingdom town, which was entirely under water in February 1965.

\textsuperscript{48} Cf. Steindorf, Aniba II, plan 6. A rise in the normal height of the Nile of only 2 m. 60 would have been sufficient to reach and destroy the mud-brick girdle wall.

low as the present low level of the Nile. The low level during the Middle Kingdom, when the stairway was built, must therefore have been more or less the same.

If more arguments were needed to show that no important change occurred in the low water level of the river between the Middle Kingdom and modern times, one could point out:

(a) that the Uronarti Inscription of year 19 of Sesostris III, mentioning the difficulties of navigation on the Nile at low water, was found built in a structure at a very low level, quite near in fact to the present lowest level of the river; 50

(b) that the Gindikol Inscription of the Chief Hunter Sisebek 51 was engraved on a rock in the middle of the rapid at Semna, at a height less than 2 m. above the present low level of the Nile, 52 and accordingly would have been permanently under water if we admitted a general rise of the river of ±7 m.

From what is said above it is clear that if the flood level in the cataract during the end of the Middle Kingdom was, locally, much higher than at present, as is shown by the Nile records at Semna and Askut, the low level of the river on the other hand must have been more or less the same as today. Accordingly it is my feeling that a change in the climatic condition can be ruled out as an explanation for the heavy silting of the valley just south of the rock barrier at Semna.

As one can see, the high Nile records both at Semna and at Askut can hardly be explained by a change in the condition of the Nile. Since there is more evidence pertaining to the Semna problem we shall consider it first, leaving the Askut problem for further consideration.

Regardless of the answer to the Askut question, once the possibility of meaningless recording is ruled out, the archaeological evidence points to the existence of an artificial basin covering the foot of the Semna South structure by the second half of the xith Dynasty, and we can now, provisionally, consider how and why the barrier which created this basin could have been built.

50 Cf. Wheeler, SNR, vol. 15 (1932), p. 257 and pl. xvi. The text says definitely that water was lacking; see below, p. 155.

51 Cf. Dunham-Janssen, Semna-Kumma, RIK. 130, p. 169 and pl. 104.4. Janssen notes that the man appears on another inscription (RIK. 123) which carries an invocation to the deified Sesostris III. Accordingly Sisebek lived after this king, and since his inscriptions, on epigraphic and onomastic grounds (see for instance his name in Ranke, PN, 1, 279.17 and the name of his mother, ibid., 21.29 and 22.13), must be ascribed to the Middle Kingdom, it follows that he was contemporary to Amenemmes III.

52 This was checked by myself during a stay at Semna in 1959.
Possibility of the Existence of an Overflow-chute

Various engineers whom I consulted insisted that the building of the dam made it essential to provide an overflow-chute, or, in other words to divert the main flow of the Nile, so as to be able to build the structure without hindrance from the water. As a matter of fact, further study of the Second Cataract area showed me that the Egyptians did not have to use such a technique. What they could do instead was simply to build strong spurs, making use of the granite islets or boulders which very often, as at Semna, encumber the bed of the Nile. The fact that during low water these islets and boulders are in shallow water when they are not actually joined to one of the banks of the river, make it all the easier to build such spurs. Admittedly, with this technique the local rise of water would occur only during the inundation period, and there would be no storage of water once the flood had receded. Thus, everything depends on the reasons the Egyptians had for raising the level of the Nile: either to create reservoirs for irrigation purposes, or to render more navigable the rapids of the cataract. If they wished to create reservoirs, their structures had to be as close as possible to a true dam, and the leakage in water as little as possible; hence they must have had to rely on the ‘overflow-chute technique’. Since the motives of the Egyptians in damming the Nile are fundamental to the whole problem of the supposed Semna Dam, I prefer to reserve them for my conclusions.

To come back to the overflow-chute technique: if the Egyptians had wished to use it, it would have been easy for them to do so at Semna. When one looks at an air photograph of the area (see PLATE XI), one can clearly see that such a feature existed naturally, and was actually followed by the waters of the Nile for a certain period, though it is impossible to say whether it was during historic times or before. Immediately to the east of the rock barrier, there is evidence of water erosion$^{58}$ so that during the prehistoric period at least the bed of the Nile at Semna must have been much wider than at the present time. The bank was not then at Kumma but farther to the east, and the Kumma Fort must have been originally built on an island, like Dabenarti and Uronarti. My feeling is that it was the very building of the artificial barrier at Semna which had the result of linking Kumma to the east bank. This can be seen in the narrow pass between Kumma Fort and the hill to the east, where the remains of a dry stone wall are still standing (see PLATE XII, a). The building of a partition there was quite easy, since the pass is not only narrow but encumbered with granite boulders so that the Egyptians had simply to fill up the gaps between the boulders, and this is exactly what they did. The result of the setting up of the wall was, first, a siltage of the pass comparable to the siltage which occurred at Semna South, and subsequently huge deposits of Aeolian sand which could not be

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$^{58}$ This conclusion was previously reached by Ball; see his article quoted, f.n. 21, p. 133.
washed away by the current since there was no more flowing of the Nile in this channel. This process accounts for the present state of the pass. However, if the Egyptians of the Middle Kingdom had wished to divert the waters of the Nile when building a structure across the main course of the river, they had only to re-open the former channel which ran east of the main jebel which overhung Kumma (see Plate XI, at Os). Cutting a channel through the deposits south of the rock barrier, on the east bank, would also have been an easy matter for the people who were able to erect the huge fortresses of the Second Cataract. It is impossible to know whether or not they actually did it. The huge sand spur south-east of Kumma (see Plate XI and Fig. 1) might possibly cover a structure belonging either to an overflow-chute system or simply to the supposed artificial barrier.

Existence of a Quarry

To erect a complete dam or even simply two spurs, the Egyptians would have needed a great number of stones. The removal of such a mass of building material must, of course, have left evidence in the landscape. It seems that such is the case. At the foot of the gneiss hill which overlooks the Kumma fort to the east (see Plate XII, b), there is extensive evidence of quarrying. From this place it would have been quite easy to remove stones and bring them to the site of the supposed dam or spurs, since the distance to the river does not exceed 400 m. One could argue that this quarry was used only for the building of the fort at Kumma, but the fort proper is entirely built of mud bricks. Granite slabs are used only in foundations and as pavement in the street or in the houses. They are used too for the low terrace below the main girdle wall on its western part, but this terrace might have been built to protect the foot of the wall during or just after the building of the supposed dam, when the rise in level at inundation time was expected by the Egyptian engineers. Reisner seems to have been of this opinion.\(^{54}\) If such were the case, it would be a further argument that the rise in the flood level happened \textit{after} the building of the fort and accordingly may hardly be ascribed to a general higher level of the river during the Middle Kingdom, either during the inundation time or throughout the year.

\(^{54}\) The fact was noted by Breasted, ‘Second preliminary Report’ . . . , \textit{AtLL}, vol. 25 (1905), p. 106, who rightly stressed the fact that Kumma originally was an island. Reisner’s ideas on this point are still reflected in Dunham-Janssen, \textit{Semna-Kumma}, p. 113, where it is stated: ‘Kumma must have been almost, if not quite, an island at times’. That the stone revetment at the base of the western main wall is an afterthought of the builders is clear from the statement (ibid., p. 114) ‘Against the outer faces of the foundations of the main fort walls were built granite rubble revetments, well faced outside (pls. 43 A, 46 C). \textit{These appear to have been added after the mud bricks had been built}, or during their construction. . . . At high Nile in the Middle Kingdom the water came up to the granite rubble foundations, and no doubt \textit{this . . . dictated the addition of revetments}’ (italics are ours).
AERIAL PHOTOGRAPH OF SEMNA SOUTH FORT BEFORE EXCAVATION

A, Inner fort; B, Christian church; C, Traces of girdle wall; D, Remains of settlement; E, Location where black-topped, red polished sherds were found; F, Modern cemetery; G, Area of former cultivation; NM, Magnetic north.

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AERIAL VIEW OF SEMNA SOUTH FORT AFTER EXCAVATION

FINDS FROM THE SEMNA SOUTH EXCAVATIONS

a, Middle Kingdom offering table; b, Meroitic vase; c, Meroitic cup.
a. ENTRANCE TO THE SUBTERRANEAN STAIRWAY AT SEMNA SOUTH
b. and c. SILT COVERING THE STONE GLACIS AT SEMNA SOUTH

G, Glacis; NC, Modern cemetery and ground surface; S, Silt deposit.
HIGH NILE LEVEL RECORDS AT KUMMA

a, Inscriptions below the water stairway.  b, Inscription of year 24 of Amenemmes.
AERIAL VIEW OF THE SEMNA BASIN

Traces of a former Nile channel or overflow chute can be seen clearly at OS.
PLATE XII

a. THE QUARRY NEAR KUMMA

b. REMAINS OF DRY STONE WALL ACROSS THE VALLEY EAST OF KUMMA FORT
AREA BELOW SEMNA WEST FOST, FROM THE AIR.

a, a, a, Belt of loose stones; RB, Western end of the rock barrier; S, Walls of Semna West Fort.
a. RUINS OF KUMMA WATER STAIRWAY, FROM THE WEST

b. LOOSE STONES TO THE NORTH OF THE ROCK BARRIER AT SEMNA WEST
   RB, Rock barrier.
AERIAL PHOTOGRAPH OF THE NILE VALLEY AT ASKUT

A, Site of Askut fort; B, Remains of a rock barrier, north of Askut
EXAMPLES OF ROCK SPURS IN THE SECOND CATARACT AREA

In the upper photograph, the spur (a) has effectively blocked a small channel. The spur in the lower photograph has been broken through, but traces of it can still be seen under the water.
ROCK SPURS IN THE SECOND CATARACT AREA

The two spurs (a), and perhaps a third at the upper right, link the two small islands to the west bank of the Nile, effectively barring one channel during the low Nile.
SMALL ROCK DAM BURIED IN SAND, NEAR MIRGISSA
Remains of the Supposed Dam

Below Semna West fort and just north of the rock barrier along the river bank there is a great number of loose stones (see PLATES XIII and XIV, b). At first glance they seem to belong to a natural formation, but when one looks more attentively there is much difference. All over the site near Kumma, for instance, where the rock is the same, there are few loose stones; the only place where they occur in any number is near the top of the river corridor and at its foot. My feeling is that we have here, at Semna as well as at Kumma, the remains of what was either a dam, or spurs, especially since a number of the rocks along the western bank are not in their normal position, as can be seen from the inscriptions on some of them which are topsy-turvy, the hieroglyphs being either completely upside down, or at an awkward angle. Reisner, who like myself had ample opportunity to observe the site in detail, noted the fact and made it his main basis for asserting, contrary to Ball, that the natural barrier, in which he also believed, did not disappear progressively but collapsed suddenly during the Second Intermediate Period. The fact is that if we compare the Nile level marks at Kumma, which are always perfectly horizontal (see PLATE X, a), with the same marks at Semna West, we cannot fail to have the strong impression that the Semna marks once belonged to a mixed structure including both natural rocks and building stones, comparable to the structure still in situ at Kumma. This feeling is further strengthened when one considers the number of the inscriptions themselves: while Semna Fort is much more important than Kumma, it yielded only twenty-four rock inscriptions against 130 at Kumma. Other things being equal, this might be the result of the destruction of the structure which once may have been lined with such inscriptions. The present position of those which have been preserved can be best explained by assuming that they had been washed away when the dam—or the spurs—were destroyed and collapsed, possibly as a result of a very high flood when the structures were not in too good a condition of maintenance. The tremendous strength of the current which took them away is shown by the huge blocks of granite with inscriptions RIS 6 – 9 and RIS 2 – 3, weighing hundreds of tons, which nevertheless have been displaced like mere pebbles.

55 Cf. Dunham-Janssen, loc. cit., pl. 2 A, where the loose stones are quite clear.
56 Ibid., pl. 43 C.
57 Such is the case with RIS. 2 – 3 (Ibid., pl. 93 B and p. 130) with note 1 from Reisner’s Diary, vol. 1, p. 22, concerning the Nile marks of the west bank: ‘The great number are on a huge block of granite which has fallen at some time from the cliff above. It may have been higher but not lower than at present.’ The photograph in Semna-Kumma has been turned up for the publication. Inscription of year 2 of Amenemhet-Sebekhotep (RIS. 2) is directly on the ground.
60 Dunham-Janssen, loc. cit., p. 129 et seq.
To the above-mentioned facts I might add that in the small valley east of the Kumma Fort (see Plate XII, a and p. 144 above) one can still see the remains of a retaining wall which at one time barred the valley, and could have collapsed at the same time as the main dam or spurs. Accordingly, I propose to see in this structure part of the artificial complex which could have been erected by the Egyptians at the end of the Middle Kingdom to bar the river at Semna.

A related observation is that Reisner's 'river-corridor', the covered stairway leading to the low water level at Kumma, was also washed away by the Nile at a level which the flood never reaches nowadays. This is clear from Plate XIV, a, where one can see that it is the southern part of the wall which has been destroyed while the northern part, protected by the fallen blocks from the ceiling, is still standing. If one recognizes that it was the southern partition which supported the first rush of the water, the present condition of the ruins is logical.

The wall in the eastern wadi, the way in which the water-stairway at Kumma has been destroyed, and above all the presence and position of the stones and blocks at the foot of Semna West, could all, I think, be silent witnesses of a now collapsed artificial barrier at Semna. Admittedly, this is not clear-cut evidence: one would prefer to have either the definite remains of a full-scale dam (as in the case of the structure in Wadi Garawi) or part of the barring walls or spurs, like those which can still be seen elsewhere in the cataract area (see below, p. 147 and Plates XVI–XVII), or at least the abutments of the supposed dam or spurs on either bank of the Nile. The structure just north of and below the Thoutmoside temple, which surrounds the water-stairway\(^{61}\) could be all that is left of one of the abutments. However, the conditions at Semna are quite different from what they are either in other parts of the Second Cataract or in the Wadi Garawi. The El-Kafara dam was built in a desert wadi for the purpose of storing water for the quarrymen;\(^{62}\) accordingly, when the dam was destroyed by an

\(^{61}\) Cf. ibid., Map XVI. This structure is over 10 m. wide; probably greater than the drawing shows, as the surveyor was unable to find its precise limits on both sides. This magnitude seems a bit much if it was intended only for the protection of the stairway proper.

