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The Editor is not responsible for the opinions expressed by contributors.
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Since the retirement of Sayed Thabit Hassan Thabit I have been entrusted with the directorship of the Sudan Antiquities Service, and hence the edition of Kush has become one of my duties. At the time I took over the post of Commissioner for Archaeology all material for Kush XV was at the stage of galley-proofs. I apologize to our contributors as well as to our subscribers for the long delay in the publication of this issue. This delay was caused by factors beyond my control and several complicated problems had to be ironed out prior to the final publication of this number of our journal. A great deal of time and effort had to be exerted to solve all the problems that had prevented Kush XV from seeing light at a much earlier date.

It is indeed a pleasure to me to announce to our readers that appropriate measures have been taken to ensure the publication of Kush on a regular basis. I am sure that our honourable contributors will give me full support to enable me to continue the task of publishing Kush with the same high standard it has attained throughout its life.

Once again I wish to express my apologies for raising the price of Kush from one pound to five pounds per copy starting from this number; but the rising cost of publication has made it imperative for me to take this undesirable course of action to meet the new situation. I am sure that our subscribers will appreciate our position and continue their support. The new price, though it seems high, will enable us to meet only two-thirds of the total cost of publication.

May I take this opportunity to thank Sayed Thabit Hassan Thabit, ex-Commissioner for Archaeology and Mr. Francis Geus the former member of the French Archaeological Unit in the Sudan Antiquities Service for their work regarding Kush XV.
Progress Report on Nubian Pottery

1. The Native Wares

by William Y. Adams

Pottery, as all archaeologists know, is comparable in many respects to the ‘index fossil’ of the palaeontologist. Among the complex of properties exhibited by any given ceramic ware, there are likely to be some which are distinctive of the particular time and place of its manufacture, and which serve in effect as a ‘signature’ of the makers. While not as accurate in this respect as coins or inscriptions, the far greater abundance of pottery makes it, quantitatively, the single most commonly recognized indicator of the age and identity of archaeological remains.

The detailed, analytical study of ancient Nubian pottery was from the beginning a major concern of archaeologists who worked in Sudanese Nubia in the course of the High Dam salvage campaign. Although that campaign is now virtually concluded, the salvage operations were envisioned by many as only the opening phase of what would hopefully be a much longer-term project: the systematic archaeological exploration of the entire Nile Valley from Wadi Halfa southward. The inundated region between Faras and Dal is after all only a small portion of Nubia; 75 per cent of the total area, including all of its richest and most productive lands, remains unaffected and beckons to the archaeologist of the future. Thus the pioneer studies which were undertaken in the flooded region are by no means chapters in a closed book. They are enormously relevant to work still to be done, and to problems still to be solved. Accordingly, analytical studies of Nubian pottery continue to be pushed forward by the present writer and several others.1

In two earlier volumes of Kush, I published introductory classifications of Christian2 and of Meroitic3 pottery. These were based upon material collected during the first three field seasons of the Sudan Antiquities Service excavations in Nubia,4 and were clearly announced as preliminary in character. Publication of these early and incomplete results was prompted by a belief that it was important to get into the hands of interested colleagues as rapidly as possible the results of my initial discoveries, while they might still be of value for field work which was then in progress.

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1 The only study so far published is that of Florence Lister, ‘Ceramic Studies of the Historic Periods in Ancient Nubia’ (University of Utah Anthropological Papers, No. 86). Additional, as yet incomplete studies include those of Messrs. Rostislav Holthoer, Oddmund Mollerop, and Hans-Åke Nordström, all of the Scandinavian Joint Expedition to Nubia.
2 Kush x, pp. 245-88.
3 Kush xii, pp. 126-73.
4 See Kush ix, pp. 7-43; Kush x, pp. 10-75; Kush xi, pp. 10-46.
KUSH

Work carried on since 1963 has enormously increased the quantity and variety of Nubian pottery available to me for study, and has made possible a far more complete and precise classification than was set forth in the two preliminary articles. The magnificent stratified site of Meinarti, occupied continuously from the Meroitic to the end of the Christian period, provided much unfamiliar material and filled many gaps in the earlier classifications. I have subsequently had the opportunity to examine in greater or less detail the pottery collected by the French, Finnish, and Joint Scandinavian expeditions in Sudanese Nubia, by the Sudan Antiquities Service excavations in the batn el hajar, by the American, British, and French expeditions in Egyptian Nubia, and by the excavations at Fostat (Old Cairo) carried out by the American Research Center in Egypt. My indebtedness to the directors and personnel of each of these expeditions is gratefully acknowledged.

With the aid of so much additional material, I have been able to combine the earlier, independent studies of Christian and Meroitic pottery into a single comprehensive classification which now includes all of the common pottery wares either made in Nubia or traded into the area between the late Meroitic and the end of the Christian period (c. 300-1500 A.D.). The classification now includes approximately 100 individual Wares, which are clustered in Ware Groups, representing chronological phases of development, and Families, representing different centres of origin. The scheme as it now stands is outlined in Table I.

Although the development sequence of wares is now well established through stratigraphy at numerous sites, for the most part satisfactory dates are still lacking. Hence all of the dates appearing in Table I are approximate, and subject to variation by as much as a century. Most of them are based on estimated dates of individual occupation levels at Faras and Meinarti.

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5 See KUSH XII, pp. 222-41; KUSH XIII, pp. 148-76; and Settlement Archaeology (Ed. Kwang-Chih Chang), pp. 174-207.
6 Examined in the course of several visits to the Aksha excavations, 1961-64. Considerable portions of the Aksha sherd material were generously loaned by the French Expedition for extended study.
7 Examined at Helsinki, July 1968.
8 Examined in the course of extended visits to Uppsala, Sweden, in April, 1966 and to Stavanger, Norway, in June-July, 1968.
9 Examined at the excavations in Nubia and in Khartoum, 1964-66.
10 Examined at Chicago, August 1970.
11 Briefly examined at Cambridge in April, 1966 and July, 1968.
12 Examined during an extended stay at the Institut Francais d'Archeologie Orientale in Cairo, April-May, 1966.
13 Examined in the course of visits to the Fostat excavations, November, 1965 and May, 1966.
14 For itemized reference to the published reports of these and other expeditions see W. Y. Adams, SNR xlviit, pp. 1-32, and id., Melanges Offerts à Kazimierz Michalowski, pp. 13-30.
15 See KUSH X, pp. 272-85.
16 See KUSH XII, pp. 149-61.
PROGRESS REPORT ON NUBIAN POTTERY

It is my intention to publish eventually a comprehensive study of this material which will include a formal description of each Ware, Ware Group, and Family, as well as illustrations of all of the principal vessel forms and decorative motifs. The realization of this project is still several years in the future—partly for lack of funds and time but partly also because the analytical study itself is still in progress. Only recently has it been possible to begin a process of chemical and spectrographic analysis, which may reveal far more accurately than visual inspection the degree of similarity or difference between wares. Upon the outcome of these studies may hang the answers to many still-perplexing questions.

In the meantime, the description and classification of Meroitic, X-Group, and Christian pottery has progressed so far beyond the outlines presented in Kush x and Kush xii that it seems desirable to publish the classification in its current and much more complete form. This article may, then, be regarded as a third progress report on a study which is still far from complete. Space will not permit more than an outline presentation of the classification (Table I), a brief explanation of the methodology, and some consideration of the historical factors and evolutionary processes involved. This year’s report is confined to the wares of indigenous Nubian manufacture; a consideration of the imported wares and their significance will appear in the following number of Kush.

Analytical Methods

The analytical methods employed in the study of Nubian pottery are essentially those which were outlined in earlier articles. It is perhaps worth repeating that the whole system is designed for the use of the field archaeologist, dealing (as he necessarily must) primarily with sherds. Wares, styles and forms are analyzed and illustrated in such a way as to permit recognition in fragmentary specimens; verbal descriptions are confined to those visible and tangible properties which can be verified under field conditions.

The totality of possible variable traits exhibited by any vessel or group of vessels is sub-divided into seven categories: method of manufacture, fabric (internal properties), surface treatment, forms, colours, painted decoration, and relief decoration. These are treated as wholly independent fields or ‘universes’ of variability: there may be change in any one of them without necessarily affecting any of the others, so that each must be considered as a discrete field of observation.

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17 This work will hopefully comprise the first volume of the Memoirs of the Archaeological Survey of Sudanese Nubia, and will be followed by the definitive reports on the Sudan Antiquities Service excavations on the West Bank of the Nile, at Meinarti, and in the batin el hajar.

18 Work is currently in progress in the Department of Geology at the University of Kentucky, under a pilot grant from the University of Kentucky Research Foundation.

19 To the accusation of ‘premature’ publication (cf. Lister, op. cit., p. v) I can only plead that, as I see no necessary or foreseeable end to the study of Nubian pottery, all publications are properly in the nature of progress reports.

Within each of the seven general categories a number of specific variables are considered. Table II lists the characteristics which figure in the description of each Ware, and Table III presents a specimen Ware Description as a practical illustration of the application of the method. Variability in form and in painted decoration is so complex that it has been necessary to develop separate, formal typologies in these areas. They are outlined in Tables IV and V. A few words of explanation may serve to indicate the significance of each of the major categories of variability.

Method of manufacture (wheel-thrown or hand-made) is the most fundamental of all distinctions in Nubian pottery, since there is hardly any resemblance between vessels made according to the two different techniques, even when they were made in the same time and place, and utilizing the same raw materials. In Nubia, only Family D (cf. Table I) is hand-made. The evidence is very strong that this pottery was made by women as a part-time home craft, while all of the wheel-made wares were industrially produced by male specialists.21

Fabric comprises all internal components and characteristics: clay, temper (plastic and non-plastic additives), and various properties which result from differences in the firing temperature and atmosphere. These characteristics, being unaffected by considerations of style, often vary little over long periods of time in pottery made in a single place or region by the same makers.22 Fabric is usually therefore an important indicator of place of origin, but not of time of origin. Fabric and method of manufacture are, together, the main diagnostics of Families in the synthetic phase of this classification.

Surface treatment includes intentional as well as unintentional properties of the vessel surface, other than colour. Modifications of configuration, such as ribbing or scoring, as well as modifications of texture, as by burnishing or polishing, are included in this category. These do not appear to be significant variables in Meroitic pottery, in that they cannot be correlated with any other variables. In all later pottery, however, they tend to be associated with variations in forms, decorations, or colour, so that it is possible to speak of Polished Wares and Matte Wares as distinctively different.

Form includes overall body shape and such details as formation of rims, bases, and handles. Nubian pottery exhibits such an enormous range of vessels forms that it has been necessary to develop a separate typology consisting of some 640 recurrent forms, arranged in a series of functional categories.23 The Form Typology is outlined in Table IV. Fig. 1 charts the relative frequency of different vessel classes at different

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21 A few mold-made vessels are also found in Nubia. This technique is confined to the making of lamps and figurines, both of which are found as trade items at the beginning of the Christian period.

22 This may mean simply the same ethnic group (particularly in the case of prehistoric pottery), or it may mean an individual colony or family of potters.

23 This typology includes all of the Christian and Meroitic vessel forms illustrated in Kush x, pp. 255–62 and in Kush xii, pp. 133–40, as well as hundreds of others which have since been identified.
times in history, and Fig. 2 shows the chronological development of some of the most common individual forms.

Within broad limits, vessel form owes as much to style as it does to utility, and consequently the most popular forms in any given period are seldom the same as those of the preceding or following periods. Prevailing forms (along with decorative style) are therefore the main criteria which serve to distinguish chronological phases (Ware Groups) within particular Families. Generally speaking all of the Wares within one Ware Group (i.e. wares which might have been made at the same time by the same people) tend to exhibit about the same range of forms and decoration, although this is more true at some periods than at others, as subsequent discussion will make clear. Because of the ready diffusion of popular styles, there is also a good deal of duplication of forms as between Nubian-made and imported pottery. Most forms appear first in imported wares and later in local imitations, indicating that the direction of influence was generally from Egypt to Nubia rather than vice versa.

Colours may include the natural surface colour of a vessel, if it is visible, but much more often designate the colour of the slip, plus any decorative colours which may be applied to it. In unglazed Nubian pottery only three basic pigments are employed, which produce varying shades of white (shading to yellow or orange), red, and black under different firing conditions. Since black is employed only in painted designs and not as a slip colour, all Nubian slipped pottery may be conveniently divided into two colour groups: white-slipped wares which may be decorated in red and/or black, and red-slipped wares which may be decorated in black and/or white. These are codified for short as White Wares (prefix W) and Red Wares (prefix R). In individual wares, and sometimes even in individual vessels, ‘white’ may actually vary all the way from chalk-white to bright orange, and ‘red’ from pink to dark brown, depending on firing temperature, oxidation, and the amount of iron present in the clays. Differences in shade are apparently random and non-significant until the later Christian period, when closer control of firing conditions may have been introduced. On the other hand, differences between Red Wares and White Wares are distinctive and significant at all periods: they often correlate with differences in shape and decoration as well. Fig. 3 shows the relative popularity of red-, orange-, yellow-, and white-slipped wares at different periods in Nubian history.

24 Their chemical composition has not yet been definitely established.
25 Except in the hand-made Family D; see below.
26 Reference to Table I will reveal that all wares are classified for convenience as Red Wares (R), White Wares (W), Unslipped Utility Wares (U), Hand-made Wares (H), and Glazed Wares (G). Within each of these groups wares were assigned numbers, for identification purposes, in the order of discovery or recognition. As it was necessary to maintain some continuity of nomenclature through several successive revisions and enlargements of this classification, the original Ware Numbers have not been changed since the system was first devised. Consequently, they follow no logical order of succession. (These are not, however, the Ware Numbers appearing in Kush x, pp. 272–6 and Kush xii, pp. 157–63).
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The addition of a glaze makes possible the use of many pigments which cannot otherwise be employed, and consequently the group of glazed wares (all imports from Lower Egypt in the later Christian period) includes yellows, greens, blues, and other colours never found in Nubian-made pottery. So much colour variability is found that the glazes cannot be separated into Wares on the basis of colours alone.

Painted decoration. Probably 90 per cent of Nubian pottery is slipped, and 50 per cent has in addition some form of painted decoration, consisting of one or more individual design elements. The frequency and complexity of decoration, as well as the actual motifs, vary enormously from period to period, and furnish (along with form) the chief basis for differentiating Ware Groups within Families.

As in the case of vessel form, the amount of observable variation in painted decoration is enormous. Over 2,200 individual design elements have been recorded, and they may of course be employed in a far larger number of combinations. Rigorous differentiation within such a tremendous field of variation is obviously an impossibility. It is possible, however, to observe a group of recurring clusters, involving the common use of specific motifs in specific combinations, which can be designated as Styles. About two dozen of these can be recognized, closely corresponding to the known Families and Ware Groups (Table V). Every Style may be said to include a large number of non-distinctive elements (i.e. elements shared in common with one or more other Styles), and much smaller number of distinctive elements or element combinations which are unique to it.

Relief decoration, or deliberate manipulation of the vessel surface for decorative purposes (e.g. with incised or stamped designs), is a less significant field of variability than those previously discussed. It is found consistently only from the Meroitic to the Classic Christian period, and even then only on a minority of vessels. In Meroitic and Classic Christian pottery it usually occurs in conjunction with some form of painted decoration, while in the intervening X-Group and Early Christian periods it is more nearly an independent variable. Some common forms of relief decoration include individual and multiple stamped designs, various incised patterns, roulette marking, and chisel marks.

Classificatory Methods

On the basis of recurring combinations among the variables previously discussed, Nubian pottery may be classified into Wares, Ware Groups, and Families. The first two of these categories were employed in the Preliminary Classification of Meroitic Pottery; the third is a subsequent addition to the system of classification.

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27 Major styles, characteristic of whole groups of Wares, are given the same designation as the Ware Group. Minor or deviant styles found only in a single ware are given the same designation as the Ware. This classification includes all of the styles previously described in KUSH x, pp. 252–3 and KUSH xi, pp. 143–5, as well as several new ones.

Families comprise pottery having the same method of manufacture and essentially the same fabric, plus a recognizable continuity of development in forms and decoration. They may be taken to represent pottery made in the same area by the same people, often over a long period of time. Three families of locally-made pottery are found in post-Pharaonic Nubia. Family M comprises fine-clay wares ('eggshell wares') found only in the Meroitic period, while Family N and Family D are respectively the wheel-made and the hand-made pottery of ordinary riverain silt, both found from beginning to end of the post-Pharaonic period. In addition to these, several families of imported Egyptian wares are more or less regularly found. By far the most abundant is Family A, the hard, pink-paste wares which were probably made near Aswan, and were traded into Nubia in greater or lesser quantities during most of its later history. Less common, and imported for shorter periods, are the Families T, L, and E, which are probably all of Lower Egyptian origin.

Ware Groups are chronological subdivisions within the Families. In addition to a common fabric and method of manufacture, they generally share a common group of forms and a common decorative style. They may be taken to represent pottery made by the same people in the same area during a relatively short period of time (usually 1–3 centuries) during which a fairly stable stylistic canon prevailed. Usually all the Wares in any one Ware Group are fully contemporaneous with one another, although sequential development can be noted in the wares of the X-Group and Early Christian periods (Groups N.II and N.III).

All of the more enduring pottery Families in Nubia exhibit a succession of Ware Groups, evidencing periodic stylistic change. The number of such groups varies from three in the case of Family D (the relatively conservative hand-made wares) to seven in the case of Family N. Shorter-lived Families, such as Family M and Family T, cannot be sub-divided chronologically into Ware Groups.

Wares are the smallest regular unit of classification, comprising vessels having the same combination of slip and decorative colours and (in the case of Christian pottery) the same surface treatment, in addition to the common criteria of Family and Ware Group membership. In other words, the member Wares in a single Ware Group are differentiated from each other on the basis of decorative colours and surface finish. A theoretically typical Ware Group might include a Polished Red Ware, a Matte Red Ware, a Polished White Ware, and a Matte White Ware—all occurring in the same group of forms and decorated with similar designs.

In a few cases pottery wares can be further sub-divided into varieties, representing minor but consistent local variations in style. This is particularly true in the Meroitic and Classic Christian periods, when there were apparently several manufacturing centres in operation simultaneously. With the advent of further investigations in Upper Nubia it may be possible to recognize and distinguish southern varieties of familiar Nubian Wares much more consistently than is possible at present.

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30 Ibid., pp. 73–6.
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The Revised Classificatory Scheme

The foregoing paragraphs have set forth the theoretical principles of analysis and classification which are employed in the study of post-Pharaonic Nubian pottery. It is necessary to add, however, that the actual Classification which follows (Table I) is not based wholly on internal evidence—that is, upon the application of these principles. It is also derived from external, distributional evidence to the extent that such evidence is available. Thus each Ware Group includes all of the wares known or believed to have been made in the same area at the same time, whether or not they have much in common other than fabric and method of manufacture. Some Ware Groups, such as N.IV, N.V, and N.VI, are notably homogeneous, and would be readily recognized as groups of contemporary wares on the basis of internal evidence alone. Others, like Groups N.II and N.VII, are much more diversified. Had their member wares not been found consistently in association with one another, it would be impossible to say anything more about some of them than that they were Nubian-made. A glance at the Classification of Styles (Table V) will reveal that there are more than half a dozen Nubian pottery wares having highly individualistic decorative styles, not shared with any other ware. Such Wares must necessarily be included in particular Ware Groups because of their consistent associations with the other wares in the group, and not because they share a common decorative tradition.

This lack of complete internal consistency may be objectionable to purists in taxonomy. The ultimate purpose of the whole exercise in pottery classification, however, is to provide the field archaeologist with the most accurate and comprehensive aid in identifying and dating sites by means of potsherds. With this ancillary and utilitarian end in view, it would be foolish not to take advantage of all available external, distributional evidence in setting up a chronological classification.

Table I presents in outline the complete classification of Meroitic, X-Group, and Christian pottery in its current revised form. Within the compass of this article it is impossible to describe the Wares individually, or to do more than indicate in condensed form the most distinguishing characteristics of each Family and Ware Group.

The Native Wheel-Made Wares

Family M\textsuperscript{32} comprises the so-called Meroitic ‘eggshell’ or fine wares, included in the Introductory Classification of Meroitic Pottery as Group I.\textsuperscript{33} These wares are a special sub-class of Meroitic pottery, and the only native Nubian wares ever made from fine selected clays rather than from the ordinary brown silt which can be found almost anywhere along the Nile.

Fabric: fine, dense clay, generally light in colour, hard or very hard, tempered with abundant, very fine particles of black, white, and red material; little sand; no chopped straw.

\textsuperscript{31} This means primarily stratigraphy and associations observed in a number of sites excavated by the writer.

\textsuperscript{32} For ‘Meroitic’.

\textsuperscript{33} KUSH xii, p. 157.
This Family occurs only in the Meroitic and at the very beginning of the X-Group period. Except for the fabric it is indistinguishable from the contemporary Group N.I, but is used only for the smaller and finer vessel forms. For all other characteristics of form, colour, and design, see Group N.I (below).

*Family N*34 includes all of the ordinary wheel-made pottery of Nile silt which was made in Nubia continuously during the later Meroitic, X-Group, and Christian periods. Since pottery-making on the wheel was revived in Nubia in the late Meroitic period,35 and died out again at the end of the Christian period, this family in fact represents a complete, closed chapter in the history of Nubian pottery-making. The wares of Family N are by far the most common pottery in Nubia: they comprise over 50 per cent of nearly all sherd collections from post-Pharaonic sites.

*Fabric*: rather porous riverain silt, generally tan to red-brown in colour, medium soft to medium hard, tempered with fairly abundant quartz sand and black, white, and red opaque particles of varying sizes. Chopped straw temper usually also found in larger vessels.

Thanks to the finding of the kiln sites at Faras and elsewhere,36 we know a good deal about the manufacturing technology of these wares. The decorated wares in particular were produced in great quantities at a few specialized centres. They were thrown on the wheel, dried under low heat, painted, and finally fired in double-chamber kilns 37 at temperatures of approximately 850°C.38

*Family N* exhibits little technological change or improvement in the course of its 1200-year history. It does, however, manifest distinct stages of stylistic development, as represented by its seven Ware Groups. (cf. also Fig. 1-5.)

*Group N.I* comprises the ordinary Meroitic wheel-made wares made from Nile silt, including most of those originally included in Groups II and III in the Introductory Classification.39 The two original groups have here been combined because it appears that burnishing of the surface, the original basis for separating them, is not a significant variable in Meroitic pottery. Any vessel in any ware, style, or form may or may not have a burnished surface. In addition, the 12 wares included in the original classification are here reduced to four,40 as it has been found that the enormous variability in Meroitic pottery defies rigorous classification. Evidently a number of

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34 For ‘Nubian’.
35 Cf. Lister, op. cit. (fn 1), pp. 73-5.
37 See *Kush* IX, p. 38, Fig. 3.
38 This was ascertained by firing experiments carried out at Wadi Seidna Secondary School in 1961. Unfired vessel fragments from the kiln sites at Debeira East and Faras were fired at various controlled temperatures until they exhibited the same hardness and colour tone as finished vessels found at the same sites.
40 However, the original Wares IIB, IIG, and IIH have been assigned to other groups. IIB and IIH are imported wares (now designated W28 and R25) in Family T; IIG is combined with the X-Group Red Ware R1 in Group N.II.
manufacturing centres were flourishing at the same time, and various divergent local traditions developed. The analytical problems raised by Meroitic pottery in this regard will be discussed further at the conclusion of the study;\(^\text{41}\) it is enough for the time being to outline those characteristics which are common to all Meroitic wheel-made pottery, both in Group N.I and in Family M (see above).

**Forms**: very wide variety of forms of all sizes, with heavy preponderance of small-mouth bottles and jars. Liquid containers of all kinds, including cups, conspicuous. Footed vessels rare. Scarcity of bowls and broad vessels generally suggests these may have been largely bronze in the Meroitic period.\(^\text{42}\)

**Painted decoration**: usual on vessels of all sizes. Elaborate, mostly representational motifs usually framed by horizontal borders;\(^\text{43}\) commonly several friezes in combination on the same vessel. Frequent balanced or alternating use of two colours in design filling. Interior decoration of bowls very rare. For examples see FIG. 4.

**Relief decoration**: not common. Repeating bands of very small stamp impressions on small cups and bowls, often in conjunction with painted stripes.\(^\text{44}\)

Many Meroitic design elements (the lotus flower, ankh, etc.) are clearly of Pharaonic Egyptian origin. Others like the vine wreath, as well as some vessel forms, are Hellenistic, while still others are of unknown, possibly local origin. White wares are somewhat more common than red wares, but both occur in approximately the same forms and with the same decorative motifs.

**Group N.II** comprises Nubian wheel-made wares of the X-Group period. While chronologically and technologically succeeding the Meroitic Group N.I, these wares are much more stylistically akin to the contemporary pottery of Roman Egypt, and in fact may be difficult to distinguish from the imported wares of Family T, which will be described later. Most X-Group vessel forms are found also in the Egyptian Group A.I and Family T,\(^\text{45}\) and are in fact copies of bronze forms found throughout the Roman Empire.\(^\text{46}\) Only a very few forms appear to have been carried over from the Meroitic period.\(^\text{47}\)

**Forms**: cups, goblets, broad, open bowls and small to medium size bottles and jars. Footed vessels other than goblets rare. Vessel walls generally thin.

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\(^\text{41}\) The concluding section of this report, including a discussion of some still unsolved problems, will appear in Kush xvi.

\(^\text{42}\) Bronze fragments are far more common in Meroitic sites than in those of any succeeding period.

\(^\text{43}\) Cf. Kush xii, pp. 148-50, Style g.

\(^\text{44}\) See Kush xii, p. 147, bottom.

\(^\text{45}\) See Mond and Myers, The Bucheaum, iii,pls. cxxvii-clx; Petrie, Elhiasya, pls. xxx-xxxiv; Schwartz and Wild, Fouilles Franco-Suisse, i, pl. xi.

\(^\text{46}\) See especially R. J. Charleston, Roman Pottery, pp. 5-24.

\(^\text{47}\) This problem will be taken up again at the conclusion of the report (Kush xvi).
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Painted decoration: sparse and very simple; confined to a few vessel forms. Mostly rather casual, unframed rows of spots, stripes, festoons, or occasionally combinations of these. Representational designs very rare. No known interior decoration.

Relief decoration: 1–6 very fine parallel incised grooves often found at or near widest part of vessel, between waist and shoulder.

The great bulk of X-Group pottery consists of red ware (Ware R1) which is highly standardized from one end of Nubia to the other, suggesting a limited number of sources. The one X-Group white ware (W11) is so markedly divergent from the red ware in nearly every respect, and so much less common, as to suggest that it must be the product of a wholly different centre. It may in fact be an import to Nubia.

Group N.III comprises the wares of the Early Christian period. These are a logical and direct outgrowth of the preceding X-Group wares, the difference being seen mainly in a slightly more formal and evolved decorative style and in a wholly new group of forms, most of which are of Egyptian inspiration. Footed bowls appear abundantly for the first time, including, toward the end of the period, the distinctive ledge-rim form (Fig. 2, nos. D76-7). The red wares in the group continue to show conspicuously the influence of Roman Egypt; both the prevailing forms and the prevalence of stamped decoration are in fact imitative of terra sigillata. The white wares exhibit a somewhat different group of forms, more frequent painted decoration, and in general show less foreign influence. Painted decoration, although more formal and precise than that of the X-Group, remains severely geometrical; there is nothing in the pottery to reflect the Christianization of Nubia which took place at this time.

Forms: most conspicuously plain and footed bowls, small bottles and lamps, and large storage jars. Modelled rims are common. Goblets and large bottles almost wholly absent. Vessel walls generally medium to thick.

Painted decoration: fairly common in white wares, rare in red wares. Very simple geometric designs usually framed by single lines above and below; only one design band per vessel. Occasional, simple interior decoration of bowls.

Relief decoration: stamped designs, either single or in combination, common in red wares and found occasionally in white wares. Chisel marking also occurs in all wares. One or two incised grooves below vessel rim very common.

In this group red wares and white wares are about equally common, signalizing the return to popularity of the latter. The two follow rather independent traditions

48 See Kush x, p. 265, Styles d, e.
49 At any rate it cannot be distinguished from white ware found plentifully in contemporary Egyptian sites. Consequently, pending clarification of its origins, Ware W11 is included both in Egyptian Family T and in Nubian Family N (Group N.II).
50 The chronological subdivisions of the Nubian Christian period are outlined in Kush xii, pp. 241–7.
51 See especially Felix Oswald and T. D. Pryce, An Introduction to the Study of Terra Sigillata.
52 See Kush x, p. 266, Style f.
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in regard to both form and painted decoration, as has already been noted. Actual painted designs are about the same for both red and white wares, but they are far less common in the red wares.

The more abundant Early Christian wares (R3, R5, and W2) are quite standardized despite their wide distribution in Nubia, and may be products of a common centre. Distinct from them in several respects are three polished wares (R10, W1 and W9) which are much less common but better made and better finished than their companions. They are almost certainly the special products of a single centre, perhaps in the far north of Nubia. They appear only in the first century of the Christian Nubian period (c. 600-700 A.D.).

Group N.IV is set off sharply by the introduction of the Classic Christian decorative style. Although there is obvious developmental continuity from the preceding period, there are also revolutionary changes in both form and decoration. This period witnesses the wholesale introduction of the vase (a tall, more or less cylindrical footed vessel), which until the end of the Christian period remains the most popular and characteristic decorated vessel form in Nubia. Vases and footed bowls together make up the bulk of decorated pottery through all later periods. Cups, goblets, and liquid containers of all kinds are surprisingly rare. Large vessel forms are from this time onward relegated almost entirely to the unpainted utility wares (Group NU, below).

Classic Christian painted decoration exhibits a considerable elaboration of the geometric designs of the Early Christian period. Alongside these there appear also representational designs (animals, birds, fish, and various flora), and the guilloche53 and other interlocking motifs. The source of these innovations has not been identified. Although reminiscent in many ways of Merotic decoration,54 there is certainly no continuity between the two artistic traditions in Nubia.

In Lower Nubia, elaborate and naturalistic painted decoration in the Classic Christian period seems to be associated exclusively with the products of the Potteries at Faras.55 When the Potteries ceased operation, perhaps around 950 A.D.,56 the fancy decorated wares disappeared fairly promptly from the local market. Lower Nubian wares of the later Classic period, although in other respects little different from their immediate predecessors, are much more simply decorated and in that respect more reminiscent of the Early Christian style found in Group N.III. The naturalistic tradition, then, appears as a rather short-lived stylistic intrusion in Lower Nubia, associated with a single factory. In Upper Nubia, however, it was even more strongly developed at Ghazali57 than at Faras, and here it seems to have survived until a considerably later date.

53 Sometimes called the ‘twisted cord’ or ‘rope’. See FIG. 5a, row 17.
54 Cf. KUSH xii, pp. 172-3.
55 See especially Griffith, LAAA XIII, pp. 63-5, and Adams, KUSH IX, pp. 30-43.
56 See KUSH X, pp. 281-4.
57 See P. L. Shinnie and H. N. Chittick, Ghazali—a Monastery in the Northern Sudan (SASOP, No. 5), pp. 28-63, pls. xvi-xxv.
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**Forms:** most conspicuously small, shallow plain bowls ('saucers'), broad footed bowls, and vases; also plates, small bottles, and open lamps. Most forms have rather low, heavy ring bases. Large vessels mostly in undecorated utility wares (Group NU). Vessel walls generally rather thick.

**Painted decoration:** nearly universal on vases; usual on 'saucers'; uncommon on footed bowls. Elaborate friezes, mostly curvilinear geometric or representational, framed by double lines above and below. Interior decoration of 'saucers' common, including first appearance of radial designs. Common multiple decoration (several decorative elements in combination on the same vessel). Frequent use of secondary decorative colour for filling in designs.

**Relief decoration:** fancy, seal-like centre stamps in 'saucers', usually painted red. No other common relief decoration.

In the Classic Christian period the white wares are almost wholly predominant. Both of the known red wares (R7 and R23) are extremely rare in northern Nubia, although they appear to be somewhat more common at Ghazali. In this period, however, we can observe the first emergence of a distinct yellow ware tradition, which in the next period (Group N.V) is joined also by an orange ware tradition. There is apparently no qualitative chemical difference between these wares and the white wares; they reflect rather an improved control over the variables of firing temperature and oxidation, insuring a uniform surface colour in the finished product. (In the X-Group and Early Christian periods it is impossible to distinguish between white, yellow, and orange wares, since any given vessel may exhibit all of these shades).

On the whole, Classic Christian pottery gives an impression of great variety and diversity in the early part of the period, reflecting multiple centres of manufacture, and of much less variety, much less abundance, and generally simpler decoration in the latter part of the period. Thus we have in effect to distinguish two Classic Christian styles (Table V and FIG. 5 a-b): an elaborate style (Style N.IVA) confined to the first century of the period, and a simpler style (Style N.IVB) which runs all the way through. Both occur concurrently during the first part of the period, and are found on the same wares.

**Group N.V** represents a short-lived transitional stage between the better-defined Classic and Late Christian norms. It is wholly derivative from the preceding period (Style N.IVB and the accompanying forms), and is marked by few important stylistic innovations. The group serves as a valuable horizon-marker for the archaeologist because of the introduction of a few easily recognized decorative devices (most conspicuously the 'scalloped diagonal', as illustrated in FIG. 5b, Groups 23 and 24), but is of little interest to the art historian.

The most distinctive features of Group N.V are the reappearance of red ware in significant quantities, and the emergence of a distinct orange ware tradition. Vases are more abundant and varied than in the preceding period, while other forms are less common. A temporary aberration of the group is the occasional use of a solid disc base in place of the usual ring, apparently in imitation of the Egyptian Ware Group A.IV which was popular at the same time.
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In painted decoration, Group N.V exhibits a continuation of several stylistic trends begun in the latter part of the Classic period. Increasingly popular are wide friezes in which clusters or 'bundles' of vertical lines run between widely spaced horizontal framing lines (cf. fig. 5b, row 21). The diagnostic interior decoration of this period is a radial pattern of 'veined leaves' (fig. 5b, row 24), which may or may not be intended as representational. Also noteworthy is the first appearance of 'bracket' designs (fig. 5b, row 23), which are a very conspicuous feature in the following period. The overall impression is one of geometric designs becoming increasingly rigid and increasingly 'busy' with the addition of more and more clusters of parallel lines.

**Forms:** mostly footed bowls and vases; no cups, goblets, or large vessel forms are definitely known. A unique form in this group is a broad, shallow plain bowl with sharply upturned rim (fig. 2, no. C36). Occasional solid disc bases on footed bowls. Vessel walls generally fairly thick.

**Painted decoration:** vessels nearly always decorated. 'Busy' and fairly elaborate geometric designs, both rectilinear and curvilinear, framed by either double or triple horizontal lines. Multiple decoration of several different elements common. Interior decoration of bowls usual; mostly radial pattern of 'veined leaves', with various embellishments. Occasional birds and fish as centrepieces. Use of secondary decorative colour very rare.

**Relief decoration:** none.

Quantitatively, Group N.V marks the nadir of the Nubian pottery industry, as Egyptian-made wares comprise over 50 per cent of the decorated pottery found in Lower Nubian sites at this time. The amount of material available for study is therefore not large, and the descriptions are undoubtedly incomplete.

The wares comprising Group N.V (except Ware W21) are a very homogeneous group, differing from each other only in colour and surface finish. Although they are found at least from Kasr Ibrim in the north to Old Dongola in the south, their uniformity almost certainly points to a single centre of manufacture, which has not yet been located. Ware W21, which is very rare in Lower Nubia, is distinct in a number of minor but consistent respects from the others in the group, and has a more southerly geographical distribution. It is probably the product of a factory somewhere near Ghazali.

Group N.VI is again a logical and direct outgrowth of its predecessor, and is marked by the emergence of a stable and distinctive Late Christian stylistic canon. All of the vessel forms found in Group N.V are also found here, plus a large number

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58 An unusually large number of vessel fragments in Group N.V have drilled perforations made for the purpose of 'sewing' together broken pieces, suggesting that these vessels may have acquired a special value as a result of their scarcity. Such mending, which is necessarily awkward at best, is much less commonly seen at other periods.

59 Identified in collections from Kasr Ibrim examined by the writer.

60 Identified in collections from Old Dongola examined by the writer.

61 Occasional sherds of Ware W21 are found in the Wadi Halfa area, but the only large collection of this ware is from the surface of a site near Merowe.
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of new ones. Vases are more numerous and varied than in any preceding period, and there are in addition decorated jugs, bottles, and pilgrim bottles. Cups and goblets reappear in quantity for the first time since the beginning of the Christian period.

‘Frilly’ is the word for Late Christian painted decoration. It is distinguished much more by ornateness of execution than by any inherent complexity of the designs. Motifs are more consistently rectilinear than in any previous period, consisting most often of vertical, diagonal, zig-zag, or crossed lines. Lines nearly always occur in pairs or in ‘bundles’ of 3 or more; designs are frilled at the edges with scallops and loops; acute angles formed by line intersections are filled in black; blank spaces in designs are spotted with miniature crosses, asterisks, or circles; and designs are always bordered horizontally by triple lines (cf. FIG. 5 a-b, col. N.VI). The end result is often a very ‘fussy’ impression somewhat reminiscent of a Persian carpet.

Forms: cups, plain and footed bowls, vases, and various kinds of small to medium size bottles. Ring base usual in larger vessels. Vessel walls generally thick, except in bottles.

Painted decoration: most vessels decorated. Ornate, rectilinear style mostly comprising bands and friezes made up of paired or ‘bundled’ lines, often embellished with scallops and frills, and with line angles filled. ‘Bracket’ designs very common and highly varied. Rectilinear radial patterns in bowls embellished in same fashion as exterior friezes. Designs normally bordered by triple framing lines. Multiple decoration common.

Relief decoration: none.

The wares in Group N.VI again form a homogeneous group which is a direct outgrowth of Group N.V, and unquestionably derive from the same source. Group N.VI is however far more abundant than its predecessor; Late Christian wares are in fact probably the most familiar of all Christian Nubian pottery wares. Particularly conspicuous on all late sites is the Polished Orange Ware R11.

Group N.VII, the last group of Nubian wheel-made pottery wares, is a highly diverse group whose members have little in common except that they are all found together in Terminal Christian sites. The most regularly decorated wares in the group (R28 and W14) are an obvious outgrowth of the preceding period, but tend to be consistently large and clumsy, representing a sort of hypertrophy of earlier developments. A surprising feature of these wares is the almost total absence of the ring base. The decorative style is closely similar to that of the Late Christian period but is somewhat simpler and bolder, and is distinguished by the frequent use of cross-hatched triangles and lozenges in designs.

Forms: highly variable by ware. Decorated wares R28 and W14 characterized by large, heavy vessels mostly with plain, rounded bases. Finer wares mostly small to medium size cups, bowls, and footed bowls.

Painted decoration: Wares R28 and W14 usually decorated with single bold friezes, framed either by triple lines or single very heavy lines. Designs mostly rectilinear, employing
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zig-zag lines, triangles, lozenges, and frequent elongated ovals. Execution usually in single
heavy lines, with very little 'bundling'. Finer wares often undecorated, or have very simple
linear designs.

Relief decoration: none.

The heavy wares in Group N.VII (R28 and W14) resemble those of the preceding
period more in their decorative style than in their forms, most of which are new to this
period. On the other hand the polished orange wares R26 and R27 continue to
appear in much finer, footed vessel forms, although now largely without painted
decoration. They seem to represent a wholly divergent tradition, no doubt taking its
inspiration from the polished orange Ware R11 in Group N.VI, but with the emphasis
now on form rather than decoration. Two additional wares in Group N.VII, R29
and W18, have still other peculiarities whose source has not been identified. They
are too rare to allow of detailed consideration.

In sum, Terminal Christian pottery is a very heterogeneous collection which
seems to signal the general breakup of the common Nubian tradition into a number of
disparate local trends. Where these might in time have led we can only conjecture,
for with the coming of Islam the wheel-made pottery industry presently disappeared
altogether in Nubia.

Group NU. Nubian wheel-made pottery includes, in addition to the finer wares
which have heretofore been described, a number of coarse, undecorated wares which
were used chiefly in the making of large utility vessels such as storage jars, amphorae,
and qadus (sagia pots). These were demonstrably made at the same time and in the
same places as were the decorated wares. Aside from having the same fabric,
however, their development was generally unaffected by that of the finer wares, and
for that reason they do not exhibit the distinctive stylistic characteristics of the
individual Ware Groups in Family N. Some of the utility wares in fact remained
unchanged for long periods of time, while the decorated wares evolved through a
number of distinct phases (i.e. Ware Groups).

The Nubian undecorated utility wares have, accordingly, been assigned to a
special utility Group NU rather than to the numbered Groups N.I–VII. There are
four wares in the group. The earliest, Ware U1, is an unslipped brown ware found in
conjunction with Meroitic and X-Group pottery (i.e. together with Ware Groups
N.I and N.II). It is confined almost entirely to qadus, very large jars, and ceramic
pipe; all other vessel forms in these periods are represented in the decorated wares.
Ware U5, the direct and immediate successor to U1, is brick-red in colour and
considerably harder than its predecessor, and is used for a much wider variety of
vessel forms. Although always coarse and unslipped, in the Early and early Classic

62 Unfired specimens of large utility vessels were found side by side with those of the
finer decorated wares both at the Debeira and Faras pottery factories. See KUSH IX, pp. 40–41
Fig. 1.
Relative abundance or scarcity of major vessel form classes in Nubian pottery, 300–1500 A.D. Thick line indicates abundance, fine line indicates scarcity, dashed line indicates uncertain or intermittent occurrence. Uncommon and non-distinctive form classes are omitted. For a complete listing of form classes and forms see Table IV.
Evolutionary development of some common Nubian vessel forms, 300-1500 A.D. Horizontal lines extending on either side of illustrated forms designate the time span during which the form was made. Lines beginning or ending with arrow points (→) rather than vertical bars (←) indicate that the illustrated form began earlier, or ended later, than the chart shows, due
<table>
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<th>Chr. I N.IVA</th>
<th>Classic N.IVB</th>
<th>Post-Classic N.V</th>
<th>Late Christian N.VI</th>
<th>Terminal Christian N.VII</th>
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**A. Cups**

**B. Goblets**

**C. Bowls**

**D. Footed Bowls**

**E. Vases**

**F. Lamps**

**W. Jars & Bottles**

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to space limitations. Lines extending between two illustrated forms, marked by arrow points at the beginning and end, indicate continuity of development from one form to the next. Numbers printed within the individual form illustrations should be read as if preceded by the letter designating the form class: e.g. A16, B22, C9, etc. See complete form classification, Table IV. Scale for all vessels approx. 1:6.
KUSH

Christian periods it sometimes has simple painted decoration in the currently prevailing styles. Ware U5 persists throughout the whole of the Christian period (in association with Groups N.III–VII), and is the principal ware used for all larger vessel forms in the Classic period. In the later periods (Groups N.V–VII) it is largely replaced by Ware U10, but remains the standard ware for qadus. Ware U10 is softer, pinker in colour, and has notably thinner vessel walls than U5. A concurrent variant, Ware U14, has the same fabric but has a pale pink or orange slip, and occurs in a special group of forms which are clearly imitative of the imported utility Ware U6.

General Evolutionary Tendencies

It may be well at this point to review categorically the evolutionary trends in Nubian wheel-made pottery during the twelve centuries or so from the late Meroitic to the end of the Christian period.

Fabric. While all Nubian pottery of Family N is made from Nile silt and tempered partly or largely with sand, some fairly consistent chronological changes can be observed in the course of its development. The fabric of Meroitic pottery (Group N.I) shows a wide diversity of colours and textures, suggesting multiple centres of origin. The general tendency is toward a medium brown or café-au-lait colour, fairly porous texture, and the use of abundant and fairly conspicuous sand temper.

The fabric in both X-Group and Early Christian pottery (Groups N.II–III) is much more consistent and homogeneous. It is generally somewhat redder in colour and finer in texture than in the Meroitic wares, the temper particles are so fine as to be occasionally almost invisible, and among them opaque black and white material is often more prevalent than sand. In the Early Christian period (Group N.III) the polished wares are notably harder and finer than are the matte wares, and seem to be products of a special industry.

The Classic Christian wares (Group N.IV) exhibit some of the same diversity of fabric as do the Meroitic wares, again pointing to a number of independent centres of manufacture. Some Classic wares have a fabric essentially the same as that of Group N.III. Pottery made at Faras, however, has a characteristically grey, buff, or pinkish brown fabric which is lighter in colour than that of any earlier wares. It is also somewhat coarser, with conspicuous and fairly large quartz sand as well as ground sherds or red brick in the temper, and with consistently harder vessel walls than are usual in earlier periods. These same qualities are found in nearly all of the wares in Groups N.V and N.VI, both of which are extremely homogeneous groups probably made at a single centre. In Group N.VII there is again considerable diversity: the plain wares have a quite fine, greyish paste while the heavier decorated wares have a much coarser fabric which often shades from buff at the surface to a light red-violet at the core.

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63 Cf. Kush x, p. 249, Fabric II.
64 See Lister, op. cit. (fn. 1), p. 7.
65 Cf. Kush x, p. 249, Fabric III.
PROGRESS REPORT ON NUBIAN POTTERY

Surfaces. In most Meroitic wares, individual vessels may be either matte or burnished; there seems to be no significant difference between the two. Ware R33 is an exception in this regard. It is always polished but never burnished,\textsuperscript{66} and in this and other characteristics stands out so sharply from the other Meroitic wares as to mark it almost certainly as the specialized product of a single kiln.

The great bulk of X-Group pottery has a matte finish. A light polish appears fairly consistently in the later examples of the Classic X-Group Red Ware R1, and is a regular feature of the Transitional Red Ware R2. The companion white Ware W11, which may be an import, is always matte.

In the Early Christian period the common red Ware R5 is polished, while the common white Ware W2 is matte. There is also a group of much less common white and orange wares, apparently products of a special centre, which are highly polished and glossy.

From the Classic period (Group N.IV) onward, each Nubian ware group includes counterpart polished and matte wares which are similar in forms and decoration, but different in colours and finish. The relative frequency of the two varies from period to period. The polished wares clearly predominate in the early Classic period (Group N.IV to 950 A.D.) and in the Late period (Group N.VI), while in the intervening later Classic period (950–1050 A.D.) and again in the Terminal period (Group N.VII) matte wares are far more numerous. In the Post-Classic Group N.V, the two are found in about equal proportions. In other words, there seems to be a ‘pendulum-swing’ between a preference for polished wares and a preference for matte wares.

Forms. The vessel forms popular in Nubia show a surprising variation over the centuries. Meroitic pottery (Group N.I and Family M) is conspicuous for its cups, bottles, small-mouth jars, and liquid containers generally. The number of open or wide-mouth vessel forms is exceedingly small. Most of the needs in this regard may have been supplied by bronze vessels, which are far more numerous in Meroitic sites than in any subsequent period. Footed vessels of all kinds are uncommon, although by no means unknown, in Meroitic pottery.

X-Group pottery likewise exhibits a high proportion of vessels intended for the storage or consumption of wine and other liquids. The actual forms, however, are entirely different from those of Meroitic pottery, and are largely imitative of Graeco-Roman prototypes. Footed goblets are the most conspicuous form class in this group. There are also large numbers of wide, shallow, plain bowls, imitative of metal forms and probably taking the place of actual metal vessels in the preceding period.\textsuperscript{67} Footed vessels, except for goblets, are still rare.

Goblets disappear altogether in the Early Christian period (Group N.III), and cups are rare after its first century. The most common of the finer vessels are plain bowls, but footed bowls also appear in numbers for the first time. Among them the

\textsuperscript{66} i.e. it has a smooth, uniformly glossy surface rather than a variegated or striated one.
\textsuperscript{67} For illustrations of similar vessels see Mond and Myers, \textit{The Bucheum}, III, pl. cxxxviii.
distinctive ledge-rim bowl (Fig. 2, nos. D77-8) makes its appearance near the end of the period. Continuing only through the first century of the Classic period in Lower Nubia, it constitutes one of the most distinctive of horizon-markers among individual Nubian vessel forms.

All of the ware groups from the Meroitic through the Early Christian period (Groups N.I–III) include considerable numbers of quite large decorated jars, both footed and plain. From the Classic period onward (Groups N.IV–VII) these larger forms are almost wholly relegated to the undecorated utility wares of Group NU; the later painted wares are represented only in small to medium-size vessels.

The Classic Christian period (Group N.IV) again brings radical changes in the prevailing pottery forms. There is an almost total absence of small-mouth vessels of any kind. Cups and goblets nearly disappear, to be replaced by small, shallow bowls ('saucers'). Aside from these the great majority of bowls are footed and are conspicuously large and broad. The most common single form has wide flaring sides and a somewhat turned-up rim (Fig. 2, no. D23). The outstanding innovation of the Classic period, however, is the vase, making its first appearance in quantity. The 'collared' vase (Fig. 2, no. F12) is one of the earliest and most conspicuous variants.

From the Classic Christian period onward the pace of change in Nubian pottery slows considerably. The great majority of known specimens in the rather uncommon Ware Group N.V are either broad footed bowls or vases, most of which are continued from Group N.IV. Collared vases, although still made, are considerably less common than are other vase forms. One vessel form which is unique to Group N.V is a flat, plain bowl with sharply turned-up edges (Fig. 2, no. C36).

Footed bowls and vases continue to predominate in the Late Christian period (Group N.VI). They are now rejoined by large numbers of cups and a few goblets, making their first significant appearance since the beginning of the Christian period. Plain bowls, mostly fairly broad, also reappear in quantity.

The Terminal Christian period (Group N.VII) is conspicuous for its diversity of styles and wares, and its lack of a clearly defined central tradition. The two most common decorated wares are marked by the almost total absence of footed vessel forms; they are represented chiefly in cups, plain bowls, and heavy, basin-like vases which are a unique feature of this period (Fig. 2, no. F30). The orange wares of Group N.VII more nearly continue the form traditions of the preceding period, and include cups, goblets, plain and footed bowls, and vases. In the footed bowls there is a tendency to a greater depth than in preceding periods, and to a hemispherical profile.

In Nubian pottery, specially modelled rims are characteristic of those periods (chiefly Groups N.II–III) when form was heavily influenced by metal prototypes.68 Most Meroitic as well as Classic and later Christian pottery has plain, rounded or tapered rims.

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68 The influence of imported prototypes, both metal and ceramic, on Nubian pottery will be discussed in the second instalment of this article, to appear in Kush XVI.
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Base rings are uncommon in the Meroitic period, rare in the X-Group period except in goblets, fairly common in the Early Christian period, and characteristic of most vessel forms from the Classic to the Late Christian period (Groups N.IV–VI). In the Terminal Group N.VII they are almost entirely absent from the heavy decorated wares while remaining characteristic of the simply decorated orange wares.

Nubian pottery never exhibits the very tall base rings which are characteristic of much imported pottery—partly because the relatively soft fabric does not lend itself to attenuation. Base rings in X-Group goblets are generally low but quite fine, while those in later periods tend rather consistently to be heavy and rather coarsely finished. Solid disc bases are found occasionally in the post-Classic period (Group N.V), while bases in the Terminal orange wares (Group N.VII) are often of a distinctive, tall form with a conical depression in the underside.

Among the decorated wares, handles occur chiefly in lekythoi, jugs, small amphorae, and pilgrim bottles. They are fairly common in Meroitic pottery but distinctly rare at all later times. The Nubian handle is typically a small, stout loop without embellishment, and is never developed as a distinct ornamental feature.

The average thickness of vessel walls varies from period to period. Meroitic vessels are extremely variable in this regard, but tend (in Group N.I) toward walls of average thickness. X-Group vessels (except in the possibly imported white Ware W11) are consistently thin-walled, in keeping with their imitation of metal. Early Christian vessels are again usually of moderate thickness, while those of the Classic and all later periods tend to be fairly thick. Individual wares, and especially the highly polished wares, are exceptions to this trend. On the other hand, the Terminal Christian decorated Wares W14 and R28 exhibit an almost exaggerated thickness of vessel walls.

*Colours.* The three basic pigments (probably kaolin, haematite, and manganese oxide) employed in the decoration of Nubian pottery remained the same throughout the whole of the post-Pharaonic era. However, preferences among them fluctuated noticeably from century to century. In addition, a more accurate manufacturing technology made possible the controlled differentiation of white, yellow, and orange wares after the Classic Christian period. The quantitative relationship between wares of different colours is schematized in FIG. 3.

Both red and white wares are abundant in the Meroitic period, the former being somewhat more common toward the end of the period. In X-Group times the white tradition has virtually disappeared—it is represented only by an uncommon and deviant ware (W11) which may well be an import. In the Early Christian period red and white wares are again about equally common, while in the succeeding Classic period the pendulum has swung completely in the opposite direction, and the red

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69 See fn. 49, above. That the making of white pottery did not wholly die out in Nubia at this time is attested by the finding of occasional undecorated white pieces which are obviously X-Group, and differ from the X-Group Red Ware R1 only in having a white slip.
wares have all but disappeared. At this point, however, the white wares diverge into separate white and yellow traditions, the latter being considerably the more common.

In the post-Classic period (Group N.V) there is a further division between yellow and orange wares, the latter becoming increasingly common and the former less so. Red ware also reappears in quantity, while genuinely white ware is quite rare. In the Late period the red and orange wares together comprise the great majority of Nubian pottery, the yellow ware being rare and the white ware exceedingly so.

![Fig. 3.](image)  
Approximate proportional frequency of red, orange, yellow, and white-slipped wares in Nubian wheel-made pottery, 300-1500 A.D. Orange, yellow, and white wares are undifferentiated before 800 A.D.; yellow and white wares are undifferentiated after 1350 A.D.

In the Terminal period (Group N.VII) the red ware again disappears, while new white wares appear. The pottery in this group consists about 2/3 of orange wares and 1/3 of yellow and white wares, which can no longer be clearly differentiated from each other.

As a general rule, the wares in any given ware group occur in the same forms and with the same decoration, regardless of colour. However, this is conspicuously not the case in Groups N.II and N.III. The ware divergence in these two groups is undoubtedly traceable to the influence of *terra sigillata* and the bronze vessels which in turn inspired it, and which obviously had enormous prestige in 6th and 7th century Egypt.

Both in Nubia and in Egypt, it is only the red wares which are made in imitation of bronze. This would seem to account for the virtual disappearance of white ware in the X-Group period, when the influence of metal prototypes was wholly predominant, and also for the divergent development of red and white wares in the Early Christian period. The red ware (R5) continues faithfully to imitate *terra sigillata* (in this case represented by the imported Egyptian Ware R4, which itself is an imitation), while the white ware occurs in rather different forms, and often also has painted decoration. Painted decoration also becomes more common on red wares toward the end of the Early Christian period, perhaps signalling a ‘Declaration of Independence’ from the long dominance of the imitation-bronze canon. The virtual disappearance of red wares in the Classic Christian period may be seen as further evidence of the same
reaction. When red wares reappear in later centuries, they are closely parallel to the
white wares in every respect save colour, and show no tendency to imitate other media.

*Painted decoration.* Painted decoration is a fairly consistent feature of post-
Pharaonic Nubian pottery. However, as might be expected, it varies enormously
from century to century in frequency and complexity as well as in the motifs and
designs employed. Despite some fairly rapid stylistic transformations, there is an

![Classification of Meroitic decorative motifs, Style N.IA, with examples of each. Lower-case letters designate specific motifs. Different classes of motifs are indicated by columns at extreme left and right. A few uncommon motifs are omitted.](image)

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obvious continuity of development from X-Group (Group N.II) to the end of the Christian period. It is only at the outset that there is a sharp and mysterious break in the continuum of artistic tradition.

The majority of Meroitic wheel-made pottery is decorated. Designs consist mostly of fairly elaborate curvilinear friezes, several of which may be employed in the decoration of a single vessel. Although highly formal and conventionalized, Meroitic pottery decoration is predominantly representational, and utilizes a wealth of human, animal, and floral motifs (FIG. 4). This characteristic sets it clearly and distinctly apart from nearly all later Nubian pottery.

X-Group pottery, by contrast to its predecessor, is very largely undecorated. Designs occur fairly consistently on a few goblet forms, but are wholly absent from many others, and from most larger vessels. They are confined to the simplest of abstract and geometric motifs, usually unframed, and are closely similar to Egyptian pottery decoration of the same period (Group A.I and Family T). On the other hand there is scarcely a trace of resemblance to Meroitic painted decoration, and this lack of correspondence remains one of the enduring puzzles in Nubian culture history.

Toward the end of the X-Group period one can observe the decorative style becoming slightly more precise and formalized (Style N.IIB), and in the Early Christian period it takes on a distinct, linear form (Style N.III). The great majority of designs are simple, framed friezes comprised of arches, scallops (inverted arches), or a wavy line. Most vessels have only a single, narrow band of such decoration.

The Classic Christian period introduces another stylistic revolution of sorts, although in this case it is essentially augmentative. The geometric designs of the Early period appear in somewhat more elaborate form, but they are now rejoined by various animals, birds, floral motifs, and interlocking ‘puzzle’ designs. Multiple decoration (several designs on the same vessel) is again common, and interior decoration appears consistently in bowls for the first time. Among its common forms is the radial design, consisting of one or two repeating elements radiating outward from a common centre (FIG. 5b, row 24).

Although representational designs are an outstanding feature of Classic Christian pottery, they are neither as numerous nor as elaborate as those of the Meroitic period. Their reappearance, moreover, was surprisingly short-lived. Most of the animal and floral designs vanished again after about a century, leaving geometric decoration (Style N.IVB) as the preponderant feature of the later Classic period. Birds and fish, however, can be found occasionally in post-Classic and Late Christian pottery decoration.

The geometric designs of the Early as well as the Classic Christian period can be described for the most part as curvilinear designs within rectilinear frames. From the later Classic to the Terminal period, the general trend is toward increasing formality, intricacy, and the replacement of curvilinear with rectilinear elements.

‘bundles’ of parallel lines are a conspicuous feature of post-Classic and Late Christian pottery decoration. They occur as repeating vertical elements in broad, framed friezes (FIG. 5b, row 21), within ‘brackets’ in narrow friezes (FIG. 5b, row 23),
and in various radial combinations (Fig. 5b row 24). Particularly in the Late period they are usually adorned with barbs, loops, and frills along the edges. Late Christian decoration is further distinguished by the filling of line intersections with triangles of solid black (Fig. 5a, col. N.VI).

The Late Christian Style N.VIA represents the climax of static formality in Nubian design. A marked simplification is observable in the succeeding Terminal period. Designs are closely similar to those of the Late period, but they are more boldly and simply executed: single heavy lines often take the place of ‘bundles’ of lines. Individual wares exhibit new and extremely simple styles.

In sum, Nubian pottery exhibits the same ‘pendulum swings’ of fashion as we have come to expect in the stylistic aspects of culture generally.\(^{70}\) In its use of horizontal lines to frame individual design friezes, however, it shows an intriguing uniformity of development almost from beginning to end. X-Group friezes are normally unframed, although a few designs are bordered by a single line above and below. Early Christian friezes are nearly always framed by single lines until late in the period, when double framing lines may occur either above the design or below, or both. Classic Christian designs (like most Meroitic designs) are always framed by double lines above and below; post-Classic designs have either double or triple framing lines; and Late Christian designs invariably have triple lines. Rarely has a stylistic development been more fortuitous for the archaeologist! Christian Nubian sherds can be roughly dated even from minute fragments of decoration, providing the framing lines are present.

The 0–1–2–3 sequence of development in framing lines holds true for all period except the first (Meroitic) and the last (Terminal Christian). In the latter period there may be either triple framing lines or a single, bold line. Terminal Christian and Meroitic pottery also share in common a practice not found in any intervening period: individual friezes on the same vessel are often separated from each other by broad stripes of plain red.

Relief decoration. In one form or another, relief decoration is found from the Meroitic to the Classic Christian period. In Meroitic pottery it occurs only as bands of repeating, small stamp impressions, usually alternating with painted stripes. X-Group pottery has no stamped designs, but many vessel forms have a series of fine, incised grooves encircling the vessel somewhere between the shoulder and the waist. Painted decoration may also be present on the same specimen, but the two forms of decoration are not closely co-ordinated.

Early Christian pottery shows the highest development of relief decoration in Nubia, undoubtedly reflecting again the influence of terra sigillata. Stamped decoration reappears abundantly, and in several forms. There are simple and complex centre stamps in bowls, bands made up of repeating impressions of one or several stamps, and individual stamp impressions on the sides of bowls and vases. This

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\(^{70}\) Cf. A. L. Kroeber, Configurations of Culture Growth, and Pitirim Sorokin, Social and Cultural Dynamics.
<table>
<thead>
<tr>
<th>Period</th>
<th>MOTIF KEY</th>
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<th>Transitional N.IIC</th>
<th>Early Christian N.III</th>
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Fig. 5a.
Evolution of common decorative motifs from X-Group to the end of the Christian period, 400-1500 A.D. Motif key columns are successive styles. For additional motifs see fig. 5b on following pages.
(Arabic numeral) and symbol are in column at far left; general classes of motifs are indicated in column at far right. Vertical
Fig. 5b.
Continuation of Fig. 5a (preceding pages) showing additional motifs. For explanation see Fig. 5a. A few uncommon
motif groups are omitted from both figures. See Table v for complete classification of Nubian pottery styles.
form of decoration is largely confined to the red wares, but white wares occasionally have single side-stamps. Fine incised grooves are common as in X-Group pottery, but now occur either singly or in pairs just below the vessel rim. Chisel marking is common on the exterior and undersides of footed bowls, apparently in imitation of the fluting popular in bronze bowls of the period. Occasionally moulded, raised rosettes are attached near vessel rims.

Relief decoration in the Classic Christian period occurs only in the form of small but elaborately wrought centre-stamps. These are sometimes designated as ‘seal’ designs; unlike the stamps of earlier periods they leave a design standing out in positive relief against an impressed background. Sometimes they are surrounded by ‘satellite’ impressions of a much smaller stamp. These designs are usually over-painted in red, and are sometimes employed in conjunction with other painted decoration.

At least in Lower Nubia, the centre-stamp disappears in the latter part of the Classic Christian period. For all practical purposes there is no relief decoration in later Nubian wheel-made pottery.

The Hand-Made Wares

Hand-made wares represent the second great tradition in Nubian pottery; one which has been continuous, in all probability, from Neolithic times to the present. These wares stand out sharply from all others, both native and imported, and were almost certainly made by women potters. Ethnographic as well as technical evidence suggests that they were pit-fired at fairly low temperatures, instead of being kiln-fired as were all of the wheel-made wares. The hand-made wares of the post-Pharaonic period are designated as Family D.

The fabric in Family D is not greatly different from that in Family N; both were made from coarse river silt and tempered largely with sand. However, the hand-made wares also consistently contain a good deal of chopped straw temper. The fabric is generally soft and rather crumbly because of the low firing temperature.

In characteristics other than fabric, the hand-made wares are totally different from the wheel-made wares, despite their contemporaneity of manufacture. The number of hand-made vessel forms is extremely limited, and the great majority of forms are sections of a spheroid in one sense or another. There is virtually no special formation of bases, rims, or handles. Some wares are entirely without surface finish or colouring, and have very coarse, bumpy surfaces. Surface colouring when present is generally in the form of a dry-rubbed coating of red pigment (ground haematite)

71 See Shinnie and Chittick, op. cit. (fn. 57), p. 63; Kent Weeks, The Classic Christian Townsite at Arminna West (Publications of the Pennsylvania-Yale Expedition to Egypt, No. 3), p. 60, Fig. 44, and pl. xi, f-h.
72 See, e.g., MacIver and Woolley, Ateika, p. 14; Reisner, Kerma iv, p. 324; Shinnie, Excavations at Soba (SASOP, No. 3), p. 82.
73 For ‘Domestic’.
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rather than a true, wet slip. For this reason the surface texture of coated pottery exhibits consistent and visible striation or burnishing marks, resulting from the action of the polishing pebble. This type of finish is not found in Nubian wheel-made pottery except in the Meroitic period.

Painted decoration in the hand-made wares is very rare and is found only in the Meroitic and Late Christian periods. Incised or scratched decoration is the more common form of embellishment in these wares. It is generally in the form of rather simple zig-zag or diagonal lines.

Fabric: coarse, tan to dark brown silt, generally soft and crumbly, tempered with quartz sand, various other solid particles of different sizes, and abundant, finely chopped straw.

Surfaces: very coarse and rough if uncoated; striated or rippled (burnished) if coated.

Forms: mostly rounded, plain bowls and globular pots and jars. Abundant small, open lamps in later periods.

Colours: mostly either natural tan or red-coated. Also black-coated ('smudged') wares in Meroitic and Late Christian periods.

Painted decoration: usually none. Occasionally simple linear decoration in Meroitic and Late Christian periods.

Relief decoration: simple, incised or scratched designs occur at all periods; more formal, banded decoration in Meroitic and Late Christian periods.

The ware groups included in Family D in the present classification do not, like Family N, comprise a complete story of pottery development in Nubia. They are part of a much longer and still on-going developmental process. The late Meroitic wares which make up Group D.I are the direct outgrowth of earlier hand-made wares of the Meroitic and Napatan periods, while those in Group D.III, at the close of the Christian period, are ancestral to later hand-made wares some of which are still being made.

While it is easy to identify and to characterize Family D as a whole, because of its many distinctive qualities, it is much harder to subdivide the family into ware groups and wares. This is due partly to the exoteric character of the hand-made industry, which makes for a great deal of random diversity, and partly to the general absence of distinctive decoration. Also, each group in Family D includes both coated wares and plain utility wares.

In keeping with the general conservatism associated with women’s cultural role, the Nubian hand-made wares exhibit far less conspicuous change over the centuries

\[74\] Burnishing is thus distinguished from polishing, which leaves a uniformly glossy surface without visible striation marks. See Firth, *ASN*, 1908–1909, I, p. 52, fn.


\[76\] See fn. 72, above.
than do the wheel-made wares. Only three chronological phases (Groups D.I–III) can be recognized between the Meroitic and the end of the Christian period, and even among these the differences are relatively minor.

Group D.I includes the hand-made wares of the Meroitic and early X-Group periods (to about 500 A.D.), corresponding to Group V in the Introductory Classification of Meroitic Pottery. It comprises one plain utility ware and four wares which are coated either red or black. All of the coated wares have consistently thick walls, while the plain ware is characteristically thin-walled. Two wares have simple painted decoration, one (Ware H12) essentially in the Meroitic style and one (H13) in the X-Group style. Another ware (H11) has very fine comb-pricked or incised decoration filled with white pigment, as in the C-Group tradition. The undecorated wares of Group D.I are quite common, making up perhaps 20 per cent of the total pottery found in Meroitic house sites.

Group D.II comprises the hand-made wares of the later X-Group and the first half of the Christian period. This group represents the nadir of the hand-made industry in terms of both quantity and variety. The only common ware is the uncoated and undecorated utility ware which is virtually unchanged from the preceding period, although the prevailing forms are different. A less common variant has a red coating only on the upper part of the vessel, or, in the case of bowls, on the interior only. The third ware in the group, which has all-over red coating, is confined to small bowls and cups. It differs from the red ware of Group D.I in that the vessel walls are consistently thin, and the red coating is usually of a darker shade. There are no black wares in Group D.II, and painted decoration does not occur. Incised decoration when present is extremely simple and informal.

Group D.III, the hand-made wares of the later Christian period, exhibits once again the abundance and variability found in the pre-Christian hand-made wares. The group as a whole is characterized by rather coarser, darker paste than is found in either of the earlier periods, and thin-walled vessels are virtually unknown. Forms include a large number of small, hemispherical lamps in addition to the usual assortment of rounded cups, bowls, and pots.

The three common wares in Group D.III are an uncoated utility ware, a burnished plain red ware, and a burnished plain black ware. After 1250 A.D. there appear two additional red wares, one with rather formal painted decoration in cross-hatched triangles and lozenges, and the other with similar decoration finely incised. There are also a few pieces of painted white ware.

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77 KUSH xii, p. 161.
78 See Steindorff, Aniba, i, pp. 65–87 and pls. 33–51.
79 This ware (H1) is considered as belonging to both Group D.I and D.II, since it usually cannot be differentiated in sherd form.
80 The origins of the late, decorated hand-made wares pose special problems which will be discussed at the conclusion of the second instalment of this report, in KUSH xvi.
PROGRESS REPORT ON NUBIAN POTTERY

These wares persisted after the Nubians abandoned pottery-making on the wheel in the Terminal Christian period, so that they are sometimes the only pottery found in the uppermost levels of late medieval sites.

Evolution in the Hand-Made Wares

Conservatism is the hallmark of Nubian hand-made pottery. From A-Group to modern times, these wares show less variation than do wheel-made wares in the course of two or three centuries. The evolutionary changes in the post-Pharaonic period can therefore be summed up much more briefly than was possible in the case of the wheel-made wares.

Fabric is essentially the same from the Meroitic to the later Christian period (Groups D.I–II). It is generally fairly soft, tan to brown in colour, and tempered abundantly with chopped straw. In the late Group D.III it becomes somewhat coarser and harder, with proportionately more sand and other hard materials and less straw in the temper. The colour often shades from a reddish brown at the surface to a very dark brown or black core.

Surface finish in the hand-made wares is a function of colouration. Uncoated plain wares have rough, bumpy surfaces. Coated (red or black) wares are burnished. Both types of vessels occur at all periods. In the Meroitic (Group D.I) and again in the later Christian (Group D.III) periods burnished wares are somewhat more prevalent than rough wares, while in the intervening period (Group D.II) the reverse is true.

Forms in hand-made pottery at all periods are primarily rounded bowls and bag-shaped pots and jars—all modifications on a spherical form in one way or another. The variety of forms occurring in the Meroitic and X-Group period (Group D.I) is much greater than that in the earlier Christian period (Group D.II), when hand-made pottery is scarce. In the later Christian period (Group D.III) it is again abundant, and the earlier forms are joined by a wide variety of simple, open lamps and censers. Somewhat angular forms appear in the late period as the hand-made wares begin for the first time to imitate and to replace wheel-made pottery.

For the most part, forms at all times are severely functional and without stylistic embellishment. Modelled rims, handles, and ring bases are almost entirely absent, although from time to time one encounters individual vessels made in imitation of wheel-made prototypes.

In the Meroitic and X-Group periods (Group D.I), the plain utility Ware H1 is characterized by remarkably thin walls, while all of the coated wares have quite thick walls. In the following period (Group D.II) all of the wares are fairly thin-walled, while the wares of the later Christian period (Group D.III) are conspicuously thick-walled.

Colours. Uncoated brown wares and coated red wares occur at all periods. A special peculiarity of the earlier Christian period (Group D.II) is a ware having red coating only around the top of the vessel, while the lower body is uncoated.81 Black,

---

81 This treatment is also characteristic of Noba pottery from Upper Nubia. See Garstang, Sayce and Griffith, op. cit. (fn. 75), pls. xli-xliv.
KUSH

smudged wares occur only in the pre-Christian (D.I) and later Christian (D.III) groups. One ware in the Meroitic period (Ware H11) has incised, white-filled decoration in the C-Group tradition.

Painted decoration in dark brown or black and white occurs in certain special wares of the Meroitic and very late Christian periods, but is not found in between (see below).

**Painted decoration** is not a common characteristic of Nubian hand-made pottery at any time, but painted wares do occur in the Meroitic period and again at the end of the Christian period. In Group D.I, thin-walled jars similar to the plain utility Ware H1 sometimes have a white slip applied over the upper body, on which are painted simple geometric designs in red-brown or black (Ware H12). The lower body usually remains uncoated. In the very early X-Group period some thick-walled red vessels (Ware H13) have simple, X-Group type designs applied in white.

In the very late Christian period, after 1250 A.D., there appears a fairly elaborately decorated hand-made ware (H7) which has been variously associated with the Funj and with the Bosnian occupation at Kasr Ibrim. Designs consist of finely executed cross-hatched friezes in black, sometimes with secondary white edging, on a burnished red or brown background. A very rare variant exhibits the same designs in black on an all-over white slip (Ware H14).

**Relief decoration,** mostly in incised form, is the characteristic embellishment of Nubian hand-made pottery throughout most of its history, finding its fullest expression in the white-filled all-over body designs of the C-Group. One rather uncommon polished black ware of the Meroitic period (Ware H11) continues this tradition, while all of the other burnished wares of Group D.I occasionally have somewhat coarser incised decoration.

Incised decoration in the earlier Christian period (Group D.II) is practically confined to diagonal, zig zag, or crossed scratches on the shoulders of jars and on the rims of bowls, and is not consistently present. In the later Christian period (Group D.III) much more elaborate and formal incised decoration reappears, and is found intermittently in all of the hand-made wares excepting those with painted decoration (see above). One late ware (H6), appearing after 1250 A.D., is characterized by very finely executed designs closely parallel to the painted decoration introduced at the same period in Ware H7, and is likewise thought to be associated with the Funj.

(The second part of this report, including a discussion of imported Egyptian wares and their relation to the native Nubian wares, will appear in **Kush xvi.**)

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82 Its highest development in earlier times is represented by the A-Group ‘variegated Haematitic’ or red-on-orange ware. See Steindorff, *Aniba,* i, p. 24, Type G.

83 See Kush xii, p. 151, Style j.

84 Both of these attributions are probably incorrect. This problem will be discussed further at the conclusion of the report, in Kush xvi.