\(^{62}\) Cf. Murray, Bulletin de l’Institut d’Egypte, xxviii, pp. 33–43 with plates. I owe this reference to my friend J. E. Goby, Ingénieur Civil des Ponts et Chaussées, whom I wish to thank here for the many suggestions he submitted to me concerning the present article.
unexpected desert storm, normal desert conditions prevailed again, leaving the
two abutments of the dam standing on dry ground, with a large gap in the middle
where the waters had rushed through. 63 The climatic conditions of the environ-
ment were perfect for the preservation of the ruins. Such is not the case at
Semna, where it is suggested that an artificial barrier was erected on a natural
one. If, either as a result of a very high flood or simply through carelessness of
the people in charge of its maintenance, the artificial structure was once even
partly destroyed, the very strength of the current in the channel of Semna, at
flood time, would wash out all evidence of the artificial structure. Only the
bare rocks of the natural barrier would be left after a comparatively short period
(see Fig. 9).

Documentary Evidence

Since the beginning of history the Egyptians have been master builders of
irrigation devices; they had to be since all of Egypt depends on dykes, channels,
embankments, and so on. Memphis itself, the first capital city of Egypt, was,
according to tradition, 64 built on land reclaimed through the building of a dam
by the first king of Egypt, Menes. Modern engineers have estimated this dam
to have been 1500 feet long and 50 feet high. 65 Incidentally, I might stress the
point that had the Egyptians entirely barred the river at Semna, the dam would
not have been much longer than that at Memphis (1550 feet at Semna as against
1500 at Memphis), so that the building of a dam in the Second Cataract area was
certainly within the technical capacity of the Egyptians.

The Egyptian language has specialized terms for 'dam', 'dyke' and the
related verb 'to dam', 66 and these terms are so well known that they belong to
the familiar speech. When the 'Eloquent Peasant' wishes to express how much
he longs to speak, he says: 'There is a breach in the dam and its water floweth;
(thus) is my mouth opened for speech...'. 67 In the so-called 'Negative
Confession' (Chapter 125 of the Book of the Dead), the deceased is supposed to
be able to state truthfully: 'I have not stopped (the flow of) water in its season;
I have not dammed a canal while it's water was flowing' and again, 'I have not
dammed water while (it was) issuing forth'. 68 The supervision of the building
dams or dykes was the responsibility of scribes, and in one of the theoretical

63 Ibid., p. 42 and plate. 64 Herodotus, II, 99; Diodorus, I, 50.
65 Cf. Ch. Prelini, 'Some Dams of the Ancients', Engineering News Record, vol. 87,
no. 14, 6 October 1921, pp. 556 A–557 B. I owe this reference to Mr H. Goblot,
Ingénieur Civil des Mines, to whom I am most obliged.
66 Cf. dnt 'dam' = Wb., v, 465 and the related verb dnt 'to dam', ibid., 464; see
also the words: hwt, Wb., III, 110 and mryt, Wb., II, 109.
exercises proposed to a student we can read: 'You shall cause the great dyke to be made'.

The first dams or dykes built in Egypt must have consisted simply of earth embankments like the Marduk dam across the river Tigris, but the Egyptians seem to have used dressed stones very early. According to Herodotus the dam at Memphis was built of stones, and the dam erected across the Wadi Garawi during the Old Kingdom was actually built of small dressed blocks of limestone. This technique might have developed from the habit of lining earthen structures, such as the Nile embankments, with stones.

Well acquainted with damming technique, the Egyptians knew also the danger which might result from the subsidence of a dam, chiefly as a result of high floods. A stela of Amosis of the xxvith Dynasty informs us: 'One came and said to His Majesty, "the southern dam around Memphis collapsed (and) the flood (lit. his flood) endangers the northern dam"'. It has been suggested that the rebuilding of the wall protecting Karnak from the river was the result of the high flood during Taharqa's reign.

If the Egyptians knew how to make use of the flood waters by means of dams, dykes and canals, and how to protect themselves from the danger of a high flood, there is, curiously enough, little if any hieroglyphic evidence concerning the building and maintenance of such dams, dykes and irrigation canals. The chapter of the Book of the Dead related to shawabtis (chapter 6) reads simply: 'To cultivate the fields, to irrigate the shores, to transport sand of the east (and) of the west'. The transportation of the sand seems to refer to the maintenance of irrigation canals, but that is about the only mention we have, with the texts quoted above, concerning irrigation work. Our main information on Egyptian dams and dykes comes from Classical authors. Egyptian literature does not

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70 Cf. Prelini, loc. cit., p. 556 B.
72 Cf. Wb., v, 464, s.v. djf 'Abdämmen', reference 12: 'Bank lined with (m) stone', from Vatican 130.
73 Stèle du Caire, JE.37974=Daressy, ASAE, vol. 23, pp. 47–8, quoted by Vikentief; see f.n. 74 below.
75 Book of the Dead, Chapter 6=T. G. Allen, The Egyptian Book of the Dead... Chicago (1957), p. 72 et seq.
76 Cf. Herodotus, ii, 14; Diodorus, 1, 34; Strabo, xvii, 3; Plin. 18, 167.

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mention them, and, for example, neither the Memphis dam (except in the late and only text of Amosis) nor the Wadi Garawi dam are mentioned in texts of the same date as their building or maintenance. Accordingly we must not be surprised if there is no clear mention of the building of a dam or spurs at Semna; this lack of texts does not prove anything one way or the other.

However, I have wondered for some time if the small stela found by Reisner at Kerma does not make reference to maintenance work done on retaining walls in the cataract area. After the introductory date the text runs: 'Memorial of the brickwork (dbjt) which went into the snbt which is in Inbw-Amenemhet by the act of . . . Yentef . . . when he was with a party (phrt) of (=from) Elephantine: 31,305 (or 35,300)’. Reisner took the word snbt [𓊭𓊑𓊑] to refer to the mortuary chapel at Kerma, but the word is well known and refers to a wall and chiefly to a protecting wall. T. Säve-Söderbergh pointed out how small was the number of 'bricks' if the term referred to such massive structures as the Defufas, west or east. On the other hand this figure would not be ridiculous if it referred to retaining walls built against the flood, since the word dbjt does not mean only 'mud brick' but 'block of stone' as well (cf. Wb. v, 554 [14]). Furthermore, it is the same word phrt which is used again and again by the officials who passed through the cataracts during the reign of Amenemmes III. The presence of the inscription at Kerma could be explained either because the repair work was done in the vicinity (see below, p. 150), or because the site is the last point definitely reached by the Egyptians of the xiith Dynasty on the road towards the south, where an inspection team would have to stop before returning to Elephantine. If such were the case—and I recognize how highly controversial is my interpretation of the document—the Inbw-Amenemhet might possibly refer not to Kerma alone but to a complex of structures established by Amenemmes III in the south.

Again we might have an allusion to the building of the supposed dam or spurs in the rather curious inscription of Mentuemhat found at Semna itself. 81

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78 Cf. snbt=xnbt, Wb., iii, 458, which translates 'Mauer, Stutzmauer' from the root xn ’etw. umstürzen (Mauern, Grenzstein u.ä.)'.
79 Säve-Söderbergh, Ägypt. u. Nub., p. 115.
80 Cf. Dunham-Janssen, Semna-Kumma, RIS. 1, p. 131; RIS. 9, p. 132 and probably RIS. 10, p. 133.
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The important part of the inscription, otherwise quite conventional, runs:

which the late Jozef Janssen rendered: ‘... who filled the king’s heart (with confidence) in preserving (or restoring) his monuments (fortresses) in making a frontier fortress for Egypt...’ I do not think it necessary to interpret mnw as ‘fortresses’, as Janssen proposes; it could refer either to all the work done by Amenemmes III in the cataract area and elsewhere: either fortresses or temples. The crucial point is the meaning of the words mirt r3-c3; lit., ‘in making the opening (or door) over Egypt’. Janssen wondered if it was not simply a figure of speech applied to Mentuemhat himself, but dismissed the idea—correctly, I think—on the ground that it was hardly possible for an ordinary man, not a king, to use such a figure of speech. It is chiefly because Janssen took the sentence to have a military meaning (see his interpretation of r3-c3 as ‘frontier fortress’), while Mentuemhat was a civil servant, that he believed the complete text to be a conventional one. I do not think that r3-c3 has necessarily such a meaning; however frequent is the military sense (cf. Wb. i, 164 [23] [25-26]; 2, 390 [15-16]), the non-military meaning is clear when the word is used alone and refers to the First Cataract area. Janssen himself noted that r-c3 does not appear frequently without šm or t3 šm. This observation could point to the solution, and I wonder if the sentence could not refer to work done either at Semna proper or in the vicinity. We know from Sesostri II’s stela found on the spot that in the eighth year of his reign the Egyptian frontier was established at Semna. As we shall see later the building of dams or spurs in the cataract area and peculiarly at Semna might have been intended only to make easier the passage from north to south—and vice versa—of the military or commercial expeditions to the far south. The result, in the long run, was to strengthen the military border and facilitate control over the southerners, making more effective the fortress complex which protected Egypt. The three Semna forts comprised the strongest position of the complex; hence the importance of any work carried out in or near them. It would then be perfectly consistent with Egyptian custom to refer to such work in an oblique way, as did Mentuemhat, so that we might translate: ‘... who filled the king’s heart (with confidence) in preserving his

82 J. Janssen, loc. cit., p. 443.
monuments and establishing the entry 88 which is over Egypt'. The last entry would refer to the work done at Semna and perhaps elsewhere in the Second Cataract area, which was now, *stricto sensu*, the 'door' to Egypt, and replaced Aswan in this respect. The work accomplished can hardly have been the building of fortresses, since they had already been erected by Sesostris III before the reign of Amenemmes III; 87 hence it is tempting to see here an allusion to the supposed dam or spurs.

Admittedly the Kerma and Mentuehmat stelae are most oblique references to a dam or spurs—if they refer to them at all! The main point in their favour is that we could not expect much better from Egyptian sources. There is, however, other documentary evidence supporting the hypothesis of an artificial basin at Semna, viz. the number of inscriptions referring to inundation levels. The Egyptians kept records of the High Nile, which they had deified under the name of Hapy; thus at the very end of Egyptian independent history Taharqa could order brought to him the annals (*gnw*) of his 'ancestors', to see which level the inundation had reached in their time. 88 Most probably the figures inscribed on the Palermo stone 89 refer to such levels, and the heights of the inundation inscribed on the temple quay at Karnak are well known. 90 The heights, accordingly, must have been officially recorded from year to year somewhere; most probably in temples such as those at Elephantine, Thebes, and perhaps Memphis. However, the groups of inscriptions at Semna, as at Karnak, can hardly enter into this class of official records of year by year floods, made probably for assessment purposes: both of them are too limited chronologically. 91 My contention is that they refer to extraordinary events which rendered the recording of the levels either a necessity or something astonishing. In the case of the Karnak levels it is hardly a coincidence that they appear at

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88 Cf. Faulkner, *Concise Egypt. Dictionary*, p. 146, s.v., *r*-.
87 Montuemhet stela was found in room W. 147 of Semna West fort (cf. Dunham-Janssen, *Semna-Kumma*, p. 59 and fig. 4-(2)), together with other stelae. The stela (5) = 28. 1-499 (= Khtm. 2648) from the same find is clearly post-Sesostris III, since this king appears as already deified.
88 Vikentief, 'La Haute crue du Nil', (loc. cit. f.n. 74 above), pp. 48-9, 1.14 of the text. For the official records of the flood see also Diodorus, 1, 36.
91 The Karnak inscriptions cover less than three centuries, and the Semna ones about eighty years. Reisner has suggested (see *SNR*, vol. 12 (1929), p. 158) that the records permitted the officials to determine the date of the sailing of the annual freight fleet or to estimate the navigability of the river during the falling period of the Nile. The boats do not begin to pass downstream until the full flood has passed.
the period when the general rising of the Nile valley, as a result of continuous silting during many centuries, started to be felt, especially during the inundation. This development endangered some parts of the temples at Karnak and at Luxor so that they had to be protected. Hence, possibly, the Karnak records: either to check the actual height of the flood (which made possible an appraisal of the level to be reached by seepage waters), or to control the results of protective work done upstream.

If the recording of the Nile levels at Semna started with the reign of Amenemmes III, while the natural barrier already existed at the time of the building of the main fortress under Sesostris III, it could be because something new and important happened at that time: the building of the dam or spurs which resulted in a surprising heightening of the local level of the flood. This would have been an event well worth recording. Furthermore, the place where the levels were inscribed (see Plate X) suggests the presence of a wall in ancient times. Some of the records at Kumma are actually inscribed on building stones, and we have seen that the present location of the records at Semna West is best explained if they had been inscribed on a partition which was subsequently washed away by the river (see above, p. 145). All the levels still in situ are on the southern (upstream) side of the natural barrier, a fact which is quite in order if one agrees that the artificial barrier must have been built upon

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92 In the year 3 of Osorkon the Nile flooded Rameses II’s open court at Luxor and reached 1 m. 10 in front of the pylon (cf. Vikentief, loc. cit., f.n. 74 above, p. 148 and Daressy, RT, vol. 20, p. 80).
93 When excavating the dromos of Tōd temple we found that the sphinxes had been protected, in ancient times, from the effect of the floods by a system of pottery pipes and drain tanks. This fact proved that the floods already reached the dromos while the temple was still in use, and that the rise in level of the waters made it necessary to protect at least certain parts of the structures (cf. J. Vercouter, ‘Tōd (1946–49)’, BIFAO, vol. 50 (1951), p. 71).
94 The two recordings of High Nile at Semna supposed to be prior to Amenemmes III are in fact dubious; see Dunham-Janssen, Semma-Kumma, RIS. 8 and 9, p. 132. The middle sign in the cartouches in each case is damaged, and the cartouches could as well belong to kings of the XIIIth Dynasty, such as Sekhemkārē or Sedjēkārē, rather than to Sesostris I as tentatively proposed by Janssen, see too V. Beckerath (op. cit. f.n. 40 bis) p. 227 (5), and p. 229 (6).
95 B. G. Trigger, History and Settlement in Lower Nubia (Yale Univ. Publ. in Anthropology, no. 69), New Haven (1965), p. 30, notes rightly that ‘the inscriptions were located right over the cataract rather than above or below it’. In fact they are in the middle of the rock barrier, at the end of a cut in the barrier running south–north (cf. Plate XI, the cut is quite clear on the aerial photo just to the east of the remains of Kumma temple). None of them are north of the stairway, as if this structure had been encased in the supposed dam or spur, which is a possibility (see f.n. 61 above). It is to be noted that if the dam or spur had had the typical triangular profile of ancient dams (see F. A. Noetzli, in Engineering News-Record, 4 December (1930), pp. 884–5, and fig. 1, p. 885 B), the height records are exactly where they should be: in the middle of the structure southward.
SEMNA SOUTH FORT AND RECORDS OF NILE LEVELS AT KUMMA

and between natural rocks which gave it its strength. Accordingly, both the number of records and their location give support to the hypothesis of the building of an artificial barrier between Kumma and Semna some time during the first years of Amenemmes III—possibly even during the co-regency years. 96

Reasons for the Building of an Artificial Barrier

To take the trouble of erecting a dam at Semna, the Egyptians must have had a very strong motivation. The first observers thought that it was chiefly to collect soil and enlarge the cultivable area on both banks of the river. 97 It has even been suggested that the river was barred by Amenemmes III 'in the hope of creating a reservoir'. 98 Of course this possibility must be ruled out. A small reservoir such as the one which could have existed at Semna, and then only during the flood period, would have had no practical effect whatever for irrigation of the Nile valley in Egypt proper.