85 See Steindorff, loc. cit. (fn. 78).

86 Pottery with very similar incised decoration can be seen in Crawford and Addison, op. cit. (fn. 75), p. 53 and pls. xxxii and xlvii. However, see fn. 84, above.
Fig. 6.
Evolutionary development in the Nubian hand-made wares (Family D), 300–1500 A.D.
**TABLE I**

**OUTLINE CLASSIFICATION OF POST-PHARAONIC POTTERY WARES**

*Native Wares*

<table>
<thead>
<tr>
<th>FAMILY M. MEROITIC FINE WARES (100–400 A.D.)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R35. Meroitic fine red ware</td>
</tr>
<tr>
<td>&quot; W26. Meroitic fine white ware</td>
</tr>
<tr>
<td>&quot; W27. Meroitic pale pink ware</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FAMILY N. NUBIAN ORDINARY WHEEL-MADE WARES (100–1500 A.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group N.I. Meroitic ordinary wares (100–400 A.D.)</strong></td>
</tr>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R32. Meroitic ordinary red ware</td>
</tr>
<tr>
<td>&quot; R33. Meroitic striped red ware</td>
</tr>
<tr>
<td>&quot; R34. Meroitic imitation Roman ware (200–400 A.D.)**</td>
</tr>
<tr>
<td>&quot; W25. Meroitic ordinary white ware</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Group N.II. X-Group wares (400–600 A.D.)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R1. Classic X-Group red ware</td>
</tr>
<tr>
<td>&quot; R2. Transitional red ware (550–650 A.D.)</td>
</tr>
<tr>
<td>&quot; W11. X-Group white ware (see also Family T)</td>
</tr>
<tr>
<td>&quot; W29. X-Group plain white ware</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Group N.III. Early Christian wares (600–850 A.D.)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R3. Early Christian matte red ware</td>
</tr>
<tr>
<td>&quot; R5. Early Christian polished red ware</td>
</tr>
<tr>
<td>&quot; R10. Transitional orange ware (600–700 A.D.)</td>
</tr>
<tr>
<td>&quot; W1. Early Christian peach ware (600–700 A.D.)</td>
</tr>
<tr>
<td>&quot; W2. Early Christian matte white ware</td>
</tr>
<tr>
<td>&quot; W9. Early Christian polished white ware (600–700 A.D.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Group N.IV. Classic Christian wares (850–1100 A.D.)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R7. Classic Christian fine red ware</td>
</tr>
<tr>
<td>&quot; R23. Classic Christian heavy red ware</td>
</tr>
<tr>
<td>&quot; W5. Classic Christian fine white ware (850–1000 A.D.)</td>
</tr>
<tr>
<td>&quot; W6. Classic Christian matte yellow ware</td>
</tr>
<tr>
<td>&quot; W10. Classic Christian polished yellow ware</td>
</tr>
<tr>
<td>&quot; W7. Classic Christian heavy white ware (850–1200 A.D.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Group N.V. Post-Classic Christian wares (1100–1200 A.D.)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R21. Post-Classic polished orange ware</td>
</tr>
<tr>
<td>&quot; R22. Post-Classic matte red ware</td>
</tr>
<tr>
<td>&quot; W20. Post-Classic polished yellow ware</td>
</tr>
<tr>
<td>&quot; W23. Post-Classic matte white ware</td>
</tr>
<tr>
<td>&quot; W21. Post-Classic southern yellow ware (1050–1150 A.D.)</td>
</tr>
<tr>
<td>&quot; W7. (continues unchanged from Group N.IV)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Group N.VI. Late Christian wares (1200–1350 A.D.)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ware</strong></td>
</tr>
<tr>
<td>R11. Late Christian polished orange ware</td>
</tr>
<tr>
<td>&quot; R17. Late Christian matte red ware</td>
</tr>
<tr>
<td>&quot; R19. Late Christian heavy decorated ware</td>
</tr>
<tr>
<td>&quot; W15. Late Christian matte white ware</td>
</tr>
<tr>
<td>&quot; W16. Late Christian polished yellow ware</td>
</tr>
</tbody>
</table>
### PROGRESS REPORT ON NUBIAN POTTERY

#### TABLE I (continued)

**Group N.VII. Terminal Christian wares (1350–1500 A.D.)**
- Ware R20. Terminal Christian heavy red ware
- „ R26. Terminal Christian polished orange ware
- „ R27. Terminal Christian matte orange ware
- „ R28. Terminal Christian dull orange ware
- „ R29. Terminal Christian decorated brown ware
- „ W14. Terminal Christian decorated white ware
- „ W18. Terminal Christian thin white ware

**Group N.V. Nubian coarse utility wares (100–1500 A.D.)**
- Ware U1. Pre-Christian brown utility ware (100–600 A.D.)
- „ U5. Christian red utility ware (600–1500 A.D.)
- „ U10. Later Christian pink utility ware (1100–1500 A.D.)

**Family D. Nubian Hand-Made Wares (100–1500 A.D.)**

**Group D.I. Meroitic domestic wares (100–500 A.D.)**
- Ware H1. Early domestic plain utility ware (100–1100 A.D.)
- „ H9. Meroitic burnished domestic ware (100–400 A.D.)
- „ H11. Meroitic fine black domestic ware (100–350 A.D.)
- „ H12. Meroitic painted domestic ware (100–400 A.D.)
- „ H13. Meroitic white-on-red domestic ware (400–500 A.D.)

**Group D.II. X-Group and Earlier Christian domestic wares (500–1100 A.D.)**
- Ware H1. (continues unchanged from Group D.I)
- „ H2. Earlier Christian red-topped domestic ware
- „ H3. Earlier Christian red domestic ware

**Group D.III. Later Christian domestic wares (1100–1500 A.D.)**
- Ware H4. Later domestic plain utility ware
- „ H5. Later Christian red domestic ware
- „ H8. Later Christian black domestic ware
- „ H6. Late Christian incised domestic ware (1350–1500 A.D.)
- „ H7. Late Christian painted red domestic ware (1350–1500 A.D.)
- „ H14. Late Christian painted white domestic ware (1350–1500 A.D.)

#### Imported Wares

**Family A. Aswan Factory Wares (200–1500 A.D.)**

**Group A.I. Graeco-Roman wares (200–500 A.D.)**
- Ware R30. Aswan Graeco-Roman red ware
- „ R31. Aswan Graeco-Roman plain pink ware (400–550 A.D.)
- „ W24. Aswan Graeco-Roman cream ware

**Group A.II. Byzantine wares (500–750 A.D.)**
- Ware R4. Aswan Byzantine polished red ware
- „ W3. Aswan Byzantine cream ware
- „ U2. Aswan Byzantine pink utility ware

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TABLE I (continued)

**Group A.III. Early Islamic wares (750–1050 A.D.)**
- Ware R12. Aswan Early Islamic decorated red ware (750–950 A.D.)
- " R13. Aswan Islamic plain red ware (750–1300 A.D.)
- " W22. Aswan Early Islamic white ware
- " U8. Aswan Early Islamic red utility ware

**Group A.IV. Medieval wares (1050–1500 A.D.)**
- Ware R13. (continues unchanged from Group A.III)
  - " R24. Aswan Medieval decorated red ware (1050–1300 A.D.)
  - " W12. Aswan Medieval white ware (1050–1300 A.D.)
  - " U6. Aswan Medieval grey utility ware
  - " G.V. Aswan glazed utility ware (1400–1500 A.D.)

**Family T. Middle Egyptian Factory Wares (100–750 A.D.)**
- Ware R25. Middle Egyptian fine brown ware (350–500 A.D.)
  - " W28. Middle Egyptian plain white ware (350–500 A.D.)
  - " W11. X-Group white ware (see also Group N.II)
  - " U4. Middle Egyptian brown utility ware (100–750 A.D.)

**Family L. Lower Egyptian Factory Wares (100–1500 A.D.)**
  **Sub-family LB. 'Ballas' wares (300–1500 A.D.)**
  - Ware U16. Roman Ballas ware (300–500 A.D.)
    - " U12. Ballas drab utility ware (500–1500 A.D.)

  **Sub-family LF. 'Fostat' wares (500–1500 A.D.)**
  - Ware U13. Fostat green utility ware (500–1500 A.D.)
    - " U19. Fostat decorated utility ware (1000–1150 A.D.)

**Glaze Group G.III. Dull glazed wares (1150–1300 A.D.)**

**Sub-family LG. Lower Egyptian buff wares (100–1300 A.D.)**
  - Ware U17. Drab-washed utility ware (1050–1300 A.D.)
  - " U20. Painted buff utility ware (c. 100 A.D. ?)

**Glaze Group G.I. Early gloss glazed wares (1050–1150 A.D.)**
**Glaze Group G.III. Dull Glazed wares (see also Sub-family LF)**

**Sub-family LS. 'Saqqara' wares**
- Ware U3. Saqqara buff amphora ware (500–550 A.D.)
  - " U15. Saqqara smooth utility ware (1300–1400 A.D.)
  - ? Drab-washed utility ware?

**Family E. Lower Egyptian Mameluke Wares (1300–1500 A.D.)**
- Ware U20. Mameluke thin utility ware
  - " U21. Mameluke heavy utility ware

**Glaze Group G.IV. Mameluke glazed wares**

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**PROGRESS REPORT ON NUBIAN POTTERY**

**TABLE I (continued)**

**Unclassified Wares**

<table>
<thead>
<tr>
<th>Ware</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U18</td>
<td>Micaceous brown utility ware (200–400 A.D.)</td>
</tr>
<tr>
<td>G.II</td>
<td>Later gloss glazed wares (1150–1500 A.D.)</td>
</tr>
</tbody>
</table>

*Approximate dates for the group as a whole.
**Approximate dates are given for individual wares only when different from the dates of the group as a whole.
***Approximate dates for imported wares are dates of importation into Nubia.

**TABLE II**

**Outline of Categories Included in Ware Descriptions**

**Method of Manufacture**

**Fabric**
- Paste (clay, marl, silt, etc.)
- Density
- Texture
- Colour
- Hardness (including fracture)
- Solid temper (components and frequency)
- Organic temper (components and frequency)
- Standardization
- Remarks

**Surfaces**
- Natural colour (if seen)
- Slip (thickness and hardness, inside and out)
- Finish (visible properties, inside and out)
- Texture (tactile properties, inside and out)
- Configuration (level, ribbed, scored, etc.)
- Standardization
- Remarks

**Forms**
- Most common forms (reference to Form Classification Table IV)
- Other regular forms (reference to Form Classification)
- Doubtful forms
- Sizes of vessels
- Rims (special characteristics of formation, if any)
- Bases (special characteristics of formation, if any)
- Thickness of vessel walls
- Execution (quality of shaping and finish)
- Standardization
- Remarks
TABLE II (continued)

COLOURS
- Slip (colour including shadings, inside and out)
- Primary decoration (colours carrying body of painted design)
- Secondary decoration (colours used as background or filling in designs)
- Colour of rim stripe (if any)
- Standardization
- Remarks

PAINTED DECORATION
- Frequency (percentage of vessels decorated)
- Principal styles (reference to Style Classification Table V)
- Other styles (reference to Style Classification)
- Exterior decoration (distribution of designs on vessels)
- Interior decoration (distribution of designs on vessels)
- Delineation (fineness or boldness of lines in designs)
- Execution (quality of draughtsmanship)
- Standardization
- Remarks

RELIEF DECORATION
- Frequency (percentage of vessels decorated)
- Types of relief decoration
- Distribution (placement of elements on vessel)
- Maker's marks
- Owner's marks
- Remarks

EVALUATION OF DESCRIPTION
- Material (abundance and completeness of specimens studied)
- Adequacy of description (probability of completeness)
- Standardization (extent of known deviations from described norms)
- Temporal variation (changes of ware in time)
- Geographical variation (differences of ware from area to area)
- Intergradations (extent of overlap with other wares)
- Diagnostics (unique characteristics of the ware as a whole)
- Problems (inadequate areas of information or differentiation)

CULTURAL AND HISTORICAL SIGNIFICANCE
- Time (inclusive dates when ware was made, or traded into Nubia)
- Area (geographical range in which found)
- Centre (place of manufacture or greatest frequency)
- Frequency (abundance or scarcity of the ware overall)
- Relationships (historical relationships to other wares)
- Associations (other wares with which usually found)
- Remarks

REFERENCES
- (Published descriptions and illustrations of the ware)

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PROGRESS REPORT ON NUBIAN POTTERY

TABLE III

EXAMPLE OF WARE DESCRIPTION

FAMILY N.  

WARE W2. E A R L Y  C H R I S T I A N  M A T T E  W H I T E  W A R E  
(Formerly Ware 12 and Ware 18)

Basic white ware of the Early Christian period, found abundantly all over Nubia and probably made at several centres. It is much more common than the finer white wares W1 and W9. Despite its wide distribution the ware is remarkably homogeneous wherever found.

MANUFACTURE: Wheel-made.


FORMS: Most common forms: cups, bowls, footed bowls, plates, small pots and bottles, lamps, lids, jars (illustrated). Other forms: goblets, vases, large pots (illustrated). Doubtful forms: A7, A23, C51, C56, G10-12, G18, G20, T10, W23 (not illustrated). Sizes: small to large. Rims: usually thick, rounded; sometimes modelled. Bases: ring bases heavy and low, often crudely finished. Thickness walls: medium to fairly thick. Execution: variable; rarely finely finished. Standardization: most forms highly standardized. Remarks: most common forms are specific to this ware; a few footed bowl forms are copied from Ware R5.

COLOURS: Slip: exterior most often cream but shading to very pale yellow, orange, pink, or yellow-ochre; interiors usually chalky white or unslip. Primary decorative colour: medium to dark red or vermilion; less commonly dark red-brown shading to black. Secondary decorative colour: usually none; occasionally red background stripe under black design, or red filling in plain body stripes. Rim stripe: common; almost always red. Standardization: high variability of slip colour, especially in larger vessel forms, resulting from uneven oxidation. Remarks: bichrome decoration is very uncommon except in plain body stripes. The ware is usually red-on-white, much less often black-on-white, and still less often black and red-on-white.

PAINTED DECORATION: Frequency: usual; almost universal in larger vessels. Principal styles: V and N.III, including nearly all its known elements and motifs. Other styles: II, VI. Exterior decoration: one narrow band or frieze on upper vessel body plus rim stripe when present. Interior decoration: uncommon; occasional simple centre spot designs in small bowls. Delineation: variable; generally medium fine to bold. Execution: variable; often rather casual and uneven. Standardization: fairly high. Remarks: this ware is much more consistently decorated than any other in Group N.III, and is the only one which exhibits the full range of decoration in Style N.III.

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TABLE III (continued)

RELIEF DECORATION: Frequency: fairly common. Types: 1 or occasionally 2 collar grooves; fine overall corrugation on some bowl forms; rare stuck-on rosettes. Distribution: decoration mostly just below exterior rim. Maker’s marks: none seen. Owner’s marks: none seen.

EVALUATION: Material: abundant, including many whole vessels. Adequacy description: probably fairly complete. Standardization: high. Temporal variation: early specimens tend to have very thin slip, often ‘dirty’ pale yellow-ochre colour, are less often and less elaborately decorated than later. Some appearance of low polish in late specimens. Geographical variation: not established. Intergradations: some intergradations with wares W1 and W9; differentiation can be difficult in weathered specimens where high polish is not preserved. Intergradation with successor Ware W6 at end. Diagnostics: only matte white ware with Style N.III decoration. Problems: historical antecedents and relationship with Ware W11.

SIGNIFICANCE: Time: 550–850 A.D. Area: First to Fourth Cataracts, at least. Centres: not fully established. Made at Faras and Serra; probably also at other places. Frequency: abundant. Relationships: ancestry uncertain, in the sense that there is no definitely Nubian decorated white ware in Group N.II. Ware W11 is certainly the inspiration for storage jars and some other large forms in Ware W2. Many smaller forms have no white antecedents, and seem to be copied from the contemporary red wares R2–5. Wares W1 and W9 would appear to be better-made local variants of W2 with a very restricted distribution. Around 850 A.D. Ware W2 evolves directly into Classic Christian Wares W6 and W10, with change in decorative style and in prevailing forms. Associations: always found with Ware R5, and often also with other members of Group N.III; utility ware U5; domestic Group D.II; imported Group A.II (to 750 A.D.).

REFERENCES: Griffith, LAAA, xiv, pl. lix, nos. 10–14, 19; Monneret de Villard, La Nubia Medioevale, iv, pl. clxxxiii, no. 6, pl. cxci, no. 61, pl. cxciv, no. 82; Shinnie and Chittick, Ghazali, pp. 30–35, Class IV (in part); Woolley, Karanog, the Town, p. 42.

TABLE IV

OUTLINE OF FORM CLASSIFICATION

TABLE VESSELS

A. Cups

<table>
<thead>
<tr>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–5</td>
<td>Plain rim, sides tapered in, squat</td>
</tr>
<tr>
<td>6–8</td>
<td>&quot; &quot; &quot; &quot; &quot; &quot; tall</td>
</tr>
<tr>
<td>9–13</td>
<td>&quot; &quot; &quot; sides rounded up</td>
</tr>
<tr>
<td>14–18</td>
<td>&quot; &quot; &quot; sides straight, angular</td>
</tr>
<tr>
<td>19–22</td>
<td>&quot; &quot; &quot; sides tapered out, rounded</td>
</tr>
<tr>
<td>23–27</td>
<td>&quot; &quot; &quot; &quot; &quot; angular</td>
</tr>
<tr>
<td>28–29</td>
<td>Modelled rim, sides tapered out</td>
</tr>
<tr>
<td>30–31</td>
<td>&quot; &quot; &quot; sides tapered in</td>
</tr>
</tbody>
</table>

B. Goblets (footed cups)

<table>
<thead>
<tr>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–6</td>
<td>Sides tapered in, rounded, plain rim</td>
</tr>
<tr>
<td>7–11</td>
<td>&quot; &quot; &quot; &quot; &quot; modelled rim</td>
</tr>
<tr>
<td>12–13</td>
<td>&quot; &quot; &quot; &quot; &quot; pedestalled</td>
</tr>
<tr>
<td>14–19</td>
<td>&quot; &quot; &quot; angular</td>
</tr>
<tr>
<td>20–25</td>
<td>Sides straight</td>
</tr>
<tr>
<td>26–29</td>
<td>Sides recurved</td>
</tr>
<tr>
<td>30–34</td>
<td>Sides flared out, tall</td>
</tr>
<tr>
<td>35–39</td>
<td>&quot; &quot; &quot; squat</td>
</tr>
</tbody>
</table>
### PROGRESS REPORT ON NUBIAN POTTERY

#### TABLE IV (continued)

#### C. Bowls

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Plain rim, sides tapered in, broad</td>
</tr>
<tr>
<td>5-6</td>
<td>&quot; &quot; &quot; &quot; &quot; angular</td>
</tr>
<tr>
<td>7-14</td>
<td>&quot; &quot; &quot; &quot; &quot; squat</td>
</tr>
<tr>
<td>15-23</td>
<td>&quot; &quot; &quot; &quot; &quot; rounded up, broad</td>
</tr>
<tr>
<td>24-30</td>
<td>&quot; &quot; &quot; &quot; &quot; narrow</td>
</tr>
<tr>
<td>31-34</td>
<td>&quot; &quot; &quot; &quot; &quot; straight</td>
</tr>
<tr>
<td>35-39</td>
<td>&quot; &quot; &quot; &quot; &quot; tapered out, rim turned up</td>
</tr>
<tr>
<td>40-43</td>
<td>&quot; &quot; &quot; &quot; &quot; recurved</td>
</tr>
<tr>
<td>44-52</td>
<td>&quot; &quot; &quot; &quot; &quot; angular</td>
</tr>
<tr>
<td>53-58</td>
<td>Modelled rim, sides tapered in, rounded</td>
</tr>
<tr>
<td>59-63</td>
<td>&quot; &quot; &quot; &quot; &quot; angular</td>
</tr>
<tr>
<td>64-70</td>
<td>&quot; &quot; &quot; &quot; &quot; sides rounded up, inset rim</td>
</tr>
<tr>
<td>71-77</td>
<td>&quot; &quot; &quot; &quot; &quot; recurved rim</td>
</tr>
<tr>
<td>78-83</td>
<td>&quot; &quot; &quot; &quot; &quot; flange rim</td>
</tr>
<tr>
<td>84-87</td>
<td>&quot; &quot; &quot; sides straight</td>
</tr>
<tr>
<td>88-92</td>
<td>&quot; &quot; &quot; sides tapered out</td>
</tr>
<tr>
<td>93-95</td>
<td>‘Chimneyed’</td>
</tr>
</tbody>
</table>

#### D. Footed Bowls

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>Plain rim, incurved rim, broad</td>
</tr>
<tr>
<td>5-11</td>
<td>&quot; &quot; &quot; &quot; &quot; tall</td>
</tr>
<tr>
<td>12-19</td>
<td>&quot; &quot; &quot; &quot; &quot; sides rounded up</td>
</tr>
<tr>
<td>20-29</td>
<td>&quot; &quot; &quot; &quot; &quot; sides flared out, rim turned up</td>
</tr>
<tr>
<td>30-32</td>
<td>&quot; &quot; &quot; &quot; &quot; broad</td>
</tr>
<tr>
<td>33-36</td>
<td>&quot; &quot; &quot; &quot; &quot; tall</td>
</tr>
<tr>
<td>37-42</td>
<td>Modelled rim, sides tapered in</td>
</tr>
<tr>
<td>43-50</td>
<td>&quot; &quot; &quot; &quot; &quot; sides rounded up, flange rim</td>
</tr>
<tr>
<td>51-56</td>
<td>&quot; &quot; &quot; &quot; &quot; collared</td>
</tr>
<tr>
<td>57-60</td>
<td>&quot; &quot; &quot; &quot; &quot; sides flared out, carinated rim</td>
</tr>
<tr>
<td>61-66</td>
<td>&quot; &quot; &quot; &quot; &quot; recurved</td>
</tr>
<tr>
<td>67-75</td>
<td>&quot; &quot; &quot; &quot; &quot; ‘samian’ rim</td>
</tr>
<tr>
<td>76-86</td>
<td>&quot; &quot; &quot; &quot; &quot; ledge rim</td>
</tr>
</tbody>
</table>

#### E. Plates

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Plain rim</td>
</tr>
<tr>
<td>3-8</td>
<td>Modelled rim, bead rim</td>
</tr>
<tr>
<td>9-12</td>
<td>&quot; &quot; ledge rim</td>
</tr>
</tbody>
</table>

#### F. Vases

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>Sides tapered in, plain rim</td>
</tr>
<tr>
<td>4-8</td>
<td>&quot; &quot; flange rim</td>
</tr>
<tr>
<td>9-14</td>
<td>&quot; &quot; collared</td>
</tr>
<tr>
<td>15-20</td>
<td>&quot; &quot; everted rim</td>
</tr>
<tr>
<td>21-23</td>
<td>&quot; &quot; necked</td>
</tr>
<tr>
<td>24-27</td>
<td>Sides straight, plain rim</td>
</tr>
<tr>
<td>28-32</td>
<td>&quot; &quot; modelled rim</td>
</tr>
</tbody>
</table>
KUSH

TABLE IV (continued)

LIQUID SERVERS

G. Small pots and bottles
   1–6 Round body, extra long neck
   7–12 " " long neck
   13–17 " " wide neck
   18–22 " " short neck
   23–26 Tall body
   27–29 Squat body, plain medium neck
   30–33 " " narrow neck
   34–35 " " flat bottom
   36–38 " " wide mouth
   39–42 Spouted
   43–45 Cylindrical body

H. Qullas (filter-neck water bottles)
   1–2 Plain base
   3–5 Footed

I. Jugs (pitchers)
   1–3 Plain base, rounded sides
   4–8 " " straight sides
   9–13 Footed, tear-drop shape
   14–15 " " elongate tear-drop shape
   16–20 " " squat body
   21–22 Angular body, tapering sides
   23–24 " " straight sides

J. Small amphorae
   1–3 Plain base
   4–9 Footed, high shoulder
   10–11 " " low shoulder
   12–13 " " straight sides
   14–17 " " spouted

K. Pilgrim bottles
   1–3 Pilgrim bottles

SMALL SPECIAL VESSELS

L. Beakers
   1–2 Rounded sides
   3–5 Straight sides

M. Lekythoi
   1–2 Round body, plain base
   3–7 " " footed
   8–11 Tall body
   12 Cylindrical body, one handle
   13–14 " " two handles

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**PROGRESS REPORT ON NUBIAN POTTERY**

**TABLE IV (continued)**

**N. Oil bottles**
1–2  Round body  
3–6  Tall body  
7–11  Squat body  
12–13  Footed

**O. Ointment jars**
1–3  Ointment jars

**P. Lamps**
1–4  Mould-made  
5–10  ‘Aladdin’ type, with handles  
11–12  ”  ”  without handles  
13–16  ”  ”  necked  
17–21  ‘Candle-holder’ type  
22–23  Open dish type, straight sides  
24–27  ”  ”  ”  rounded sides  
28–29  ”  ”  ”  out-flared sides  
30–33  ”  ”  ”  footed  
34–36  Bottle type

**Q. Lids**
1–2  Arched, scalloped edge  
3–7  ”  plain edge  
8–9  ”  turned-down edge  
10–11  ”  everted edge  
12–14  ”  flanged  
15–20  Flat, with handles  
21–22  ”  without handles

**R. Censers**
1–2  Censers

**LARGE UTILITY VESSELS**

**S. Dokas (bread griddles)**
1–3  Dokas

**T. Basins**
1–4  Rounded body, straight sides  
5–7  ”  ”  recurved rim  
8–13  Angular body

**U. Pots (wide-mouth vessels)**
1–5  Sides tapered in, plain rim  
6–8  ”  ”  ”  modelled rim  
9–15  ”  ”  ”  recurved rim  
16–21  ”  ”  ”  angular profile  
22–25  ”  ”  ”  flared rim  
26–27  ”  ”  ”  necked  
28–34  Sides straight, broad  
35–37  ”  ”  slender
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V.  *Qadus* (saqia pots)
    1–5  Qadus

W.  *Jars* (narrow-mouth vessels)
    1–8  Wide mouth, short neck, plain rim
    9–12 "  "  "  "  everted rim
    13–15 "  "  "  "  tall body
    16–20 "  "  "  "  low shoulder
    21–22 "  "  "  "  elongate body
    23–27 Medium mouth, medium length neck
    28–30 "  "  "  long neck
    31–32 "  "  "  very long neck
    33–35 Narrow mouth, short neck
    36–38 "  "  "  long neck

X.  *Footed jars*
    1–5  Neckless, plain
    6–8  "  handled
    9–12 Composite
    13–19 Necked

Y.  *Storage jars*
    1–6  Neckless
    7–10 Necked

Z.  *Amphorae*
    1–9  Tall body
    10–16 Round body
    17–19 Suspension pot, elongate
    20–21 "  "  round
    22–23 "  "  necked
    24–30 Footed

ZZ.  *Keeps*
    1–4  Keeps

---

**TABLE V**

**OUTLINE CLASSIFICATION OF POST-PHARAONIC POTTERY STYLES**

**GENERAL STYLES** (found in all groups and periods)

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Red slipped, no painted decoration</td>
</tr>
<tr>
<td>II</td>
<td>White slipped, no painted decoration</td>
</tr>
<tr>
<td>III</td>
<td>Red and white slipped, no painted decoration</td>
</tr>
<tr>
<td>IV</td>
<td>Smudged brown or black, no painted decoration</td>
</tr>
<tr>
<td>V</td>
<td>Rim stripe only</td>
</tr>
<tr>
<td>VI</td>
<td>Plain body stripes only</td>
</tr>
<tr>
<td>X</td>
<td>Unslipped, no painted decoration</td>
</tr>
</tbody>
</table>
**Families M and N**

*Family M and Group N.I*

- Style N.IA. Meroitic fancy style
- " N.IB. Meroitic banded style
- " N.IC. Meroitic pseudo-Roman style
- (Ware R33)* Meroitic special striped ware*

*Group N.II*

- Style N.IIA. Classic X-Group style
- " N.IIB. X-Group white style
- " N.IIC. Transitional style

*Group N.III*

- Style N.III. Early Christian style
- (Ware R10)* Transitional orange ware*

*Group N.IV*

- Style N.IVA. Classic Christian fancy style
- " N.IVB. Classic Christian geometric style
- (Ware R7)* Classic Christian red ware*

*Group N.V*

- Style N.VA. Post-Classic Christian style
- " N.VB. Post-Classic style, southern variant

*Group N.VI*

- Style N.VIA. Late Christian fancy style
- " N.VIB. Late Christian inscribed style

*Group N.VII*

- Style N.VII. Terminal Christian style
- (Ware R20)* Terminal Christian heavy red ware*
- (Ware R26)* Terminal Christian polished orange ware*
- (Ware R29)* Terminal Christian decorated brown ware*
- (Ware W18)* Terminal Christian thin white ware*

**Family D**

*Group D.I*

- Style D.IA. Meroitic domestic fancy style
- " D.IB. Meroitic domestic white-on-red style

*Group D.II*

(no painted decoration)

*Group D.III*

- Style D.III. Late Christian domestic style

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TABLE V (continued)

FAMILY A

Group A.I

Style A.IA.  Aswan Hellenistic style
„  A.IB.  Aswan Roman style
(Ware R31)*  Aswan plain pink ware*

Group A.II

Style A.II.  Aswan Byzantine style

Group A.III

Style A.III.  Aswan Early Islamic style
(Ware R12)*  Aswan Early Islamic decorated red ware*

Group A.IV

Style A.IV.  Aswan Medieval style

*Styles found only in a single ware.
Paleolithic and Late Neolithic Sites Excavated by the Fourth Colorado Expedition

by Roy L. Carlson and John S. Sigstad

The University of Colorado's fourth Nubian expedition spent six months from late October, 1965, through January, 1966, in Nubia and from February to late April in Omdurman in the excavation of five archaeological sites. The field staff consisted of Roy L. Carlson as Field Director, Stephen J. Sigstad as archaeologist, Maureen J. Carlson as laboratory technician, and Elizabeth Sigstad as general assistant. Gordon W. Hewes, project director, and Peter Robinson administered affairs from the Colorado campus this year. Financial support for this season's work was provided by the National Science Foundation and we continued to use two vehicles belonging to the U.S. State Department. Excavations at three habitation sites dating to the period of about 3000 to 1500 B.C., and one late Paleolithic site within the reservoir area of the Aswan High Dam in Nubia (Fig. 1) were made during the first part of the season; the latter half of the season was spent in excavation at the well-known Paleolithic site of Khor Abu Anga in Omdurman. Detailed typological work was not attempted while in the field and final interpretation must of necessity await study of the excavated material, but certain preliminary findings and a summary of the work accomplished can be presented at this time.

Paleolithic

Two sites, Khor Abu Anga in Omdurman and Magendohli (11-H-9) on the west bank of the Nile at the north end of Saras district in Nubia, yielded cultural components assignable to the Paleolithic stage. Khor Abu Anga contained the older materials.

Khor Abu Anga

Khor Abu Anga is a west bank tributary of the Nile immediately downstream from the junction of the White and Blue Niles at Khartoum. The site has been known to the scientific world since the publication of A. J. Arkell's (1949: 1–29) pioneering work there. The site itself consists of a series of implementiferous river gravels and calcareous soils exposed by down cutting, wind erosion, and quarrying in the seasonally dry khor. Paleolithic implements are scattered the length and breadth of the khor on the surface, partly as a result of the natural forces of erosion, but largely through the quarrying activities of Omdurman house builders. Artifacts are rare beyond the immediate vicinity of the khor even though quarrying has opened numerous pits over a sizeable area some distance away. Approximately mid-way up the khor is the present Omdurman city dump which now covers some of the exposed strata referred to by Arkell. Occupied dwellings and other structures flank the khor bed

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Fig. 1. Sites in Nubia excavated by the Fourth Colorado Expedition. 11-I-16, Wadi Karagan. 11-H-9, Magendohli. 11-L-20, Khor Shiba. 16-J-18, Awandi.
PALEOLITHIC AND LATE NEOlITHIC SITES EXCAVATED

downstream from the dump. Upstream from the dump the khor bed narrows and traverses diagonally a dry open plain between Omdurman proper to the northeast and the village of Um Badda to the west. Our excavations and surface collections were made in this open plain near the khor bed between the dump and Um Badda. Trenches were dug at four separate localities within this zone. The main excavation took place in the locality designated in our notes as Locality A.

In Locality A the trenches revealed a sequence of gravel depositions alternating with periods of calcification, ferruginization, and erosion. Three assemblages were found within these strata. The oldest gravels contained no artifacts. The next youngest deposits contained a few specimens of late Acheulian (fig. 2) type. The middle gravels covered and in part contained implements generally classified as either Sangoan or as Nubian Middle Paleolithic I (Guichard and Guichard 1965: 84–86). Trihedral picks and other implements characterize this assemblage. The younger gravels covered an assemblage typified by the foliate bifaces generally considered as indicative of the Lupemban horizon south of the Sahara, or the Guichard’s (1965: 86–98) Nubian Middle Paleolithic II, and at least in some cases of the Aterian in north Africa. Pedunculate tools are also present in this deposit and are further indicative of the relationship between Lupemban and Aterian, and of the Nile as a corridor for cultural transmission during the late Pleistocene.

In the other localities only one implementiferous stratum was encountered, a gravel cemented with caliche which in places became nearly pure caliche. Small assemblages of tools of late Acheulian types were recovered from this deposit.

Our cultural identifications of all these assemblages must remain tentative for the present until typological and statistical analyses have been undertaken.

Both tools and debitage were collected and numbered in our field catalogue and total 2,707 items. Of these, 1,323 came either from the surface, from the khor bed, or were found under conditions of obviously recent redeposition. Under the latter category we include about 200 hand axes and other artifacts from a small tumulus in locality A which turned out to be the remains of a dwelling dating to about 1860 in which the walls had been made of Paleolithic implements and other rocks cemented with mud. Certain of the surface concentrations appear to be unmixed assemblages; others are obviously mixed, particularly those from the lower reaches of the khor. The remaining 1,384 specimens were found in situ in the various gravel deposits. No charcoal, bones, or habitation features other than concentrations of tools were found. The in situ specimens show little evidence of stream rolling.

MAGENDOHLI

Magendohli (11–H–9) is an isolated outcrop of Precambrian rock (Plate I, a) which rises about 70 m. above the west bank of the Nile in north Saras. Evidence for several cultural components ranging in time from late Middle Paleolithic to C-Group is present on the top of this micro-jebel.

A ruined two-room structure of coarse, mud-cemented stones is situated at the highest point of the jebel and commands the view both up and down the river. This
FIG. 2. PALEOLITHIC TOOLS FROM KHOR ABU ANGA
a, foliate biface, Lupemban.  b, high backed side scraper, Sangoan.  c, hand axe, Acheulean.  d, flake cleaver, Acheulean
a and c, ferricrete.  b and d, silcrete.
structure possibly gives the site its Nubian name, Magendohli, translated by our reis as ‘house down’. The fill from this structure, which had previously been removed by a different group, was examined carefully and yielded a number of stone artifacts and sherds indicative of C-Group or slightly younger affiliations. Elsewhere on the jebel are the weathered remains of smaller one-room structures built of coarse boulders without mortar. These may or may not belong to the same period. Linear rock alignments suggestive of the so-called gazelle fences of the Sahara and oval rock alignments which could well have been blinds for concealing hunters are found near both ends of the jebel. Unfortunately, we could not precisely date these features, although we believe they post-date the Paleolithic occupation. The fill in and against these structures is eolian sand of recent origin. The excavation of a small rock shelter which contained a low alignment of rough boulders at its mouth yielded only debitage of the same period as the two-room structure at the summit.

This jebel had not previously been recognized as a Paleolithic site. Stone implements and debitage are found over its entire surface and in places form almost a pavement. Magendohli is the largest Paleolithic site between Halfa and Jebel Brunikol and our excavation revealed an assemblage of artifacts related to the Aterian of North Africa and previously unknown from Nubia.

Our work concentrated in one locality near the north end of the jebel where two 5 m. square pits and a third half that size were excavated into the deposit. The deposit itself is a red paleosol with an eluviated upper horizon which developed on a deposit of eolian sand, fractured rock, artifacts, and debitage (Plate I, b). Artifacts are continuous throughout the deposit which is directly over bedrock and varies from 50 cm. to 160 cm. in depth. The deposit suggests that it was formed during a relatively dry climatic interval and was later modified by the growth of vegetation under pluvial conditions. A guess date of 25,000 B.C. might not be out of line for this culture with the chemical processes forming the red soil taking place during the subsequent sub-pluvial which also saw the deposition of the Dibeira silts (Wendorf 1965: xvi) in the valley below.

Detailed typological study of the artifacts and debitage from this red soil remains to be accomplished. The site itself is obviously a quarry, but the number of finished tools suggests that it was also a living area. The artifact inventory includes side scrapers, denticulates, Nubian cores, Levallois points and flakes, notches, end scrapers, burins, pedunculate points and scrapers, and probably other classes of implements. So far lacking in our sorting are the markers of either earlier periods or different cultures such as the foliate bifaces which typify the Lupemban component at Khor Abu Anga and the Nubian Middle Paleolithic (Guichard and Guichard 1965), or the similar markers for younger periods such as microliths. The stone from which the implements are made is a chert or closely related silicified limestone and is probably the same thing referred to as ‘pre-Cambrian rock’ (Wendorf 1965: xxiii). A few specimens are of quartz pebble. We have close to 3,000 tools from the excavation. Unfortunately, no faunal remains were preserved, and no charcoal was discovered.
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In terms of cultural affinities the site is certainly Aterian in the sense that Aterian is Mousterian with pedunculate tools. Analysis of the pedunculates has not yet begun, but in general they are crude and are not statistically common relative to the other tool types. The Nubian Aterian may prove to be the proper designation for this phase of the local prehistory.

A-GROUP AND C-GROUP

Three sites with cultural components usually designated as A-Group and C-Group were excavated. These sites date between approximately 3,000 and 1,500 B.C. Wadi Karagan (11-I-16) contained the earliest component in this group; Awandi (16-J-18) and Khor Shiba (11-L-20) contained younger components.

WADI KARAGAN

This site which exhibits both a Middle Paleolithic and a late Neolithic or proto-dynastic component designated as the Karagan phase was partially excavated the preceding season (Carlson 1966; Hewes 1966; Robinson and Hewes 1966). Excavation of the Neolithic component only continued during this season. The site itself consists of artifacts, charcoal, bone, and other indications of human activity both in and on top of river silts which are about 11.60 m. above last year’s high Nile level, or approximately 11 m. above the present Nile flood plain deposit at this locality. Most of the material recovered this season remains to be sorted and catalogued, but preliminary inspection has revealed no significant differences in culture content from that reported previously for the Karagan phase (Carlson 1966). This phase has been radiocarbon dated at 2,985 ± 130 B.C. No wheel-made pottery was found. Plain brown hand-made pottery, slipped red ware in minor amounts, fine ware with milled rims, a crude flake industry primarily in quartz, crescentic microliths in limited members, surface habitations of a perishable nature, and a heavy dependence on gazelle for food characterize this phase.