If, as we shall see later, the inhabitants of the Nubian valley of the Nile did use what I shall call the 'spur technique' to protect and perhaps to enlarge the amount of soil available for cultivation, 99 I do not think that the supposed dam or spurs of Semna were established for this purpose, though the silting of the reservoir certainly helped the later Meroitic community in this respect (see above, pp. 130—131). It might even have been cultivated by the Middle Kingdom garrison for a short period in between inundations, but this was not the main aim of the barrier.

96 The oldest record seems to be RIK. 2 (Semna-Kumma, p. 139 and pl. 95 D), but the signs are rather blurred, and the reading 'Year 1' is not certain. Janssen gives 'Year 1 (or 3?)'. Since there is already a level inscription of the 3rd year at Kumma (see Lepsius, DK, Text, V, 202, E. 11), one might prefer 'Year 1 or 11', the latter being more probable. If '1' is to be read it is tempting to compare it with RIS. 7 (ibid., p. 132) which runs 'Year 1 when (hft) or corresponding to... year 44 (?)'. The trouble is that the readings are uncertain and the figure 44 is too high for Sesostris III, who reigned but thirty-seven or thirty-eight years. If the figure 44 is correct we would have a record of a co-regency between Amenemmes III and Amenemmes IV. RIS. 1 (ibid., p. 131) of year 9 of Amenemmes III runs: 'Year 9, level of the flood of year 8 corresponding to year 9 under the Majesty of the King of Upper and Lower Egypt Ny-maat-Re (Amenemmes III), may he live for ever and ever'. This record has been ascribed by Janssen to the co-regency (ibid., p. 130), but the figures do not make sense: if they had referred to a year of Sesostris III we should have had 37 or 38, not 8, unless there had been a gross blunder by the engraver.


99 The technique was still in use in the 19th century, as has been noted by Cailliaud, Voyage à Méréd, au Fleuve blanc etc. ... i, p. 351: 'Les habitans (de la cataracte) ont soin de pratiquer dans le fleuve de petites chaussées, pour briser les courans; autrement le peu de terrain qu'ils cultivent serait emporté par les eaux, lorsque le Nil se retire. C'est de ces morceaux de terre que vivent plusieurs familles, dans la Vallée des Pierres (le Batn-el-Haggar)'.

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My feeling is that the chief reason for the dam was strategic. To reach the far south, Egyptian armies had but two possibilities. One was to follow the Nile, where they were hindered by the rapids of the Second Cataract, which they had to cross with their boats—a lengthy and dangerous process which could be done only during the limited period of the inundation,\(^{100}\) when most of the rocks are under water. Alternatively, they could follow one of the two desert roads: one leaving the Nile valley at Aswan, or even further north, and going south via the oases of Kurkur and Selima to reach the valley again near Sai island, between the Second and Third Cataracts; the other leaving the river at or near Korosko, and crossing the eastern desert to rejoin the Nile at or near Abu-Hamed, above the Fourth Cataract and the great bend. Either road is difficult. There is certainly a possibility that the Egyptians did follow these roads, although it would have been a dangerous feat, with donkeys and oxen their only pack animals. However, there is no indication that the Kurkur road was used after the vth Dynasty, or that the Middle Kingdom expeditions ever utilized the Korosko–Abu-Hamed route,\(^{101}\) so that the campaigns which resulted in the occupation of Nubia up to Semna, and possibly further south,\(^{102}\) certainly followed the river, either on foot or with boats. That the Egyptians tried to improve their military routes, and particularly the ones on the Nile, is a fact proved—so far as the Middle Kingdom is concerned—by the Sehel inscriptions, in which we find Sesosstris III digging in the rock barrier of the First Cataract a

\(^{100}\) Gottberg, Des cataractes du Nil et spécialement de celles de Hannek et Kaybar, Paris (1867), pp. 28–9. Eduard von Gottberg, engineer, was specially sent to Nubia by Mohammed Saïd Pasha to study the cataracts with a view to improving navigation (R. Hill, Biographical Dictionary of the Anglo-Egyptian Sudan, p. 141). Gottberg states that crossing the cataracts was only possible during the flood and impossible during low water. He emphasizes (see specially p. 33) the danger of navigation in the cataract area. See also Reisner, SNR, vol. 12 (1929), p. 147.

\(^{101}\) The passage of Egyptian expeditions through the eastern desert seems to have been recorded at Haggar-el-Merowe (Kurgus), cf. Arkell, JEA, vol. 36 (1950), pp. 36–9 and Vercoutter, KUSH IV (1956), pp. 67–70, but the inscriptions are all of the New Kingdom. Their presence at Kurgus, as a matter of fact, is not sufficient to prove conclusively that the desert road was used, although it is a strong possibility. I have personally found a deposit of what I think to be New Kingdom pots in the middle of the desert between Number 2 and Number 3 stations on the railway line from Wadi Halfa to Abu Hamed. This could be an indication of how the Egyptians managed to cross the desert: with small stores of water jars from place to place where the expeditions could stop and refill their water skins and water their pack animals. There are no Middle Kingdom inscriptions either at Kurgus or south of Argo.

\(^{102}\) The Egyptian occupation of Nubia as far as Kerma during the Middle Kingdom is still a subject of dispute; see T. Säve-Söderbergh, Ägypt u. Nub., pp. 103–16, A. J. Arkell, History of the Sudan, pp. 66–77 and F. Hintze, ZÄS, vol. 91 (1964). But even if, as I believe, the Egyptians did not permanently occupy the country south of Semna, they certainly led military expeditions there.
canal ' 150 cubits long by 20 wide and 15 cubits deep ' \(78\frac{1}{4} \times 10\frac{1}{2} \times 6.35 \text{ m.}\).\(^{103}\) At Mirgissa we found during the 1963–64 excavation campaign a slip-way which allowed boats to be hauled across a desert strip to avoid the intractable rapids of the Second Cataract between Mirgissa and Abu-Sir rock.\(^{104}\)

If the Egyptians were clever enough to find two different ways to make easier the passage of the rapids, why not credit them with a third one: to wit, the local heightening of the water level? A rise or a drop of only a very few metres would considerably improve, or make worse, the river channels in the cataract area. This is shown by the Uronarti inscription which runs:

'Year 19, the fourth month of Akhet season, the second day, under the Majesty of the king of upper and lower Egypt Kha-kau-Re (Sesostris III), may he live for ever and ever. The Lord, I.p.h., proceeded northward having crushed the vile Kush, one had to look for (navigable) water to cross Ishemuk (and) to haul (the boats) because of the season, every shoal (was) likewise. As for (the shoal of) . . . (?) it was difficult its water was (too) light (sic) to get through by hauling upon its . . . (?) (because?) of the time of the year'.\(^{105}\)

The precise date of the inscription according to our modern calendar has been computed; it corresponds to the middle of March 1859 B.C.—that is at a time of year when the river is low, though not at its lowest. If Sesostris III's expedition already had difficulty in finding water at, or near, Uronarti in March, the passage would have been impossible one month later, and perhaps even sooner. This means that campaigns by boat were only possible from mid-July at the earliest, when the flood begins to be felt in the cataract, until the end of March at the latest—that is, during eight months at the most and probably six or seven months when the flood was late or insufficient, as was often the case. Incidentally, the Uronarti inscription shows (a) that the low water course of the

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\(^{104}\) Cf. the preliminary reports on this discovery in UNESCO Courier, December 1964, pp. 36–7; Science-Progrès 'La Nature', no. 3362, June 1965, p. 225 and fig. 9; Bulletin Soc. Franç. Egyptologie, no. 40, July 1964, pp. 8–9. The slip-way is made of wooden rafts encased in silt, just like the quarry road found at Lahun by Petrie (cf. Petrie, Brunton, Murray, Lahun II, London (1923) (BSAE, vol. 26), pl. xv); accordingly it can safely be ascribed to the Middle Kingdom too.

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Nile was more or less the same as today,\textsuperscript{106} and (b) that military expeditions in the south were undertaken during the flood season,\textsuperscript{107} which is the hottest season of the year.

Now if, by some artificial process, the channels in the cataract could be made deeper, it would have been a great help to the expeditions and possibly would have lengthened the time when they could operate in enemy territory.

\textsuperscript{106} Cf. Wheeler, SNR, vol. 15 (1932), p. 257. He reports that: 'the inscription was found... on the face of a stone built "quay" at Uronarti, at the foot of the long stairway from fort to river'. However, the water stairway 'descended to a point below present low water' (G. A. Reisner, ed. D. Dunham, \textsc{Kush} VIII (1960), p. 14). The photograph given by Wheeler (ibid.) gives the right impression, that the block when \textit{in situ} (it is now in the Khartoum Museum) was quite near to the low water edge.

\textsuperscript{107} The second Semna Stela (cf. Sethe, \textit{Lesestücke}, p. 83, §23=Breasted, \textit{AR}, I, §§653–9) was erected during the 'third month of the \textit{peret}-season', that is, according to our calendar, sometime in the first half of June, at the lowest ebb of the Nile. This accords perfectly with the fact that the monument had been set up after \textsc{Sesostris} III's long campaign in Nubia, when he had forced his way deeply into the country (see \textit{1.14–16} of the text). If we assume that \textsc{Sesostris} III came back at about the same period of the year as in the campaign of year 19 (see f.n. 105 above)—that is the end of March or beginning of April—it would have taken about three months to prepare and erect the stela, which, I think, is quite in order.

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The deepening of the channels could be achieved in two ways: either by digging, as we know that Sesostris III did at the First Cataract, or by barring the water courses. My contention is that it was this latter that the Egyptians did at Semna, with the twofold result of: (1) making easier the always difficult and often dangerous crossings of the rapids, while possibly lengthening the period of high water, and (2) providing the fortress complex of Semna with a practically impassable ‘door’, since all the water of the Nile had to pass through a narrow defile even at flood time—that is during the only period of the year when an enemy fleet could have attempted a passage towards the north.

Conclusions

I hope, in the preceding paragraphs, to have stated clearly enough the strong points in favour of the existence of the Semna ‘dam’, or rather ‘spurs’. (see FIG. 10 for the supposed plotting of artificial barrier at Semna according to my thesis). These include the suitability of the site, the quarry, the remains of what could have been the structure(s), the documentary evidence, scanty as it is, location and very existence of the high Nile records, the known wish of the Egyptians to make easier the passage of the rapids, and, above all, the heavy silting observed during our excavations, south of the supposed barrier—silting which covered an ancient building and accordingly must have been subsequent to it. All these facts together support strongly, I think, the idea that Amenemmes III built an artificial barrier between Kumma and Semna West. It was erected on the natural bed or rock which practically bars the river at Semna, and must have collapsed some time during the xiiith Dynasty, either as a result of an exceptionally high flood, or simply through lack of proper maintenance, leaving the natural barrier as it was before. Nevertheless, and however strong the case may be, there is still a doubt which arises from the discovery of the high Nile record at Askut. The evidence at Semna-Kumma points to the fact that the artificial barrier must have been strongly anchored on the natural barrier across the river. Consequently, the level of the flood north of the barrier should have remained more or less the same as it is today, since, as we have seen, the low water level of the river was comparable, if not identical, with the present low water level. However, the Askut recording shows that at the beginning of the xiiith Dynasty the flood reached more or less the same level at Askut as at Semna.

The simplest explanation would seem to be either that the Nile level in general, at low as well as high water, was about 7 or 8 m. above the present Nile, or else that the floods, and the floods alone, during the Middle Kingdom\(^{108}\) were much stronger than today. The two possibilities involve a considerable change

\(^{108}\) This is the explanation advocated by Fairbridge, Kush xi (1963), p. 104 (with special reference to the Semna flood marks), and accepted by B. G. Trigger, History and Settlement in Lower Nubia (see f.n. 20 above), pp. 29–31, who suggests (p. 31) that the flood crest was about 5 m. higher.
of climate from the present condition in the Upper Nile basin. For such a change there is no true evidence, in fact, other than the Middle Kingdom recordings of the high Nile, so that we are in a vicious circle.\textsuperscript{109} Since I hope to have shown (see above, p. 157) that the low level of the Nile was more or less the same as today,\textsuperscript{110} there remains only the second alternative to be considered. But floods which averaged 7 or 8 m. higher than those of today, occurring regularly during the Middle Kingdom, certainly require explanation since they imply a considerable change in the monsoon rainfall in Abyssinia.\textsuperscript{111} Such an eventuality is unlikely, since the floods would have affected the whole of Egypt, while there is no evidence of them outside the cataract area. Moreover, the change in the volume of the flood crest could have started only during the second half of the xiith Dynasty, as proved by the silting at Semna South. It must have stopped some time before the end of the Second Intermediate period, since it is generally agreed that the flood level during the New Kingdom was more or less the same as today, if not lower.\textsuperscript{112} Thus the high flood regime would have lasted only about 150 years at the most; probably much less, since there is nothing to show that it lasted after the first kings of the xiiith Dynasty around 1770 B.C., leaving but eighty years for the duration of the phenomenon. Accordingly, I think we are obliged, until definite proof is given of a change in the rainfall in Abyssinia between 1850 and 1770 B.C., to assume that the high flood levels at Semna were entirely a local phenomenon, limited to the cataract area and due, as Breasted has already remarked in explanation of the high Nile records at Semna, to ‘some great barrier below Kummeh and Semneh (which) has since been removed’.\textsuperscript{113}

The true question raised by the Askut record would then be: could the barrier have been located not at Semna but north of it, downstream from Askut? The Nile valley from Shelfak-Saras in the north to Semna in the south is but a narrow passage through rock mountains. This area is practically uninhabited;

\textsuperscript{109} Trigger’s argument (loc. cit., p. 30) that the discussion about Semna levels is ‘a false problem’, seems to me specious. Admittedly, there are considerable yearly variations in the flood levels recorded by the Egyptians (see diagram, p. 137); however, the fact remains that if the low level was more or less the same as today—and I acknowledge this point—the Middle Kingdom flood levels, according to Fairbridge and Trigger, would have been consistently, and all over the Nile valley, double what they are today. This fact certainly would need more corroboration than the mere suggestion of ‘oscillations’ (Fairbridge, \textit{Kush} xi (1963), p. 104), or fluctuations (Trigger, loc. cit., p. 31).

\textsuperscript{110} This fact, already suggested by Reisner, \textit{SNR}, vol. 12 (1929), p. 161, is accepted, independently of my own researches, by Trigger, loc. cit., p. 31.

\textsuperscript{111} This is what Trigger (ibid.) suggests, at least for the wet predynastic period.

\textsuperscript{112} Cf. ibid., p. 31; ‘In New Kingdom times the flood height was as low or perhaps a little lower than today’.

there is no road through it either on the west or on the east bank of the Nile.\textsuperscript{114} The building of an artificial barrier in this reach would certainly have been possible, and not much more difficult than at Semna proper, and the remains, if any, would most probably have escaped notice. But the conditions are different north of Saras and especially downstream from Askut, where the eastern bank of the Nile supports, if not a large population, at least a number of small villages. Furthermore the banks of the river are not so steep as in the Saras-Semna reach, and any remains of importance would certainly have been discovered long ago. As a matter of fact the only difficult passage of the valley between Saras-Shelfak in the south and Gemai in the north is at Askut itself, where the bed of the Nile is encumbered with rocks and islands (see plate xv). However suitable Askut may be for the erection of an artificial barrier, it is less so than Semna,\textsuperscript{114bis} so that we are faced with a new problem: did the Egyptians bar the Nile just downstream from Askut, making use of the rocks and islands situated there, but in a position somewhat less favoured than that at Semna-Kumma? We must admit that there is little if any evidence of a barrier at Askut, which, to have any effect, would have to have been nearly as high as the one at Semna.\textsuperscript{115}

The easy way out of this difficulty would be to assume that Askut record, unlike those at Semna, is of no value. At the time of Amenemhet-Senbouf’s reign the Egyptians might have lost the control of the Semna barrier,\textsuperscript{116} and

\textsuperscript{114} The land road along the Nile on the east bank leaves the river just in front of Shelfak fortess, and from there passes into the desert, the Nile bank being practically unapproachable. On the west bank I tried several times to reach the Nile with a car, but each time failed to do it, the granite hills being impassable even for a Land-Rover. The only passage is just in front of Uronarti, and it is not an easy one. With the exception of a few houses on the east bank before Uronarti, and on the island itself, the region is entirely deserted. Very often the rocks overhang the Nile waters.

\textsuperscript{114bis} Since the drafting of the present article I have been able, in February 1966, to examine again Askut area—from the west bank this time. The valley at this very point has much steeper banks than can be seen from the aerial photo—taken vertically—which is reproduced on plate xv. Accordingly it would have been nearly as easy to bar partially the Nile at Askut as at Semna.

\textsuperscript{115} Askut being downstream from Semna and below it in absolute level, it follows that to reach the level of the Middle Kingdom high Nile records at Kumma, the retaining wall would have had to be higher there than at Semna yet, the precise level a.s.l. is somewhat uncertain at Askut (see f.n. 41 above) and there is a definite possibility that the floor recorded is a bit lower than at Semna. Air photographs taken at the low level of the river show a spur across the Nile between the west bank and the bigger island just north of Askut (cf. Sudan Survey, Air photo. no. 328.261 and plate xv). This spur might possibly have belonged to a system barring the Nile, although it appears rather weak for the purpose. However, see f.n. 114bis above. Again, there is definite evidence immediately below and north of Askut fortress of the collapse of a wall which once protected the river stairway. The state of the ruins calls to mind the collapsed rocks north of the Kumma river stairway (see above, pp. 145–6), although admittedly this is very scanty evidence for the existence of a huge retaining wall at Askut.

\textsuperscript{116} It is a fact that there are no certain records in the name of Sekhem-ka-Rê either at Semna or at Kumma. However, some of the partially destroyed ones, might refer to this king, see f.n. 40 bis and 94 above.
having acquired there the practice of engraving Nile records, the commanding officer of the Askut fort—possibly a foreigner (see his name above, p. 139) would have done the same without any basis, so that the record there can be disregarded. But I do not think this reasoning is acceptable: either the records are true at Askut as at Semna, or they are not true in either place. Since I hope to have shown that they are real records of the heights reached by the floods at Semna (see above, p. 158). It follows that we have also to take the Askut record at its face value.

Furthermore, I wonder if we have not documentary and archaeological evidence at Semna of the fact that the flood crest reached about the same level in some places north and south of the Semna-Kumma barrier. Among the rock inscriptions, besides the records of Nile levels, there are a number of so-called 'Appeals to the Living'.

Most of them were engraved at Kumma; only two come from Semna West. There is a striking difference between the two groups. While the 'appeals' engraved at Kumma address themselves to the people either living actually in the fort (m mnnw pn, var. r mnnw pn), or passing near the 'stela' (wd var. srh) i.e. the inscription proper, the main inscription in the Semna 'appeals' refers to living persons.

\[
\begin{array}{c}
\text{who shall pass near this stone (rock) over (or by) the water, either going northwards or southwards.}
\end{array}
\]

If we understand hr mw literally, it would mean that the rock where the text is inscribed—since fallen down—was once actually over the water. If hr mw refers to the following assertion m hd m hnt, it would simply mean travelling by river, as opposed to travelling by land, but in either case the inscription involves the vicinity of the Nile. This inscribed rock was actually found by Reisner near Cemetery S.800; that is, to the north of the fort and quite near to contour

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117 See Dunham-Janssen, Semna-Kumma, RIS. 14, p. 134 and do. 21, p. 136; RIK. 12, p. 141; do. 22, p. 143; do. 51, p. 147; do. 104, p. 160; do. 112 and 113, p. 162; do. 115, p. 163; do. 118, p. 165; and do. 120, p. 166.

118 Cf. ibid., RIK. 12, p. 141; do. 51, p. 147 and 104, p. 160.


120 Ibid., RIS. 14, p. 134; the same formula but simpler is RIS. 21, p. 136.

121 Ibid., pl. 94 B and D.

122 For the contradistinction at Semna proper between the crossing of the cataract area by land and by river, cf. the stela of Sesostris III = Sethe, Lesestücke, p. 84, 1.21: 'to forbid any Nubian (Nḫsww) to cross it northward either by land or in a boat' (translation A. H. Gardiner, Egypt of the Pharaohs, p. 135.

123 Dunham-Janssen, Semna-Kumma, p. 130 'Location: (RIS. 14) on the west face of a fallen rock just south-west of G'. (G=... near top of a small rocky hill a little north-east of Cemetery S.800').
level 20 of our map, which is ±160 m. above sea level (see Map facing p. 160) or perhaps slightly lower. This figure is in keeping with the levels reached by the floods according to the records at Kumma. At the present time, the above-mentioned rock is on a low terrace which is never reached by the floods and is rather far from the river.\textsuperscript{124} This is, I feel, good evidence that at the time when the text was inscribed the rock was a conspicuous land-mark near a landing place at Semna, and since it is now far from the bank of the river it follows, I think, that originally the water must have reached more or less the same level as the rock;\textsuperscript{125} hence the levels of the floods were comparable north and south of the barrier at Semna.

We are now in a position to consider the problem of the high Nile levels and all its implications. There is definite and I think unquestionable evidence that the Nile floods, some time at the very end of the reign of Sesostris II or the very beginning of that of Amenemmes III reached levels about 7-8 m. above those of today. This phenomenon seems to have been purely local; it affected, as far as we can ascertain, only the part of the Nile valley between Askut in the north and Semna in the south.\textsuperscript{126} These facts are suggestive of the existence of an artificial barrier between Semna West and Kumma, but this barrier, while explaining the heavy siltage on top of the glacis at Semna South, does not account

\textsuperscript{124} Ibid., pl. 94, where photograph B shows clearly the location of the rock in relation to the north wall of Semna West fort. During a new visit at Semna West in February 1966, I have been able to check the place and, incidentally to note the clear remains of an artificial rock barrier nearby—This barrier is of such importance that it appears on the vertical air photos and has been included in the contour map (left top of the map facing p. 160, indented line parallel to the river bank, in between the Nile and contour level 10). The barrier includes huge blocks of granite and might be part of the harbour quay. It is above present high Nile level and accordingly could have helped too to rise locally the floor level.

\textsuperscript{125} The same reasoning could be followed for RIS. 21, but this inscription was on a rock ' near the S(outh)-W(est) corner of the fort ' (ibid., p. 136), so that if it was near the water (the inscription does not mention the fact as does RIS. 14) it would have been south of the barrier. However, the silting observed at Semna South already informed us that the water then reached at least contour level 20 of our map (contour map facing, p. 160).

\textsuperscript{126} This is founded on the Semna and Askut recordings of the high Nile. Theoretically, the nature of the Nile valley is the same between Abu Sir rock, the last sandstone promontory in the north, and Firka, where the sandstone reappears in the south—a stretch of over 200 km. Accordingly, other things being equal, one could imagine the possibility of an artificial heightening of the inundation level in the whole of the cataract area, but there is no proof of it except at Semna (heavy silting of the basin in the south and rock inscriptions of flood levels) and at Askut (high Nile record). I doubt if the artificial heightening reached Mirigissa. A height of some 160 m. above sea level—the mark reached by the highest floods at Semna—would have affected and destroyed the lower parts of the fortification complex, which is still standing. So far we have not found any evidence of this (see f.n. 46 above), but perhaps it is better to wait for the results of the work in progress at Mirigissa as well as to the south of Gemai.
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for the rise in the level of the high Nile north of Semna. So far there is no clear evidence that a similar barrier ever existed at Askut, at least not of the importance of the Semna barrier (see, however, note 114 bis above). How, therefore, did the Egyptians manage to raise the flood levels, if they really did?

Already at the end of the 19th century Willcocks had observed something which might be the answer to our problem. I shall quote Sir William Willcocks verbatim because of the importance of his remarks: 'The river in this reach (i.e. between the First and Second Cataracts) is generally within sandstone and the greater part is provided with gigantic spurs on both banks. These spurs perform the double work of collecting soil on the sides in flood and training the river in Summer'.\footnote{127} The spurs seen by Willcocks around 1895 in lower Nubia were only visible at low water,\footnote{128} and are now permanently covered by the waters of the first Aswan reservoir. This could explain why they have received so little attention in recent times.

Willcocks refers to spurs between Aswan and Wadi Halfa, but the same technique was in use in the Second Cataract area and even beyond, as Cailliaud and Gottberg had observed.\footnote{129} They can still be seen on a number of air photographs of the cataract area taken between 1958 and 1962 (see PLATES XVI-XVII). The technique is certainly very ancient, and it was peculiarly easy to use in the cataracts. Rocks or small islands could be linked together by dry stone structures during the low water, when the channels were very shallow or even dry, so as to form 'spurs' practically barring most of the river bed except where it was too deep and the current too strong. During the excavations at Mirgissa in 1963–64 we found, deeply buried in the sand, an artificial barrier acting as a miniature dam between two rocky islets. We excavated it to a depth of more than 2 m., and did not reach the foundations (see PLATE XVIII). It had functioned so effectively that the complete surrounding area, obviously once upon a time a channel of the Nile, encumbered with a series of rocky islets and ledges, is now part of the west bank of the Nile, the sand having sealed for ever the narrow passage dammed by the Egyptians. I believe that at some time the Egyptians did the same thing systematically all over the Second Cataract, leaving only the

\footnote{127} W. Willcocks, Egyptian Irrigation, 2nd ed., London (1899), p. 31. Willcocks goes on to ascribe the building of the spurs to Rameses II on the ground that: 'the most massive of them have evidently been constructed to turn the river on a curve out of its natural channel on to the opposite side in order to secure deep water in front of his temple of Jerf Husain' (italics are ours).

\footnote{128} Ibid., p. 31.

\footnote{129} Cailliaud, Voyage à Méroé etc. . . ., 1, p. 351 (cf. f.n. 99 above, where the text is quoted in full); Gottberg, Des cataractes . . ., (cf. f.n. 100 above), notes, p. 21, the existence of similar spurs between the Second and Third Cataracts, some of them up to 100 m. long. Gottberg adds 'those spurs are anciently built (and are) established in the places where the width of the river allows it and where they can be abutted on rocks' (translation from the French and italics are ours).
deepest channels, which it was impossible to bar, and closing the smaller ones. Whenever it was possible they must have constructed bigger spurs, leaving as small an opening as possible, with the final result of transforming the Second Cataract into a series of small basins, each one a little lower than the one immediately upstream. I think there is enough evidence to be sure that this is what was done at Semna: two spurs were built over the natural barrier, leaving open the deeper and narrower middle channel. Admittedly, there is, at the present time, no clear evidence that they did the same elsewhere as at Askut, Uronarti, or between Saras and Uronarti, where the disposition of the granite heights is most favourable for such primitive, but effective, barrings. At least one can agree, I hope, that there is a fair possibility that they may have done so, and this would account for the variations observed in the heights of the flood according to topography (see note 132 below): where bigger spurs could be established, as at Semna, the flood reached a greater height than where only small spurs were possible. After all, it was simpler to establish such a scheme to control and to raise locally the level of the floods than it was to dig channels in hard gneiss or granite as Sesostris III, like Pepi II, did at Aswan. The amount of work involved, even if the scheme was applied to the whole cataract, would certainly have been no greater than that necessary to build the gigantic fortresses of the Second Cataract, with their millions of mud bricks.