AWANDI

This habitation site (PLATE II, a) is situated on and in a large natural mound composed of alternating layers of eolian sand and river silt near the west bank of the Nile opposite the village of Sorki in Duweishat district. The name, Awandi, was given to this locality by our Nubian workmen. A number of petroglyphs of men with sickles, of cattle, and of other animals (PLATE II, b) are on a rock outcropping which flanks the site on the north. A number of low depressions occur on the surface of the site. A general surface collection was made and trenches were cut into three different portions of the site.

The stratification exposed by our trenches showed a series of thin layers of river silt alternating with layers of eolian sand over a massive silt deposit. In two of our trenches only the uppermost sand layer contained cultural material, and this consisted of C-Group debris with a smattering of X-Group sherds at the surface. The third trench revealed a component actually within the lower sand and silt layers. This
a. MAGENDOHLI

b. VERTICAL SECTION, 1.5 m. HIGH, SHOWING NATURE OF CULTURAL DEPOSIT AT MAGENDOHLI

facing p. 56
a. AWANDI

b. PETROGLYPHS AT AWANDI
a. BURIAL OF ADULT FEMALE AT KHOR SHIBA

b. BEADS FROM BURIAL
component is typified by a high quality, hand-made, slipped red ware with smudged interior, and comb-impressed decoration on the exterior, and by a hand-made brown utility ware with incised decoration. Wheel-made pottery in minor amounts occurred throughout the deposit. Analysis of most of the material remains to be done. Stone artifacts of quartz, Nile River pebble chert, and red chalcedony were abundant. Clay figurines appear to be largely if not entirely associated with the C-Group occupation.

The earlier occupation appears on the basis of the ceramics to be related to what Trigger (1965:69) has called the Dabarosa phase in that locality on the basis of rather meagre information presented by Nordström (1962:49) from site 6–F–3, and to what Arkell (1953, plate xxxi) refers to as the ‘Protodynastic’ component at Shaheinab.

The affiliation of the material from the other trenches in the geologically younger deposits with C-Group is clearly indicated by the abundance of black topped red ware without impressed decoration and of small crescentic microliths of red chalcedony.

Khor Shiba

This site (11–L–20) is situated at the mouth of Khor Shiba, a west bank khor which enters the Nile opposite the south end of Mugufil Island in the Saras district. The area of habitation is situated on top of a series of alternating beds of sand and river silt very similar to those previously described for Awandi and Wadi Karagan. The occupation layer was almost entirely buried by a massive deposit of the orange eolian sand which blankets the west bank in Saras. No artifacts were discovered in the underlying sand and silt layers.

Trash was concentrated at the upriver end of the site and a broadside excavation at this point uncovered a portion of what had been at least a two-room dwelling whose crude outline was indicated by the arrangement of rough stones and trash. No trace of the walls and roof, which must have been of perishable materials, remained, but stone door sockets in no way different from those still in use in Nubia today were found near the entrance. The house was not completely excavated as to do so would have involved removal of an additional portion of the massive dune which covers the silt deposit on which the house rests.

Black topped red ware, a hand-made incised utility ware, and imported wheel-made Kena ware typify the ceramic assemblage. A cache pot containing a lion seal, a bone ring, a ceramic comb, several stone beads, a chert core and a bone awl was discovered embedded in the floor of one room. Other artifacts from the house consist of flaked stone implements of quartz and Nile River pebble chert, crescentic microliths of red chalcedony, clay figurines, ground stone axes, bronze fragments, and items of ground alabaster. Numerous animal bones were also found. The house dates to the Second Intermediate Period (ca 1,700–1,500 B.C.).

A cemetery of typical C-Group type is situated on the same shelf of silt as the house about 150 m. downstream. This cemetery with grave pits outlined by rough oval rings of stone had earlier been dug by Tony Mills for the Antiquities Service.

An isolated grave of a different type consisting of a rectangular stone cist enclosing the flexed skeleton of an adult female (plate III, a) was found on the rocky rise in

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back of the house. A number of beads, (Plate III, b) which suggest that the burial post-dates the house, accompanied the skeleton.

Our excavations this season have shed light on a number of problems in the culture history of the Sudan. At Khor Abu Anga we have no evidence of an assemblage earlier than late Acheulian which is followed there by Sangoan and Lupemban. Analysis of the specimens will hopefully shed some light on the developmental relationships of these three cultures. Both Khor Abu Anga and Magendohli yielded pedunculate tools apparently known previously in the Nile Valley solely from the few specimens mentioned by Alimen (1957). The context in which these tools appear is however different; Lupemban in the former and Aterian in the latter. Much comparative work in defining and assessing the similarities and differences between Lupemban, Aterian, Khargan, and Kormusan must be done before the significance of these finds can be fully realized. In the younger periods in Nubia this season’s work has produced information relating to three cultural phases within the period of 3,000 to 1,500 B.C. The earliest or Karagan phase is part of what has been called A-Group. The second phase, which may well be termed the Dabarosa phase after Trigger (1965:69), and which has also previously been included in A-Group, we suspect may instead belong with C-Group.

REFERENCES


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Survey in the Debba-Korti Area

J. DE HEINZELIN


As the authors refer to the geological survey I carried in their company, I feel adequate to add this piece of information to their contribution.

Due to the lack of a proper coverage of topographic maps and air photos, the mapping was restricted to the area between Girra and Goshabi, which provided the best stratigraphical evidence in the Nile formations (see map FIG. 1).

All elevations were related to the floodplain at Debba and Goshabi, using a Thommen 3B1 altimeter on the principle of differences with hourly correction.

The following geological units were recognised.

1. Recent. Sand cover, moving dunes.
   Their pattern reflects sometimes the underground, f. ex. channels or depositional features of the Girra pediments. At some places, the dunes encroach on a young dissected landscape.

2. Floodplain. Several stages of development and islands. Cultivation.

3. Girra formation. (Tentatively equated with the Arkin formation of the 2nd Cataract area).
   3.1. Brownish pediment extending from inland towards the fluviatile facies, with a gentle slope 11 to 4 m./floodplain.
   Colour noted:
   At N81, 10 m./floodplain; 10YR d.5/2; m.4/1 at 10 and 40 cm. depth.
   At N41, 7 m./floodplain; 10YR d.5/2; m.4/2 at 10 cm. depth and 10YR d.5/3; m. 4/3 at 40 cm. depth.
   At Pit 1 Goshabi, 4 m./floodplain; 10YR d.5/2; m. 4/2 at 10 and 40 cm. depth.
   All four groups of ceramic Neolithic were consistently located on this deposit or at very shallow depth: Early Khartoum related group, Karat group, Tergis group, El Melik group. Such are the clusters of sites N13, N39, N40, N41, N86 and N66, N80, N87 on the map.

3.2. Fluviatile deposits, gravel, sand and silt.
   A sharp contact between silt and pediment has been evidenced at many places by means of test pits. The highest gravel deposits reach 8 m./floodplain; these are somewhat older than the pediments at lower elevation, which extended during and after the recession of the mean water level.
   The surface of the fluviatile deposits lacks any trace of prehistoric occupation.

4. Goshabi formation. (Tentatively equated with the Sahaba formation of the 2nd Cataract area).

4.1. The highest fluviatile gravels reach 13 m./floodplain, resting on silt and sand. The gravel banks being more resistant to erosion show up as shallow reliefs in the landscape; the major dissection occurred in Girra times, when the Girra pediment was formed.
   Some wadis and channels are still partially active in rain season.
4.2. On the map, the Goshabi gravel banks have a gross semi-elliptical outline, which reflects the shape of an island built during Goshabi times. The central part of the former island is now deeply dissected, the erosional basin being collected by gullies towards Goshabi-west; it was mapped as 'inverted relief'.

4.3. The gravel ridges situated to the north form the most conspicuous relief, along which are located the best exposures of silt and sand: various features of N–2 and N–6.

Below the Goshabi gravels, the silt-and-sand succession is usually the following: Fluvialite sand with few gravels and big calcic concretions—resting on dune sand (sometimes absent)—resting on hardened silt rich in calcic concretions.

Paleolithic industries were collected at the surface of several outcrops but, although they were only recently deflated, none could be collected in-situ.

At N–6, N–2–1, and N–2–4 there are indications that these industries occur below the upper fluvialite sand or in its lower part. Only a few chips and blocks of raw material could be collected in-situ, the sites themselves being entirely deflated. See profiles FIG. 2, 3, 4 and 5 and their explanation.

FIG. 2: Description profile N6

F = Fluvialite gravel.

E, Upper part = Fluvialite sand, poorly stratified, micaceous; a few calcic concretions.

Colour 10 YR dry 7/3; moist 5/3.

Lower part = Fluvialite coarse sand and gravel, with big calcic concretions underlining the stratification.

Colour 10 YR dry 7/3; moist 5/3.

D = Fine silty sand with sheets of calcic concretions. Many bioturbations.

Material mixed: wind and waterborn.

Colour 10 YR dry 7/2; moist 5/3.

At N6, artifacts were seemingly eroded from this unit.

C = Dune sand mixed with some granules of silt. Many bioturbations, animal burrows. Calcic concretions in root casts.

Colour upper part 10 YR dry 6/3; moist 4/3.

Colour lower part 10 YR dry 8/4; moist 7/3.

B = Very fine sand, with reddish colour (burnt?).

Colour 5 YR dry 7/6; moist 5/6.

A = Silty sand with concretions.

Colour 10 YR dry 7/3; moist 6/3.
0-31 (5-18 cm.): Quartz = 79; Nubian sandstone = 4; Jasper, agate, chert = 5.5; Metam-volcanics = 11.5.
0-32: Quartz = 73.2; Nubian sandstone = 2.5; Jasper, agate, chert = 11 (3 flakes); Metam-volcanics = 11.
N-2-1, top profile: Quartz = 72; Nubian sandstone = 4; Quartzite = 2; Jasper, agate, chert = 5; Metam-volcanics = 11; Rolled calcic concretion = 6.

**FIG. 3:** Description profile N2-1.

**F** = Fluvial gravel.

**E** = Fluvial sand, well stratified, micaceous with big calcic concretions.
- *Ethereia* and *Corbicula* into the upper layers.
- Gravels into the lower layers.
- Colour at the top: 10 YR dry 6/3; moist 4/3.
- Colour in the middle: 10 YR dry 7/3; moist 5/3.

**D** = Fluvial silt with hard concretions in cracks and root casts, penetrating a dense pseudomycelium of rootlets casts.

**C** = Hardened sand (wind borne?).
- Colour 10 YR dry 6/3; moist 5/3.

**B** = Lens of small gravel from which artifacts are seemingly eroded; a very few chips laterally, under C.
- Counted in the gravel (1 cm.): Q = 12; NS = 1; Calcic concretions = 87.

**A** = Silt with many small concretions, very hard.
FIG. 4: Description of profile N2-2.

0–70 cm.: Fluvialite silt with few concretions and structure poorly expressed.
    Colour 10 YR dry 6/3; moist 5/3 to 10 YR dry 6/4; moist 5/4.
70–120 cm. Fluvialite silt with strong prismatic and polyedral structure; stratification visible;
    calcic concretions, flat or in form of roots.
120 cm.: Stratified sand, discontinuous.
    Colour 10 YR dry 6/3; moist 5/3.
120 cm. and lower: Fluvialite silt, stratified.
    Colour 10 YR dry 6/3; moist 5/4.
    These layers are, as N2-1, covered with fluvialite sand and gravels.

FIG. 5: Description profile 0 31.

0–5 cm. = Surface dust.
    Colour 7.5 YR dry 8/2; moist 5/4.
5–18 cm. = Fluvialite gravel.
18–35 cm. = Fluvialite micaceous sand with slight pedogenesis.
    Colour 7.5 YR dry 6/4; moist 4/4.
35–60 cm. = Fluvialite gravel resting on a sheet of calcic concretions.
60–80 cm. = Fluvialite micaceous sand; most grains are dull (windborn).
    Colour 10 YR dry 6/3; moist 5/3.
80–95 cm. = Gravel, hardened by concretions.
95–140 cm. = Small calcic concretions and gravel.
140 cm. and lower = Dune sand, not micaceous, all grains are dull.
    Colour 10 YR dry 7/4; moist 6/4.
4.5. The eastern part of the Goshabi outcrops is transected by a row of fluviatile gravel ridges at lower elevation (0–28), which have been deposited into a meander of the river during Girra times. The succession of the two fluviatile formation is here perfectly demonstrated.

5. **Wadi gravels (see FIG. 6).**

Away from the river deposits, an almost continuous cover of wadi gravels stretches on long distances. It is complex, consisting of several sheets which are superposed or encased in each other.

Three main units can be identified:

5.1. Gravel at low elevation, in short gullies and wadis connected with the development of the Girra pediments.

5.2. Gravel sheets rising from 18–20 m./floodplain to slightly higher elevations to the south. Interpreted here as the wadi lateral facies of the Goshabi formation.

5.3. Residual hills, then gravel sheets rising from 30 m./floodplain to slightly higher elevations to the south. No related fluviatile deposits could be detected yet. The difference in age between the 20 m. and the 30 m. sheets cannot be very large as the colour of the matrix is similar, in 5YR hue. Both sheets rest on pediments with red matrix, in 2.5 YR hue.

5.4. The archaeological prospection of the wadi gravels has been almost entirely negative, except for a few workshops, scattered surface finds and some incorporated, rather atypical artifacts.

Behind Korti at 18 m./floodplain, a test-pit revealed a surprising concentration of nuclei and flakes at 20–30 cm. depth into the gravel sheet; matrix 2.5YR d. and m.5/6 at 20 cm.

5.5. The composition of the wadi gravels varies slightly according to the source of the material. Two examples among a large number of counts: (in %). Behind Goshabi, 16 m./floodplain, surface: quartz = 80; Nubian sandstone = 6; siliceous concretions = 6; pale agate = 2; jasper, agate, chert = 6 (4 flaked). Behind Korti, 18 m./floodplain, pit with workshop at 20–30 cm. depth: quartz = 69; Nubian sandstone = 6; quartzite = 1; metam-volcanics = 18; chert = 6.

6. **Nubian sandstone outcrops, related pediments and gravels (not on map).**

6.1. **Jebe1 Hattabi (FIG. 7, 8).**

It is close to the right bank of Wadi-el-Melik. The Nubian sandstone is capped with conglomerates which include big blocks of grey quartzite and silicified wood.

Top about 62 m./floodplain (305 abs. elev. on map).

Large aprons of irregular gravels and cobbles extend from the foot of the jebel. They cover a 5YR pediment which has a large extension but is sparcely exposed under the gravel cover. At N72, a similar 5YR pediment fills partly a series of gullies incised into an older gravel which has a 2.5 YR matrix and reaches 37 m./floodplain. Derived artifacts had been eroded from the contact pediment-gravel: one biface, one para-levallois core, flakes. No one could be located in-situ.

On the left side of Wadi-el-Melik, there occur patches of gravel in a 10R matrix at about 30 m./floodplain; they lie lower than the residual hills of gravel with 5YR matrix at 37 m./floodplain; this is taken as an evidence of an older cycle of deposition at low elevation.
FIG. 8
6.2. Jebels behind Hettani
East of the Wadi Abu Kuleiwat, there is a general rise of the Nubian sandstone outcrops, developing a number of important jebels. This protrusion is cut at right angles by the channel of the Nile on a distance of about 25 km. where rocky outcrops are constantly at a close distance of the water (f. ex. Jebel Tamaka) and where silt embayments are very limited. Here, as in the Wadi Halfa area, there is no consistency between the channel of the Nile and the shape of the higher landscape: the Nile is a young feature which occurred lately.

![Diagram](image)

FIG. 9

6.3. Karabat Abu Kuleiwat (see FIG. 9)

It is a major jebel at a distance of about 15 km. from the Nile. Its flat surface reaches 98 m./floodplain. It is capped with a very hard conglomerate which includes quartz, various cherts and silified wood, into a matrix of ferruginous sandstone; we introduced the local name ‘Karabat formation’ for this sedimentary unit, younger than the Nubian sandstone.

Resting discordantly on the Karabat formation, sheets of quartz gravels with 10R matrix are preserved on the top of the jebel.

A neck of volcanic rock reaching 80 m./floodplain stands in front of a large saddle opening to the North-West, in the South-West part of the jebel. The contact of a basaltic flow on the Nubian sandstone can be seen at a small distance.

The saddle communicates with a broad dissected basin; in one of the side gullies, levallois cores and flakes are included into an old fill which is presently eroded (08). The floor of the dissected basin is covered with gravel sheets which slope from 70 m./floodplain to 60 cm. at the exit, then lower towards Wadi Abu Kuleiwat. A few artifacts had been incorporated into these gravels: heavily rolled flakes and two bifaces (09).

These gravels bear evidence of a general washout of the landscape, somewhere in the Upper Pleistocene, which destroyed or covered previous land surfaces, including evidences of Lower and Middle Palaeolithic concentrations.

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1 Generalised profiles having no fixed orientation are localised according to known features on map.
6.4. **Jebel N85**

It is situated almost due north of Karabat Abu Kuleiwat; its peculiar shape, divided in three, can be used as a landmark. The three platforms reach about 100 m./floodplain and are capped with ferruginous conglomerates and brown quartzite. The main extension, to the south, is almost devoid of artifacts. The two smaller platforms, central and north, are cut by ditches, over 1 m. deep and several meters wide into conglomerate and brown quartzite. The floors of the ditches are perfectly levelled and littered with a considerable amount of artifacts. At least two industries seem to be present, one using mostly brown quartzite, the second using mostly chert pebbles.

The artifacts in brown quartzite include levallois flakes and cores, levallois points both retouched and unretouched. The artifacts in chert pebble include a variety of smaller cores, flakes and tools.

This site has not been tested and the possibility of a local stratigraphy has to be investigated.

6.5. **Lowlands between N85 and the Nile.**

A few small, much wind eroded jebels are scattered across this area. At some places, hard ferruginous conglomerates somewhat similar to the Karabat formation come to low elevations, 37 m./floodplain. This suggests that a number of successive sheets of debris were formed during the progressive lowering of the landscape. Later sheets of gravel are never cemented; they have a 2.5 to 5YR matrix and reach a maximum elevation of 45 m./floodplain.

7. **Summary**

The evidence of Palaeolithic settlements along this stretch of the Nile is exceedingly scanty. It can be due partly to: (a) a general washout of the inland sites at the end of the Pleistocene, (b) the lack of good outcrops in the Nile formations, where the dissection is too shallow.

Nevertheless, the absence of Acheulian-Lupembian workshops, the scarcity and the atypical aspect of the levallois workshops on the jebels contrast with the density of sites recorded in the vicinity of Wadi Halfa, north of the second Cataract. One gets the impression that the area was not suitable for settlement during most of Upper Pleistocene times.

Concentrations of sites and intensive flaking are not observed before Ceramic Neolithic, a period which should be correlated with the latest stages of the Arkin recession in the Wadi Halfa area.

by Gustaf Donner

The Finnish Nubia Expedition, sponsored by the Finnish Archaeological Society and financed by private funds started its field work on December 21 and finished on May 1. The members of the expedition were Mrs Marina Donner, Miss Carita Flander, Mr Rostislav Holthoer and Mr Thorvald Lindquist. Field director was Mr Gustaf Donner. The expedition wants to express its gratitude to the Sudanese authorities for their helpfulness, without which the expedition could not have been made. Our thanks go especially to Sayed Thabit Hassan Thabit, the Commissioner for Archaeology, and to Sayed Nigm-ed-Din Sharif who were extremely co-operative during the entire campaign. Special mention should also be made of our loyal reis Seid Ahmed Ibrahim Subito, who handled his fifty workers with considerable skill.

The Concession

The concession (a block concession with obligation to excavate all discovered sites) was 15 km. long, stretching from Gemai East on the east bank of the river to Nag Sigaga (Fig. 1). The northern limit consisted of the large wadi north of Gemai Rest House which constitutes the southern end of Gemai Plain. South of this wadi, the rocks stand close to the river, making the cultivable area very narrow indeed. This narrow strip continues all the way down to Nag Sigaga, interrupted only by a large sandplain east of the island Ushinarti (Fig. 1, site 4). At Nag Sigaga there are extensive silt banks, and here was found, as could be expected, a concentration of sites. In fact, at Sigaga the expedition found sites from all periods of Nubian history, a fact that makes the area most significant.

The Survey

The survey was carried out by the field director, who walked through the area with a chain of ten men carrying spades, turias and iron rods. In areas with thick layers of drift sand where the iron rods were of no use trial pits and trenches were dug (Plate IV).¹

The Sites

All in all, fifty-one sites were investigated, forty-two of them in toto. The remaining nine were Christian or Moslem. The character of the sites is shown in

¹ This photo was taken by the field director from a helicopter that formed part of a Sudanese government mission to map the border against Egypt.
THE FINNISH NUBIA EXPEDITION
1964 - 65

SITE MAP

Fig. 1
KUSH

Table 1. The total of the table does not correspond with the total of sites due to the fact that some of the sites contained finds from two historical periods.

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ROCK DRAWINGS

In addition to Dr Hintze’s registrations, the expedition found nine rock drawings. Among them were giraffes, cows, oxen with bent horns and a Pharaonic boat with men standing on deck. Under this there were two smaller boats (Plate Va, site 46).

NEOLITHIC REMAINS

The neolithic pre-pottery sites belonged to the Southern Methodist University according to the stipulations in the concession-licence. There was, however, one site that contained pottery of the sandy ferruginous fabric associated with Early Khartoum (site 43)\(^2\). On the same site (a habitation site with a depth of only 20 cm.) was found pottery that clearly represents a link between Arkell’s Es-Shaheinab and Nubian A-Group. The difference in wares between the first and the second group is so great

\(^2\) This sandy ware has also been found by Grey during his excavations in the fifth cataract in 1949. They bear Khartoum Museum nr. AH 3/100.
that we cannot maintain that there is any connection between them. We can only establish the fact that they occur on the same site.

A-Group

All the three A-Group sites were habitation sites. The pottery from two of them displays the ‘wolves-teeth’ associated with Es-Shaheinab. There cannot be any doubt about the relationship between the two groups. It is interesting to note that one of the sites had been inundated and covered by 20 cm. of Nile silt into which a C-Group cemetery had subsequently been dug.

C-Group

This period was well represented with cemeteries from early, ‘classic’ and late C-Group. The early cemetery is very interesting, since it contains sherds that have A-Group decoration but consist of C-Group wares. The graves were large and deep oval pits orientated to magnetic NW-SE. There can be no doubt about the direct or indirect cultural contact between the two groups judging from these sherds (site 38).

Kerma

The expedition excavated three Kerma cemeteries. Site 29 yielded seven Kerma beakers and several RPBT vessels. The site, which consisted of sixteen graves, lay upon a 20 m. high rock near the Nile. The shafts had been cut into the rock, but the openings were completely invisible to the eye due to the fact that erosion had split the bedrock and wind and rain had then distributed the splinter evenly over the cemetery\(^3\). Only thanks to one sherd that lay visible was this site found.

Site 32 consisted of seventeen rectangular graves dug into silt. The burials were on right side on a wooden bed, head east. The pottery was of New Kingdom type with one Kerma beaker of poor quality. There were three scarabs with spiral pattern of Kerma type. Ten of the graves were unplundered, which can be considered good luck, since Kitchener’s railroad had been built only a few meters from the site.

Site 40 was a cemetery with forty rectangular and round graves dug into a silt mound. There were traces of beds in the rectangular graves, whereas the deceased in the round graves lay on the ground in extreme contracted position. Many traces of animal bones, notably those of goat, were found. The pottery from this site differs from that of the others in that it is coarser and certainly is more similar to the pottery found around the western ‘dafufa’ at Kerma proper (visited by the writer in December 1964).

New Kingdom

Site 15 consisted of one grave group with the burials traditionally on their backs, head west. There were no finds in these graves except for that one burial was

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\(^3\) For this clarification I am indebted to M. de Heinzelin.
KUSH

wrapped in a piece of well-preserved blue textile. Close to these graves there were pits in the ground with a smoothened 'floor' that suggested that these pits were remnants of huts. There was a lot of NK pottery on this site and special mention should be made of pieces of a blue-painted glazed jar of high quality.

Site 41 was a cemetery with eight graves, seven of them having rectangular shafts with a lateral niche and one being a chamber grave. In the latter was found the remains of three persons, one of which had rested in a wooden coffin. There were fragments of stucco. The tomb, like all the others in this cemetery, was plundered. The pottery from this site consists of a simple, wheel-made ware, the type most frequently occurring being plates with red painted rim.

MEROE

Site 5 East was a cemetery with twenty tombs consisting of narrow, about 2 m. long ramps leading down to a burial chamber, where the deceased lay in the same direction as the ramp, head towards the opening. The graves were all plundered but contained some potsherds.

Site 39 consisted of 156 graves, some of which belonged to the New Kingdom period and obviously connected with the nearby site 41. The Meroitic graves were of the same type as those on site 5 East. Although all the graves containing finds had been plundered, the cemetery nevertheless yielded good samples of painted pottery, beads, iron weapons and ankle rings, bronze objects, amulets and one scarab (fig. 2).

X-GROUP

Site 2 contained over 100 graves from this period. They were mostly plundered. In the unplundered graves there was pottery of well-known types and the excavator was able to secure necklaces on original stringing. There were also iron axes and daggers and a bronze bowl, certainly of Roman origin (Plate V,b). The cemetery had been used during the transition period to Christianity, which was shown clearly by the position of the graves.

Site 5 West had twenty-five graves yielding the same type of finds as above. In addition, sherds were collected from two denuded habitation sites, 1 and 12.

THE CHRISTIAN PERIOD

The Christian remains were, as could be expected, numerous. For the benefit of our two pathologists, Professor Telkka and Dr Ahlqvist, who stayed with the expedition for two weeks, two cemeteries (2 and 10) were excavated in toto. More than 100 graves were dug. They were findless except for one oil lamp and an iron cross.

On the island of Ushinarti (fig. 3, site 4) there was a Christian settlement with a large labyrinthic structure as a dominating feature. The building resembles the
a. ROCK PICTURES

b. BRONZE BOWL OF ROMAN ORIGIN
'blockhouse' on Meinarti described by W. Y. Adams⁴. The two small rooms between the two larger rooms can be reached only by first crawling through a 1 m. high tunnel, the opening of which was concealed by mud bricks, then by climbing up a vertical shaft and entering the rooms from above. This certainly suggests that these rooms have been used for concealing human beings or valuables from enemies. Since the two larger rooms have no windows it would be difficult for a searcher of the house in the darkness to realize that there was space between the rooms. Only by actually measuring the house could he be sure of this, unless he had a very keen sense of

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The office reports that there is a difference of about 5 cm. per km. up- or down-river from Kagnarti.

KUSH

proportions. The date of this refugee settlement is late Christian and the enemy obviously the Arab conqueror.

CONCLUSIONS

The most notable discovery of the expedition is, in our opinion, the presence of Early Khartoum like pottery in the area and the contact between Es Shaheinab and A-Group on one hand and between A-Group and C-Group on the other hand. Also the discovery that this forbidding area has been populated practically continuously is important. The narrowness of the inhabitable area makes it possible for us to assume that most of the sites have been found, a fact that adds to the significance of the results.

For the benefit of those expeditions that were working in the field in this region during this season we are publishing Nile levels as recorded by the Egyptian Irrigation Gauge at Kagnarti. The figures represent levels of the river above the sea at Alexandria, and were obtained from the Egyptian Irrigation Office in Khartoum (TABLE 2).

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5 See also Säve-Söderbergh, KUSH XII, pp. 25–29.
Progress Report on the Removal of Endangered Monuments from Sudanese Nubia

From August 1964—July 1966

by Friedrich Hinkel

INTRODUCTION

The dismantling and transport of both Semna temples in the Spring of 1964 marked the termination of our work in Nubia. At that time the first stage of our task of saving the ancient monuments in the area of Wadi Halfa was successfully completed. Then the field of activity was transferred to Khartoum.

The arrangement whereby I was seconded from the Deutsche Akademie der Wissenschaften zu Berlin to the Sudan Antiquities Service was kindly extended to allow me to continue the work that I had begun. During the past two years in Khartoum the continued interest and encouragement of Sayed Thabit Hassan Thabit, the Commissioner for Archaeology, has enabled us to carry out all our work smoothly. The help of the Sudan Antiquities Service Technical Assistants, Osman Effendi Hassan and Khalid Effendi Ahmed, in directing the labour force and doing the more skilled jobs has been invaluable.

Work was begun in August 1964 to prepare the grounds of the new Sudan National Museum for the reception of the Nubian temples. In 1961–1962 the first stage in the construction of this museum was carried out on a site which had been previously occupied by a railway goods depot. A first and immediate need was the clearance of the land. Huts, rails, poles and other disused and abandoned objects which belonged some years before to the goods station had to be removed. The earth, covering an area of 25,000 sq.m. then had to be moved and levelled in accordance with the different levels of the streets to the north and south of the museum.

OUTBUILDINGS

At the same time that the grounds were being cleaned up, work was begun on the long wall which surrounds the whole area. This wall, which is more than 700 m. in length, is composed of prefabricated, reinforced concrete shafts set 3 m. apart,

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1 Translated from the German by A. J. Mills.
2 A plan of the proposed lay-out of the garden, the re-erected temples and the premises of the Museum was published in Kush xii, p. 112, fig. 1.
reinforced concrete beams and a filling of pressed cement bricks 23 cm. thick. The northern and southern sides of the enclosure, along Sharia el Neel and Sharia el Gama’a, were each 211 m. long. Because of these great expanses of wall we decided to build it in a zig-zag line. This not only created a more stable construction but introduced a pattern of variations in the contrast of sunlight and shadow.

In the Spring of 1965 we built nine garages for lorries. These are located at the south-east corner of the museum grounds and incorporate the corner of the boundary wall. Nearby a free standing shelter for private cars was erected. A small workshop building was also planned and built, in 1965, near the garages. It covers an area of 220 sq. m. and includes a carpenter’s shop, a masons’ shop, two storerooms and a small office. The rear wall of this building marks the southern limit of the garden area at the east end.

This year the construction of two other buildings has begun. The first is the large main entrance to the museum grounds from Sharia el Neel. It is designed around a central hall with three portals on either side. At both ends of the main gate building are lavatories and lodges. Within the entrance hall we shall erect the northern wall of the chapel of pyramid N 11 from Kabushiya. Opposite this wall will be a desk where the Sudan Antiquities Service publications will be displayed.

Temple Foundations and Protecting Structure

Before the re-assembling of the Nubian temples could begin it was necessary to lay their foundations and to devise an efficient means of protecting the sandstone against the entirely new climatic conditions to which these temples would be subjected.

The cotton soil, on which the temples were to be re-erected, created a problem with the foundations. It easily absorbs a great quantity of water and then will exert a strong upward pressure. To minimize damage by this action to the temples it was necessary to sink the foundations through this spongy topsoil to a depth of 2.50 m. First, a pit, the size of the area of the temple, was excavated to a depth of 2 m. Then trenches, following the plan of the temple, were sunk a further 0.50 m. in the bottom of this large pit (Plate viia). These trenches were filled with reinforced concrete. Atop this reinforced concrete, brickwork was laid to a height of 1.80 m. This was surmounted by a second reinforced concrete, string course beam (Plate viib). The rest of the pit was then packed with sand. This procedure was adopted for the foundations of all three temples. The Semna and Kumma foundations were completed by June 1965 and of Buhen in June 1966.

The climate in Nubia is virtually rainless but in Khartoum there is a rainy season which lasts for four months and produces an average annual rainfall of approximately 170 mm. Following the advice of Dr H. J. Plenderleith, Director of the

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3 This wall formerly stood in a small public garden beside the Archaeological Museum and is now dismantled and packed awaiting re-erection. Kush xiii, p. 100.
a. UNPACKED GRANITE COLUMN OF FARAS WEST CATHEDRAL BEING LIFTED AND TRANSPORTED BY A MOBILE CRANE TO THE RE-ERECTION SITE

b. PLACING THE CAPITAL STONE OF THE LAST OF FIVE GRANITE COLUMNS OF FARAS WEST CATHEDRAL
a. EXCAVATION OF THE PIT AND TRENCHES FOR THE FOUNDATION OF BUHEN TEMPLE

b. PLACING THE REINFORCEMENT OF THE UPPER CONCRETE STRING COURSE BEAM ON THE FOUNDATION FOR BUHEN TEMPLE
a. FOUNDATIONS FOR BOTH SEMNA TEMPLES WITH PRE-FABRICATED STRUCTURAL STEELWORK FOR PROTECTING STRUCTURE

b. ERECTION OF STEELWORK FOR PROTECTING STRUCTURE OF SEMNA WEST TEMPLE IN PROGRESS
a. SEMNA WEST TEMPLE. LAYING THE FIRST THREE FOUNDATION STONES

b. SEMNA WEST TEMPLE. RE-ERECTION IN PROGRESS
a. SEMNA WEST TEMPLE. PLACING THE ROOFING BLOCKS IMMEDIATELY FOLLOWING THE ERECTION OF THE SIDE WALLS

b. SEMNA WEST TEMPLE. RAISING ONE OF THE THREE PILLARS OF THE EASTERN PORTICO
a. SEMNA WEST TEMPLE. PLACING THE 2.5 TON ARCHITRAVE OF THE WESTERN PORTICO IN POSITION

b. SEMNA WEST TEMPLE. LIFTING ONE OF THE LAST SIX ROOF BLOCKS BY A HIRED MOBILE CRANE
a. SEMNA EAST TEMPLE. PROTECTING STRUCTURE PARTLY MOVED TO ITS FINAL POSITION

b. SEMNA WEST TEMPLE. MOVEABLE PROTECTING STRUCTURE IN FINAL POSITION TO PROTECT TEMPLE DURING RAINY SEASON
Rome International Centre for the Conservation of Cultural Property, structures were designed to protect the temples from the direct action of the rainwater.

Because the temples are exposed to bad weather for only one-third of the year it was decided that a moveable protecting structure would be the best. This would enable the temples to be left uncovered and displayed in a more natural state for eight months each year.

Briefly, the structures for Semna and Kumma temples (see Fig. 1 and 2) are based on four steel portal frames with a span of over 14 m. each. These terminate in wheels which run on rails. The whole structure can then be easily pushed over its temple for the wet weather and away, behind the temple, for the rest of the year. Eighty per cent of the roof of the structure consists of corrugated aluminium sheeting and twenty per cent is opal, corrugated ‘Perspex’ sheeting. The rear gable is permanently fixed to the structure and is made of vertical corrugated aluminium sheeting. The front gable which must be temporary, is composed largely of 6 mm. glass plates in frames and flat steel mullions. These are only bolted together so that they can easily be dismantled when the structure is moved. The two side elevations are of similar construction to the front gable but are permanent. When the temples are enclosed ventilation is provided by panels of adjustable glass louvres at both the top and bottom of each of the four sides.

In January 1965 all the calculations, specifications, drawings and documents had been prepared for the superstructures of Semna and Kumma temples. The tender for building these structures submitted by Messrs. Steel Construction Ltd., Khartoum, was accepted and a contract was awarded to them. By January 1966 the structure for Semna West temple had been erected and that for Kumma temple was completed in June 1966 (Plate VIII, b).

The considerably larger size of Buhen temple requires a structurally different protection. The designs and calculations are now in the process of being completed.

Re-erection of Monuments

The five granite columns from the Coptic cathedral in Faras West were the first pieces to be re-erected. In December 1964 concrete foundations were poured and the base stones laid in place. For greater stability the base stones were connected to the monolithic columns by steel dowels 16 mm. in diameter by 32 cm. in length. The dowels, which were set in ‘Akemi’, a resin type of stone cement, were first embedded one at the centre of the bottom of each column. A mobile crane was engaged to raise the 3 ton columns (Plate VI, a). After the columns had been positioned a thin layer of cement mortar was applied to the base stone and the dowel hole was filled with ‘Akemi’ and then the column was lowered into place. The capitals, which were not dowelled to the top of the columns but only set in mortar, were also raised with the crane (Plate VI, b). These columns are placed in a row which is situated just to the west of the main entrance to the grounds and beside the proposed artificial lake.
By October 1965 preparations were sufficiently advanced that we were able to begin the reconstruction of Semna West temple. First a plank runway was constructed from the store house to the temple site. Three of the original foundation blocks of the temple had been brought to Khartoum and these were the first stones to be laid (Plate IX, a). The rest of the foundations were then built up to the level of the top of the foundation stones with bricks.

During the reconstruction, the temple blocks were handled as they had been during dismantling (Plate IX, b). The stones were unpacked and the lewis bolt was introduced into the previously used hole in the top of the stone. A new gantry with enough span to straddle two walls was obtained (Plate XI, a). This bigger gantry enabled us to reconstruct more easily the central room of the temple. A new 3 ton travelling triple-gear pulley-block which travelled on the gantry was necessary because, during reconstruction, blocks had to be moved in three directions.

Finally, the western and eastern porticos were rebuilt (Plate XI, b, xii, a). The three foundation blocks of the eastern portico pillars had also been brought to Khartoum and were installed. We had to use a mobile crane to replace the roofing slabs of the porticos as there was not enough space for the gantry (Plate XI, b). The thin layer of gypsum mortar which had been used when the temple had originally been built was replaced in the reconstructed temple by a 1 to 8 mixture of cement mortar.

Two methods were adopted for protecting the temple against damp. The first was the laying of a damp-proof-course of 1 mm. lead sheet between the foundations and the bottom of the walls. The second was to coat each block with a 5 per cent solution of shellac. This was largely to prevent the water of the mortar from penetrating the stone. Parts of this temple had subsided between the time of its construction and 1964 and it was decided to correct this slumpage. All the records and measurements that were taken before and during dismantling were thus only partly useful and new corrected drawings were necessary for reconstruction.

One block from the cornice of the south side wall was found near the temple lying on the ground. This has been restored to its original position. One of the roofing blocks which had been found to be cracked was not replaced.

Reconstruction of the temple of Semna West took seventy working days with an average labour force of forty men.

Work on the Temple of Kumma was started in January 1966 and finished on 31 May 1966. The same team that had erected Semna temple was employed again. Not only is Kumma temple larger than that of Semna, but it also presented greater difficulties in its reconstruction. However, the general method was the same (Plate XII, a).

This temple had not been built at one time but over several reigns. As a result there is a considerable difference in the floor levels of different parts of the building. The foundations, thus, could not be built to one level, but had to be stepped. The greater size necessitated the changing of the direction of the gantry four times.
RE-ERECTION AND PROTECTION OF SEMNA WEST TEMPLE - SUDAN NATIONAL MUSEUM, KHARTOUM

FRONT ELEVATION - PROTECTING STRUCTURE ROLLED BACK

LONGITUDINAL SECTION WITH THE PROTECTING STRUCTURE IN POSITION

FOUNDATION OF PROTECTING STRUCTURE CONSISTS OF CONCRETE PILES CAST IN SITU OF 40 cm DIAMETER AND 3.60 m LENGTH

FOUNDATION OF TEMPLE IS COMPOSED OF TWO REINFORCED CONCRETE BEAMS AND BRICKWORK

SCALE: 0 1 2 3 4 5 6 7 8 9 10 Metres

F. Hinkel, Architect

PLAN - PROTECTING STRUCTURE ROLLED BACK

FIG. 1

RE-ERECTION AND PROTECTION OF SEMNA EAST TEMPLE - SUDAN NATIONAL MUSEUM, KHARTOUM

FRONT ELEVATION - PROTECTING STRUCTURE ROLLED BACK

SIDE ELEVATION OF PROTECTING STRUCTURE

PRINCIPAL DATA ABOUT THE PROTECTING STRUCTURE

STEEL FRAMEWORK CONSISTS OF FOUR FREE-SPANNING TRUSSES RUNNING ON RAILS

ROOFING IS 85% CORRUGATED ALUMINIUM SHEETS AND 15% OPAL CORRUGATED "PERSPEX" SHEETS

SIDES ARE COVERED WITH 6 mm GLASS SHEETS IN FRAMES AND FLAT STEEL MULLIONS OF 150 x 6 mm AS WELL AS ADJUSTABLE GLASS LOUVRES

SCALE: 0 1 2 3 4 5 6 7 8 9 10 Metres

F. Hinkel, Architect

PLAN - PROTECTING STRUCTURE ROLLED BACK

FIG. 2

facing p. 82
REMOVAL OF ENDANGERED MONUMENTS FROM SUDANESE NUBIA

There was a number of re-used blocks incorporated in the latest temple\(^4\). It was decided, in general, not to use them when the temple was reconstructed. They have been replaced by brickwork which is being plastered with a mixture of white cement, sand, sandstone dust and colouring. This will be inset about 1 cm. from the surface of the wall and will blend with the natural colour of the adjacent temple blocks.

In the vicinity of the temple, within Kumma fort, several blocks were found which originally had belonged to the monument. These have been restored to their proper places in the structure. Three lintels, which were found to be cracked, were each repaired with three or four dowels set in 'Akemi'. The last seven roofing slabs were placed with the help of the mobile crane (Plate XII, b).

The two Semna temples have now been completely re-erected and protected (Plate XIII, a, b). All that remains to be done is the final cleaning of the walls, the replacing of small fragments, and laying the flooring.

The total expenditure for the work on the Nubian monuments during this period has been £S31,160.
This breaks down as follows:

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<th>Cost (£S)</th>
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<td>Faras West, five columns</td>
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<td>11,680</td>
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<td>Kumma temple</td>
<td>14,220</td>
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<tr>
<td>Buhen temple</td>
<td>5,050</td>
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Total £S31,160

\(^4\) Cf. Kush xii, p. 100.
Influences culturelles transmises au Sahara tchadien par le Groupe C de Nubie

par Paul Huard

Propos d'une première étude de la diffusion au Sahara tchadien d'une pratique du Groupe C de Nubie, la déformation artificielle du cornage du boeuf africain, une hypothèse de travail a pris corps: la culture de ce groupe se serait formée dans une aire saharienne qui subit l'influence de cultures pré- et protodynastiques de la Haute Égypte, engloba Ouénat, vint anciennement au contact des cultures pastorales du Sahara central, s'étendit au Soudan au nord du 16e degré et recouvrit progressivement le Sahara tchadien.

Depuis 1963, d'importants documents, concernant notamment l'aire originelle des déformations de cornes, ont été mis à la disposition de l'auteur qui a pu aborder parallèlement l'étude d'autres traits culturels, originaux ou acquis, du Groupe C.

L'élargissement du champ d'étude obtenu en considérant, dans leur évolution et leur diffusion, un ensemble de traits culturels associés, dont certains ont une origine prédynastique, appelle la poursuite de recherches dont on peut attendre des lumières sur les premières cultures pastorales nées dans les steppes à l'ouest du Nil nubien et dont le Groupe C a transmis des éléments au Sahara tchadien.

Dans un tel cadre, le présent travail n'a que la valeur d'un premier apport dont la matière est fournie par l'iconographie et par nos récentes publications ou, due à des chercheurs auxquels nous adressons nos remerciements pour la communication de documents précieux: J. Leclant pour le Nil nubien; O. H. Myers pour la Nubie occidentale, le Gilf Kebir et Ouénat; G. Bailloud pour l'Ennedi; J. Courtin, M. Crublé et J. Petit pour le Borkou; J. M. Massip et O. Lopatinsky pour le Tibesti et le Borkou; H. Lhote pour le Tassili; M. Santamaria et J. Petit pour le Hoggar. Depuis la rédaction de cet article (1965), de nouveaux documents ont été produits, notamment dans les 'Estudios de arte rupestre nubio' de Almagro Basch (1967).

Les conditions de la vie pastorale au Sahara oriental étant d'abord précisées, nous y recherchons la diffusion originelle puis les transmissions, très variables, au Tibesti-Borkou-Ennedi des traits culturels du Groupe C attestés par des documents figurés et des vestiges industriels comprenant de nouvelles séries de bovins à cornage déformé, à pendeloques jugulaires, à robes décorées, à cornage fermé en anneau; des femmes steatopyges aux jupes ornementées, ou nues à décor corporel; des hommes à baudriers croisés. En ce qui concerne la céramique de l'Ennedi et du Borkou, dont

2 Huard, 'A propos des bucrânes à corne déformée de Faras', Kush xii, 1964, 63-81.
Fig. 1. AIRE DE DIFFUSION AU SAHARA TCHADIER ET AU Soudan occidental des traits culturels attestés par le groupe C.

== Localization au Sahara central des figurations anciennes de bovins à cornage déformé: +
KUSH

les rapports certains avec le Groupe C restent à analyser, on peut dès maintenant mettre en lumière la transmission différée et probablement indirecte (via Napata, Meroé et même la Nubie chrétienne) de diverses pièces de datation tardive trouvées au Borkou et au Djourab: tessons à décor zoomorphe et à motifs courants du Groupe C; supports de vases en forme de cylindres ajourés ou incisées, grands gobelets, poterie rouge à décor noir peint.

Quant à l'industrie lithique des haches à gorge, que le Groupe C a connue après d'autres cultures du Nil et du Sahara, elle doit être étudiée sur toute l'aire très étendue où ce type d'outillage est attesté.

I. LES CONDITIONS ÉCOLOGIQUES

L'âge pastoral, entre le Nil et le Sahara oriental, ne peut être étudié valablement que dans le cadre des conditions écologiques de chacun des secteurs concernés au cours de l'optimum climatique post-glaciaire3, pendant lequel la vie de la grande faune sauvage— et donc la circulation au moins saisonnière des troupeaux—furent assurées, sauf dans l'erg libyque et sur les serirs4 situés à l'ouest de la mer de sable.

*En Egypte,* sur de vastes bandes des hauts déserts, la vie du rhinocéros, de l'éléphant et une occupation humaine extensive des paturages saisonniers étaient possibles5. Pour l'étude de l'aire culturelle du Groupe C, les points importants sont: l'ordre de grandeur des précipitations au cours du IIIe millénaire et l'estimation des époques-limites à partir desquelles la vie pastorale cessa, en chaque région, d'être praticable. Pour Butzer, le rhinocéros, l'éléphant et la girafe ne furent pas rares dans de vastes secteurs des déserts d'Egypte jusqu'en 2350 av.JC6.

Grâce à des observations faites à Ouénat, dans l'Akakous (Fezzan SW) et aux découvertes réalisées au Sahara tchadien, l'esquisse des conditions écologiques 'néolithiques' entre le Nil nubien et le Sahara central a pu être progressivement améliorée3,8,9. Ces conditions ne furent pas uniformes, comme le montrent les données dégagées:

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4 *‘Extremewüste’ archaïque*, selon Meckelein, *‘Forschungen in der Zentralen Sahara’*, Braunschweig, 1939.


8 Huard et Massip, *‘Harpons en os et céramique à décor en vague (wavy line) au Sahara tchadien, Études et Travaux de la Soc. Préhist. Fr. (SPF)*, t. 1964.

9 Huard, *‘Observations écologiques sur le Sahara nigéro-tchadien entre l’âge des chasseurs et l’âge du fer’,* à paraître.
INFLUENCES CULTURELLES TRANSMISES AU SAHARA TCHADIEN

*En Nubie occidentale*, Myers\(^{10}\), rappelant d’après Reisner que les tombes y portent trace de dégradation par les pluies jusqu’au début du Moyen Empire (2040 av.JC.) pense que le désert a pu servir d’habitat à des tribus nomades jusqu’à la fin du III\(^{e}\) millénaire.

*A Ouénat*, massif exigu mais relativement élevé (1934 m.), Kemal el Dine avait signalé des figurations d’hippopotame et de rhinocéros.\(^{11}\) Myers y recueillit en 1938 des ossements non fossiles de poissons dans un habitat néolithique de mare, attestant le ruissellement des sommets. Winkler, qui publia des boeufs gravés à Dakhla d’époque dynastique, pensait que les pasteurs d’Ouénat, réduits en nombre, finirent par se replier vers le sud\(^{12}\) et Murray a proposé une datation vers 2000–1500 av. JC. comme terme de l’évacuation du massif\(^{13}\), estimation correspondant au Bovidien moyen de l’Ennedi\(^{12,14}\), caractérisé par des transmissions accrues du Groupe C.

*En Erdi*, au nord de Korko (19° 20’ N.), de nombreuses ruines de cases circulaires de pierre reliées par des pistes, des cimetières, un outillage néolithique comprenant des haches à gorge, attestent une longue occupation humaine par des sédentaires\(^{15}\).

Dans le *Mourdi*, dépression comprise entre l’Erdi et l’Ennedi, un matériel très abondant de minoterie, d’époque tardive, a été trouvé\(^{16}\).

*En Ennedi*, les terrasses de la falaise septentrionale portent des cases de pierre semi-circulaires liées au mortier, accolées à des parois ornées de peintures de l’âge du fer\(^{17}\), et les ouadis issus de la face est du massif abondent en vestiges néolithiques\(^{18}\).

Au *Soudan NW*, Myers\(^{19}\) a désigné l’axe: W. Haouar—W. el Melik—Ed Debba comme encore très fréquent aux temps méroïtiques. Wainwright\(^{20}\) a signalé dans l’O. Haouar les traces d’une population permanente ou semi permanente gardant l’écho d’une influence méroïtique.

Au *Borkou septentrional*, Arkell\(^{21}\) a estimé que l’ancien lac de Gouro alimenté par le ruissellement de l’Emi Koussi, sommet culminant du Sahara (3415 m.), ne serait desséché que depuis 2000 ans.

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\(^{10}\) Mond et Myers, ‘An Archalc Nubian Cemetery’, en préparation.


Au Borkou occidental, nombre d’indices concordants, dégagés à partir de 1962\textsuperscript{22}, prouvent l’existence, immédiatement au nord de Largeau, d’un milieu lacustre ou palustre, tributaire du Tibesti, à une altitude apparentement supérieure aux cotes de l’extension néolithique du lac Tchad. Des représentations peintes d’embarcations, datables du I\textsuperscript{er} millénaire avant notre ère\textsuperscript{23}, le squelette d’un homme porteur d’un pendentif de cuivre ou de bronze enlissé dans l’argile craquelée d’une mare (Crublé, inédit), des sites de pêcheurs de silures, où la céramique de l’âge du fer est associée à des harpons tardifs en os, en sont les témoignages\textsuperscript{24,25}.

Au Tibesti méridional, les associations botaniques actuelles sur l’Emi Koussi impliqueraient, selon Quézel\textsuperscript{26}, des précipitations ou des condensations totalisant annuellement plus de 150 mm., alors que l’isohyète 50 mm. est arbitrairement porté sur les cartes, à défaut d’observations météorologiques. Le versant sud-occidental, la ‘Côte d’Azur’ du Tibesti (Monod), est une enclave de flore sahélienne abritant des troupes de babouins\textsuperscript{27} et même un petit troupeau résiduel de bovins.

Au Tibesti oriental, sur la lisière plus sèche et balayée par l’alizé continental de Libye, de grands végétaux peints sur une fresque présumée du II\textsuperscript{er} millénaire\textsuperscript{28} et un baobab sur une peinture d’époque cameline\textsuperscript{29} indiquent l’établissement progressif de l’uridité.

Au Tibesti septentrional, où des orages aussi rares que violents, générateurs de crues puissantes\textsuperscript{30}, rompent l’extrême irrégularité des précipitations en ‘taches de pluie’ espacées, un périmètre bosselé de souches et de racines, vestiges d’une ancienne forêt a été découvert en 1962 et des harpons en os recueillis en 1965 en bordure septentrionale de la zone d’épandage du bassin de Bardai\textsuperscript{31}.

Du Tibesti au Tadrart, des représentations de silures, de nasses, de pirogue, prolongent vers le nord-ouest, mais à une époque plus ancienne, les indices recueillis dans région de Largeau.

Au Fezzan, l’affleurement de la nappe phréatique dans la dépression a permis la vie de la grande faune sauvage jusqu’à une époque proche de notre ère\textsuperscript{31}, en dépit de

\textsuperscript{22} Huard et Massip, ‘Les peintures rupestres de la falaise d’Artiena, Borkou’, \textit{Bull. SPF} n\textsuperscript{o} 1, 1964.


\textsuperscript{24} Courtin, ‘Sites préhistoriques des environs de Largeau’, \textit{Bull. SPF}, 5, 1964.

\textsuperscript{25} Huard et Massip, ‘Nouveaux harpons en os et céramique à décor en vague au Sahara tchadien’, \textit{BSPF}, 1966, à paraître.


\textsuperscript{29} d’Alverny, ‘Vestiges d’art rupestre au Tibesti oriental’, \textit{JSA}, xx, 1950.


précipitations de plus en plus faibles. Sur les hauteurs de l’Akakous, qui reçoit de nos jours moins de 20 mm. de pluie, le diagramme pollinique de la grotte de Muhuggiag (900 m.) a permis d’estimer entre 150 et 300 mm. les précipitations pendant l’optimum climatique32.

Au Hoggar33, et en Air34, des scènes de chasse avec des lances à armature de métal, ainsi que des gravures de fauves à patine claire, parfois liées à des caractères alphabétiques libyques (tifinars) donnent à penser que la grande faune a vécu aux abords méridionaux des montagnes du Sahara central et tchadien jusqu’à l’âge du fer, soit jusqu’aux premiers siècles de notre ère, époque où le bétail est représenté en de nombreux secteurs9.

En définitive, des indices concordants conduisent à admettre qu'au moins sur les massifs montagneux les précipitations furent, au IIIᵉ milénaire, d’un ordre de grandeur différent de celui qui a été proposé dans une étude35 antérieure aux recherches récentes, qui extrapole des observations faites dans les déserts d’Egypte, n’accordant que 50 mm. à Ouénat et 150 mm. aux sommets du Tibesti. Nous pensons que la vie pastorale permanente dans les steppes à l’ouest du Nil a disparu avec celles-ci à des dates s’échelonnant des trois derniers siècles du IIIᵉ milénaire, en Haute Égypte, au début du IIᵉ milénaire autour d’Ouénat. Elle a persisté dans de vastes secteurs du Sahara tchadien et central jusque sous notre ère.

Au terme de cet aperçu, soulignons qu’à l’échelle des cycles de la vie des pasteurs nomades des zones semi-arides, les distances séparant les points vitaux du Sahara Oriental concernés par cette étude sont modestes36. Et c’est à juste titre que le géographe R. Capot-Rey a désigné l’axe général: Ouénat—Tibesti Fezzan—Tassili comme ayant pu être une route ayant véhiculé des courants de civilisation de chasseurs et de pasteurs à travers un Sahara oriental perméable37.

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36 Gilf Kebir—Aniba: 575 km.
Ouénat-Abka: 625 km.
Erdi-Soleb: 700 km.
W. Hussein-Kerma: 450 km.
W. Haour- Ed Debbia: 500 km.
W. Hussein-Erdi: 250 km.
Ouénat-Erdi: 400 km.
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Dans le cadre ainsi tracé, nous examinons successivement les traits culturels concernant le bétail et les humains, dont le Groupe C a laissé les témoignages.

II. TRAITS CULTURELS DU GROUPE C RELATIFS AU BÉTAIL

A. LES BOVINS À CORNAGE DÉFORMÉ (FIG. 2)

Depuis 1963, de nouveaux documents sont parvenus à notre connaissance, provenant de l'iconographie publiée, de missions anciennes et récentes, ainsi que des recherches que nous dirigeons. Ils s'étendent du Nil nubien au Sahara tchadien et central, où existent quelques documents de grande importance.

Bassin du Nil

Les localisations des images rupestres présentant des cornages déformés ou à plusieurs branches sont:
- En Haute Égypte, un site à 80 km. E. de Louxor et El Hosch; le secteur de Korosko;
- En Nubie (égyptienne et soudanaise), Gerf Hussein, W. Allaki, Sayala, Tômas, Ermennah, Tinaré, Gebel Gorgod, Hodein Magoll;
- Dans les ossis libyennes, un site à l'est de Dakhla;
- Dans les confins libyco-soudanais, Ouénat, W. Hussein, W. Haouar (Zolat el Hamad), Gebel Tageru38.

La figure 2 donne des documents complémentaires à la figure 3 de notre précédente publication dans cette revue. Le bovin n° 1, situé à l'est de Louxor, porte une pendeloque jugulaire comme deux autres, aux robes décorées, voisinant avec lui. Winkler39 les a attribués à des 'Autochtonous Mountain Dwellers' (fin du Prédynastique au Dynastique ancien). Ce bétail a les pieds fourchus, convention appliquée à Ouénat, en Ennedi et plus tard au Borkou et au Tibesti.

Non loin du temple de Gerf Hussein, le boeuf gravé n° 2 figure avec deux autres à pendeloques et un troisième à robe décorée (voir FIG. 4, n° 5 et FIG. 5, n° 18). Le site rupestre est dans un établissement du Groupe C, auquel, il y a déjà près de soixante ans, Firth40 attribua ces représentations.

Les n° 3, 4, 5, gravés à Hodein Magoll41, voisinent avec un boeuf à pendeloques (FIG. 4, n° 6). Le n° 6 d'El Hosch, publié42 sans description, a un double cornage, dont l'un est déformé. Les n° 7 à 14 reproduisent des œuvres peintes à Sayala, qui s'échelonnaient du Groupe A au Groupe C43; le n° 13 pourrait porter une pendeloque.

38 Voir références des sites dans notre publication 2 et infra.
39 Winkler, I (abrév.: W1), pl. xvi, 2.
40 Firth, ASN, 1908–09, n, pl. 18.
41 Frobenius et Breuil, Afrique, Cahiers d'Art, Paris, 1931, p. 36.
42 de Morgan, 'Recherches sur les origines de l'Egypte', fig. 488.
Fig. 2. CORNAGES DÉFORMÉS. NIL NUBIEN
1, E. de Luxor, Winkler. 2, Gerf Hussein, Firth. 3, 4, 5, Hodelin Magoll, Frobenius. 6, El Hosch, de Morgan. 7, à 14, Sayala, Bietak et Engelmeier. 15, Toma, Leclant.—Qoum : 16 à 21, d'après Rhotert. W. Hussein : 22, Rhotert, 23, Shaw.—Soudan NW : 24 à 29, W. Haouar, d'après Rhotert. Gebel Tageru : 30, Newbold, 31 à 34, Shaw.
Le n° 15, superficiellement piqueté à Tômas, est d'une phase pastorale assez avancée. Plus au sud, la mission de Soleb a relevé en 1965 des cornages à plusieurs branches et de nombreuses pendeloques au Gebel Gorgod.

Les n° 16 à 21 sont pris à Ouénat sur des photographies de Rhotert. En deux cas, des cornes déformées ont été ajoutées au cornage normal.

Plus au sud, les n° 22 et 23 proviennent du W. Hussein (Rh. xxxviii et Shaw 47). Les n° 24 à 29 sont de Zolat el Hamad dans le W. Haouar (Rh. xl, 2, 3, 4, 8 et xlv, 3; Shaw, 47); les n° 30 à 34 de Quelti Um Tassawir dans le Gebel Tageri. On remarquera que le n° 26 représente, exceptionnellement une vache et que les bovins n° 33 et 34 sont tenus par la queue selon un usage de bergers dont on verra plus loin d'autres exemples. Les nouveaux documents de Basch proviennent de la région de Korosko (fig. 19, 29, 33, 54, 56, 208, 221, 222, 243).

Tchad nord-oriental (FIG. 3)

Des cornages déformés sont maintenant connus dans 16 sites des Erdis, de l'Ennedi (NE., N., NW., SW.) et dans 9 du Borkou, où ce trait culturel était jusqu'ici exceptionnel. Ces documents, dont quelques-uns seulement sont anciens, se relient sans hiatus à ceux des sites du Tibesti occidental. La figure 3 groupe des documents complémentaires, presque tous inédits, du Sahara tchadien.

Ennedi

Le n° 1 est finement peint à l'ocre rouge dans l'Ennedi méridional (Archei Toukoulou, Kaufmann, 1949, inédit). Rappelons que les déformations de cornes sont toujours très rares sur les fresques, Sayala étant une exception sans correspondance à Ouénat et au Gilf Kebir.

Borkou oriental

De grands boeufs gravés anciens y sont maintenant connus, comme au Tibesti oriental. Les n° 2 à 6 sont des inédits de Gaorienga (J. Petit, 2° Mission Hoggar-Tibesti, 1952–53). Les n° 2 et 4, incisés et de patine totale (1 = 40 et 30 cm.) sont les...
Fig. 3. CORNAGES DÉFORMÉS DU SAHARA TCHADIEN ET CENTRAL.

plus anciens. Sur le n° 3, piqueté et plus récent, la corne déformée, légèrement incisée, peut avoir été ajoutée. Les n° 5 et 6, tardifs, sont de Néribina, où, dans l’important ensemble de sites découvert par la mission précitée, Courtin a étudié en 1964 un panneau sur lequel trois styles de bovins se recourent⁵². Au niveau profond, des boeufs incisés, à tête petite et allongée, ont des cornes en lyre ou déformées. Le niveau moyen donne des robes décorées (voir FIG. 6, n° 13). À Iwanga, le n° 7, inédit de Courtin, est un petit bovin de très faible patine et proche de l’âge du fer, d’après le contexte.

Au Borkou occidental, Courtin a également relevé un boeuf à corne déformée à Taitroa III, près de Largeau⁵².

**Tibesti méridional**

Les n° 8 et 9 sont deux petits boeufs blancs à cornage déformé, l’un à trois cornes, peints au plafond de l’abri de Tougouï Tougour (28, FIG. 9).

Sur la planche XIV, les n° 1 et 2 sont deux grands boeufs, appartenant à une série inédite de douze, découverts en 1963 à Tougour (Misky) par Massip, parmi lesquels on compte aussi des pendeloques, des cornages retouchés (n° 3) et fermés en anneau (FIG. 7, n° 20).

Du Tibesti occidental proviennent le n° 4⁵³ et les n° 5 et 6 (Marmar, Massip, inédits) qui pourraient, comme c’est le cas pour des ovins⁵⁴, être des caprins auxquels ont été imposés des cornages déformés de bovins⁵⁵.

**Tibesti septentrional**

Sur la figure 3, le n° 10, de patine assez claire, portant une double pendeloque, est d’Aozou⁵⁶. Dans le val de Bardaï, où des cornages déformés de la phase pastorale ancienne locale⁵⁷, antérieure au IIᵉ millénaire, sont connus⁵⁵, le n° 11 est postérieur⁵⁸.

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⁵² Courtin, ‘Sites préhistoriques du Borkou (N. Tchad)’, BSPF, n° 6, 1964.
INFLUENCES CULTURELLES TRANSMISES AU SAHARA TCHADIEN

Le n° 12 (Massip, inédit) et les n° 13 à 21 (O. Lopatinsky, inédits) s'échelonnent de la phase pastorale tardive (milieu du 1er millénaire av. JC.) à l'âge du fer, la persistance de la pratique en cause étant en faveur de l'implantation de pasteurs touchés par la culture du Groupe C et ayant fait souche.

Après la remise de ce travail, deux autres documents anciens inédits nous sont parvenus: un bucrâne isolé figuré de face, à corne déformée, piqueté sur toute sa surface et très patiné, relevé à 20 km. au nord de Bardai (Lt Léonardi, 1965), ainsi qu'un bovin à trois cornes, dont une déformée, exécuté au gros pointillé au col Orange, entre Bardai et Aozou (Petit). Par leur facture, ces documents antérieurs à la phase pastorale moyenne locale (qui commence vers le début du II° millénaire) sont à mettre en parallèle avec des œuvres du Nil nubien.

Tibesti nord-occidental et confins nigéro-tchadiens

Le n° 8 de la planche xiv représente un bovin d'Areun, au double cornage duquel a été ajoutée une corne déformée. Cette œuvre paraît être du début de la phase pastorale moyenne. Le n° 22 de la figure 3, du même site, est moins ancien que le précédent. Le n° 23 de l'Ehi Asobda (Massip, inédit), fait partie de la masse des figurations bovines antérieures au schématisme de la phase tardive.

Dans les confins nigéro-tchadiens, où l'aire des cornes déformées se termine pour le bassin du Tchad, le n° 9 de la planche xiv est un boeuf gravé en creux de Ye Lulu Loga, grande station des chasseurs et de pasteurs anciens. Cette figuration, certainement la plus ancienne de celles de ce genre connues au Tchad, nous semble à rapporter au début de la phase pastorale ancienne locale, soit autour de 3000. La technique en creux employée, très anciennement pratiquée sur le Nil, n'est connue au Tibesti que sur trois éléphants anciens de ce secteur découverts en 1964.

Sahara sud-central

A l'ouest des confins nigéro-tchadiens, des recherches récentes ont fait connaître quelques représentations de cornages déformés, qui sont antérieures à la scène magique n° 24, unique en Air. Le bovin n° 25, de patine assez foncée (1 = 50 cm.) est piqueté dans l'oued Adenek, au Hoggar occidental (M. Santamaria, inédit). Le n° 26, porteur de pendeloques, au cornage en lyre déformé suivant un type minoritaire sur le Nil et le boeuf n° 27 à trois cornes dont une déformée, sont piquetés régulièrement et profondément à Aguenar, au Hoggar méridional. Ils sont de patine

60 Huard et Feval, 'Figurations rupestres des confins algéro-nigéro-tchadiens, Trav. IRS, 1964.
61 Huard, 'Les figurations d'animaux à disques frontaux et attributs rituels au Sahara oriental', BIFAN, xxii, B, 1-2, 1961, fig. 11.
62 Lhote, 'Gravures rupestres d'Aguennar (Ahaggar)', JSA, xxxiv, 1964, n° 41 et 259.
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chamois foncé et appartiennent à ‘un étage ancien bien caractérisé apparenté aux boeufs de l’Ahnet’, selon Lhote. Nous estimons qu’ils peuvent être du début de la phase pastorale moyenne. Le petit bovin n° 28 de la région d’Arak (Santamaria, inédit) est, par contre, de patine claire, martelé et récent. Les trois documents culturels n° 25, 26 et 27 sont à rattacher aux figures analogues de la lisière méridionale du Tassili (2, FIG. 3).

Sahara central

Au Fezzan, les seuls documents probables connus, outre celui relevé par Barth à Telizzaghen (2, fig. 4, n° 14), sont les n° 29, 30, 31, qui semblent appartenir à une phase ancienne63.

Au Tassili, la paire de bovins n° 32 (1 = 120 cm.) est soigneusement incisée au trait mi-fin à l’oued Djérat, station majeure du Tassili, où les gravures naturalistes des chasseurs et des pasteurs s’échelonnent sur des millénaires. Ce relevé inédit est conservé au Musée de l’Homme (H. Lhote). C’est apparemment dans une intention rituelle que les deux boeufs, l’un à cornage déformé, l’autre à attribut céphalique complexe61,64, ont été conjugués. Cette oeuvre, que nous pensons postérieure à la phase pastorale archaïque, à cause de ses dimensions limitées et de sa facture assez légère, pourrait être, conjecturalement et pour fixer les idées, située au moins vers le début du IIIe millénaire.

Les boeufs précités de Ye Lulu Loga et de Djérat, qui sont certainement antérieurs à l’époque où la culture du Groupe C parut sur le Nil (vers 2300 av. JC.) sont des éléments absolument nouveaux qui s’ajoutent aux quelques figurations de ce genre existant en lisière méridionale du Tassili et au Fezzan2, suggèrent des rapports possibles à éclucider, entre ces témoignages très anciens et ceux d’Ouénat et de Nubie.

B. LES PENDEOLOQUES JUGULAIRES (FIG. 4)

Dans un premier catalogue65, nous avons sélectionné 150 bovins gravés porteurs de peneloques jugulaires, paraissant se rattacher à deux centres originels situés : l’un en Haute Égypte, l’autre au Sahara central (Tassili, Fezzan), le premier ayant rayonné à Ouénat et au Sahara tchadien par l’intermédiaire du Groupe C, le second ayant porté son influence, attestée par le style des gravures, dans l’Ahnet, au Hoggar et, vers l’est, jusqu’au Djado et au Tibesti occidental, où les témoignages issus des deux foyers interfèrent.

63 Graziosi, L’Arte rupestre della Libia, Naples, 1942, pl. 55, 75b.
64 Huard, ‘Nouvelles figurations sahariennes d’animaux porteurs d’attributs céphaliques’ à paraître.
CORNAGES DÉFORMÉS

Tibesti méridional, Tongour: 1, 2, 3, Massip, inédit. Tibesti occidental. 4, Débassar, Huard. 5, 6, Marmar, Massip, inédit. Tibesti NW. 8, Areun, Huard. Confins nigéro-ichadiens. 9, Huard et Massip.

facing p. 96
GUIRCHI NIALADOI A

1, 2, 3, Poterie à décor zoomorphe du Borkou, Courtin. 4, Fragments de support cylindrique incisé et de poterie à motif en losange du Djourab. Huard, Bacquié et Scheibling.
FIG. 4. PENDEOLOQUES JUGULAIRES

La figure 4 verse au dossier d’une question complexe: des documents complémentaires puissés dans le décor mobilier prédynastique; des figurations rupestres du Nil nubien et du Tchad; enfin des documents anciens du Sahara central.

Le matériel prédynastique compte une quinzaine d’animaux à pendeloques. Outre les chiens tenus en laisse par l’archer libyen d’une coupe amratienne de l’ancienne collection Golenischeff\textsuperscript{66}, ce sont principalement des sujets peints en blanc sur fond noir: à Nagada, deux girafes n° 1, à minces pendeloques doubles fixées à la base du cou\textsuperscript{67} et sept antilopes n° 2 à pendeloques boulées\textsuperscript{68}; à Mahasna, trois antilopes n° 3 portant à la base du cou de grosses saillies arrondies\textsuperscript{69}, dont l’une est perforée, voisinent sur le fond du vase avec un homme assis muni d’un long bâton fourchu tenu horizontalement, déjà semblable à un berger.

Le document rupestre le plus ancien est le n° 1 de la figure 2, qui est accompagné de deux bovins à robe décorée, dont le n° 4 (W1, xvii, 2) à double pendeloque filiforme. Le n° 5 est l’un des deux boeufs à pendeloque appartenant au Groupe C, publié par Firth\textsuperscript{40}. Le n° 6 d’Hodein Magoll\textsuperscript{41} est sous-jacent à la voile d’une barque et associé à deux boeufs à cornage déformé n° 3 et 4 de la figure 2. Le n° 7 a été photographié par la mission espagnole\textsuperscript{70}. Le n° 8 est du Gebel Sheikh Yacoub\textsuperscript{71}. Le n° 9 est pris parmi d’autres à Tinaré\textsuperscript{72}. Le n° 10 est un boeuf à robe ocellée, motif décoratif du bétail du Groupe C, portant deux grandes pendeloques boulées (Leclant, Tômas, inédit). A Sarras-Est, près de la deuxième cataracte, la mission de l’Université Humboldt\textsuperscript{73} a relevé un certain nombre de bovins gravés à pendeloques, n° 11. D’autres accessoires analogues, portés par des bovins à robe décorée, se trouvent dans le décor mobilier du Groupe C. Rappelons que les fig. 156, 188 et 213 de Basch (1967) donnent de belles pendeloques.

Après avoir rappelé que les publications de Winkler\textsuperscript{12,39}, Rhotert\textsuperscript{46} et Shaw\textsuperscript{47} donnent de nombreux bovins à pendeloques du fuseau: Ouénat- W. Hussein-W. Haouar- Gebel Tageru, nous passons aux relevés inédits récemment recueillis au Sahara tchadien, ou qui sont reproduits en raison des liaisons qu’ils établissent entre plusieurs traits culturels étudiés dans ce travail.

En Erdi, le n° 12 est un bovin incisé à pendeloque boulée\textsuperscript{53}.

À la corne NW de l’Ennedi, le bovin n° 13, incisé (Petit, inédit), de patine totale, a une pendeloque volumineuse gravée en creux. Courtin a relevé dans ce secteur des documents analogues mais plus tardifs.

\textsuperscript{66} Vandier, Manuel d’Archéologie égyptienne, t. fig. 192.
\textsuperscript{67} Petrie, Prehistoric Egypt, London, 1920, pl. xviii, 73.
\textsuperscript{68} Baumgartel, The Cultures of Prehistoric Egypt, London, t, 1955, pl. vii, 4 et 5.
\textsuperscript{69} Petrie, Corpus of Prehistoric Pottery and Palettes, London, 1921, xxv.
\textsuperscript{70} Almagro et al., Exposicion de los hallazgos de la Mision Arqueologica en Nubia, Madrid, 1963, pl. i.
\textsuperscript{71} Verwers, ‘The Survey from Faras to Gezira Dabarosa’, Kush x, 1962, pl. mia.
\textsuperscript{72} Leclant, ‘Fouilles et Travaux en Egypte et au Soudan, 1961–62’, Orientalia, 32, 2, fig. 41.
\textsuperscript{73} Hintze, ‘Preliminary Note on the Epigraphic Expedition to Sudanese Nubia’, 1963, Kush xII, 1964, pl. ix, a.
INFLUENCES CULTURELLES TRANSMISES AU SAHARA TCHADIERN

Au Borkou oriental, à Iwininga, Petit a signalé quelques pendeloques, dont Courtin (fig. 6, no 15) a réuni une série nombreuse\(^{74}\).

Au Borkou occidental, la région de Largeau a livré les deux bovins no 14 et 15, d'apparence très ancienne, bien que stylisées\(^{75}\) et celui, à robe décorée, de la PLANCHE XVI, datable seulement de la fin du I\(^{e}\) millénaire av. JC. (Bovidien récent de l'Ennedi).

Au Tibesti méridional, le grand bovin gravé no 16, à cornage retouché, est de la fin de la phase pastorale ancienne et il porte les pieds fourchus caractéristiques de l'est du Sahara tchadien et d'Ouénéat.

Au Tibesti septentrional, les relevés no 17 à 19, sur lesquels les pendeloques sont sans rapport avec les colliers, sont des inédits de Bardaï faisant suite à d'autres publications\(^{64*,65}\). Le no 20, à cornage déformé, est d'Aozou (56, no 173); le no 21 de la corne NE du massif\(^{76}\).

Au Tibesti oriental, la lacune due à l'absence de boeufs gravés à pendeloques vient d'être comblée par des documents rapportés en 1965 par le capitaine Le Masson\(^{51}\). On y note: un assez grand boeuf de dessin rigide, fortement patiné, portant une pendeloque boulée; un petit bovin martelé et assez fortement patiné, pourvu d'un cornage fermé en anneau et d'une pendeloque épaisse et courte. Un troisième bovin, aux cornes en lyre, porte sous la mâchoire deux traits parallèles très brefs, disposition que l'on observe sur des bovins du décor mobilier du Groupe C.

**Sahara central**

Les relevés qui suivent se rattachent à ce foyer ou à son rayonnement\(^ {77}\): no 22\(^ {78}\); no 23, 24, 25 d'après des documents relevés par Lhote. Les deux premiers sont incisés et d'un niveau ancien, l'un étant privé de cornes, comme le no 24, postérieur; no 26 du Fezzan (In Habeter\(^ {79}\)); no 27, 28 de la Tefedest (Petit, inédit), le premier gravé, le second peint; no 30 du Tadrart (Arrikine\(^ {63}\)); no 31\(^ {60}\) et 32\(^ {23}\) du Djado.