I am quite aware that the solution I propose to the Semna-Askut problem, and the credit it gives to the Egyptians for having established a systematic control of the floods in the Second Cataract around 1850 B.C. is far from fully substantiated. First of all the possible effect of a great number of relatively small artificial barriers, such as spurs, on the height of the flood ought to be studied by hydraulic engineers, who would ask for more precise data than I am able to give them now. Among other data, a systematic study of the silting in

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130 The disposition of the ground at and near Uronarti, south and north of the island, is peculiarly favourable for the setting up of such barriers (see Sudan Survey Air photographs no. 328.250 and 328.251). The banks are steep and the Nile is more or less blocked by rapids and small islands. The building of one or more barriers at or near Uronarti might also account for the heightening of the flood level just north of Semna (see above, pp. 160-161).

131 To support my theory I should like to mention now the opinion of Lepsius himself, who in a letter to Horner in 1853 wrote (cf. Letters from Egypt, Ethiopia etc. ...), trans. L. and J. B. Horner, London (1853), p. 530): 'I do not moreover regard it as impossible that at certain periods when the country was in its most flourishing condition, artificial dams may have been constructed in order to obtain a higher rise of the water within a particular space, such as was necessary for an overflowing' (italics are mine). Horner himself (cf. ibid., p. 529) had tentatively suggested the same solution to the Semna problem: 'If in some narrow gorge of the river below Semna a place had been described by any traveller where from the nature of the banks a great landslip or even an artificial dam could have raised the bed to an adequate height ... I might have ventured to suggest such a solution of the problem' (italics are mine).
the cataract is of paramount importance. There are today some indications of small silt terraces at various levels, a fact which favours the idea of local barriers rather than the theory of a general higher flood over a certain period of time, since all the terraces would then have to be more or less at the same height.

Obviously, the hypothesis that the Egyptians of the Middle Kingdom established a systematic control over the Nile floods in order to improve navigation is of tremendous historical importance. It is hoped that additional evidence to prove or disprove it may still be obtained during the short period left before the final submergence of the Second Cataract region by the waters of the Sadd-el-Ali.

P.S. Since this paper was written Semna South Fort has been fully excavated by the Oriental Institute of Chicago University under the Field-Directorship of Prof. Zabkar, so that the wish expressed (p. 131) above has been happily fulfilled.

Furthermore a new record of a high Nile level, dated year 10 of Sesostris III—that is prior to the high Nile levels recorded at Semna-Kumma—has been discovered by the Survey Team directed by A. J. Mills, at the Dal Cataract. This very important text shall be published in a forthcoming number of KUSH by Sayed Nigm-ed-Din Moh. Sherif, Senior Inspector of Antiquities, Sudan Antiquities Service. I am most grateful to Sayed N. M. Sherif for giving me the permission to mention here this new high Nile level record.

According to the information I have, the newly discovered text records a high level of the inundation (ḥapy) more or less consistent with high Nile levels at the present time. If such were the case it would be definite proof that inundation levels during the Middle Kingdom were comparable to those reached today by the Nile, and would be then further proof to the here advocated existence of an artificial dam at Semna built after Sesostris III’s reign.

J.V. (December 1968)

132 Gottberg, Des cataractes..., (see f.n. 100 above for complete reference). See p. 14, where Gottberg mentions at the Third Cataract (Hannek) a silt plain at 2 m. 50 above the higher floods at the time of his observation. The difference of level between the high floods at Semna and at Hannek struck Gottberg, who explained it by a difference in the erosion of the rocks according to their nature (ibid., p. 15). Trigger, History and Settlement in Lower Nubia (see f.n. 20 above), mentions traces of water-worn foundations at Dabenarti ‘at a point 5 m. above the present high water level, and the ancient fields associated with Uronarti are 1 or 2 m. higher than that’ (loc. cit., p. 31). Concerning Mirgissa, Trigger (ibid.) mentions a higher level, but I am afraid that this is now open to doubt. The low structures found during the last excavation campaign did not show any evidence of having been water worn (see f.n. 46 above). Wheeler (KUSH IX (1961), p. 96) mentions a cultivation level at 7 m. above h.w.l. at Uronarti and one 6 m. above h.w.l. at Shelbak. Again, A. Vila observed at Aksha a silt deposit about 50 cm. thick at level -1 m. 85 below the present surface, but overlying an occupation level which might be A-group or early C-group (see Aksha II, in press).
Serra East and Dorginarti

A Preliminary Report on the 1963–64 Excavations of the University of Chicago Oriental Institute Sudan Expedition

by James Knudstad

For its second season on the Nile, that of 1961–62, the Oriental Institute’s Nubian Expedition began its first excavations in the Sudan in a concession surrounding the fortress of Serra East, and carried that work perhaps halfway to completion during the season. The Expedition returned to Egyptian Nubia in the following season to resume work in concessions there, and was granted at the same time an additional concession in the Sudan, that of the island of Dorginarti in the Second Cataract. Successes in Egyptian Nubia compelled the Expedition to continue work there indefinitely, making it necessary for the Oriental Institute to organize a second expedition to the Sudan for the season of 1963–64, to complete investigations of the two concessions of Serra East and Dorginarti.

Two camps, simultaneous operations and a somewhat extended season were required for the final excavation of both sites. The Expedition arrived at Serra East in late October, resuming work there first, and closed the season at Dorginarti in late June. A dozen Qufti diggers and over 200 local workmen were employed for much of this period. The Expedition staff for varying lengths of time included: Dr R. H. Pierce, Egyptologist and Staff Epigrapher; Dr B. G. Trigger and A. J. Hoerth, Staff Archaeologists; O. J. Schaden, Archaeological and Epigraphic Field Assistant; R. H. Dornemann and M. D. Thurman, Archaeological Field Assistants; Mrs L. Storts, Photographer; Mrs W. Pierce, Field Assistant; as well as two volunteers: J. C. Lorence, Artist; and Miss S. Ericson, Field Assistant. The writer served as Architect and Field Director. The work of the Expedition was financed jointly by contract with the U.S. Department of State under Public Law 480 and by the Oriental Institute.

Most excellent co-operation was received from Sayed Thabit Hassan Thabit, Commissioner for Archaeology; Sayed Nigm ed-Din Mohammed Sherif, Senior Inspector of Antiquities in Wadi Halfa; Hagg Gamal, Chief Clerk of the Antiquities Service Office in Wadi Halfa; and from the communities of Serra Sharq and Abd el Gadir. We are indebted to them for much of the Expedition’s welfare and results. Also, in matters epigraphic presented in this report, the writer must credit Prof. G. R. Hughes and O. J. Schaden with direct assistance.
Excavations within the concession at Serra East were resumed on 2 November 1963 and were completed on 12 March 1964. The concession, in the shape of a triangle on the east bank of the Nile, was formed by the intersection of the Nile on the north-west with grid line 659000 on the east and grid line 938000 on the south (Egypt red belt grid on the Egypt—New Series, 1 : 25,000 map series, Sàra sheet). As such it encompassed roughly 2 sq. km. of rolling rocky ground forming low sandstone bluffs along a slightly curving stretch of the Nile, nearly devoid of arable land or recent habitation. Midway along the shore of the Nile within the concession lay the principal site of interest in the area: the pharaonic fortress of Serra East.

The results of the first season’s work within the concession were given in a preliminary report by Prof. G. R. Hughes.1 They dealt primarily with the fortress proper, known New Kingdom shaft tombs close by on the east, a small C-Group cemetery on the south edge of the concession and a scattering of X-Group dwellings along the river bluffs. Most of the exterior and a good half of the directly accessible interior of the fortress were cleared at the time, providing knowledge of nearly all of its salient features. Their description in the first report therefore remains fairly comprehensive and serves as a point of departure for additional notes given below.

Complete examination of the concession involved further excavation of the following material: substantial ruins of the previously unexcavated Christian community within the fortress, portions of the fortress remaining beneath these ruins, and (with a bit of exploration) various New Kingdom tombs, X-Group graves and stray C-Group grave clusters. Their description and discussion follow in the order named.

The Christian Community

The Christian Community, perhaps the most dominant aspect of the Serra ruins when first viewed by us, appears in the photographs taken by G. S. Mileham2 to have been even more fully preserved in his time. Of the four churches cleared and detailed by Mileham and Griffith, only one seems to have suffered appreciable damage since. Standing with them and visible to us on our arrival were the exposed remains of almost a dozen other brick buildings nearly as well preserved. In the course of clearing the interior and surroundings of the fortress, we encountered the remains of some thirty separate structures other than the churches, most of them clearly dwellings of the ‘unit house’ type ascribed by W. Y. Adams3 to the latest Christian occupation of Nubia. Judging

from Mileham’s photographs and the amount of available space we found remaining within the fortress walls, the original number of such houses may easily have been double the number finally preserved. In addition, thirteen simple graves which were found adjacent to the two south churches during the first season proved to belong to a proper cemetery extending southward from those churches. This in brief was the composition of the extant ruins of the community.

Except for small accumulations of debris following Mileham’s examinations, the four churches were found fairly empty. A cleaning to their foundations was effected, revealing what small floor features remained and allowing for detailed study, measurement and photography. Evidence for crypts and floor or foundation deposits was sought, but without success. For our purposes we designated the churches as the North Church, outside the fortress on a stone terrace north of it; the Central Church, in the centre of the fortress on its upper terrace; the South Church I, on the sand-filled south fosse; and the South Church II against the west side of South Church I and post-dating it.

Mileham’s descriptions and drawings of the churches proved to be basically correct; they all share similar scale, floor plan and general manner of construction. South Church I stands only to a few brick courses above the springlines of its vaults, thus no certain evidence of the presumed dome shared by the other three remains. Except for the number and arrangement of windows, niches, sacristy doors and the presence of the south-west stairs in two of the churches, their spatial arrangement of side aisles, nave, haikal and sacristies was identical, each unit having a skew vault (or ‘Nubian arch’) built parallel to the east–west axis of the church. Only the Central Church and South Church I presented stairs in their south-west corners; in the placement of side doors and sacristy doors they are particularly similar in contrast to the other two churches. Much of the west wall of South Church II was standing in the time of Mileham, but has since been destroyed to provide right of way for the railroad which separates the whole site from the river. Whether this church had stairs is not known, but as its neatly opposed side entrances match those of the North Church which had no stairs, the guess is that it probably also had none and that the opposed side entrances represent an alternate arrangement in churches of such small size. It was found on following Mileham’s notation in the respective churches that his description of some of the minor features (windows, niches, etc.) were either confused or in error, but this need not be corrected here.

Among the four, the North Church was unique in not having been set on brick foundations of rollock bond, i.e. of bricks laid on edge. A suggested reason for this could be that it is also the only church at Serra placed directly on

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4 Cf. Hughes, op. cit., p. 126 and pl. xxx, b. Ten instances of corner foundations resting on upturned bowls or cups have occurred in the buildings excavated at Serra East: six during the first season and four during the last. The latter four, under the four corners of one building, were small unfired jars and cups.
a natural terrace of bed-rock. The rollock bond is not absent from this church however, being found in the construction of the three north-south walls which are only one brick length in thickness. It is also different in that its nave and side aisle vaults leaned backwards, resting on the west wall rather than the wall between side aisles and sacristies. A structural consequence of this was that the nave vault, which in the other churches rested against an arch supporting the west quarter of the drum of the dome above, in this case passed under the same arch and was thus relieved by it at a very weak point. This church also boasted crude squinches and the suggestion of a simple pulpit or dais to the left of the *haikal* doorway. The Central Church (PLATES XIX, a and XXI, a) is the most imposing of the group. It appears to have been built at the outset like the others, but with outer walls raised high enough to enclose a full upper storey roofed just below the springline of the dome. That it was initially a two-storey church is suggested by the lack of the kind of break in the outer walls that one should be able to detect in Christian construction if the walls had later been raised. However, another possibility also exists in that plasterings on the dome and drum suggest that they may have been rebuilt or raised and certainly they stood free for some time from partitioning on the second floor. The use of a small brick size of $6 \times 13 \times 26$ cm. was noted only in this drum and in the superstructure of one grave of the cemetery, a more common size on the site being $7 \times 20 \times 40$ cm. A stair well and seven rooms surrounded the domed lower interior and opened onto it through windows. The rooms were arranged in two groups of three and four each, some vaulted and some apparently roofed flat.

The South Church II must have been the most elegant architecturally, with lunettes lightening the drum above supporting arches, and a *haikal* square-ended at its base but semi-rounded higher up in a way nearly blending with the curvature of an intentionally tilted vault. Burnt brick formed decorative arches and crosses over the exterior of the two side entrances.

The four churches bore an inner finish of pink sand plaster upon which (excepting in the ruinous South Church I) plentiful fragments of fresco and tempera painting remained. None of these fragments were deemed worthy of preservation and removal, but efforts were made to photograph all larger examples and to trace the composition of several of the better preserved paintings in the Central Church. All of the fragments were subsequently given a detailed examination for quality, form and content by M. Medić, Director of the Yugoslav Mission at Abd el Gadir. As a result, much of what we retain in the way of notation and interpretation for the paintings is due to the attention and concern given by him. The Central Church, containing the best preserved examples of painting was also apparently the most fully decorated at Serra. The *haikal* end wall was nearly filled with the figure of Christ enthroned life-size in robes spotted with eyes. His left hand held an open book, the right seemed lifted above the shoulder, and at the sides of the painting the symbols of Matthew, Mark, Luke
and John were inserted. Water or vandalism had destroyed most of the head and shoulders. To the left and right on each of the haikal side walls stood six variously bearded saints with right hands raised over their breasts and the traces of names in black over their heads. The east end of each side aisle and two other walls bore large winged figures, and all of the other walls of the nave and side aisles, including those under arches, showed similar traces of painting. Of the sacristies, only an arched niche in the north one was decorated, this being a simple full face of Christ. Painting in the North Church seems to have been limited to whatever the haikal may have had (now totally obliterated) and small simply executed faces and figures preserved on the underside of the arches between side aisles and the nave. The upper parts of two figures (saints?) remained on the south wall of the south sacristy of South Church II. Where plaster remained in the crudely formed upper end of the 'apse' of this church, a red dome-like form surmounted by a cross was discerned extending full width and possibly framing the yellow halos of saints below.