La présence de la zone aniconique de la Libye nord-orientale laisse ouverte la question de l'origine et de la diffusion du trait culturel étudié ici, que l'on connaît par deux groupes d'indices livrés à l'origine: à l'est par le décor mobilier prédynastique et les rupestres archaïques de Nubie; à l'ouest par les gravures localement archaïques du Tassili et du Nord Tibesti.

**C. LES BOVINS À ROBES DÉCORÉES (FIG. 5)**

Sur des vases et des monuments du Groupe C et moins souvent sur les gravures rupestres de Haute Nubie, des bovins ont des robes ornées de motifs décoratifs dont

\(^{74}\) Courtin, travail en préparation.

\(^{75}\) Huard et Massip, 'Gravures rupestres du Tibesti méridional et du Borkou', BSPF, 1963.


\(^{79}\) Frobenius, Ekade Ektab, die Felsbilder Fezzans, pl. xxxviii.
Fig. 5. ANIMAUX A ROBES DÉCORÉES

Amratien: 1, 2, 3, d’après Childe. 4, Raphaël. Groupe C: 5, 7, 8, 9, 11, 12, 12 bis, 18, 24, 29, 30, Firth. 10, 10 bis, 16
22, Emery et Kirwan, 17, Jünker, Toschke.—Oueitat: 19, 21, 28, Rhotert. W. Haouar: 20, Rhotert. Nil nubien et soudanais:
13, 14, 15, Tómas, Leclant, inédit. 25, Khor Rahma, Dunbar. 26, Tinaré, Leclant. 27, Khor el Fakhri, Curto.
certains ont des antécédents dans des cultures prédynastiques. En général, ces figurations voisinent ou s'associent, au Sahara oriental et tchadien, avec les cornages déformés et les pendeloques jugulaires et il est remarquable qu'au-delà du Tibesti vers l'ouest, les robes décorées suivant les thèmes nubiens fassent entièrement défaut.

Le rapprochement des figures 5 et 6 montre qu'il n'est guère de combinaison décorative du bétail connue dans l'art mobilier de Nubie qui n'ait été utilisée ou adaptée par les pasteurs du Sahara tchadien, dont les productions sont, dans l'ensemble assez nettement décalées dans le temps par rapport à celles du Groupe C.

La figure 5 présente d'abord quatre décors animaliers prédynastiques que l'on peut suivre dans le décor mobilier du Groupe C comme sur les gravures rupestres du Sahara oriental.

Les chevrons superposés de l'éléphant n° 1, d'un type connu des Amratiens et des Earliest Hunters (W1, lvii), se retrouvent sur l'autruche n° 5 du Groupe C.

Le treillis serré oblique de l'antilope amratienne n° 2 se voit, plus ou moins ouvert, sur des animaux du Groupe C: bovins n° 62; n° 7, 8, 93, comme sur la girafe n° 1083, tous de la vallée du Nil, ainsi qu'à Ouénéat (fig. 6, n° 1).

Le zig-zag ouvert de l'antilope amratienne n° 3 réapparaît sur les bovins n° 10 (82, fig. 375), n° 11 et 1283. Le même motif peut être mis en valeur par remplissage, n° 12 bis.

La croix de Saint André de l'hippopotame prédynastique n° 4 réapparaît sur les boeufs n° 13, 14, 15 de Tómas (Leclant, inédit), comme sur le boeuf n° 2 de la figure 6, peint à Ouénéat (W2, plate xxiv).

Au répertoire propre au Groupe C appartiennent les rayures verticales ou obliques serrées n° 1682, n° 1784, qui sont plus écartées sur un boeuf de Gerf Hussein n° 1840, lequel voisi ne avec deux autres boeufs précités à cornage déformé et à pendeloque. Le même décor se remarque à Ouénéat, n° 19 (Rh. xxxiii) et dans le W. Haouar, n° 20 (Rh. lxvi, 2). La variante dans laquelle les rayures sont recoupées par une ligne médiane marquant l'axe du corps a aussi une réplique à Ouénéat, n° 21 (W2, xxviii).

Le décor à bandes rayées, verticales ou obliques n° 2282, se voit tardivement dans le décor de l'art mobilier méroïtique, n° 23 (82, fig. 24) et sur des gravures bovidiennes récentes du Borkou (J. Courtin, inédit).

Des robes ocellées existent en Nubie (fig. 4, no 10), à Ouénéat, au W. Hussein (Rh. xxxviii, 1), au Borkou et au Tibesti.

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81 Firth, ASN, 1909–10, fig. 200.
82 Emery et Kirwan, Excavations and Survey between W. es Sebua and Adindan, 1929–31 (1935), pl. 24. Ce document-clé développe le décor peint d'un vase du Groupe C (cimetières n° 209 de Toschke). On y compte les bovins n° 6, 16 et 22 de la figure 5 et un bovin ocellé, ainsi que les personnages n° 12 à 17 de la figure 8 et le n° 20 de la figure 9.
83 Firth, ASN, 1909–10, fig. 140, Ikkor; fig. 204.
84 Jünker, Toschke, 1926, pl. xv, 172.
85 Raphaël, Prehistoric Pottery and Civilisation in Egypte, pl. xv, 10.
Fig. 6. ROBES DÉCORÉES
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La simplification ou la stylisation de quelques uns des motifs énumérés se trouve sur plusieurs documents; pierre funéraire tardive du Groupe C\textsuperscript{83} représentant un bœuf sans cornes n° 24; gravures rupestres n° 25 de Khor Rahma\textsuperscript{86}; n° 26 de Tinaré\textsuperscript{72}; n° 27 de el Fakhri el Bahari\textsuperscript{87}; n° 28 d’Ouénat (W2, xxxvi); décor de vases de Qurta, n° 29 et 30\textsuperscript{83}. Dans la documentation de Basch, on note une robe à rayures verticales (fig. 15) et deux en treillis large de losanges (fig. 215).

La figure 6 donne, à partir du n° 3, des relevés rupestres, presque tous gravés, du Sahara tchadien, où l’on constate la présence de thèmes nubiens, tantôt schématisée, tantôt soissonnante.

A l’\textit{Erdi} appartiennent les n° 3 (Kaufmann, 1949, inédit) et n° 455.

Du \textit{Mourdi} provient le n° 555.

En \textit{Ennedi} NW, le n° 6 est de Nérinina (55, fig. 3); le n° 7 est peint dans l’\textit{Ennedi} méridional (2, fig. 3). Dans l’\textit{Endébé}, à Guirchi Nialadoia, le bœuf à bandes n° 8 est associé à un autre ayant le cornage déformé (2, fig. 3, 9), et relié à de grands personnages entre lesquels sont intercalées de petites femmes portant des jupes, dont il sera question plus loin. Il en est de même des bovins n° 9 et 9 bis (Huard et Massip, inédits) de la même station, qui sont reliés à un autre groupe de grands personnages. Ces documents, fortement patinés, ne semblent pouvoir être antérieurs à la fin du III\textsuperscript{e} millénaire ou au début du II\textsuperscript{e} millénaire, qui correspondent au Bovidien moyen de l’\textit{Ennedi}, au cours duquel, selon Bailloud\textsuperscript{14}, le style des peintures se dégage lentement de ses origines gravées et où les déformations artificielles de cornages et les pendeloques apparaissent en nombre notable. Pour cet auteur, le style de Hohou (Bovidien moyen) présente des parallèles frappants avec des figurations d’Ouénat.

Au Bovidien récent (cours du I\textsuperscript{e} millénaire av. JC. selon la terminologie de Bailloud), appartiennent des relevés de ce chercheur: n° 10 de Chigeou\textsuperscript{55} et n° 11 de Terkei Barakatra I, inédit, au décor formé de losanges, de triangles ou de chevrons concentriques, motifs du Groupe C. Le n° 12 couvre d’un damier serré la robe d’un bœuf récent à corne déformée, gravé sur la lisière NE (2, fig. 3).

Au \textit{Borkou oriental}, le bœuf n° 13 de Neribina (Petit, inédit) appartient à une couche de gravures superposée à des bœufs à cornage déformé. Toute la surface de sa robe est couverte de bandes parallèles angulaires ou courbes, dont certaines ont pour centre un losange dessiné sur l’arrière-train. Le n° 14, incisé et de patine totale (Oyougora, Petit, inédit), qui porte seulement un large collier (1 = 90 cm.) est vraisemblablement antérieur. A Iwininga, on voit l’association des pendeloques et des robes au décor en triangles n° 15\textsuperscript{74} ou pseudo-géométrique (Petit, inédit).

\textbf{Borkou occidental}

La région de Largeau présente aussi des figurations du Bovidien récent: bœuf à robe rayée horizontalement, disque frontal et pendeloque double, peint à Artiena,


\textsuperscript{87} Curto, ‘Rapport préliminaire sur Dehmit’, \textit{Fouilles en Nubie}, 1959, pl. iii.
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n° 16 (Huard, inédit), au voisinage du boeuf de la planche III, n° 1 ; n° 17 croisillonné gravé, d’après un croquis inédit de Courtin ; bétail de Yarda gravé : ovins à rayures verticales serrées n° 18 ; à croix de Saint André, n° 19 ; à robes couvertes de losanges et de triangles concentriques, n° 20 et 21. De son côté, Courtin a relevé des robes diversement décorées en trois sites gravés du Borkou oriental et dans quatre de la région de Largeau, les plus intéressants paraissant être un grand boeuf piqueté de Taitroa I, à chevrons verticaux et une frise de bovidés à chevrons verticaux, de patine très ancienne.

Tibesti occidental

Le n° 22 est marqué par une ligne médiane suivant l’axe du corps, recoupant des raies verticales espacées. A Kohorom, Massip a relevé le décor tardif n° 23 (inédit), qui rappelle le n° 12 bis de la figure 5. Signalons deux éléphants incisés à Odéroua, datables du IIIe millénaire environ, ayant : l’un le corps orné de lignes ondulées horizontales (60, planche XV), l’autre des stries obliques serrées.

Tibesti septentrional

Sur les hauts plateaux, dans l’enneri Bou Sama (Soborom), Mgr. Dalmais a relevé les n° 24 et 25 inédits, à rapprocher des motifs de Qurta et de Toschke (fig. 5, n° 29 et 17). Sur le versant nord, un bovin stylisé n° 26 (Massip, inédit) reproduit la croix de Saint André de Nubie. Le n° 27, finement rayé, pourrait être un ovine de la phase pastorale moyenne pourvu d’un cornage déformé. Le n° 28 est référal de la fin de la phase pastorale ancienne (Bardai, 53). Le n° 29, de patine claire, est d’Oozou. Tous ces motifs peuvent être mis directement en parallèle avec des décors corporels du bétail du Groupe C.

Tibesti oriental

Deux documents gravés de Le Masson représentent respectivement : un bovin bien dessiné portant un dispositif analogue à celui du n° 22 de la figure 6, mais plus régulier et un bovin sans cornes à la robe ornée de rayures horizontales. Rappelons que d’Alverny a signalé des bovins à robe décorée dans un site du versant oriental, dans la partie nord duquel M. Lelubre a trouvé à Aranaba un boeuf peint analogue au boeuf gravé à rayures horizontales précité (BSPF, 1948).

Sahara sud-central

Il est remarquable qu’à l’ouest du Tibesti les représentations de bovins aux robes décorées de motifs nubiens cessent brusquement, alors que l’on voit dans tout le Sahara des robes portant un quadrillage plus ou moins régulier, lequel ne fait pas

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partie du répertoire du Groupe C, bien que pouvant être reconnu dans le décor animalier prédynastique.

D. AUTRES TRAITS CULTURELS PORTÉS PAR LE BÊTAIL DU GROUPE C.

Un nombre croissant de figurations rupestres de bétail en Nubie et au Sahara tchadien porte certains traits culturels communs, dont nous avons déjà signalé la corrélation\(^\text{91}\). Nous extrayons d’un nouveau travail en cours\(^\text{94}\) des données, dont la plupart s’échelonnent à partir du niveau pastoral moyen, qui est celui du Groupe C.

A. DISQUES FRONTALS ET CORNAGES FERMÉS EN ANNEAU (FIG. 7)

Des représentations de ce genre provenant du Sahara central, comprenant de grands animaux sauvages, ont déjà été publiées.

La figure 7 réunit de nouveaux exemples de ce trait culturel, souvent lié, sur les bovins, aux cornages déformés et, secondairement, aux pendeloques et aux robes décorées. Basch a publié un disque frontal et deux cornages fermés en anneau (fig. III, 269, 248).

Egypte et Nubie

La girafe schématique n° 1 est du Gebel Hetemat (Legrain in 42); le bovin schématique n° 2 d’El Hosch, comme celui à plusieurs cornes, dont une déformée, de facture analogue (fig. 2; n° 6), ces documents ayant été publiés\(^\text{42}\) sans commentaire. Le n° 3 d’Ashkeit\(^\text{56}\) a les mêmes caractères que les n° 4, 5, 6 d’Abka (Myers, inédit), dont peut-être une antilope, et que nous rapportons au Groupe C. Le n° 7 de Tômas\(^\text{90}\) est assez tardif. Le n° 8 de Tinaré\(^\text{91}\) est tracé verticalement sur la même paroi qu’un bœuf au cornage déformé et à trois branches. Au Gebel Gorgod, la mission de Soleb a relevé plusieurs bovins à cornages fermés en anneau\(^\text{45}\).

Libye orientale

Le n° 9 de Zolat el Hamad est analogue au n° 8 (Rh. XLV, 2). Les n° 10 de W. Hussein (Rh. XXXVIII, 5) et n° 11 du Gilf Kebir (animal chargé ou à bosse, Rh. XXVI, 6) ont des cornages bien fermés. Dans le troupeau où figure le n° 10 se trouve un bœuf à cornage déformé. Le n° 12 de W. Hussein (Rh. XXXIX, 6) a le cou mince d’un ovin.

Sahara tchadien

En Erdi, le n° 13 est de Korko (Kaufmann, inédit); le n° 14 du NE du massif de l’Ennedi\(^\text{55}\). Le n° 15 de la corne NW (Petit, inédit) est pris, parmi d’autres, à Gaorienga. Le n° 16 est d’Ediké\(^\text{55}\). Le n° 17, peint à Fada est du Bovidien récent\(^\text{92}\).

———. 1963. Orientalia, 32, fasc. 1, 196, pl. XXXI.

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Au Borkou occidental, le n° 18 d’Artiena a déjà été présenté. Le n° 19, gravé à Yarda, portant un disque finement quadrillé, est d’une phase pastorale ancienne. Au Tibesti sud-occidental, le n° 20 (Massip, inédit) figure parmi les grands bovins de Tongour avec d’autres à cornage déformé et retouché (PLANCHE XIV). Les n° 21 et 22 sont de Kohorom (Massip, inédit). Très faiblement patinés, ils accompagnent des bovins analogues à robes décorées (FIG. 6. N° 23), qui attestent une tradition nubienne.

Au Tibesti septentrional, les n° 23, porteur d’une pendeloque et n° 24 (Lopatinsky, inédit) sont choisis parmi des relevés de Bardaï, où ils sont associés à des cornages déformés datables de la fin du Ier millénaire av. JC.

Au Tibesti oriental, un bœuf gravé de Le Masson portant une pendeloque jugulaire a le cornage fermé en anneau. Ce chercheur a relevé un autre bœuf, schématique et tardif ayant le même attribut.

En ce qui concerne les ovins, la figurine d’argile n° 25 d’Aniba, portant un sphéroïde ponctué, nous paraît appartenir à cette espèce animale. Elle a un homologue sur une gravure du Tibesti (n° 26, Huard, inédit). Rappelons, sur le n° 27 d’Areun, la combinaison d’un disque et d’un cornage déformé de bœuf sur un corps d’ovin. D’une manière plus générale, il convient de signaler que les documents récemment recueillis au Tibesti oriental y montrent de nombreux ovins dans un niveau ancien des peintures blanches ; des ovins gravés ont également été relevés dans la région de Bardaï.

B. CORNAGES À ANTENNE MÉDIANE (FIG. 7)

On voit maintenant que cet attribut céphalique est assez répandu du Nil nubien au Sahara tchadien et central (62, n° 92). Le n° 28 est d’El Hosch, comme le n° 2. Le n° 29 est d’Ashkeit. Le n° 30 est d’Abka (Myers, inédit). Des figurations analogues ont été découvertes au Gebel Gorgod par la mission de Soleb. Le n° 31 est de W. Hussein, en Libye orientale (Rh. xii, 2). Un exemple ancien du Borkou est donné par le bœuf n° 14 de la figure 4.


Il est certain que les centres de diffusion des attributs céphaliques et des cornages fermés en anneau, tels que nous les avons définis dans notre premier travail, subiront d’importantes modifications, à la suite des recherches actives menées sur le Nil nubien, ainsi que par nos collaborateurs au Tchad, au Niger et au Hoggar. Il se confirme que ces traits culturels ne peuvent être dissociés les uns des autres, au niveau pastoral moyen.

94 Steindorff, Aniba, i, p. 123, n° 34, pl. 73.
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Fig. 7. DISQUES FRONTAUX ET CORNAGES FERMÉS EN ANNEAU

C. BOVINS PRIVÉS DE CORNES

Ce trait culturel doit être mentionné, car il est figuré sur deux pierres funéraires du Groupe C (fig. 5, no 24) comme sur des gravures rupestres référables à cet étage archéologique. D’autre part, il est attesté sur des gravures archaïques du Tassili et du Tibesti, assurément très antérieures à l’époque où l’ablation des cornes fut pratiquée en Égypte sous l’Ancien Empire. Ce trait culturel appelle une recherche particulière, dont le Sahara central et tchadien donnent des éléments, et qui semble être de nature à faciliter l’approche des problèmes complexes que posent, au Sahara, les débuts des rapports entre l’homme et les espèces destinées à la domestication.

III. TRAITS CULTURELS DES PERSONNES

Sous des formes diverses: figurines de terre cuite, poupées, décor de vases, gravures rupestres, des figurations humaines d’un grand intérêt pour notre étude s’échelonnent du Nil nubien au Borkou oriental.

A. FEMMES STÉATOPYGES VÊTUÉES OU NUES A DÉCOR CORPOREL (FIG. 8)

Elles sont localisées: à Abd; dans des sites du Groupe C; à l’est de Dakhla; dans la partie Est de l’Ennedi et au Borkou oriental.

A l’est de Dakhla, une figuration féminine portant une robe à manches-ballon, gravée en creux, n° 1 (W2, LVI, 2, h = 22 cm.), disposée sur la même frise qu’un éléphant piqueté de style amratien, a été considérée par Winkler comme une ‘pregnant deity’ (W2, p. 32), œuvre de chasseurs. Mais le contraste entre les deux figurations voisines est net, à nos yeux, et cette femme à toilette évoluée ne nous paraît pas intégrable à un milieu reculé de chasseurs, pas plus qu’elle n’est enceinte, mais bien certainement assise.

L’auteur a rapporté ensuite à des ‘Early Oasis Dwellers’, ayant coexistant avec des ‘Earliest Hunters’ tardifs, nombre de représentations rupestres féminines du même site (dont certaines lui ont semblé représenter des figurines moulées autour d’un bâton formant l’axe de leur corps). ‘In nearly all cases the women represented are pregnant’ (p. 28) et ce groupe aurait, de la sorte, vénéré une ‘pregnant deity’.

Les documents publiés ne permettent pas d’admettre que la plupart des femmes en cause soient enceintes. Plusieurs sont démonstratifs à cet égard. Sur la femme n° 2, la partie saillante du corps n’est pas le ventre. De même pour les n° 3, 4, 5 (W2, xl.2). Le terme de stéatopygie, employé par Keimer pour décrire des femmes de ce type appartenant au Groupe C 99, vêtues de longues jupes, est rejoint par une observation anatomique sur les femmes Teda du Tibesti 100, chez lesquelles une

96 Huard, ‘L’âge pastoral au Tibesti,’ 1, Notre Sahara, n° 12, Dec. 1959.
98 Huard, ‘Figurations rupestres anciennes de boeufs privés de cornes ’au Sahara central et tchadien, en préparation.
certaine stéatopygie correspond à une réserve graisseuse, caractère primitif assez répandu parmi les populations vivant en bordure sud du Sahara.

Les deux femmes n° 6, qui se font face, sont au centre d’une petite assemblée féminine (W2, xli), inexplicable si les participantes étaient enceintes, car elles se tourneraient mutuellement le dos. De plus, une femme du relevé n° 6 aurait le visage balayé par une mèche.

D’autres femmes analogues aux premières, au ventre plat, sont assises, même si leur siège est rarement représenté avec la netteté du n° 7 (W2, xxix). Plusieurs ont des coiffures volumineuses élaborées, n° 7 bis (W2, xlvii, 2), avec lesquelles Bailloud a mis en parallèle celles des femmes de style archaïque peintes en une seule station de l’Ennedi, Taolé Kokoli.

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Nous retenons que les représentations de Dakhla, dont la signification est indéterminée, témoignent d’une culture matérielle développée, connaissant apparemment le tissage. L’homme n° 8, qui tient un bœuf par la queue près des femmes assises, figuré dans un style plus rude, (W2, xxx, 2) a un geste classique des bergers de la culture du Groupe C (v, fig. 2, n° 33, 34 et fig. 5, n° 10 bis).

En résumé, les femmes de l’est de Dakhla relèvent d’une culture pastorale ancienne, certainement antérieure à l’apparition sur le Nil, vers la fin de la VIe dynastie, du Groupe C102. Ces figurations présentent, on le verra, des concordances de traits culturels si nettes pour les personnes et le bétail, avec le Groupe C, qu’il est difficile d’admettre que les deux collectivités aient été sans rapports étroits. En effet, Winkler a attribué aux ‘Early Oasis Dwellers’ une gravure non publiée représentant un bœuf à plusieurs cornes ‘accessory horns’ (W2, p. 34), genre de représentations dont nous avons montré l’association constante avec les cornages déformés représentés par le Groupe C.

Les pasteurs de Dakhla, au bétail encore peu nombreux, auraient-ils été un noyau ancien du Groupe C, ou appartiendraient-ils à une collectivité antérieure, de laquelle le Groupe C aurait reçu des traits culturels ? Il serait utile de rechercher les concordances qui pourraient exister avec le Groupe A, qui remonterait au début du IIIe millénaire, aurait occupé la vallée du Nil entre le nord du Soudan et la Haute Égypte, et pourrait voir eu le Groupe C comme successeur direct dans la région de Faras103.

En suivant les auteurs, viendraient ensuite des figurines stéatopyges appartenant à des cultures pastorales du Nil. Des figurines d’Abka, n° 9, 10104, aux bandes incisées dans l’argile, dessinant une ceinture et des arcs de cercle concentriques, ont été supposées du Groupe A. Deux poupées d’un cimetière situé un peu en aval de Dakka, faites de céramique noire, n° 11 et 12, appartenant au Groupe C105, présentent des traits analogues.

Sous les n° 13 à 21 sont reproduits des relevés peints ou incisés de femmes du Groupe C. Les n° 13 à 18 appartiennent à l’ensemble publié par Emery et Kirwan82. Le n° 19 est de Keimer99, le n° 20 de Firth106, le n° 21 de Curto87.


105 Firth, ASN, 1908–09, ii, pl. 39.
106 Firth, ASN, 1909–10, fig. 118.
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A l’ouest de Dakhla, l’unique personnage en jupe (?), gravé en Libye orientale, au Gilf Kebir, n° 22 (Rh. xxxv, 5) est apparemment masqué et très ancien. Graziosi a publié aussi une femme stéatopyge à jupe courte peinte à Ouénat.\textsuperscript{106bis.}

Vers le sud-ouest, c’est dans la partie Est de l’Ennedi que se trouvent des représentations gravées présentant des analogies profondes de formes ou de détail avec celles de la vallée du Nil.

*Guirchi Nialadoia (FIG. 9 et PLANCHE XV)*

Dans ce site du plateau de l’Erdebè sont incisés des grands personnages nus (jusqu’à 2 m. de haut), au corps entièrement décoré, entre lesquels sont intercalées des femmes cambrées portant des jupes.

L’abbé Breuil a cru déceler chez les grands personnages du *groupe I* de Guirchi\textsuperscript{107} une parenté assez probable mais lointaine avec ceux à tête discoïde (les ‘Têtes Rondes’) peints au Tassili, et indiqué la nécessité de nouvelles découvertes.

Celle de deux femmes archaïques peintes à Sivré (FIG. 9, n° 1) a donné sur place une thèse générale de comparaison\textsuperscript{108}. Mais il a fallu la découverte d’autres groupes de personnages présentant des traits culturels concordants : décor corporel des sujets nus, jupes des femmes intercalées, l’ensemble étant relié à des bovins à robes décorées ou à corinance déformé, pour mettre en lumière des rapports certains avec le Groupe C.

Une première analyse\textsuperscript{109} nous a montré que certains motifs couvrant les grands personnages avaient des prédécesseurs ou des homologues dans l’art mobilier de la vallée du Nil (FIG. 9) : *chevrons imbriqués* de la figurine prédynastique n° 2\textsuperscript{110}, visibles aussi sur la céramique du Groupe A (I, PLATE XIII), dans celle de la Nubie ancienne\textsuperscript{110} et du Groupe C\textsuperscript{111}; *décor corporel en losanges jointifs* croisillonnés ou pointillés du Prédynastique, n° 3\textsuperscript{112}; *losanges concentriques* portés par un roi d’époque thinité\textsuperscript{113}, n° 4, détail; motifs en *losange* du Groupe C porté par les figurines n° 5\textsuperscript{114}, n° 6 et 7 (99, n° 95 et 36); losanges concentriques courants dans le décor de la céramique du Groupe C, n° 8 (83, n° 123; FIG. 9, n° 11 et FIG. 5, n° 29); *tatuages*	extsuperscript{115} des Libyens orientaux, n° 9; enfin, décor en vague (PLANCHE XV, 1)\textsuperscript{8}.

\textsuperscript{106bis.} Graziosi. L’arte rupestre della Libia. Naples, 1942, fig. 23.
\textsuperscript{109} Petrie, *Predynastic Egypt*, 1920, pl. vi.
\textsuperscript{111} Reisner, *ASN* 1907–08, I, pl. 61b.—Steindorff, *Aniba*, II, pl. 87, 91, 93.
\textsuperscript{112} Petrie, *Ceremonial Slate Palettes*, pl. 74 D, xxiii.
\textsuperscript{113} Posener, Sauneron et Yoyotte, *Dictionnaire de la civilisation égyptienne*, 1959, p. 204.
\textsuperscript{114} Junker, *Toschke*, pl. xxiv.
\textsuperscript{115} Bates, *The Eastern Libyans*, London, 1913, fig. 8, 18.
FIG. 9. FIGURATIONS HUMAINES ET DÉCOR CORPOREL

INFLUENCES CULTURELLES TRANSMISES AU SAHARA TCHADIIEN

En Ennedi même, des ornements de corps en treillis de losanges sont peints dans les styles "quadriéllés" et d'autres au Bovidien moyen. C'est à la fin de cette période que ce motif est figuré à Delebo, n° 10 (Kaufmann, inédit) et, vers la fin du Ier millénaire av. J.C., dans la région de Fada, n° 11 (Kaufmann, inédit).

Deux femmes cambrées en jupes rayées et au buste orné de losanges en treillis ou concentriques (pl. XCV, n° 1 et 2 et fig. 9, n° 12), personnages mineurs du groupe I de Guirchi, ont été supposées par l'abbé Breuil postérieures aux personnages nus et peut-être habillées après coup.

Le groupe II de Guirchi Nialadoia, découvert, comme le premier, par le lieutenant Courret et publié en partie par Fuchs (54, Wadi Dish) et par nous, superficiellement gravé ou piqueté, semble une copie du premier. Il comporte deux femmes plus petites, intercalées entre les grands personnages nus, qui semblent avoir été martelées postérieurement n° 13. Nous avons relié au groupe II un bovin à corne déformée, apparemment de la fin du Bovidien ancien de l'Ennedi (2, fig. 3, 8), couplé avec le boeuf à robe garnie de bandes n° 8 de la figure 6 et voisinant avec le berger n° 14, muni d'une baguette posée à plat sur l'épaule comme les grands personnages du groupe I.

Les groupes III, IV, V de Guirchi, inédits, ont été découverts en 1964 par le capitaine Massip. Ce sont de grands personnages de mauvais style, plus récents que ceux du groupe I, dont les corps sont parfois ornés de méandres (pl. XCV, n° 3), analogues à ceux que l'on voit sur des bovins de la station et de celle de Tongour.

Le groupe III inclut deux petites femmes cambrées à jupes rayées verticalement, l'une d'elles ayant une coiffure à trois mèches de forme tardive (pl. XCV, n° 3 et fig. 9, n° 15 et 16). Les boeufs à robe décorée n° 9 et 9 bis de la figure 6 font partie des récentes découvertes. Signalons qu'en 1965 Courtin a découvert au Borkou oriental un sixième groupe de grands personnages de la même série.

Les documents de 1964116 confirment l'opinion selon laquelle le groupe I de Guirchi combine des corps de la période archaïque de l'Ennedi et des motifs corporels très anciennement connus sur le Nil égypto-nubien, mais dont la transmission à l'Ennedi se serait faite seulement à partir de la fin du IIIe millénaire, datation estimée à laquelle Bailloud est parvenu de son côté par l'étude de la céramique locale. Quant aux femmes en jupes, elles se rattachent au Groupe C, qu'elles aient été composées en même temps que les grands personnages ou qu'elles leur soient postérieures.

La figure 9 réunit encore des figurations masculines du Groupe C. Elles sont généralement schématiques: archers n° 17 de Qurta; n° 18 d'Aniba, accompagné d'un chien décoré en zig-zag117; n° 19 de Dakkah115; berger n° 20 portant horizontalement sa houlette appuyée à la nuque118.

116 Huard et Massip, 'Les cinq groupes de grands personnages gravés à Guirchi Nialadoia', Ennedi, Actes Ier Colloque archéologique international de Fort Lamy, 1966, sous presse.
117 Steindorff, Aniba, I, pl. 65.
KUSH

B. LES BAUDRIERS CROISÉS (FIG. 9)

Plusieurs personnages du Groupe C portent des baudriers croisés, équipement qui remonterait au Prédynastique\textsuperscript{119}, attribué aux Libyens dans l'iconographie dès l'Ancien Empire (Princesse libyenne de la tombe de Sahuré, Borchardt), porté ensuite par des archers libyens de la Première Période Intermédiaire\textsuperscript{118}, au Moyen Empire (El Bercheh, Beni Hassan), à Abou Simbel.

L'archer schématique n° 19 de Dakkah\textsuperscript{115} a un baudrier croisé. Un motif analogue mais doublé, particularité que l'on retrouve plus tard en Ennedi et au Tibesti, couvre le buste d'un personnage aux bras étendus\textsuperscript{110} figuré sur un vase, n° 21. Nous pensons que c'est au Groupe C que se rapporte le personnage n° 22, daté du Moyen Empire, gravé près de Wadi Halfa dans un contexte pastoral\textsuperscript{120}. Plus récent serait un bouvier\textsuperscript{86} publié par Dunbar, n° 23. Une figurine d'Areika daterait de Thoutmès III. Basch a publié un porteur de baudrier tardif (fig. 183).

En Libye orientale, seul le Gilf Kebir a livré un baudrier peint sur un homme dont la position chronologique n'est pas assurée (Rh. xxx, 5).

En Ennedi, Bailloud a relevé cet équipement à partir de 1000–500 av. JC. sur des guerriers peints à Soro Kazenanga, n° 26 et 27 (inédit).

Les personnages piquetés du N. Tibesti, n° 28 et 29\textsuperscript{122}, dont le premier est coiffé de trois plumes et très patiné, sont vraisemblablement postérieurs.

Ces documents contribuent à jalonner dans le temps et dans l'espace ce trait culturel, qui devient fréquent sur les figurines humaines schématiques, de terre cuite, ornées aussi de chevrons imbriqués, laissées par des cultures préislamiques du Bas Chari-Logone, profondément échelonnées dans le temps, actuellement non datées, conventionnellement et globalement classées sous l'étiquette 'Sao', chez lesquelles nous décelons divers traits culturels issus de l'est.\textsuperscript{123}

C. LA COIFFURE EN VIRGULE (FIG. 9)

En vue de recherches nouvelles, nous pensons utile de faire état d'une coiffure particulière, à une mèche rabattue sur le côté en forme de virgule, gravée deux fois sur le Nil et peinte tardivement au Sahara tchadien.

Près du Nil, l'exemple le plus ancien, n° 30, est sur une gravure des 'Autochtonous Mountain Dwellers', chasseurs et pasteurs préhistoriques d'un site à l'est de Louxor (W1, xviii, 2). Le n° 31 est un inédit gravé à Abka (Myers), que nous attribuons au Groupe C.

\textsuperscript{118} Fisher, 'The Nubian Mercenaries of Gebelein', Kush ix, 1961, pl. vi.
\textsuperscript{119} Firth, ASN, 1908–09, 1, fig. 89.
\textsuperscript{120} Säve-Söderbergh, 'Preliminary Report of the Scandinavian Joint Expedition', Kush x, 1962, pl. xxa.
\textsuperscript{121} Randall Maciver et Wooley, Areika, 1909, p. 10 et pl. 8, n° 4026.
\textsuperscript{122} Huard, 'Les gravures rupestres d'Oudingueur, N. Tibesti', Tropiques, Paris, Mars 1953.
\textsuperscript{123} Huard, 'Aire ou origine de quelques traits culturels des populations préislamiques du Bas Chari-Logone, Tchad', Actes 1\textsuperscript{o} Colloque Fort Lamy, sous presse.
INFLUENCES CULTURELLES TRANSMISES AU SAHARA TCHADIEN

En Ennedi, le no 31 (Kaufmann, inédit) est du Bovidien récent; le no 32 de la région de Fada (Kaufmann, inédit) appartient à l’âge du fer.

Au Borkou, le no 33 est de l’âge du fer.

Au Tibesti occidental, le no 34 est un cavalier d’époque cameleine ancienne. On constate donc encore, en la matière, un retard considérable dans le transmission vers l’ouest d’une forme de la vallée du Nil, pour laquelle des jalons sont à rechercher.

Les figurations humaines passées en revue ci-dessus mettent en lumière les associations de leurs traits culturels avec ceux du bétail. Leur transmission à l’Ennedi a été: exceptionnelle au Bovidien ancien, notable au Bovidien moyen et abondante à partir du Ier millénaire av. J.C.

IV. VESTIGES D’INDUSTRIES

Nous donnons les titres de dossiers récemment ouverts intéressant le Sahara tchadien et la Nubie: haches à gorge, supports en céramique ajourée, poterie à décor zoomorphe, grands gobelets, poterie à décor incisé en damiers de losanges, poterie rouge à décor noir peint, tombes cylindriques surbaissées.

En ce qui concerne le Tchad, l’objectif est de déterminer l’aire propre à chacun des traits culturels énumérés, puis de rechercher les positions chronologiques relatives du matériel à recueillir, en particulier dans les régions peu accessibles de l’Ennedi oriental, des Erdis, du Tibesti septentrional et oriental. C’est une tâche de longue haleine, à laquelle les recherches et études de Bailloud sur la céramique de l’Ennedi méridional et de Courtin sur celle du Borkou, qui s’y rattachent, donneront une base solide. Dans l’ensemble, les premières trouvailles faites au Tchad permettent de constater la présence de formes de l’outillage lithique, de la céramique et du répertoire décoratif du Groupe C, dont la transmission a été très échelonnée et généralement tardive et indirecte.

A. HACHES À GORGE

Si certains de ces outils de pierre polie se voient dans le matériel du Groupe C sur le Nil et au Gilf Kebir (Myers, inédit), il faut dire que des centaines à gorge (ou à bourselet) ont été recueillis dans une cinquantaine de sites compris dans une aire très étendue englobant la Haute Egypte, le Soudan, le Sahara tchadien, le sud du Fezzan, le Ténéré, la région au nord de Tombouctou et la boucle du Niger, pour rester dans le champ de nos recherches.

124 Rappelons que Bailloud a daté de la fin du Ier millénaire avant notre ère (101) l’apparition en Ennedi de figurations de joueurs de harpes faisant usage d’appui-tête, deux traits culturels en provenance de la vallée du Nil.

125 Des outils néolithiques de la même conception ont été trouvés au Calabar, Nigeria (Kennedy), en Afrique orientale (Cole) et dans une mine de sel du Maroc (Ruhlmann).
KUSH

Les haches dont les formes s'inscrivent dans des carrés et des rectangles courts, caractérisées dans le Groupe C par Emery et Kirwan\textsuperscript{126} et par Myers\textsuperscript{127, 128}, semblent dériver du Prédynastique\textsuperscript{129}. Au Tibesti et plus à l'ouest, ces formes sont exceptionnelles. On les rencontre en Erdi et en Ennedi, mais tardivement.

L'étude des outils à gorge est en cours\textsuperscript{130} pour la zone intéressant nos recherches, en tenant compte de la diffusion des fortes haches du Ténéré, datables à partir du IV\textsuperscript{e} millénaire\textsuperscript{131}.

B. SUPPORTS EN CÉRAMIQUE (FIG. 10 ET PLANCHES XVI ET XVII)

Le Groupe C a fait un assez large usage de supports de vases, creux, de formes variables, dont les parois sont perforées en triangles ou en losanges, ou pleines et ornées de motifs incisés analogues. Nous reproduisons quelques-uns des documents jalonnant leur histoire.