No two of the unit houses (Plate XIX, b) were alike in plan, but their basic scheme provided four or more small vaulted rooms on the ground floor and probably as many on an upper floor. The use of a large crude mud brick, arched doorways and the skew vault seems to have been common to the majority of them. Most were squarish in plan with walls one to one and one half brick lengths in width resting on a foundation course of rollock bond or stones. One quite heavily built structure, apparently another house, had lower walls two brick lengths or over 80 cm. in thickness. In the best preserved houses a single entry was made into a front room nearly the width of the house, from which entry was gained to rooms within one at a time, much in the manner of a chambered nautilus. At right angles to the front room and running the depth of the house on left or right side was a narrower passage ending as a latrine on a raised platform. Although no examples were recovered in situ, sufficient fragments of a type of ceramic toilet fixture common to Christian houses uncovered during the same season at Meinarti suggest that this was the usual installation at Serra as well. These and second floor latrines were placed over a common sump provided with a stone-lined clean-out to one side and a brick ventilating flue above. No stairways were found for any of the buildings, forcing one to the conclusion that access to upper floors must have been by small retractable ladders through holes in first floor vaults.

Foundations, possibly for a house, were found in the nearly sand-filled north fosse and the remains of four or more houses were found in a similar position in the east fosse, closing a gap in the ruinous east wall of the fortress. Otherwise, the community seems to have crowded into the upper areas of the fortress interior with many houses lining and partly supported by the inner face of the extant fortress walls. In this manner they still maintained a 'unit' character, rarely sharing a common wall at the ground level. However, it was
observed that several alleys created within the fortress were vaulted across at the second floor level between neighbouring houses, thus possibly allowing common upper storey and roof levels between such houses. Poorer remains and stone foundations in the lower part of the fortress interior, open to the river, showed that this area had been built up as well and apparently was not subject to an exceptionally high Nile during the period of occupation. Fragments of heavy stone masonry paralleling the river may also have been foundations for walls closing off this side of the community to form something of a compound within. Possibly terminating the south end of these walls was the only sizeable stone structure on the site. It had stood to some height against the inside of the fortress south wall at its broken west end, with a lookout point over that wall to the south. As two doorways in it were extremely tight, it is difficult to say whether it served as a kind of fortified look-out or possibly as a granary. Cuttings into the ruinous top of the fortress walls at their north-east and south-east corners were clearly designed to give protected vantage points in those two directions over the surrounding ground.

The depth of debris found in the houses varied greatly and depended partly on location and preservation. Although some rooms were filled nearly to their vaults, most stood about as open and full of refuse as the churches. The rooms of some houses contained loosely packed occupation debris to a depth of 10 to 20 cm., but many showed no sign of a clearly laid-down surface beneath the powdery mixture of sand, organic debris, sherds and brick-bats removed from them. Thus floor stratification within and around the houses was nearly non-existent except where preserved under later brick constructions. In fact a search for architectural stratification, of major renovations upon earlier Christian levels, produced only two or three instances of the ruins of one building supporting another. The majority of the structures were found to rest directly on eroded surfaces of the fortress, to have but one plastering within and to bear only occasional modifications or signs of repair. All of the above point to an occupation of relatively short duration at Serra, and the writer hazards the guess that this may have been as little as 50 to 100 years.

Pottery was abundant and a number of whole examples were recovered either as buried storage vessels or as foundation deposits. Two small circular kilns also turned up in the ruins, but they provided no particular information on the pottery they produced. The second season’s collection of Christian wares was little more than a repetition of the collection of the first season, the latter described briefly in the first preliminary report. A larger collection of roughly 12th-century Islamic glazes was made and the amount of sharply turned imported buff utility wares present seemed only little less than that of domestic varieties. In general, however, the full inventory of ceramics and miscellaneous small finds attributable to the Christian occupation suggests no real spread in time, and the sherds themselves, quite easily fitting into the late
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Christian classifications made by W. Y. Adams,\(^5\) remain our best if not very precise source for dating the community very close to the 12th century.

Of particular interest during clearance of the houses were the occasional scraps of parchment bearing texts written in Greek or Old Nubian, followed by the discovery two days before closing of a complete parchment codex in Old Nubian (Plate XX, b). It was recovered from a small pit in sand between the foundations of a house being removed from the east fosse. It is in the form of a bound book of twenty-five numbered pages and small amounts of the leather cover survive. The whole of the book was damaged by insects. The first page bears a black and red illumination in the form of a rectangle filled with plaited work, followed by an introductory paragraph, the text and an epilogue. Part of the text has been identified as a hymn to the Cross similar to but not a duplicate of the Berlin stauros-text published by Griffith.\(^6\) Fragments of Old Nubian text were also found painted or scratched on several sherds, one of them a broken ostraca. Sherd bearings various fragments and abbreviations of the name Michael in Greek were so numerous as to assure us of his position as the popular saint at Serra.

The only Christian cemetery in the vicinity of the Serra community was found surrounding the two south churches and extending approximately 50 m. southward from them across open sandy ground towards the mouth of a small wadi. A total of 123 graves was detected from superstructures and surface indications and of these less than twenty were opened during both seasons. Superstructures were preserved for the majority of the graves and they conformed to familiar Christian types built of mud brick. The simplest consisted of a slender rectangular slab formed by two rows of brick laid longitudinally on edge between two rows laid transversely. Larger wider rectangular slabs were formed by hollow rectangles of brick on edge filled with sand or brick laid flat. Most of them bore traces of mud plaster and a few had been finished with whitewash or a pink sand plaster. Many were also provided with a 'lamp box' or niche of brick at the west end made of two bricks supporting a third. Nine of these contained the saucer type lamp or some more crude version thereof. Two examples of simple vaulted tombs were also noted. As the cemetery was laid in sand, all of the grave pits must have been of the simplest form. The graves opened were generally provided with a framing of several bricks to the side and over the skull of the body which was laid horizontally extended on its back with the head to the west.


The evidence of pharaonic occupation at Serra East was at first overwhelmingly in favour of the New Kingdom period, and until well into our final season we were without definite Egyptian Middle Kingdom material (other than possibly the bricks of the fortress itself) and in some doubt as to its presence at all. What little remained of the fortress interior was nearly without stratigraphy and yet filled with mixed Christian and New Kingdom sherds. This seemed true in trenches tracing the outline of the harbour, which yielded at best some C-Group and transitional Nubian wares and an occasional Kerma sherd. The shaft tombs cut into the jebel east of the fort presented New Kingdom form and stray burial gifts, and epigraphic clues were limited to two sherds stamped with the cartouches of Thutmose I and III, a scarab and a few stela fragments.7

With removal of Christian material from the fortress the picture finally became clearer. Preserved in the north-east and south-east corners and possibly in two other spots in the fortress were all that remained of the New Kingdom architectural efforts on the site. The two corner constructions were found neatly superimposed over the original fortress brickwork: both were built against the outer walls in a way blocking an earlier and continuous passageway within, and the south-eastern work included two separate architectural levels. Fragments of a rebuilt brick wall and stone foundations in the west half of the fortress also appeared to have been improvements of original features. The general design and workmanship of these additions was shoddy in contrast to that of the basic fortress construction, but it was with the brickwork of the upper level in the south-east corner that we found the remains of two large stone door sills, two column bases, a loose cut stone fragment and the inscribed stone door jamb fragment shown on PLATE XX, a. This latter fragment, the lower half of a left jamb complete with door bolt socket, was found in a toppled position, along with one of the sills, outside a doorway prepared for them in brickwork closely associated with mud floors capping New Kingdom debris. This debris in turn was an intentional fill over previous New Kingdom floors and walls which had been built upon strata of burned debris and wind-laid sand covering remains of the original and presumably Middle Kingdom features in the corner.

On the lower New Kingdom floor we found a cache of bronze arrow points in a small red ware jar of New Kingdom type. The jamb bears the incomplete dedication: ‘[...] his father1, the King of Upper and Lower Egypt, Khakare, that he perform a giving-life’, and it was the only example of such work found at Serra. Khakare is the pnenomen of Sesostris III of the XIth Dynasty; in its given context the stone was first thought to be a New Kingdom dedication to him as deified in Nubia. Professors G. R. Hughes and C. F. Nims of the Oriental Institute judge the inscription to be clearly Middle Kingdom work, however, and these opinions are strengthened by our observation that the

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7 Cf. Hughes, op. cit., p. 128.
brick beddings for both door sills were so makeshift as to indicate having been cut into the brickwork of already completed doorways. The stones also bore the remains of whitewash and gypsum plaster, the former common to the earliest fortress construction, but neither present in the brickwork of their New Kingdom context. Hence most of the stones and certainly the inscribed jamb are judged to have been subject to New Kingdom re-use, but to date from Middle Kingdom occupation of the fortress.

New Kingdom brickwork in both corners of the fortress was laid against surfaces of the outer wall after it was strongly eroded almost to its base. The New Kingdom work in effect re-faced this earlier wall. The plan of the New Kingdom work in the south-east corner is most fragmentary due to cuttings made into it shortly after its disuse and well before Christian occupation, beginning over a metre above on wind-laid sand. Thus the New Kingdom use of these stones is not understood. A casual arrangement of eight or ten rooms was preserved, however, in the north-east corner and they appeared to have been used for nothing more than common dwelling. Certain walls or foundations of stone along the east edge of the harbour, may also date as late as the New Kingdom, but stratigraphy enclosing them was again confused and untrust worthy. A second amphora handle stamped with the cartouche of Thutmos I was found, and the pottery in general within the fortress continued to present a mixture of fairly representative New Kingdom Egyptian and domestic Nubian utility wares, as reported for the first season’s work. Few if any painted or finer decorated Egyptian sherds occurred, most examples of these being encountered in the New Kingdom tombs outside. Small finds for this period in the fortress were almost negligible.

Stratigraphy suggesting somewhat the vicissitudes of the post-Middle Kingdom occupation was found in the harbour fill. The full depth of this harbour was never reached in our excavations, due to the height of the Nile and consequently of the water table in the silt filling the harbour. As a result a level bearing purely Middle Kingdom deposits was never reached in the harbour. The lower 2 m. in several trenches dug by arbitrary levels seemed to yield fairly homogeneous assortments of sherds, the dark incised transitional or ‘middle’ Nubian wares and the C-Group wares predominating. As reported, some Egyptian red wares and Kerma sherds also occurred, but the distinctly New Kingdom varieties predominated closer to the top of the 2 m. stratum and actually formed a sandy stratum of their own, 20 to 30 cm. thick, above it. Above the New Kingdom stratum lay one half to one metre of mixed debris with Christian sherds predominating. It may be concluded from the above that the harbour was allowed to silt up possibly from its late Middle Kingdom abandonment through transitional periods until the New Kingdom period of return;

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8 An abandonment evidenced by the eroded state of the fortress outer walls at their north-east and south-east inner corners (discussed above) prior to the New Kingdom re-occupation.
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that it was allowed to remain so during New Kingdom occupation, and that it was thus not a feature of the later fortress, having been filled to a high and dry level by that time. The generalization can also be made that though the presence of a number of substantial New Kingdom shaft tombs, lesser graves and large amounts of pottery within the fortress surely indicates a New Kingdom residence of considerable length, the manner in which that residence was maintained must have been casual or careless and tended to reduce the fortress to ruin. It is also clear from the evidence that the fortress must have suffered considerable damage by fire as well as erosion prior to New Kingdom re-occupation. It may never have been fully defensible during this later period.

Final excavations in the fortress uncovered three places bearing clearly Middle Kingdom material. Small amounts of debris were preserved beneath the New Kingdom rebuilding in the north-east and south-east corners, and the remains of three or four kilns and their associated pottery were found in clearing to the bottom of the harbour embankment’s north-east corner, on bed-rock. This latter spot proved to be rather important. Stone retaining walls on the edge of the east side of the harbour had trapped and kept the kilns and their footing from downhill destruction so common elsewhere in the fortress. Pottery in and around the simple circular kilns was quickly spotted as quite distinct from all other fortress collections made thus far. The sherds of small cupped dishes, food bowls and spouted jars of a soft brown ware comprised our best collection of Middle Kingdom pottery within the fortress and they compared favourably with larger non-New Kingdom types coming from two pottery dumps accidentally discovered in quarried areas to the east of the fortress. In clearing the kilns, which were built on a terrace or docksise of bed-rock forming the east side of the harbour, a workman picked a fragment of a mud seal impression from the ash. Sieving began, and sometime later a collection of impression fragments numbering in the thousands had been gleaned from this area, the south-east corner, and most particularly from the two quarry dumps outside. The quarries, cut up to 2 m. deep in the jebel, had been encountered in our search for further shaft tombs. They had been liberally filled with a loose mass of sherds, clay jar plugs, ceramic ‘net sinkers’, etc., all apparently in a short period of time leaving no stratification. They were then covered by drift sand. Pharaonic sherds predominated, but some C-Group and Nubian wares were included and it was our impression that none of the obvious New Kingdom types found in the fortress were represented.

The impressions (FIG. 1) may be grouped into three classes: private seal impressions, most appearing to be scarab impressions; official seal impressions, those bearing the name of a fort; and royal seal impressions, which were but three in number and of which only two could be identified. Of the latter, we have the Horus names of Amenemhet III9 (FIG. 1, d) and very probably that of

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Amenemhet IV\textsuperscript{10} (FIG. 1, e), thus fixing the quarry dump and kiln pottery as late Middle Kingdom in date. The official seals give the names of two forts: INK-T3WY\textsuperscript{11} (FIG. 1, f) and HSF-MD3W (FIG. 1, a). Of the two, fragments of the latter, 'seal of the fortress Khesef-Medjau' were by far the most common, and a variant of this also commonly occurring was 'seal of the granary of Khesef-Medjau' (FIG. 1, b). The private seal impressions included a great variety of texts and designs. Only a few match exactly the designs of XIth Dynasty impressions found at Uronarti by Reisner,\textsuperscript{12} but in general they share many similarities. Several fragments of private or scarab impressions bear the prenoms of Sesostris II and Sesostris III. Noteworthy are those of a cobra with a \textit{nfr} sign above it and another with the upper part of a king wearing the double crown. There were also two examples with a connected text: 'Follower of

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\textbf{FIG. 1. THE MORE IMPORTANT SEAL IMPRESSIONS FROM SERRA EAST}

a. 'Seal of the fortress Khesef-Medjau'.
b. 'Seal of the granary of Khesef-Medjau'.
c. 'Seal of the Two(? Treasuries of the Northern Fortress'.
d. 'Abau' (Horus name of Amenemhet III).
e. 'Kheper[khepru]' (Horus name of Amenemhet IV).
f. 'Yenek-tawy' (the fort 'Embracing the Two Lands').
g. 'Office of the [Vizier ?] of the Southern City'.

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\textsuperscript{10} Cf. H. Gauthier, \textit{Livre des rois d'Egypte}, pp. 338 ff.
the ruler, Sa-Re, possessor of reverence' and 'Office of the [Vizier?] of the Southern City'.\(^{13}\) (Fig. 1, g).

Taken together, the seal impression fragments and the door jamb comprised the kind of Middle Kingdom material sorely needed for any positive statement on the origin of the fortress. From the above evidence we suggest the following probabilities: that the fortress was built in the reign of Sesostris III,\(^ {14}\) that its name was Khesef-Medjau, and that the quarry dumps were the result of a cleaning out of the fortress late in the Middle Kingdom occupation.\(^ {15}\)

A number of the features of the original Middle Kingdom fortress (Fig. 2) were found or further clarified, and their description follows. The passageway just inside the outer walls was shown to be continuous where ever preserved and better preserved stairs were uncovered along its north length. In tracing it and the inner face of the outer walls, no evidence of how the tops of the walls were approached was found. Two retaining walls of stone across the upper terrace must have provided a level surface for the terrace, which is now much denuded and probably was so prior to Christian entry. On this upper terrace more of the plan of the hoped-for garrison quarters was found (Plate xxii, a), but preservation was still very sketchy. All of the east wall exterior was cleared and nearly all of the east fosse was traced. Here the only point worth noting was that the position of buttresses and bays (when somewhat restored) resulted in a narrower bay centred midway in the length of the east wall. There is no supporting evidence on the inner side, but the possibility arises of a small door or 'sally port' having been located at this place. No other possible places for such a passage from the fortress interior to the fortified terrace immediately outside were found in the length of outer walls preserved at the present time. The remains of two wood beams lay buried in the outer terrace in positions parallel to and flanking the centre line of this short bay, and they may have had something to do with a light bridging of the fosse at this point.

A curious small basin was found cut into bed-rock in the north interior. It contained a deeper hollow to one side with a chiselled duct draining from the one into the other. Wall fragments and floors cut into bed-rock gave proof of rooms in the north interior, but nothing very similar to those found on the south seemed likely.

Nearly all of the accessible periphery of the harbour cut into the river side of the fortress was cleared, but much of its design still remains in doubt. It is

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\(^{13}\) Cf. Reisner, op. cit., p. 54, fig. 2, no. 8 for a similar seal belonging to the office of a vizier.

\(^{14}\) Among the Semna despatches published by Smither (P. C. Smither, 'The Semna Despatches', *JEA*, vol. 31 (1945), pp. 5, 8 and 9) there is a letter from Khesef-Medjau dated to the third year of Amenemhet III, indicating that the fortress was operational at that time.

\(^{15}\) A similar action was recorded at Uronarti. Cf. Reisner, 'The Egyptian Forts from Halfa to Semna', *Kush* viii (1960), p. 15.
clear that the harbour proper (for the Middle Kingdom level of the Nile?) was cut from bed-rock and as such was rather small. The north, east and south sides were traced, but the west side and the depth remained obscure under water (Plate XXI, b). Brick and stone embankments were necessary on all four sides: those on the north, east and south to retain sand supporting a lower terrace around the basin and that on the west to act as a breakwater possibly supporting defensive west walls if they were ever a part of the fortress design. Good portions of the north and south embankments and the four corners (including the finished top of the south-east corner) were found, but the east embankment had been all but destroyed and the west embankment was only partly traced with certainty, leaving the position and design of a river entrance in doubt. There must surely have been one; any purpose of such a basin except as a harbour is difficult to imagine. The proximity of the railway embankment to this presumed west side of the fortress forced us to leave such an important feature barely explored.

Comparison of the construction of the Serra fortress with that of such larger and better documented fortresses as Semna and Mirgissa emphasizes their similarities rather than their differences. The brick and bricklaying in all three was of a practised and fully professional quality. A well-preserved interior corner at Semna, closely examined by the writer, duplicated in its interlocked timber cribbing and brick coursing the two corners similarly preserved at Serra. Wheeler’s notes on Mirgissa were not always applicable in detail to Serra, but they remain a fairly complete guide to construction practices at both sites.

Two additional New Kingdom shaft tombs in the group some 100 m. east of the fortress were investigated, one of which had a curious history of re-use. The ruinous Muslim shrine of Sheikh Nur, venerated almost within recent local memory, was observed resting on a moderate-sized tumulus of stone and gravel somewhat larger than one examined by us in 1962. Within the mud-walled shrine lay a violated tomb of vaulted brick, presumably Muslim. Upon digging beside this, more towards the centre of the tumulus, we struck a second and possibly original ‘Sheikh Nur’ tomb of construction identical to the first. When this was cleaned it was seen to be resting on bed-rock and squarely on the debris-filled shaft we expected beneath the tumulus. At the same time a curious ‘chapel’ of mud brick had been uncovered in a position on the east side of the tumulus. It contained a carved slot in the jebel and a nice fragment from the head of a large stone ba statue. With the clearance of the shaft and entry into the tomb chamber it became clear to us that we were in a New Kingdom shaft tomb, which had been plundered and re-used for a Meroitic burial of some importance, plundered again and finally graced with a succession of Muslim graves. The periphery of the tumulus also hid three minor, possibly Meroitic

infant burials. Grave goods within the tomb chamber and a side chamber were stratified, with disturbed New Kingdom material beneath disturbed Meroitic material. The second shaft tomb, partly eroded away from the north scarp of the wadi south of the shaft tomb group, yielded a mixture of New Kingdom, Meroitic and X-Group material. Seven burials were also found in the quarries excavated, four of them simple New Kingdom graves and two of them possibly X-Group graves. About half a dozen rock-cut tomb chambers, most of them open and nearly empty, were noted and mapped on the north side of the same wadi. One was also cut into the south side of the wadi.

South of the wadi mentioned above, and less than 200 m. from the fortress we uncovered over fifteen additional graves and smaller brick-vaulted tombs set into roughly enlarged crevices in the hillside. Excepting two or three probable X-Group graves, they proved to be minor New Kingdom burials, some multiple and several containing wood coffins, alabaster kohl pots, copper items, scarab, painted fragments of plaster masks and whole pottery. The nicest, a single burial seemingly only slightly plundered, contained three pots, a very fine black kohl pot with lid, a copper mirror and razor, an elaborately painted and gilded mask, a scaraboid and an early XVIIIth Dynasty scarab bearing the inscription, 'Attendant; overseer of ships, Apophis' (Plate XX, c and d). Our gaffir at Serra, who had helped in the location of the above graves, also provided us with the locations of twenty-one C-Group graves scattered in four clusters on the gravelly ridges in the concession, something over a kilometre east of the Nile and the fortress. They were all extremely poor graves, marked with the usual ring or heap of stones, but looking thoroughly plundered. With some digging and sieving, however, a number of finds were made, including the following: gazelle skulls bearing painted red and blue dots, shell spacers, bone and faience beads, an alabaster kohl pot, a stone palette, both C-Group and New Kingdom pottery, and fragments of a scarab and a glazed plaque. The four grave clusters did not possess like amounts or examples of these items, and it is unlikely that they were very closely related as a group.

Excavations at Dorginarti

The excavation of the fortress of Dorginarti began on 4 January 1964 and was brought to a close on 8 June 1964. The concession consisted of the island of Dorginarti, lying close to the community of Abd el Gadir at the lower end of the Second Cataract. Its length lay between east–west grid lines 640000 and 641000, with its axis corresponding to grid line 908000 (Egypt red belt grid on the Egypt–New Series, 1 : 25000 maps, Abka sheet). The island can be described as an oblong ridge of cataract rock supporting a sandy top and silt banks, its maximum height being only a few metres above the higher Nile flood levels. It lay close to the western shore of the Nile, although at this point in the cataract there was a strong minor channel flowing almost due east between the island and the shore. The island supported fairly dense vegetation, a small amount of
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modern cultivation, a herd of goats, and low-water sand banks on its north and south sides, the latter connecting with the larger and higher island of Aba Giya during lowest Nile. The fortress, placed well upstream on the island and close to its steep northern banks, was the only ancient site reported for the island and, although no soundings were made, an examination of all high ground provided no surface indications of anything beyond the fortress except a scattering of sherds on very rocky ground at the island’s west end.

Later Occupation Levels

The full extent of the fortress outer walls, standing in places 5 to 6 m. above the sandy surface, proved to be visible at the outset (PLATE XXII). Much of the brickwork looked to have settled far out of original alignment and a glacis of cataract stones (as in the middle ground of PLATE XXII) surrounding the exterior also looked much disturbed. The west interior of the fortress was low and seemed heavily denuded as well, but a sizeable area east of centre stood as high as the outer walls to north and south, much in the manner of a kom. Christian sherds and some rather late looking stone wall fragments noticed on the top of this area led to an investigation of this latest period of occupation first. Not much was found. Several wall fragments built of cataract stone, mud-plastered within, and a brick affair composed of three very small chambers, also mud-plastered were about all we could trace. A very simple kiln was also found to the west against an earlier wall. The latest walls stood on the sand-filled brick remains of deeper and much more substantial construction, with a large sand-filled hole in their centre which was probably associated with their destruction. A decorated Christian rim sherd found well down in sand in this hole joined a sherd picked up in the clearance of the uppermost remains. The bricks used were exceedingly small, being $5 \times 14 \times 29$ cm. The sherds, found thinly scattered on the surface all over the fortress, were judged to be of generally late Christian date by our neighbour, W. Y. Adams, working close by at Meinarti. In connexion with these finds, it should be noted that another and apparently minor Christian structure was found standing on the higher ground of Aba Giya island, in the midst of a scattering of sherds. Three outer walls of brick were preserved high enough to indicate that the building had been roofed with small vaults. The ruins, measuring about $4 \times 4$ m., gave little idea of its having been more than a dwelling; it was found presently being used as a goat pen.

Subsequent tests beneath the Christian ‘level’ on the higher part of Dorginarti led us into the brickwork of two separate structures at once. The first structure explored later proved to have been the deeper founded of the two, and to have been left standing high with an intentional filling of brick bats and debris supporting the later second structure. This later or ‘Level II’ structure will be described first.

Sometime after the abandonment and advanced erosion of the Dorginarti fortress as a whole, a site perhaps providing the broadest and most elevated position
within it was chosen for the construction of a building resting on a raised terrace. This building, for which we have only the most vague suggestions of brickwork, was a part of or contained by a nearly square enclosure with brick walls over a metre thick and curiously crossed or buttressed at their corners. The enclosure was set square with the general axis of the fortress beneath and measured approximately 25 m. on a side. All brickwork at its floor level was so poorly preserved (to a maximum of four brick courses) that trustworthy deposits containing sherds or any datable material were virtually non-existent. Much better preservation of the terrace supporting the building, however, gave us a clear idea of its form and extent. The heavy and ruinous fortress walls bounding the position chosen on the north and south were possibly levelled somewhat, but were retained for the most part to support, along their tops, brick walls retaining the terrace fill which was clearly seen to have been dumped into the interior of the fortress. Retaining walls with a deeper foundation, crossing the interior of the ruined fortress, were necessary to retain terrace fill on the east and west sides. It was noticed in cross-section that these walls were laid up with no rear surface, but in a manner contiguous with the filling behind. The terrace platform so constructed stood approximately 3 m. above the initial floor level within the fortress and measured approximately 33 m. square.\(^\text{17}\) The exterior of the four retaining walls was formed of a series of shallow bays between buttresses with large similarly panelled square projections or ‘towers’ at their four corners. The terrace was approached by a rather easy and apparently unfortified stairway centred on the east side (Plate XXVI, a, forming a dark shadow). In the writer’s opinion the buttressing and corner ‘towers’, though only found in outline, give a fortified look to the whole when reconstructed. It might be guessed that the outer buttressed face was carried up above terrace level to enclose the inner square or compound wall with perhaps shoulder-high parapets, and that the whole composition could have been a kind of small fort or control point on the river at a place where one had been effective in the past. This possibility as well as the date of the structure, must remain problematical in view of the evidence at hand. Sometime during its occupation bays in the outer faces were partly filled with stones taken from the fortress, and the exterior was given a coat of whitewash much in the manner of police posts today.

Ten graves or empty burial pits were found within the fortress—three of them Meroitic, one possibly Meroitic, and the rest so poor as to be unidentifiable. Some of these last, from the looks of their placement, may also have been

\(^{17}\) Low gaps, 10 m. or more in length, were noted in the otherwise rather high north and south walls beginning just west of higher portions supporting the terrace, and the general height of the walls to the east was also lower than where left standing under the terrace. The gaps, first thought to have been caused by Nile flooding, as well as the low east end, are more probably evidence of destruction by the Level II builders to better isolate the terrace. Much of the debris from such efforts may have ended up supporting the terrace.

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Meroitic. Nearly all of the graves were cut into or tucked against standing brickwork. The graves yielded a small but nice collection of glass and stone beads, painted cups and pots, bits of cloth and a gilded bronze seal ring. One of the surely Meroitic graves was found closely associated with Level II construction. The burial had been placed in a cavity cut down and under the inner face of the enclosure wall on the terrace. Other Meroitic sherds were found near the surface in the terrace fill near this grave, and they together with the grave assure us that Level II could not have post-dated the Meroitic period in its construction.