Les supports ajourés cylindriques ou cylindro-coniques ont une origine prédynastique et sont attestés aux temps dynastiques anciens: n° 1, 2\textsuperscript{132}, 3, 4\textsuperscript{133}. Le n° 5, ajouré\textsuperscript{134}, et le n° 6 incisé\textsuperscript{135}, qui proviennent de Toshke, sont du Groupe C.

Actuellement, les huit supports cylindriques ou fragments connus au Tchad, dont sept ajourés et un incisé (PLANCHE XVII, n° 4, d = 17 cm.), proviennent de deux sites du Djourab: Toungour\textsuperscript{137} et Maledinga\textsuperscript{138}, où l'un d'eux était planté au sommet d'une tombe d'argile en forme de tumulus bas. A Toungour, le vent a enlevé les parties meubles et provoqué le tassement et l'imbrication des tessons dans un site dont l'élément essentiel est un énorme crassier tabulaire de l'âge du fer. Selon une information, un cylindre ajouré aurait été trouvé en 1938, planté sur une tombe au sud de Gouro, à 300 km. NNE de Maledinga. La détermination de l'aire de ce matériel est à poursuivre.

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\textsuperscript{126} Ces auteurs définissent deux types, I et II, de haches à gorge du Groupe C (82, fig. 24).
\textsuperscript{127} Myers, *The Temples of Armant*, 1, pl. xxv. Ces deux haches furent apportées par des Bédouins qui les trouvèrent vraisemblablement aux environs.
\textsuperscript{128} Myers a trouvé des haches à gorge du Groupe C au Gilf Kebir.
\textsuperscript{130} Huard et Massip, 'L'outillage lithique à gorge au Sahara sud-central et oriental', en préparation d'après 200 documents.
\textsuperscript{132} De Morgan, *Origines*, II, Nagada, fig. 679 et Nagada, I\textsuperscript{e} dynastie (pierre), fig. 157.
\textsuperscript{133} Petrie, *Corpus of Predynastic Pottery*, 1921, pl. 85 et Id. Ibid., 1953, Abydos, 1, pl. xxx, 100 P, Protodynastique.
\textsuperscript{134} Junker, *Toshke*, pl. xxi, n° 315.
\textsuperscript{135} Junker, *Toshke*, pl. xxviii, n° 498.
\textsuperscript{137} Huard, Bacciè et Scheibling, 'Matériaux pour l'étude de l'âge du fer au Djourab, Tchad. I. Toungour', *BIFAN*, xxv, B, 3-4, 1963.
\textsuperscript{138} Huard et Bacciè, 'Matériaux pour l'étude de l'âge du fer au Djourab. II, Maledinga', Ibid., 1963.
C. **POTERIE À DÉCOR ZOOMORPHÉ (FIG. 10)**

Inconnue sur les céramiques sahariennes néolithiques, l’ornementation de vases à l’aide d’un décor animalier, généralement incisé, pratiquée déjà par le Groupe A de Nubie, est l’une des meilleures sources de documentation sur le Groupe C, qui se prolonge jusqu’aux temps méroïtiques\(^{139}\).

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\(^{139}\) Hintze, ‘Musawwarat’, *Kush* x, 1962, fig. 27.
KUSH

Au Borkou, Courtin a découvert en 1964–65 trois sites à tessons au décor zoomorphe, dont le plus intéressant se trouve à 8 km. N. de Largeau. Les vases qui en proviennent sont globuleux, sans moyen de préhension, d’une pâte à dégraissant fin, bien cuites. Les animaux sont réservés sur des surfaces couvertes de bandes pointillées obliques faites au poinçon. Des bandes, en partie obliques, et des triangles opposés, parfois un ruban en ligne brisé régulière (PLANCHE XVI, n° 3) apparaissent au Groupe C cette céramique, dont les éléments géométriques ont été, en Ennedi, rapportés par Bailloud au Ier millénaire av. J.C. La PLANCHE XVI, n° 1 et 2, reproduit des documents de Courtin, sur lesquels on reconnait un oryx, des autruches, peut être l’encolure d’une girafe.

Signalons que le Ier Festival Mondial d’Art Nègre (Dakar-Paris, 1966) a présenté un bol du Groupe C (Ballana), en poterie noire incisée, orné de trois registres de bovidés se détachant, comme au Borkou, sur un fond incisé, mais plus finement.

D. GRANDS GOBELETS (FIG. 10 ET PLANCHE XVI)

Ce type de récipient était connu dans la vallée du Nil avant de faire partie du matériel du Groupe C, dont les n° 7, 8, 9 d’Aniba donnent des exemples. Il appuie la thèse de W. Y. Adams, qui, d’après l’étude de la céramique, pense que le Groupe C s’est retiré en partie au Soudan et que sa culture devint partie intégrante des civilisations de Napata et de Méroé. En effet, de grands gobelets ont été trouvés à Kawa, n° 10, dans les cimetières royaux de Kush, n° 11 et à Méroé, n° 12.

Au Sahara tchadien, le Djourab, désert méridional très récent, d’origine éolienne, situé à la latitude de Méroé, a livré deux grands gobelets de pâte dure et fine, l’un rouge, l’autre noir, provenant du cimetière de Maledinga, comme les autres pièces de la PLANCHE III, n° 3: cylindre ajouré, vase à col au décor incisé, sur lesquels J. Leclant a reconnu une influence nubienne, vase à fond rond, outillage de potier en terre cuite.

A Toungour, des fragments de gobelets ont été trouvés, l’un rouge, l’autre noir, ce dernier ayant une âme de céramique dure blanche. A ce jour, de tels récipients sont inconnus en Erdi, comme en Ennedi et ils paraissent, dans l’état peu avancé des connaissances, avoir été introduits à partir du Soudan par la zone de parcours subsaharienne qui a véhiculé le cheval nubien, les lances à large fer et la métallurgie ainsi que le chameau porteur du bâton de bosse, à partir du début de notre ère.

142 Steindorf, Aniba, II, pl. 72.
144 Macadam, The Temples of Kawa, II, 1955, fig. 51.
145 Dunham, RCK, iv, fig. 122.
146 Garstang, Méroé, Temple d’Amon, pl. xi, 2.

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E. CÉRAMIQUE À DÉCOR INCISÉ EN DAMIERS DE LOSANGES (FIG. 10 ET PLANCHE XVII)

En attendant la publication de la céramique de l’Ennedi par Bailloud\(^{148}\) et le résultat des recherches de Courtin\(^{74}\), qui sont positives quant à la présence de motifs de la céramique du Groupe C, rappelons qu’un décor typique de cette céramique, le damier de losanges alternativement incisés et unis, dont les n° 13 et 14 donnnent des exemples\(^{143,150}\), se voit plus tard à Barkal ou Méroé\(^{151}\). Ce décor existe au Djourab, à Toungour, n° 15 et PLATE IV, n° 4.

Signalons, d’autre part, l’intérêt d’une étude comparative des vases ronds du Groupe C décorés de bandes étroites incisées et des calebasses pyrogravées du Tchad occidental actuel.

F. POTERIE À DÉCOR NOIR PEINT (FIG. 10)

Le décor peint en noir formant des bandes et des treillis en losanges serrés a connu en Nubie une longue carrière, dont seuls les derniers stades: n° 16, Kawa\(^{151}\); n° 17, méroétique (82, PLANCHE 31) concernent le Tchad, où la poterie rouge à décor noir peint est très tardive, de mauvaise qualité et actuellement localisée au Djourab méridional dans quelques sites de l’âge du fer.

Les treillis en losanges serrés se retrouvent sur les n° 18 et 19 de Toungour, site auquel appartiennent aussi les tessons n° 20 et 21 (137, FIG. 2, n° 37 à 40). Un gobelet de Bochianta\(^{152}\), qui pourrait dater de la Nubie chrétienne, utilise aussi ce motif.

Le décor en écailles de poisson, qui est associé au précédent dans la région de Koro Toro (Capot-Rey, Coppens\(^{153}\)), se trouve auparavant dans le répertoire de la céramique méroétique\(^{154,155}\).

D’autres motifs ornant des tessons inédits recueillis en nombre par Coppens et Courtin doivent permettre d’élargir les bases d’un travail comparatif.

\(^{148}\) Bailloud, Préhistoire de l’Ennedi, Thèse en préparation.
\(^{149}\) Firth, ASN, 1908–09, pl. 40.
\(^{150}\) Dunham, RCK, IV, p. 108.
\(^{151}\) Reisner, ASN, 1907–08, I, n° 61b.
\(^{154}\) Adams, ‘An Introductory Classification of Meroitic Pottery’, KUSH xii, 1964, fig. 11, n° 31.
\(^{155bis}\) Dans une communication au 1er Colloque de Fort Lamy (1966, sous Presse), nous avons étudié les aires et suggéré l’origine oriental de quelques traits culturels des populations préislamiques du Bas Chari-Logone (Tchad) dites Sao (figurines schématisées de terre cuite, baudriers croisés, décor corporel, céramique, formes de vases, bracelets, appuïtée, labrets, harpons, flèches de fer à dard latéral, couteau de jet, anneaux plats rubannés, coulage à la cire perdue, équipement du cheval.

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G. Tombes cylindriques surbaissées

En Nubie, il semble qu'il y ait eu, dans le Groupe C, une première évolution du tumulus aux tombes en cylindre surbaissé dites 'en fromage'. A quelque trois mille kilomètres au nord-ouest, l'archéologie nord-africaine considère, pour sa part, la bazina (tumulus) et son dérivé le chouchet (tome cylindrique) comme les vraies sépultures berbères156,157.

Ces deux types de monuments existent au Sahara central158,159, où deux tombes du Fezzan160 ont été datées par le C.14: Tedjeri, 840 ± 120 ap. JC. et Tin Alkoum (El Barkat), 660 ± 120 ap. JC. Dans le sud-est algérien, au sud des monts Nementcha, un tumulus simple près de Ferkane a été daté de l'an 10 ap. JC. ± 160161.

Parmi les tombes du Sahara tchadien, très variées de formes et sur lesquelles on n'a encore que des données fragmentaires, certaines, parfois de grand diamètre, sont en forme de cylindre surbaissé. Mais dans une zone qui fut ouverte aux influences du Soudan et du Sahara central, suivant les secteurs et les époques, en particulier à partir de notre ère, seules des études locales, détaillées et sans lacunes, permettront de désigner, dans chaque cas, le rattachement des monuments des types en cause. Leur intégration dans un classement régional, s'étendant du Tadrart et du Fezzan aux confins soudanais du Tchad, sera un deuxième travail nécessaire avant d'aborder les problèmes de fond posés par les similitudes constatées entre la Nubie et le Sahara algérien en ce qui concerne les monuments objets de ce paragraphe: éventualité d'une origine nubienne suivie d'une transmission est-ouest, ou bien évolutions parallèles sans contact, mais fortement décalées l'une par rapport à l'autre.

V. Remarques régionales et générales

Des conclusions valables ne pourront être apportées aux questions abordées dans ce travail qu'après l'analyse des nombreux documents inédits en cours de recueil sur le Nil nubien et au Tchad. Incomplètes, les connaissances acquises permettent cependant deux séries de remarques constructives.

A. Sur le plan régional:

1. C'est seulement en Ennedi et au Borkou oriental que l'on rencontre certains traits culturels concernant le bétail (robes décorées) et les humains (décor corporel,

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161 Camps, 'Une date absolue de monument funéraire protohistorique de l'O. Montana (Ferkane)', Libyca, xii, 1964, p. 298.
femmes à jupes, baudriers croisés), associées à tous les autres traits connus par le Groupe C (cornages déformés et à plusieurs branches, pendeloques) étudiés dans ce travail.

Les documents étant d'autant plus nombreux qu'ils sont tardifs (Ier millénaire av. JC.), on peut admettre qu'ils sont dus à des populations appartenant à la culture du Groupe C, repliées d'Ouénat devant l'aridité ou venues du Soudan et ayant fait souche dans une zone favorable.

2. Si le décor courant de la céramique du Groupe C et ses haches à gorge sont attestés dans ce même secteur, en particulier au Ier millénaire av. JC., certaines formes caractéristiques (supports ajourés, grands gobelets, vases à col) sont actuellement étroitement localisés dans le Djourab (Borkou méridional) à l'âge du fer et paraissent resulter de transmissions culturelles du Groupe C, indirectes et différées, dont Napata puis Méroé auraient été les relais.

B. Sur le plan général:

Le fait que la plupart des traits culturels connus par le Groupe C ont une origine plus ancienne, permet de dégager certaines données qui modifient et tendent à unifier les perspectives de l'étude des débuts de l'âge pastoral au Sahara oriental, telles qu'elles ont pu apparaître sur la base d'une documentation étroite.

1. Entre l'époque prédynastique des chasseurs anciens du Sahara centrewest-oriental et du Nil et celle où le Groupe C amalgama dans sa culture des éléments acquis ou originaux, avant d'apparaître sur le Nil nubien vers 2300, quelque trois millénaires imprégnés par la culture des chasseurs163,164 ont vu les rapports entre l'homme et certaines espèces évoluer vers l'appropriation et la domestication165.

C'est vraisemblablement à un stade avancé de cette période, vers la fin du IVe millénaire, que des représentations gravées de boeufs, en nombre limité, commencent à présenter des particularités, assez souvent associées166, de valeur technologique, culturelle, magique ou religieuse: pendeloques jugulaires; cornages déformés, attributs céphaliques, inclus dans une aire touchant: la Haute Egypte, La Nubie, Ouénat, le nord-Tibesti, le Fazzan et les lisières du Tassili.

162 Huard et Massip, 'Monuments funéraires anciens du Sahara tchadien', en préparation.
165 Un tableau des phases successives ayant conduit à la domestication a été proposé par G. Forni, 'Nouve Luci sulle origini della domesticazione animale', Rivista di Storia dell'Agricoltura, Déc. 1964.
166 Par exemple: boeufs sans cornes et pendeloques au Tassili et au Tibesti; cornages déformés et pendeloques en Nubie, à Ouénat, au Tibesti et au Tassili; cornages déformés et cornes fermées en anneau, attributs céphaliques en Nubie, au Tassili et au Tibesti.
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C’est dans cette aire que se seraient développées, dans un ordre non encore perceptible, les premiers foyers de vie pastorale dans le quadrant nord-est du Sahara, quelle qu’était la localisation originelle absolue de la domestication.\textsuperscript{167}

2. Le Groupe C a été, pour le bétail, inégalement partie prenante de la plupart des traits précités, y ajoutant la décoration des robes de ses bovins suivant des thèmes dérivant de l’Amratien et des traits concernant les personnes (décors corporels, femmes à jupes), qui ont aussi une origine très ancienne.

L’ensemble de ces faits donne à penser que l’élaboration de la culture pastorale du Sahara oriental, dont le Groupe C représente l’épanouissement, a occupé une longue période dans une vaste zone, dont la limite septentrionale serait à rechercher vers le parallèle de la Basse Nubie et dont la limite méridionale parait remonter nettement au nord du 16\textsuperscript{o} degré, puisque la présente étude a fait ressortir qu’au Sahara tchadien\textsuperscript{168} les figurations très anciennes de traits culturels pratiqués par le Groupe C sont rares et septentrionales.

3. En résumé, les traits culturels connus par le Groupe C, attestés au Sahara tchadien, paraissent avoir fait l’objet d’apports profondément échelonnés:


A partir de la fin du III\textsuperscript{o} millénaire, les cornages déformés et les pendeloques ont été aussi introduits au Sahara tchadien via l’Erdi et l’Ennedi par des expansions successives de la culture du Groupe C, en même temps que des traits culturels propres à ce Groupe, touchant le bétail, les personnes et les industries.

A partir du II\textsuperscript{o} et surtout du I\textsuperscript{o} millénaire, ces influences se cumulent mais en se limitant au Borkou oriental et à l’Ennedi, où se seraient implantées des populations du Groupe C.

A l’âge du fer, la transmission tardive de formes spécialisées de la céramique du Groupe C s’est faite par le Soudan, comme ce fut le cas pour le cheval, le fer et le chameau.\textsuperscript{169}

L’exploitation du riche matériel d’étude en cours de réunion sur le Nil nubien et au Soudan apportera certainement à ce schéma, esquissé dans une optique surtout saharienne, les retouches nécessaires à de nouveaux progrès de la connaissance des cultures qui se sont succédé entre le Nil soudano-nubien et le bassin du Tchad, à partir de l’époque pastorale.

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\textsuperscript{168} Des recherches sont nécessaires en Erdi et au Tibesti oriental. Dans ce secteur, non étudié sous le rapport des industries néolithiques, la céramique abonde, mais l’outillage lithique serait rare.
\textsuperscript{169} Huard, ‘Contribution à l’étude du cheval, du fer et du chameau au Sahara oriental. \textsuperscript{ii}. Le chameau, à paraître, \textsuperscript{iii}. Le cheval, en préparation.

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RÉSUMÉ

1. L’auteur, utilisant des documents figurés (art mobilier et art rupestre) et les vestiges industriels, étudie la diffusion au Sahara tchadien d’un ensemble de traits culturels associés, connus par le Groupe C, dont la plupart ont des racines plus anciennes, et qui sont inclus dans une aire touchant originellement la Haute Égypte, la Nubie, Ouénat, le Nord-Tibesti, le Fezzan et les lisières du Tassili.

Ce sont: pour le bétail, des représentations de bovins à cornage artificiellement déformé ou à plusieurs branches, à pendeloques jugulaires, à cornages fermés en anneau, les robes décorées étant propres au Groupe C; pour les humains; des femmes stéatopyges nues au corps orné, ou à jupes ornementées, des hommes à baudriers croisés, dont la diffusion est limitée au Sahara oriental; pour les industries, l’auteur donne les titres de dossiers récemment ouverts intéressant la Nubie et le Sahara tchadien à partir du Groupe C: haches à gorge, motifs courants de la céramique du Groupe C, formes particulières comme les supports ajourés, la poterie à décor zoomorphe, les grands gobelets, la poterie incisée en damiers de losanges, la poterie à décor noir peint, dont l’arrivée au Tchad est tardive et localisée au Djourab. La question de la diffusion des tombes en cylindre surbaissé est posée.

2. Les traits culturels connus par le Groupe C, attestés au Sahara tchadien, paraissent avoir fait l’objet d’apports successifs:


A partir de la fin du IIIe millénaire, des cornages déformés et des pendeloques ont été aussi figurés au Sahara tchadien, via l’Erdi et l’Ennedi par des tenants de la culture du Groupe C, en même temps que des traits culturels propres à ce groupe, touchant le bétail, les personnes et les industries.

A partir du IIe et surtout du Ier millénaire, ces influences se cumulent, mais se limitent au Borkou oriental et à l’Ennedi où se seraient implantées des populations du Groupe C repliées d’Ouénat.

A l’âge du fer, la transmission tardive de formes spécialisées de la céramique du Groupe C s’est faite par le Soudan, comme ce fut le cas pour le cheval monté, le fer et le chameau.

L’ensemble de ces faits donne à penser que l’élaboration de la culture pastorale du Sahara oriental, dont le Groupe C représente l’épanouissement, a occupé une longue période dans une vaste zone dont la limite septentrionale serait à rechercher vers le parallèle de la Basse Nubie et dont la limite méridionale paraît remonter sensiblement au nord du 16e degré, puisque les faits exposés font ressortir qu’au Sahara tchadien les figurations très anciennes de traits culturels pratiqués par le Groupe C sont rares et septentrionales.

Les recherches actuelles sur le Nil soudano-nubien apporteront à un schéma esquissé à partir du Sahara les retouches constructives nécessaires.
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ENGLISH SUMMARY

A group of associated cultural features known to the C-Group, found in cattle and human representations, and industrial remains like pottery, were spread into the Chadian Sahara, where they seem to have been the object of various influences. From the study of these facts one may think that the pastoral culture in the Eastern Sahara, the C-Group being its apogee, occupied a long period in a vast area, the northern limit of which is to be found around the latitude of Lower Nubia and the southern limit of which seems to be at the 16th parallel.
Polish Excavations at Old Dongola  
Second Season—December 1965—February 1966  
by Stefan Jakobielski and Antoni Ostrasz

The second season of Polish excavations at Old Dongola lasted from 11 December 1965, until 12 February 1966.¹ 

The plan was to excavate the church, of which four granite columns as well as a terracotta floor had already been uncovered in December, 1964, during the first season.² 

Recent excavations resulted in bringing to light the whole length of the north and central parts of the ‘Church of the Columns’³ as well as part of its south side (PLATES XVIII and X IX). Clearing of this side will be included in the programme of work of the next season of excavations. Unfavourable weather conditions over the two last weeks of work prevented some sections of the outer walls from being cleared and the direction of the foundations, where the walls were razed to the ground, from being traced. 

The Church of the Columns was found in an exceptionally bad condition. The elements of the interior of the church: columns, lower courses of the apse⁴

¹ The members of the expedition were: Professor Kazimierz Michałowski, Director of Excavations; Mr. Antoni Ostrasz, Architect; Mr. Stefan Jakobielski, Archaeologist and Epigraphist; Mr. Andrzej Dziewanowski, Photographer. During the absence of Professor Michałowski, the work was directed by Mr. Ostrasz. 
³ The name ‘Church of the Granite Columns’ for our church has been temporarily adopted here, as it has got already such a denomination in newly published classification of the Nubian churches (W. Y. Adams, Architectural Evolution of the Nubian Church, 500–1400 A.D., JARCE 4 (1965), pp. 90 and 133). There is, as well, another reason for adopting a name for our church as it needs to be distinguished from another previously known church at Old Dongola which was turned into a mosque in 1317 A.D. 
⁴ The terminology used here for the parts of the church generally agree with this accepted by W. Y. Adams (cf. JARCE 4 (1965), pp. 87–139) it has, however, two exceptions: (a) Although the arguments of Adams in favour of the ‘Sanctuary Chamber’ instead of ‘Apse’ seem quite reasonable, we rather prefer to stick to the old terminology, as we consider ‘Apse’ most traditional and generally used. 
(b) As ‘Vestibules’ we are going to call rooms formed by the ends of the transept in the cross-in-square, were plan of the church, which is in accord with the previous descriptions of Faras Cathedral and is against Adams’ terminology, where the ‘Vestibule’ is a small room formed by closing the easternmost part of the northern aisle.

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and haikal, floorings, etc., were relatively well preserved; but of the greater part of the outer walls nothing have been left but their foundations. The only walls preserved to a height of about 50 cms. above the floor level are the ones between the narthex and the aisles and the north part of the apse. The outer walls are preserved down to 20–30 cms. below the floor level; of the outer wall of the north Sacristy as well as of the room in the north-west part of the church, remain only fragments of the foundations.

This state of preservation of the walls of the church leaves the problem of its internal plan open as well as that of details such as the disposition of doorways, means of lighting the interior, roofing, etc., however, the results of this season furnished basic data for general archaeological and architectural interpretation. The south side of the church and its immediate surroundings, not yet excavated, may, once uncovered, provide answers to some of these problems, for the layers of the fill of the south part of the church allow one to believe that the corresponding wall may be preserved to a greater height than the others. If this supposition is correct, clearing of this part would give more exact indications as to plan and spacial arrangement of the church.

The Church of the Columns measures some 29.20 x 24 metres\(^5\) (cf. FIG. 1) and is situated roughly along the east-west axis, though a deviation of 110°.

The walls of the church including their foundations are made of burnt (red) brick\(^6\) which appears as unique for Nubia.\(^7\) Only the two low screen walls, separating haikal from the aisles, apparently added very late,\(^8\) are made of mud-brick. Also, the inner structures as the pulpit, tribune and later adjusted piers are made of burnt brick.\(^9\) It is worth attention that all the walls including outer ones were plastered on both sides with pinkish hard plaster.

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\(^5\) As the entire area of the church has not yet been cleared, it has been assumed when measuring its width, that it was symmetrical along the longitudinal axis.

\(^6\) The bricks used for building the church are of different size: the length varying from 33 to 37 cms., the width from 15 to 17 cms., and the thickness from 7 to 8 cms. These differences are, apparently, not intentional and are merely due to haphazard making. The most frequent size is 35 x 17 x 7 cms.

\(^7\) cf. W. Y. Adams, *JARCE* 4, pp. 90–91; cf. also U. Monneret de Villard, *La Nubia Medioevale*, iii, pp. 110–111. The walls of all the bigger churches in Nubia which could be compared according to the plan and spacial arrangement with the Church of the Columns, i.e. such as Faras Cathedral, the Basilica in Qasr Ibrim or el-Ghazali Church are in at least their lower parts built of stone. Even the Church of South Slope of the Kom at Faras (cf. K. Michałowski, *Faras-Die Kathedrale aus dem Wüstensand*, Zürich 1966, p. 88—hereinafter cited as *Die Kathedrale*) being built totally of red-brick had stone foundations. It is not excluded that builders in Dongola follow other principles of construction than the Lower Nubian specialists, but so far, there is very little evidence concerning Upper Nubian churches (cf. Adams, loc. cit.).

\(^8\) See below, p. 131.

POLISH EXCAVATIONS AT OLD DONGOLA

The foundations of the Church of Columns at Old Dongola are set directly on the rock. The irregular surface of the bedrock required the irregular depth of the foundations. The east and west outer walls (1.10–1.15 m. thick), are founded at +10 m. (the floor is at +12 m.) whereas the foundation level of the inner walls (0.80–0.90 m. thick) varies between +10.5 and +11.5 m. The bedrock surface, also, because of irregularities, must have been levelled to a certain extent, to enable proper erection of the walls and pavements.

The levelling for the foundations and for the floor of the church was carried out by various methods:

(a) Where the irregularities of the bedrock were small it was sufficient to fill the holes with some layers of red-brick or red-brick rubble;

(b) Where irregularities were considerable, trenches were hewn out of the rock and the foundations were sunk into these;

10 For the accepted relative ‘O’ level, cf. K. Michałowski, Kush xiv, n. 13, p. 293.
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(c) The apse was founded on the levelling layer composed of gravel, which covers all irregularities of the bedrock, and on top of this layer a few courses of mud-brick were laid on which the walls and the pavement were erected on the desired level;

(d) In part of the church (nave) to enable the setting of the floor, the bedrock was covered with a layer of gravel mixed with sand and crushed mud-brick and directly on this layer the pavement was set.

Irregularity of the rock influenced probably the way in which the church was constructed. The ‘Pavement’ or habitation level outside was some 0.90 m. below the floor of the interior of the church; this is witnessed by plaster preserved down to this level on the outer face of the eastern wall.

The layers outside this wall seem to confirm this supposition. The lowest layer, just over the bedrock upon which the church rests is genuine undisturbed soil over which there is only sand and rubble of brick. This layer is about 0.70 m. thick and reaches just below the lower edge of the above mentioned plaster. Above no trace has been found either of flagstones or of any other type of paving, which could however have been destroyed when the church was dismantled, particularly in the vicinity of the outer walls, where the layers were examined. In view of these observations it looks probable that there must have been steps leading from the ground level outside up to the church.

The interior of the Church of the Columns has five aisles.\textsuperscript{11} This calls for emphasis as five aisled churches in Nubia are most exceptional. The nave, 5.50 m. wide and 16.80 m. long, is separated from the aisles by a row of four differently spaced granite columns. The outer ones are 3.00 m. apart; the middle ones, flanking

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\textsuperscript{11} The description below regards the original plan of the church and its spacial arrangement before any remodelling of the interior occurred. For the main rebuilding of the church, cf. below, pp. 134–135.
the main bay, are 5.05 m. apart. There are two aisles on either side of the nave, of the same length, but of lesser width (2.45 m.). They, too, are separated by the granite columns, set the same distances apart. The columns, including bases and capitals, are 5.20 m. high, though the size of both capitals and bases vary. Out of the 16 columns, 12 are still in place; 3 columns of the row dividing the north aisles had fallen off their bases and were found, along with their capitals, 0.50–1.00 m. above floor level. One column, the last from the west side of the row separating the south aisles, is in the yet not excavated south-west part of the church. The base of the corresponding column in the row between the north aisles, a red granite capital of unusual design (PLATE XX) is used, most probably taken from some other earlier Dongolese church.

In the east, the nave terminates in an apse 4.55 m. wide and 3.65 m. deep (PLATES XXII and XXIII). The curve of the apse is a regular semi-circle. The centre of which is placed at a distance of 0.90 m. from the eastern edge of the nave. Of the tribune built of red brick in the apse, all there is left are three steps (PLATE XXI). These are 0.27 m. wide and 0.22–0.23 m. high. Supposing that all the steps were about the same height, one can guess at seven steps and the tribune about 1.40 m. high.

The extreme aisles were limited east and west by walls running the length of two intercolumnary spaces and open the width of the middle space. In the places of these openings, in the perpendicular axis of the church, there were found two large rooms which will be henceforth called vestibules. These vestibules lengthen to the north and south a kind of transept that was formed by enlargement of the intercolumnary spaces between the middle columns in the row dividing the aisles and the nave. The whole length of the transept, the vestibules included, is 22.00 m.

The intersection of the nave and the transept resulting in forming a square, middle bay (5.50 m. by 5.05 m.) which is the central point of the interior of the church. Thus, although the plan is generally basilical, one clearly finds here elements of the double-axial cross-in-square composition, the centre of which is the above-mentioned middle bay. The arms of this cross terminate in the east in the apse,

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12 Measurements were taken along the axis of the columns.
13 For the terminology cf. supra, n. 4.
14 Here, the term ‘basilical’ defines a building with a single, longitudinal axis, a nave wider than the aisles and separated from them by rows of columns or piers. In order to avoid any misunderstanding, it should be stated that in the precise meaning of the word this term applies to an edifice of the principles of the plan described above, in which, however, the nave is higher than the aisles and lit directly through windows placed in the raised parts over the roof of the aisles. The term ‘basilical’ does not therefore only refer to the plan of an edifice but also to its spacial arrangement. With regard to Nubian Churches this term is often used in its unprecise meaning and it will be used here to determine the type of plan, regardless of the spacial arrangement. For the two main types of the churches ‘basilical’ and ‘cross-shaped’ cf. U. Monneret de Villard, La Nubia Medioevale, III, pp. 1–50. This last type, contrary to Monneret de Villard is not recognized in Nubia by W. Y. Adams (JARCE 4, pp. 87–139). He is stating, however (ibid. p. 123) the influence of cross-shaped (cross-in-square) plan of the church had to develop the Classic Christian Type of Nubian churches.
in the north and south in the vestibules, and in the west in the main entrance leading from the narthex into the nave.

Both nave and aisles are walled off from the narthex which is 3.60 m. wide and runs a length equal to the joint width of the nave and aisles. Thus, the narthex does not reach the whole width of the church; north of the narthex, in the north-west corner of the church, there is a room or space of a size 3.50 m. by 2.70 m. It is hard to say exactly what part this plays in the architecture of the church. The east wall of this room is preserved to a height of 0.50 m. above the floor and part of the flooring itself is preserved in the north-west corner of this room. That, however, is not sufficient to allow one to come to conclusions and decide whether this space contained a staircase, or whether it was put to some other use, as were sometimes similarly placed rooms in other Nubian churches. Further indications may be found when the opposite side of the narthex is excavated; for the time being, all that can be said is, that although it is more common to find a stairway in the south-west corner, Nubian churches have been known to have one in the north-west corner.\textsuperscript{15}

A similar problem as to its function in the plan of the church is raised by the space that we shall henceforth call the north-west room and which is north of the west side of the extreme north aisle. It is obvious that its very existence, as well as the shape of the north sacristy (i.e., its elongation to the west) are a result of the conflict between the elements of the cross-shape composition of the interior contained within the rectangular outer walls of the basilical church. The rectangular plan enclosing the elongated nave and aisles, with the vestibules prolonging the transept, makes an empty space between these vestibules and the sacristies on one hand and the narthex on the other. The necessity of using up such space gave the L-shaped plan of the north sacristy on one hand, and the above-mentioned north-west room on the other.

No clue has been found by which one could determine the use of such a room. The only church found so far, having an identical one is the Cathedral at Faras, where it was found to have no liturgical use.\textsuperscript{16} Anyway, it is doubtful that it should be identified with the room situated in the north- or south-west part of the church that can be found in later date churches in Nubia.\textsuperscript{17}

The design of the east side of the Church of Columns differs least from the conventional design of the same part in other Nubian churches. Sacristies flank the apse on either side, filling up the two east corners. As it has been mentioned before, the north sacristy is L-shaped—its long arm measuring 11.0 m. by 2.80 m., and the short one being 4.50 m. wide. Only the north part of the south sacristy has been as yet excavated, and we must wait until the next season before giving its

\textsuperscript{15} cf. U. Monneret de Villard, \textit{op. cit.}, III, p. 40.
entire plan and measurements. Admitting that this part of the church could repeat the ground plan of Faras Cathedral, one should expect to find a sacristy as wide as the two aisles and an elongated room between the sacristy and the vestibule, corresponding to the so-called ‘Bishop’s Room’ in Faras Cathedral. The two sacristies are joined by a passage 6.35 m. by 1.15 m., running between the apse and the outer wall of the church.

Not much can be said as to the position of doorways, whether leading into the church from the outside, or permitting communication between the various parts of the church. Inside the remains of the two doorways alone can still be found; one, about 1.00 m. wide, giving passage from the narthex into the north aisle, the other from the north aisle into the adjoining sacristy. As it has been said above, the walls are in such a state that no trace is left of any other door. However, counting on probabilities of symmetry, one may suppose that the door into the south sacristy was in the same relative position as that to the north; and also that entrance from the narthex into the south aisle was through a door symmetrical to that leading into the north aisle, just as, probably, the main entrance from the narthex into the nave must have been in the axis of the church. There is no clue as to the position of the doors between the interior proper of the church and the north-west room nor the extension of the north sacristy.

The walls of both these rooms are totally destroyed, and the only indication might be given by the church floor, which only in two symmetrical points on either side of the north vestibule extends to the line of the supposed wall. This might indicate the place of doorways, and the design finds corroboration in Faras Cathedral.

The floor of the church was of rectangular ceramic tiles. In the main part of the interior \(^{18}\) (nave, aisles) as well as in the north sacristy and the passage behind the apse, slabs of 38 x 32 x 5–6 cms. were used. \(^{19}\) The floors of the south sacristy the north-west room and the narthex differ widely: the south sacristy is partly paved with 31 x 23 cms. ceramic tiles, which are not found elsewhere, and partly with the ordinary burnt brick used in building the walls. It is to be noted that this floor shows no trace of wear, so was probably covered with some sort of matting. The north-west room is paved as well with ceramic tiles not to be found in other parts of the church. In the narthex the pavement laid upon a layer of chalky mortar, made use of exceptionally large tiles (50 x 30 cms. and about 3 cms. thick). In fact the church was twice paved and the existence of the double layer of pavement was found in the nave, in the two north aisles and in the narthex. There is no indication that the second pavement was laid on the occasion of some rebuilding of the church; most probably the old floor wore out and was re-paved. The tiles used both times

\(^{18}\) In the east part of the north aisles, the floor had been badly damaged and the damages repaired with cracked fragments of the tiles and even with ordinary bricks laid in a haphazard way.

\(^{19}\) These tiles, as the bricks, also vary in size for reasons of careless workmanship. Their length varies from 36 to 39 cms. and their width from 30 to 33 cms.
were of the same type. The second, later floor is 9–10 cms. higher than the old one, and its ceramic tiles are fixed in a 5–6 cms. thick layer of clay mortar spread straight over the old floor.

In the presbytery three successive floors were found, all three making use of the same type of tiles again. The lowest is some 6 cms. higher than the first flooring of the rest of the church and seems to be of the same period. The second floor is laid over the first on a very thin (1 cm.) layer of clay mortar and does not correspond with any floor anywhere else in the church. The third and last floor, laid on 6–7 cms. thick clay mortar, lies upon the tiles of the second pavement and obviously corresponds with the second floor of the rest of the church. A narrow band (about 1.50 m. wide) of this last floor, made of grey sandstone slabs, runs down the centre of the presbytery, but for the rest, the same ceramic tiles have been used as all over the church.

The successive layers of flooring in the haikal, examined in relation to the apse and the tribune, give ground for certain remarks: while the church did not undergo more considerable rebuilding due to changes in liturgical ritual—as happened with many Nubian churches—those processes, however, can be observed in the changes in the apse and presbytery, and their reciprocal connection.

In its first conception, the church had no clearly designed haikal. The presbytery was simply raised a few centimetres higher than the main flooring. The floor of the apse must have been on the same level as that of the presbytery. Fragments of ceramic tiles yet to be found in parts of the apse—and which seem to have been the substructure of a now disappeared floor seem to confirm the hypothesis. In that time, the altar must have been in the centre of the apse, and the whole type of this part of the church would then conform to what W. Y. Adams calls Early Nubian (type 2b)20 but with eastern passage. The first element of decisive change was the erection of the tribune in the apse,21 and the consequent transfer of the altar forward into the presbytery. This must have been the moment when the second floor was laid in the haikal, as the plaster that covers the front of the tribune extends below the upper paving, but is not found below the second floor. Openings hewn at intervals in the stone blocks between the columns that separate the haikal may have supported a wooden balustrade dividing the presbytery from the aisles. However, for the time being, there is nothing to determine the chronological connection between the balustrade and the erection of the tribune, and the transferring of the altar into the presbytery.

The haikal took its final shape relatively late, when the partition screening it off from the rest of the church was erected.

In the later pavement of the nave, about one metre west of the haikal, three tombstones were found (plate XXIV, cf. also fig.1).