The Fortress

Although we attempted to excavate all of the more important features as well as the more readily accessible features of the fortress of Dorginarti in the time allowed us, not all of the masonry and fill of Level II could be removed for an examination of the ground beneath. Luckily enough, the heavy east and west foundations for Level II lay to the side of the more interesting construction in the lower levels. Also, some of the development of the outer walls could not be satisfactorily examined without literally taking them apart, and this could not be done. The plan accompanying this report (FIG. 3) presents as much of the construction and inner arrangement of the fortress as were found at the lowest level, and are thought to be parts of the original layout. Repairs and modifications of the outer walls and inner buildings seem to have been frequent but irregular; stratigraphic connexion between them were often missing. As a result, not all features shown under one form of hatching on the plan are necessarily contemporary, and the re-linings of the outer walls must have been successive outward additions. These latter works did not seem to fall into definite phases across the fortress. The river stairs in fact must belong in part if not wholly to later modifications of the north gate, which were removed and are not shown on the plan. As shown, the stairs rose to a height 60 to 70 cm. above the brick paving of the gateway shown (PLATE XXVI, a), the latter being the result of several modifications to the north fortifications. Some of these modifications are discussed later.

Our earlier excavations encountered the north, east and west walls of the central building labelled the ‘official residence’ on the plan. These, however, were standing as part of a later renovation of the building with quite different arrangements within. In both cases the building had been given walls heavier than anything else within the fortress plus a free-standing position. The renovated plan included seven rooms (one of them possibly an unroofed court) and two entrances approached by exterior stairs. The stairs were necessary, as the renovators had knocked down all of the inner partitions of the first building (FIG. 3) to a height (about 60 cm.) equal to the fill created in doing so, thus raising the floor by that much above the outside level. The larger staircase, and
probably the main entrance, were on the west, with a side door on the north. The sand-filled hole noted in the overlying Christian level had been carried down through this building, and the original building to a depth not reached by our tests, and it had destroyed one doorway in the former and two in the latter. In the renovated building, however, six doorways were found and all bore fragments of stone framing, i.e., sills, jambs and lintels (Plate xxiv, b). The sills and fragments of some jambs were found in situ. Other jamb fragments were found about the doorways, and the lintels in all but one case lay broken but nearly complete just outside their doorways. All of the loose stones lay in sandy rubble just above a thick stratum of charcoal and burned debris, which in turn lay on a finer dust stratum covering mud-paved floors throughout the rooms.

As many of the stones bear discoloration by fire, it is supposed that the building’s second storey was destroyed by fire,\(^{18}\) either through violence or accident, and that the stones fell in the process of erosion that followed. Six of the stones (including one used as a column base in one of the rooms) bore hieroglyphic inscriptions and three of these had been mounted in a position of display. The largest was a lintel found in fragments (Plate xxiii, a) in front of the first doorway reached upon entering the building via the main entrance (which was not preserved). It is decorated with back-to-back balanced scenes, plus a column occupied by an elaborate formal bouquet between them. Only the left scene is complete, and they differ only in smaller details. On the left a seated man in a long garment with a lily over his head holds a cup and a lily in his hands, while his wife is seated behind him in the same festive posture. Standing before them is a girl in a flowing robe holding a cup and lilies over a small table. The broken right scene shows only the man and his wife. Inscriptions over the man’s head in both scenes are: (1) ‘For the *ka* of the local prince (2) . . . (3) . . . , triumphant’; and over the wife’s head: (1) ‘The chantress of (2) Horus, Lord of Buhen, (3) Isis, triumphant’. The column of text behind the girl waiting upon the pair reads: ‘For the *ka* of the chantress of Horus, Lord of Buhen, T³ – c³, triumphant’. It was impossible to make out the name of the man at the end of the title, but the lintel most probably was intended for the doorway to a house (of his ?).

Plate xxiii, b shows two paired jamb fragments in situ, but with an upper part of the right one (found separately) not restored to position. Each jamb bears two columns of inscription and all are the ends of *hotp-di-nesu* formulae ‘for the *ka* of the local prince (of) Horus, Lord of Buhen, *Pen-t³-were(t)*, triumphant’. The jambs date from the xixth or xxth Dynasties. A small block re-used as one of the door sockets common to most of the doors bears the beginning of the above formula and may have originally been a part of the left jamb.

\(^{18}\) Both buildings had interior stairways.
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Two remaining fragments of inscription were that on the column base mentioned above and one on a block re-used as part of a sill. Signs remaining on the column base are certainly the middle ones of a vertical cartouche of Mn-ph[ty-R³], that is, Ramesses I. The block re-used in a sill appears to have been part of a left door jamb or square(?) pillar. Two vertical columns of hieroglyphs side by side facing right read: (1) ‘... Amon-Re, Lord of the Thrones of the Two Lands, and(?) the royal ka of the Lord of the Two Lands Wsr-mdjť-R³ [Stp-n-]|³|Mi.n... (2) ... mother of the god, lady of heaven and(?) the royal ka of the Lord of Diadems R³[-ms-sw Hk|m3-m³|t]-R³-mry-|³|Mi.n...’. Both cartouches are lost just beneath the initial group, but they can scarcely be those of anyone except Ramesses IV whose name has also been found at Buhen and Gerf Hussein.19

As noted above, the stones bearing inscription fragments show clear re-use of larger blocks or architectural fragments from somewhere. An examination of the uninscribed blocks incorporated into the doorways also gave sufficient clues to their having been prepared for and used in a previous context. A number of them bore graffiti of C-Group-looking animals, including one of a human figure, and most of these were in unlikely positions on sills. Some were used in a broken condition (i.e. a finished block with a broken end), very few seemed to match, and their installation in the brickwork in all cases was clumsy.

Taking the building apart further, we traced its earlier partitions in the later floor and exposed a building only slightly smaller containing six rooms, a stair well and two outer doorways providing a different approach. The main entrance, doubly inset, was now on the east and a close examination of four other well-preserved doorways gave no support to our expectation that they had been graced with the stones found in the renovation described above. Their plastered jambs had not been disturbed. A seat-like construction of brick was found in an inner room, but its poor preservation made its form questionable.

The fortress interior east of this building contained stone foundations for three large silo-like affairs only slightly preserved in brick, some small bins or huts, two later brick ‘silos’ and some rooms built into the ‘V’ junction of the outer walls. A stairway built into the south wall at this point apparently gave access from the end rooms onto the top of the fortifications at the east end of the fortress. The rooms had been blocked off by an inner lining added to their front wall at a later time. Also part of the eastern interior was the north gate (PLATE XXVI, a) giving exit to the river stairs. Two more stairways flanking this passage and leading to the wall tops were discovered built into the walls. They had been filled with brick in a later remodelling of the gateway that probably included heightening or rebuilding the river stairs as well. If this is true, much

of the river stairs shown (PLATE XXVI, b and FIG. 3) may overlie an earlier stairs or the bedding for such, but no search for this was made. The stairs were built of mixed long and squared stones fairly well dressed and probably originating in a limestone quarry found by Adams and Nordström on the opposite bank just west of Abd el Gadir. The stairway was set into, and protected by, bed-rock and a steep glacis that rose to surround the bases of two large buttresses flanking it and the gate. On 20 June, with the Nile at about its lowest level for that stretch of the cataract, the bottom step was excavated and its tread equalled water level on that day. This appears to have been the last step and no quay was found beyond it. The total height of the stairs as preserved was just over 7 m.

The western interior proved to have been greatly scoured out by wind-driven sand and possibly by some flooding. A north-south wall apparently was designed to divide the fortress interior into the east half, set aside for the official residence, and the west half which may have been nearly filled with garrison quarters. Those found remaining against the inner sides of the fortification walls were a cramped hodge-podge of dwellings, courts and silos (PLATE XXV, b). Four levels of these were found preserved in the north-west corner and probably as many against the south wall. A few similar huts were found outside, against the south side of the north-west corner buttress and along the south wall to the east of the south-west buttress, clearly in the lee of these walls. Several deep tests were made against the inside of an inner lamination of the north wall, and they all indicated a level of occupation beneath that lamination. Parts of the lamination were removed at the low gap in the north wall, and domestic constructions similar to those against it were found to have preceded its erection; they had been built against two earlier laminations forming the north wall prior to the construction of the inner or third lamination. Sand levels deeper than any of the outer wall foundations were also tested and found to contain ash lenses and a few nondescript sherds. Some form of light occupation prior to the erection of the fortress is thus supposed for the spot tested, but as our exploration did no more than establish this fact, little can be said about the occupation itself.

The west gate (PLATE XXV, a) was provided with flanking buttresses, stone paving, a stone sill, and flanking stairs in positions similar to those of the north gate. It opened onto a disturbed field of heaped cataract stones (PLATES XXII and XXV, a) which showed signs of having been paved or having supported a roadway from the gate south and west. Without attempting more than superficial tracing, the form of this could be followed at the south-west extremity of the fortress, but elsewhere the effort looked hopeless. The cataract stone was seen to enclose the fortress completely, having been piled against the brickwork of buttresses and bays to form an even slope away from them. Three tunnel-like

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a. THE CENTRAL CHURCH, FROM THE WEST, SERRA EAST

b. THE RUINS OF THREE TWO-STOREY CHRISTIAN HOUSES IN THE NORTH-EAST CORNER OF THE FORTRESS, SERRA EAST

facing p. 184
a. FRAGMENT OF AN INSCRIBED DOOR JAMB, SERRA EAST

b. PARCHMENT CODEX IN OLD NUBIAN, SERRA EAST. LEATHER COVER FRAGMENTS ADHERE TO THE FIRST PAGE

c. and d. FUNERARY GIFTS AND DECORATED MASK FROM A NEW KINGDOM TOMB, SERRA EAST. NOTE A GILDED FACE IN POSITION OVER THE FOREHEAD OF THE SKULL
a. THE MIDDLE KINGDOM LEVEL ON THE UPPER TERRACE, SERRA EAST. THE CENTRAL CHURCH STANDS AT RIGHT

b. A PORTION OF THE HARBOUR WEST EMBANKMENT FROM THE NORTH-WEST CORNER DURING EXCAVATION, SERRA EAST
DORGINARTI FORTRESS FROM THE WEST. THE VISIBLE WIDTH APPROXIMATES THAT OF HIGH GROUND ON THE ISLAND
Plate XXIII

a. Reassembled fragments of a decorated and inscribed lintel from a doorway of the renovated official residence, Dorginarti

b. Inscribed door jambs in the renovated official residence, Dorginarti
a. MUD-BRICK CRENELATIONS PRESERVED ON A BUTTRESS OF THE NORTH WALL, DORGINARTI.
THE PARTLY DISMANTLED INNER WALL IS A LATER LINING

b. THE COURT, STONE FRAMED DOORWAYS AND STAIRS TO A DESTROYED SECOND FLOOR
OF THE RENOVATED OFFICIAL RESIDENCE, DORGINARTI
a. THE WEST GATE FROM WITHIN, SHOWING PAVING, FLANKING STAIRS AND INNER LAMINATION OF THE WEST WALL, DORGINARTI

b. PRESERVATION OF GARRISON QUARTERS AGAINST THE NORTH WALL, LOWEST LEVEL IN THE WEST INTERIOR, DORGINARTI
a. THE NORTH GATE WITH THE RIVER STAIRS IN RIGHT FOREGROUND AND THE WHITENED EAST FACE OF LEVEL II IN LEFT BACKGROUND, DORGINARTI

b. THE NORTH GATE RIVER STAIRS SET INTO A STONE GLACIS AND BED-ROCK, DORGINARTI. WATER OBSCURES THE LAST SEVERAL STEPS
trenches were cut through alluvial sand and silt following this slope (which beyond the buttress ends increased to about 45 degrees) down to water level. They and the cut at the river stairs indicate that both of the sides of the island paralleling the fortress must have been given a stone casing or glacis where bed-rock did not provide such. It seems to have been carried well below recent low Nile levels and to have been intended as a defence against the Nile as well as the attacker. It also shows that much of the alluvial build-up that gave the island of Dorginarti its recent size came later than the establishment of the fortress.

The outer fortress walls on the north and south appeared to have been composed of three heavy laminations placed side by side. The outer lamination, to which all of the major buttresses were attached, was seen in places to have been built upon a foundation or 'damp course' of cataract stones prior to the laying down of the glacis against both. The next lamination within stood against the outer one and as no mud plaster was found on either surface forming the joint between them, they may have been built almost concurrently. This inner lamination seems not to have had a stone foundation, but its base was at about the same level as the outer lamination. As noted above, there followed some minor constructions against the plastered face of the second lamination before the third major lamination was built against it. A great deal of the fortress interior was then built against the third, plastered face, with additional linings and relinings following later on both sides of the three. Some of these later linings did not exhibit a tilted position comparable to that of the three major laminations, where the latter were considerably caved out. Therefore, much of the slumping (of dampened bottom brick) and tilting must have occurred early in the life of the fortress.\footnote{Deomposition, believed to be the result of thousands of annual fluctuations in the island's water table, had been so thorough in the case of mud brick close to the soil that it had been reduced to a formless clay or powder, forcing us to trace much of the fortress perimeter by the alignment of the glacis stones packed against it.} There was further proof of this in Level II where the brickwork, supported by outer walls slumped in opposite directions, showed little sign of such disturbance. With a few small exceptions, the use of timber reinforcing in the three major laminations was not practised. It was used in small amounts, however, in the brickwork of a late and heavy repair of the north wall, which by happy accident overlay and preserved small stretches of parapet at the top of the earliest wall. Included in the preservation were several mud-brick crenellations at the top of a buttress (Plate XXIV, a). They were semi-circular in profile, as so often depicted in illustrations,\footnote{Examples in stone are also preserved on the High Gate to Medinet Habu at Thebes. The writer does not know of preserved examples in mud-brick fortress architecture elsewhere.} but were separated by a flat stretch of brick between each.
KUSH

The curious irregularity of the fortress, the re-use of a variety of late New Kingdom inscribed stones, and the poorness of finds in general present a picture of degenerate times at Dorginarti. That it was built and occupied in the late New Kingdom seemed clear from the assortment of pottery, small finds and inscriptions, but just how late in the New Kingdom still remains an interesting question. Small New Kingdom finds of note were a scarab and an inscribed plaque of steatite, half of a large faience signet ring in the shape of a cartouche, an ostracon in xixth or xxth Dynasty hieratic characters recording the arrival of grain, two small Hathor heads of frit, and one of faience. Two copper spearheads, twenty-five flint arrow points and at least thirty rounded sling-stones were also found in the fortress.