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21 There is evidence that the tribune was later built in the apse, as on the preserved part of the apse's wall covered by the steps of the tribune, fragments of plaster facing were preserved joined directly with the pinkish plaster of the interior of the church.
POLISH EXCAVATIONS AT OLD DONGOLA

(a) White marble stela (35 x 34 cms.) with the text in Greek incised and displayed in the shape of a cross (PLATE xxv). The deceased is a woman named Kel, daughter of Osk. . . . Her rank is not mentioned on the tombstone. *Obit* 8 Thoth, Thursday, 502 A.M. (785 A.D.) at the age of 86. The stela contains the common Nubian formula of the Byzantine prayer for the dead.\(^{22}\)

(b) Blue-greyish marble stela (32 x 18 cms.) with the text incised in Greek (PLATE xxvi). The name of the deceased is Stephanos called Eiūitta (= rich?), son of Maraña (in lines 6–7 of the text we find: ΣΤΕΦΑΝΟΥ ΠΡΕ(σθόνοι) Ο ΔΕΓ (δέμονς) ΕΙΤΤΑ Υ(ι) Σ ηαααααααα) who was possibly a priest and archimandrite of (the monastery of the Virgin) Mary at Timaeia? (lines 15–16 of the text to read: ΣΤΕΦΑΝΟΥ ΠΡΕ ΖΑΛΕ ΠΟΝ Ε ΑΡΙ ΜΑΝΑ ΜΑΡΙΑ ΤΙΜΑΙΑ Ζ ΥΟΜΑΝΜΑ Ζ ΣΟΜΑΝΜΑ). This part of the text describing Stephanos’ ranks is not quite clear and is partly written in Nubian. The stela is dated to 19 Phouthouthe 513 A.M. (797 A.D.), lunar day 4. The formula of the tombstone is nearly the same as that of Kel’s but the text shows Nubian intercalations. This is worth attention as the date of the inscription appears very early for written Nubian.\(^{23}\)

(c) Sandstone stela (44.5 x 39.5 cms.) with the text incised in Greek (PLATE xxvii). The deceased is Thomas, a priest, age 91, years of priesthood –50. The tombstone is dated according to four chronological systems: from the Creation of the World (ἀπὸ κοσμοποίου)—6290 (= 798 A.D.), Ethiopian Era (ἀπὸ χριστοῦ) 790 (798 A.D.) Indiction 7. The dates differ one year, which, contrary to Lower Nubian stelae, is to be found on tombstones from Dongola region.\(^{24}\) The formula used in the stela of Thomas is quite unique for Nubia and resembles in part that of Bishop Ignatios stela from Faras\(^{25}\) dated to 802 A.D.

The stela of Kel was fixed in the floor by means of the same clay mortar as the floor tiles; the two others lay on a thin layer of sand, yet they must have previously been as much part of the pavement as the first. They all come from the 8th century tombs and must have been moved from some place, when the new floor was put in. The tombs themselves have not yet been found; one may, however, believe that they lie beneath the floor of the church somewhere in the vicinity of the place where the stelae were found.

There was another stela in the pavement of the north aisle, opposite the door leading to the haikal. The surface of the stela is however erased to such an extent that the text is completely illegible.

The stela is most obviously connected with a grave discovered in the north aisle, about 1.50 m. beneath the floor between the apse and the easternmost column separating the haikal from the north aisle (cf. FIG. 1). The place of the grave was outlined on the pavement by a double row of irregularly inserted burnt bricks,


\(^{25}\) The stela will be published in *Faras, Fouilles Polonaises* 1962–1964.
which seems to show that the burial took place after the second floor was laid. The skeleton, found within a shallow hollow scooped out of the rock, lies face down, its head to the west, covered with fine gravel of eroded sandstone.

The discovery of this grave seems to confirm the supposition that the tombs to which belong the three above-mentioned stelae, are also to be found in their vicinity, beneath the nave.

The excavations so far supply no evidence whatever as to the nature and appearance of the roofing of the interior and the side rooms of the church. One can only surmise in the most general way that the church must have had a flat, wooden roof—for the use of columns rather precludes the existence of vaults. The interior (naos) of the church must have been considerably higher than the top of the columns, for one cannot conceive of such a vast area roofed in as low as on a height of 5 m. The question is open however, whether the roof was raised on walls carried upon wooden beams rested on the capitals or brick arches between the columns. The distances between the columns would rather speak against the idea of wooden beams supporting the wall, the arches seem more convincing. True, there is no trace of mortar to be found on the abaci of the capitals, no more than any other traces of such arches, but the size of the abaci (60–07 cms.) does not preclude the architectural possibility of their existence.

The ground-plan of the church suggests a consequent organization of spacial arrangement of the interior, according to which the nave and transept should have been higher than the other parts, but whether directly lit by windows as in the classical basilical design, or whether by means of arched overhead galleries built over the side aisles, remains yet an open question.

The proportions of the apse are another argument in favour of a raised roof, particularly over the nave. If one considers the 5 m. height of columns the only possible one, and takes into consideration the width of the apse, equal to 4.6 cm., the semi-cupola over it—which would have to be as high as about half of its width—would have to rest on a level around 2.50 m. above floor level. Given the proportions of the apse, this seems quite impossible.

As for the sacristies, the narthex and the rooms in the west part of the church, they could equally well have been covered with flat wooden roof or vaulted.

The interior of the church was partly rebuilt, most probably, about the end of the 10th century, as was the case in Faras Cathedral. The alterations concerned only the nave and transept, the wooden roof of which was replaced by cupolae, supported by piers built of trapezoidal bricks. Eight piers, built in pairs, within each intercolumnary space of the central bay at the intersection of the nave and transept, supported the large central dome which was 5 m in diameter. Those in the north and south sections of the transept and the west section of the nave bore two smaller domes, about 1.50 m. in diameter; while another cupola rose upon

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the piers of the east section of the nave (i.e. over the presbyterium). This spacing of the piers and domes did not only preserve the original cross-shaped composition of the interior but stressed it all the more, for the rest of the church did not undergo any rebuilding and retained its untouched wooden roof and the columns. Thus, as already mentioned in the report of the first season, the remodelling of the Church of the Columns at Old Dongola differed, both in scope and purpose, from that practised contemporarily on other Nubian churches. Whereas in the others the rebuilding entirely changed the character of the spacial arrangement of their interior—piers taking the place of columns and the entire church being vaulted or domed—the changes in the Church of the Columns are partial, which resulted in coexistence in the new spacial arrangement of the old elements—columns and the flat roof, and the new ones—piers and domes.

The pulpit, also, could be dated from the period when the interior of the church was remodelled. It occupies its traditional place: the left side of the middle part of the nave. It was erected contemporaneously with the piers and is built of the same brick as their rectangular lower parts.

The walls screening the haikal from the aisles, built of mud-brick, are the latest constructions to be found within the church. These, the altar and the piers stand upon the second (in the presbyterium—the third) pavement. Thus, accepting the end of the 10th century as the date of the rebuilding of the interior of the church, one can attach the construction of this floor to a period not later than the first half of this century, or, taking into consideration the fact to what extent the pavement was worn out, the end of the 9th century could also be considered.

The excavation carried out this season confirmed in full extent the dating of the church to the beginning of the 8th century which was proposed after the first season. It was based mainly on a comparative study of columns and decoration of capitals. This season of work provided other data strongly supporting previous hypothesis.

Beyond all doubt the stelae come from the graves of priests buried in the already existing church; and this, in comparison with dating on the basis of pottery sets the latest possible date for the building of this church at a period prior to 785.

28 ibid., p. 299; for the comparison of capitals see pl. xliv.
29 The pottery found in the levelling layer between the bedrock and the pavement gives the ante and post quem date. This layer contains sherds of the R1 and R2 type dated 550–650, which would determine the earliest possible date of the erection of the church, as early as the end of the 6th or the beginning of the 7th century. On the other hand the lack of sherds of Classic Christian Ware in this layer excludes the possibility of the church being later than early 9th century.

The abbreviations and terminology used here to describe and to date the pottery are taken from W. Y. Adams, Classification of Meroitic, X-Group and Christian Pottery Wares (revised February, 1966) in ms.; cf. also W. Y. Adams, Kush xii (1965), pp. 241–247.

We would like here to thank Dr. W. Y. Adams for making available to us the latest version of his work on Nubian pottery, as well as for classifying a number of potsherds from this season’s excavation at Old Dongola.
KUSH

An even earlier date is suggested by the plan of the church and its general character. In spite of the fact that, in this regard, the Church of the Columns—like the Cathedral at Faras, is truly exceptional, nevertheless, it has certain points of similarity with the type which W. Y. Adams calls 'Basilican' and which he dates to 550–750. It is to be noted that such churches do not have a passage behind the apse—feature which Adams only recognises after 750—but if we take all the other indications into consideration, this church may bring a revision of Adams' criteria for dating Nubian churches.

On the other hand, we cannot accept a date earlier than late 7th century because of the above-mentioned pink granite capital (cf. PLATE XX) re-used as a column base, which was most certainly taken from some earlier and as yet unidentified Christian building or a church in the Dongola region. Even if we admit such a church to hark back to the early days of Christianity in Nubia, a fairly long time must have passed between the days it was erected and the time it fell into such a state of decay that some elements could have been taken from it to be used as building material for some other edifice; of course, if such a building was not purposely destroyed.  

We can obtain complementary data by comparing the Church of the Columns with the Cathedral at Faras which was rebuilt and enlarged in the year 707. Both

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30 W. Y. Adams, JARCE 4, p. 103 ff.
31 There is certain evidence obtainable from the Arabic sources that Old Dongola was partly destroyed by the army of Amir Abdallah during his raid to Nubia in 651—cf. Et. Quatremère, Mémoires sur l'Egypte, 2, p. 43; U. Monneret de Villard, Storia della Nubia cristiana, p. 76; cf. also K. Michałowski, Faras, Centre artistique de la Nubie, Leiden 1966 p. 9; id., Die Kathedrale, p. 63. It is not excluded that the above-mentioned capital, re-used in the Church of the Columns, could have come from a church destroyed at that time.
CHURCH OF COLUMNS, GENERAL VIEW FROM NORTH-EAST

PLATE XIX

CHURCH OF COLUMNS, GENERAL VIEW FROM EAST

facing p. 136
PLATE XX

RED GRANITE CAPITAL RE-USED AS A BASE OF COLUMN

HAIKAL, VIEW FROM THE WEST

PLATE XXII

APSE, VIEW FROM THE EAST. IN THE FOREGROUND THE PAVEMENT OF THE EASTERN PASSAGE

PLATE XXIII

TRIBUNE VIEW FROM THE SOUTH-WEST
PLATE XXIV

STELAE OF THOMAS, STEPHANOS AND KEL IN SITU IN THE NAZE, VIEW FROM THE NORTH

PLATE XXV

STELA OF KEL
PLATE XXVII

STELA OF THOMAS

PLATE XXVIII

SECTION THROUGH LAYER 3 IN THE NAVE
churches show the same essential principles of the ground plan and spacial arrangement.

As we have to deal here with an almost completely destroyed edifice, the only way to reach some conclusions is to analyse carefully the archaeological layers.

During the first campaign, which bore a character of preliminary trial excavations, two principal layers were distinguished comprising respectively sand and rubble. Having disinterred a vast area of the church we are able this year to undertake a more detailed examination.

So, in the filling of the interior of the church, reaching up the height of 4–4.50 m., three separate layers were defined numbered downwards as 1, 2 and 3 (FIG. 3).

In layer 3 six separate strata could be observed (FIG. 4 and PLATE XXVIII).

The lowest stratum, 3f, is about 10 cms. thick and lies directly on the floor of the church. It is composed of blown sand and contains a few sherds of various periods, including instances of late and Terminal Christian Ware.

Over this, stratum 3e, 20–30 cms. thick, is mainly composed of rubble of burnt brick, apparently coming from the fallen arches and domes of the church. This is a layer of great compactness, due to the presence of mud deriving from the mud-mortar used in walls as well as, probably, in domes of the church. The surface of this stratum appears to have been intentionally levelled and used as a floor of some sort. The relatively abundant undecorated Christian pottery found here belongs to various periods, however predominant are groups D.III, N.VIII and N.VI, in the same layer about a score of fragments of Late and Terminal Christian Ware were also found.

The third stratum, 3d, was nothing but a thin layer of sand mixed with mud. Over the whole area of the church, except the narthex, this stratum is covered with a film of ash several centimetres thick, of uniform composition, obviously the result of some huge conflagration that most probably devoured the roof. Here, there were almost no sherds.

Stratum 3c is no more than a few centimetres of the same elements as 3d, i.e. sand mixed with mud and a very few debris of burnt brick. No sherds at all were found in this level.

The next stratum, 3b, 50 cms. thick, is mainly of blown sand mixed with very little mud, probably washed off the mud-bricks by rain. Sherds here were exceptional.

The top stratum, 3a, is similar to 3e and comprises burnt brick debris from the walls and piers, heavily mixed with mud washed off the mud-mortar by rain. A thin film of ash covers the whole layer. Relatively few sherds were found here,
POLISH EXCAVATIONS AT OLD DONGOLA

mostly undecorated, Christian Domestic Coarse Utility Ware (H.4 and H.8) as well as Christian Red and Pink Utility Ware (U5 and U10) and Terminal Christian Fine Ware (W 14, R 20 and R 28)—(FIG. 5).

Just in this layer, in the north-west part of the church, a grave was found. The chamber of the grave was scooped out of the rubble of the layer but its superstructure was in layer 2, built upon a 20 cms. thick layer of sand. Measuring 2.50 x 0.80 m., and orientated to east-west, this structure was made of burnt brick taken from the walls and piers of the church. The Skeleton found in the grave chamber lay on its side, head to the west and face to the north. It had been placed on a wooden frame covered with matting, and was wrapped in another mat. Traces of textile still clung to the skeleton. No object, pottery or other was found to help date the burial; the orientation and appearance of the grave, however, are Christian.

Layer 2 of the filling of the interior of the church, about 2 m. thick, consists of pure sand. At several points and at various depths, traces of casual, impermanent occupation were found, determined by ashes. Pottery is represented here only exceptionally and of a few sherds found in this layer all belong to the Terminal Christian period (mainly Coarse Domestic Utility Ware). No construction of any kind has been found in this layer.

The last, uppermost layer, I, 0.50—1.50 m. thick, comprises sand mixed with a little debris, ashes and small quantity of rubble of burnt and mud brick. Right at the bottom, a habitation level of mud laid directly over the sand could be distinguished in some places. The only well preserved construction found in this layer is the house, remains of which were brought to light during the first season. It is built of both mud and burnt brick and rests over the south-west part of the church. Otherwise, there were found the lower courses of walls of houses and other structures built of mud-brick or mud. The numerous sherds found at this level were generally handmade ware, mainly Black and Red Utility Ware. About a score of Terminal Christian Ware pieces were turned up, their presence here, however, should be considered as accidental.

Of all the above-mentioned layers of the filling only the strata 3a and 3e bear witness to the interior of church having been used, after it stopped serving as such. The other strata: 3b, 3c, 3d and 3f attest only periods of short casual use of the church or, as layer 2, an entire break in use. By the time when this place was used again at the level of layer I, the church was already completely buried, and the only remaining proof of its existence were the still visible columns.

Although the amount of pottery obtained from this dig is exceptionally small, yet it, as well as the sequence of layers described above, provides enough evidence

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34 Compared with other Christian sites, the amount of pottery found this year is remarkably small. During the whole season, we only came across forty instances of decorated sherds, twenty-three of which the largest and least damaged pieces were included in the inventory of finds. Even undecorated pottery was scarce. This could be explained by the short and transitory character of occupation following the decay of the church.
to propose the general chronology of the church area following its dereliction. This must have taken place fairly late—around the 14th century—as proved by the presence of Terminal Christian Ware in the lowest strata of the fill (3e and 3f), particularly sherds of W14 and R28 group (cf. Fig. 5). At that time already the church underwent a partial decay and after a short period of entire abandonment (stratum 3f) it was being used as a dwelling. The domes had probably partly crumbled at that time and then had been patched up with some sort of temporary wooden roofing. This very soon burnt down, as shown by the thick and uniform layer of ashes over the level 3d. After this fire the church remained unoccupied for a longer time, which is attested by the layers of blown sand (strata 3c and 3b).

The next and the last period of occupation is represented by stratum 3a. By then the church had undergone further decay. The remainder of the domes, the upper courses of the walls and piers had fallen in and a rubble formed a sort of floor of this level of occupation. Some kind of temporary roof was again put up and again burnt down, as had done the first. Layer 3 was out along the walls and around the piers, down its whole thickness from the ashes of the second conflagration right down to the church pavement, and in some places deeper still. These cuts in form of trenches, were filled with fine rubble of burnt brick and mud mortar. At some points stratum 3a, the uppermost one of the layer 3, slides down along the borders of these trenches almost to the floor level (Plate XXVIII). These cuts prove that the lower parts of walls were systematically dismantled for bricks for new buildings, as that this dismantling took place after the stratum 3a had been formed or when it was just being formed, i.e. around the end of the 14th century. After the second fire and the dismantling of piers and walls, the church area was deserted for probably a few centuries, which period is in this place represented by layer 2.

The presence of Terminal Christian sherds in both the lowest and highest strata of the layer 3 and the total absence of any Arab sherds entirely confirm this opinion. Another proof of dating the entire layer 3 to the Christian period is given by the above-mentioned grave scooped out of the layer 3a. This grave seems to represent the most recent of Christian burials within this area, already at the time when the layer 3 was covered over by sand of the following layer 2.

The dating of various strata established on the ground of scarce remains of pottery seems however, to agree completely with the historical information about the decay of Christian Dongola in the 14th century.35

The last occupation of this place began very late, probably as late as the 18th century, and had no connection whatsoever with the church, for the only remaining proof, by that time, of its very existence were the tops of the columns sticking up through the ground.

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Of the churches known so far in Nubia, the Church of the Columns at Old Dongola is exceptional in many aspects. Obviously this church, as an edifice of the definite sacred character, bears comparison with other Nubian churches, having common characteristics and functional elements, yet its size, ground-plan and spacial arrangement distinguish it from the others.

As far as the size is concerned only the East Church on Philae,\textsuperscript{36} the Basilica at Qasr Ibrim\textsuperscript{37} and the Cathedral at Faras\textsuperscript{38} could be compared with the Church of Columns. Whereas the run of Christian churches in Nubia covers areas between 15 x 10 m. and 20 x 15 m., the above-mentioned churches greatly exceed such measurements and, despite a similarity of the principle of composition, are buildings of quite a different scale. This, exceptional in Nubia, scale of the mentioned churches could be explained by the fact that they were built in the main administrative and religious centres in Nubia. To the list of these outsize churches one could add also the church at Ghazali\textsuperscript{39} but the dimensions of this church (28 x 14 m.) have in no way altered its plan and spacial arrangement and it represents the usual Nubian (Classic Christian) type of the church.

As regards the Church of the Columns at Old Dongola, size is not cited in itself as differential criterion but because the difference in scale is here directly connected with a differing ground-plan and spacial arrangement, and, with the result in shaping a different type of church. In these conditions the need for a larger church must have entailed an essential change of its plan, the construction principles being left unchanged, and in this regard the largest above-mentioned Nubian churches, especially the Church at Old Dongola, differ widely from all the others.

The main differentiating characteristic is not so much the scale alone, nor even is it their basilical design, nor the fact that columns were used to support the roof. Other basilical churches in Nubia—were it only the Church on the South Slope of the Kom at Faras\textsuperscript{40} and most probably the one at Ghazali before alteration\textsuperscript{41} preserved their typical design while merely using different means of roofing and of internal architectural elements. In the case of the large churches in question, there is a change in type and there come to existence new elements of the plan and spacial arrangement not to be found in others: In Philae and Qasr Ibrim these are the spaces built on the border of the church, which became a sort of additional aisles; in Faras Cathedral and Church of the Columns the new elements are represented by vestibules and large rooms on both sides of the aisles which are the result of combining the principles of basilical and biaxial-cruciform composition.

\textsuperscript{36} U. Monneret de Villard, \textit{La Nubia Medioevale}, I, p. 7, fig. 5.
\textsuperscript{37} \textit{ibid.}, pp. 117–20, fig. 90 and \textit{iii}, p. 5–6, fig. 5.
\textsuperscript{38} K. Michałowski, \textit{Kush xii}, p. 196; \textit{fig. 1; Id., Die Kathedrale}, pp. 65–102.
\textsuperscript{39} P. L. Shinnie and H. N. Chittick, Ghazali—A Monastery in the Northern Sudan, \textit{SASOP} 5, 1961, pp. 8–16, fig. 3.
\textsuperscript{40} cf. \textit{Die Kathedrale}, pp. 82–84, for the plan; cf. also \textit{Kush xii}, p. 196, fig. 1.
KUSH

It should at this point be observed that the architecture here discussed was represented only in the Early Christian period and was discarded in later centuries.

If the Church of the Columns at Old Dongola shares general characteristics, in the limits discussed above, with those at Philae and Qasr Ibrim, the only Nubian church discovered so far that can be directly compared with it is Faras Cathedral after its alteration in A.D. 707. Apart from some differences of lesser importance, the plan and spacial arrangement of Faras Cathedral represents the closest existing analogy to the Church of the Columns, and it seems that if the two churches were not contemporaneously built, the cathedral of Faras is a development of a design evolved at Old Dongola.

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42 In the latest classification of Nubian churches (W. Y. Adams, JARCE 4, pp. 87-139) a certain inconsequence attracts our attention. The Faras Cathedral, one of the largest metropolitan churches in Nubia is classified as aberrant in the Classic Christian Faras Type (3a). This type (see reproduced drawing on p. 11) apart from certain features which seem to be of lesser importance does not betray essential similarity to the internal plan of the Cathedral. Missing are the analogies to the disposition of narthex, side rooms, 'L'-shaped sacristy, etc.

Spacial arrangement of the Faras Cathedral in the 8th century resulted from the alteration of a Basilican church (see Adams’ type 1a) with an addition of certain elements of the cross-shaped internal plan. In the period when the above-mentioned alteration took place (i.e. 707 A.D.)—there is no evidence for the existence of any of the churches quoted by Adams which he considered typical for ‘3a’, if not to mention the Rivergate Church at Faras which on its part appears to be a century earlier (cf. Die Kathedrale, p. 50). Thus it seems most probable that the altered Faras Cathedral influenced other churches of 3a Type—as they all are later than the Faras example. On the other hand, Faras Cathedral must have influenced also the development of a certain new plan of churches which for instance is manifested in the Church of the Columns at Old Dongola.

It therefore seems important to establish a new type of church which will be associated with both the type 1a—Basilican Qasr Ibrim Type and with Classic Nubian Type (3).
The third excavation campaign by the Polish Archaeological Expedition at Old Dongola took place from 11 December 1966 to 15 February 1967.

In the absence of Professor Kazimierz Michalowski, the Head of the expedition, the work was directed by Mr Stefan Jakobielski. Other members of the Mission were Mr Lech Krzyżaniak, archaeologist and prehistorian and Mr Waldemar Jerke, photographer.

Throughout the full season on an average 100 local workmen were engaged. The foreman was Gidalmiya Sati Mohammed from el Gaddar.

The programme for this season's excavations comprised the clearing off the remaining south and south-western parts of the church called the Church of the Granite Columns¹ to enable eventually the uncovering of the whole of this edifice. Apart from the excavations a prehistoric survey within the boundaries of the Polish excavation licence has been made by L. Krzyżaniak, who is also the author of the chapter on prehistory, while the remaining part of the report is prepared by S. Jakobielski.

Prehistoric Settlement at Old Dongola

Several prehistoric sites were discovered within the boundaries of our digging concession. An additional site has also been found near the present village of el Gaddar, where the headquarters of the Mission were installed. On the whole eight


² We wish to thank Professor Kazimierz Michalowski for his inviting help during our work as well as for the revising of this report. We would like to express our gratitude to Mr P. M. Gartkiewicz who elaborated all the plans of the church after the field sketches, and provided us with helpful information concerning architectural matters. Besides this it was also Dr M. Kobusiewicz who drew all the stone implements presented here, and was of assistance in preparing the prehistorical part of the report for which we are very thankful. We wish to thank also Dr W. Chmielewski for the valuable suggestions concerning that part.
sites were discovered within the boundaries and on the outskirts of the concession—Old Dongola site 1–8—and one site near El Gaddar—El Gaddar 1—(FIG. 1). The main goal of the survey here carried out was to obtain archaeological data which could be the basis for an introductory knowledge about the prehistory of the area of Old Dongola.

The archaeological material has been collected from one small, rectangular test area on each site. From each area all surface artifacts such as tools, cores, blades, flakes and pieces of raw material were picked up. Some additional notes about the geological situation of the area has also been made. It is hoped that on this basis we shall gain an essential knowledge about each explored site, e.g. its chronology and character.

**Old Dongola, site 1:**

Located atop of a hill of solid sandstone covered with the stratum of the Christian Period, about 16 m. above the present Nile level. Collected from an area of 12 sq. m. (4 × 3 m.):

- 1 axe with transversal and grinded edge (FIG. 3).
- 1 pounder made on pebble (FIG. 4, c).
- 2 fragments of pounders.

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3 We wish to thank Sayed Thabit Hassan Thabit, the Commissioner for Archaeology, for enabling us to take samples of stone implements found at Old Dongola to Poland. They are now after elaboration temporarily exhibited in the Archaeological Museum in Poznań.
Fig. 3. OLD DONGOLA, SITE 1. AXE WITH TRANSVERSAL AND GRINDING EDGE (x SIZE)
Fig. 4
a, OD2 scraper; b, OD3 core on a pebble with traces of use on the edge; c, OD1 pounder made on a pebble; d, OD1 poorly prepared core with changed striking direction. (‡ SIZE)
POLISH EXCAVATIONS AT OLD DONGOLA

- 4 poorly prepared cores, one of them on pebble, all with changed striking direction (FIG. 4, d).
- 1 flake.
- 8 large pieces of cortex.
- 4 chips.
- several broken pieces of raw chert.

All implements were manufactured of brown chert. From the investigated area were also collected two large flakes and one medium size, broken blade of ferrocrete.

Old Dongola, site 2:

Located on the shelf of a solid hill of sandstone covered with a thin stratum of the Christian Period, 15 m. above the present Nile level. Collected from an area of 20 sq. m. (4 × 5 m.):

- 1 scraper manufactured of white flint identical to those known from Kharga Oasis (FIG. 4, a).
- 2 poorly prepared cores with changed striking direction.
- 2 cortex flakes.
- several broken pieces of raw chert.

All implements except the scraper of white flint were manufactured of brown chert.

Old Dongola, site 3:

Located atop of a hill of solid sandstone covered with a thin stratum of the Christian Period, 25 m. above the present Nile level. Collected from an area of 20 sq. m. (4 × 5 m.):

- 1 core with negatives of two flakes, shaped as a pounder, with traces of use on the edge. Manufactured on a pebble (FIG. 4, b).
- 3 large cortex flakes.
- 3 chips and two chipped pieces of raw chert.
- several broken pieces of raw chert.

All implements were manufactured of brown chert.

Old Dongola, site 4:

Located on the shelf of a solid sandstone, about 33 m. above the present Nile level. Only five pieces of chipped brown chert were collected from an area of 30 sq. m. (6 × 5 m.).

Old Dongola, site 5:

Located atop of a hill of solid sandstone covered with a stratum of the Christian Period, about 25 m. above the present Nile level. Collected from an area of 30 sq. m. (6 × 5 m.):
KUSH

- 3 poorly prepared cores with changed striking direction.
- 1 cortex blade.
- 2 large flakes.
- 4 chips.
- several broken pieces of raw chert.

One large flake and one chip were manufactured of ferrocrete, the rest of brown chert.

*Old Dongola, site 6:*

Located atop of a flat gravel hill, about 10 m. above the present Nile level. Collected from an area of 9 sq. m. (3 × 3 m.):

- 1 core elaborated in Levallois technique (FIG. 5, b).
- 1 broken blade.
- 1 cortex flake.
- 1 struck piece of chert.

All implements were manufactured of brown chert.

![Image of stone tools](image_url)

*FIG. 5*

a, OD7 blade with retouched edge; b, OD6 core elaborated in Levallois technique; c, EG1 Levallois core of quartzite; d, EG1 backed blade; e, EG1 flake-core made on a pebble; f, EG1 blade with retouched edge. (‡ SIZE)
POLISH EXCAVATIONS AT OLD DONGOLA

Old Dongola, site 7:
Located atop of a flat gravel hill, about 12 m. above the present Nile level.
Collected from an area of 9 sq. m. (3 × 3 m.):
- 1 blade with retouched edge (FIG. 5, a).
- 1 cortex blade.
- 1 chipped piece of chert.
- 2 large chips.
All implements were manufactured of brown chert.

Old Dongola, site 8:
Located atop of a flat gravel hill, about 12 m. above the present Nile level.
Collected from an area of 9 sq. m. (3 × 3 m.):
- 3 truncated chips.
- 3 flakes.
- 3 chips.
All implements were manufactured of brown chert.

El G addar, site 1:
Located atop of a flat gravel hill, at the foot of the Gebel G addar, about 12 m.
above the present Nile level. Collected from an area of 9 sq. m. (3 × 3 m.):
- 1 Levallois core of quartzite (FIG. 5, c).
- 4 flake-cores made on pebbles, with one striking platform on each (FIG. 5, e).
- 1 fragment of core.
- 1 backed blade (FIG. 5, d).
- 1 blade with both edges retouched (FIG. 5, f).
- 3 blades.
- 7 flakes.
- 8 chips.
One core, one flake and one blade were manufactured of quartzite, the rest of
brown chert.
During the surface survey of Sites 2, 3 and 5 a number of big nodules of brown
chert was recorded. Nodules of chert have also been seen in the bed-rock.
All investigated sites can be divided into two different groups in relation to the
description of the stone implements and the general geological situation: one, the
sites situated on the hills of solid sandstone (15–33 m. above the present Nile level—
OD, sites 1–5) and two, the sites situated on the gravel hills (10–12 m. above the
present Nile level—OD 6, OD 7, OD 8, and EG 1) (cf. FIGS. 1 and 2).
Stone implements of the sites situated on the hills of sandstone are composed of
large, crudely finished tools, cores, flakes, blades, and a relatively large number of
broken nodules of raw chert. The workmanship of these stone implements is rather
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poor. The cores are poorly prepared or not prepared at all; they were chipped in a technique a little similar to the Early Paleolithic 'bloc en bloc'. The rather big quantities of flaking debris consist mostly of poorly manufactured flakes without the bulb. Only one scraper made of flint identical to that of Kharga Oasis (Old Dongola, site 2) is elaborated relatively well.

The most imposing tool of the first group of sites is the axe with the transversal and grinded edge from Old Dongola site 1. Only this find may be dated on the ground of typology. The axe most similar to ours has been found in Kharga Oasis on site KOS by Miss Caton-Thompson. It is rather close in shape and also flaked and made of brown chert but smaller than that of Old Dongola. Also similar are other axes from the same site at Kharga which belong to the so-called Peasant Neolithic. Flaked axes belong here to the most important implements. Although they are all flaked they are more regular and very similar in shape to Neolithic polished axes. From the other sites in the Sudan only one celt from Shaheinab was found which was a bit similar to our axe, but much smaller. The remaining axes from this Neolithic site are different in shape and often polished. One can safely say that the tool from Old Dongola represents rather the proto-axe, both in chronology and design. If so, it must be dated just before the full Neolithic Period, i.e. the Protoneolithic Period.

The rest of the stone implements from this group of sites cannot be dated on the ground of typology. One can only say that there is here a deterioration in the workmanship in comparison to the Mesolithic and Upper Paleolithic periods of Nubia. On the other hand we found no evidence of such typical Neolithic attributes as the polished stone and pottery on the explored sites. The deterioration in technique in the Neolithic stone industry of Nubia has already been stated and published. In Northern Nubia this industry is characterized on the sites by huge quantities of flaking debris yet a low frequency of tools and poorly prepared or not prepared at all cores. Stone tools are larger and more crudely elaborated than they were during the Mesolithic period. At the Mesolithic and Neolithic site at Abka the extensive use of pebbles as cores and tools was also observed.

The above made balance of arguments points to the Protoneolithic age of this group of sites at Old Dongola. The beginning of Neolithic period in Northern Nubia is stated at about 3,600 B.C. If so the Protoneolithic sites would generally be dated to the fourth and fifth millennium B.C.

The character of these sites can be more clearly determined than that of its age. The considerably large quantities of flaking debris but small frequency of tools and

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4 G. Caton-Thompson, Kharga Oasis in Prehistory, London 1952, pl. 103, 1.
5 A. J. Arkell, Shaheinab, 1953, pl. 17, 1.
6 Only Christian pottery has been found there.
9 Cf. KUSH xiii, p. 54.
Fig. 6. GENERAL PLAN OF THE CHURCH OF THE GRANITE COLUMNS: LEGENDS:
1. Fragments of the edifice preserved above the level of the pavement;
2. Fragments of the structure preserved on the level of the pavement;
3. Parts of foundations preserved;
4. Mud pavement;
5. Deposits of burnt oil mixed with dust on the floor;
6. Tombstones inserted into the pavement.
POLISH EXCAVATIONS AT OLD DONGOLA

cores alone, cannot prove that they were workshops. However, the fact that they must have been workshops is further substantiated by the relatively large number of broken pieces of raw material and nodules of flint picked up from the explored areas. Most probably these sites were at the same time both the camp sites and workshops. The brown chert here utilized in nodules is a kind of impure flint and is known on a vast area in north-eastern Africa\textsuperscript{10}. The only artifact made of white flint from Kharga Oasis proves the cultural contacts between these two areas in such a relatively early period.

The second group of explored sites at Old Dongola are those situated on the gravel hills of Old Dongola, sites 6–8, El Gaddar, site 1 (cf. FIG. 1). The sites are located at the very top of these hills about 10–12 m. above the present Nile level. The stone implements of each above mentioned site are similar. We have here no evidence of any broken pieces of raw material. The richest implementing comes from site EG1 which at the same time is the most representative within this group of sites. Its stone industry appears strongly connected to the Khormusan industry of Northern Nubia\textsuperscript{11}. This Upper Paleolithic industry (about 16,000 B.C.) is characterized by Levallois technique of manufacturing cores, flakes and blades and in its use of Nile pebbles. The implements from EG1 are larger and of different workmanship in comparison to those known from the Mesolithic sequence of Halfan and Qadan. The proportion of tools, cores and flaking debris and lack of broken pieces of raw material point out to the camp site as a characteristic of this group of sites. The use of brown chert in the area of Old Dongola must have at least an Upper Paleolithic chronology for it is almost the only kind of raw material used here.

During the prehistoric survey on the area of Old Dongola two main groups of sites have been discovered (cf. FIG. 2), the Protoneolithic sites with traces of extensive use of chert as the raw material and the camp sites of the Upper Paleolithic period. The Protoneolithic settlement in particular is of most importance in view of the current disputes concerning the placing of the Neolithic period and its correct chronological context in this part of Africa. Finally, the results of our survey at Old Dongola demand more field work in this extremely poorly investigated area especially on the Protoneolithic and Neolithic sites.

\textit{The Church of the Granite Columns} (FIGS. 6 and 7)

As a result of this year's campaign the remaining southern and south-western parts of the church were uncovered and the trial trenches cut alongside the north, east and west façades of this edifice in order to get to the outer pavement.

The excavations comprised also the area along the south façade of the church. Here, however, the works were stopped at the level corresponding to the time of the first Arabic occupation, thus the lowest part of the outer southern wall of the church

\textsuperscript{10} A. Lucas, \textit{Ancient Egyptian Materials and Industries}, London 1962, p. 412.

\textsuperscript{11} Cf. \textit{Kush} XIII, pp. 42 and 44, fig. 7.
remained invisible. Further digging in this part will be possible after the whole complex of the Early Arabic dwellings clinging from the south side to the wall is uncovered and will need further extension of the excavation to the south, what is planned for the next season. For the following season there is left, as well, a

12 Two plans depicting Arabic settlement within the excavated area are enclosed to this report. One (fig. 8, pl. 1a) represents level 1—the latest Arabic dwellings, the other (fig. 9) concerns Middle Arabic Level (level 2) which could be dated approximately to 15–16th centuries. The detailed description, however, of the Arabic settlement will be postponed to the future reports not before the larger area is cleared.
a. LATEST ARABIC DWELLINGS SEEN FROM THE WEST

b. GENERAL VIEW OF THE CHURCH OF THE GRANITE COLUMNS, FROM THE SOUTH-EAST
a. NARTH EX AND THE MAIN ENTRANCE TO THE CHURCH SEEN FROM THE SOUTH

b. TRANSEPT AND SOUTHERN APSE SEEN FROM THE NORTH
PLATE XXXI

a. REMAINS OF A STAIRCASE SEEN FROM THE NORTH

b. BAPTISTERY ROOM AND THE SOUTH AISLES SEEN FROM THE EAST
a. AN ALTAR BEARING TAHARKA INSCRIPTION AND A TOMBSTONE OF IOANNES, THE EPARCH, IN THE BAPTISTERY ROOM

b. AN INSCRIPTION CONTAINING KING TAHARKA'S TITULATURE
PLATE XXXIII

GREEK TOMBSTONE OF IOANES SON OF ZACHARIA, EPARCH AND PROTOMEIZOTEROS, 883 A.D.
detailed analysis of the pavements and the examination of the strata underneath the church, which may help in the eventual dating and may provide data of the occurred re-arrangements of this edifice.

The previous season of excavations has provided the primary findings as to the internal plan and the special lay-out of the church\textsuperscript{13}. Owing to the discoveries made during this campaign it is possible to draw some more precise conclusions allowing for the closer reconstruction (cf. FIG. 7) of the plan of this considerably destroyed building. In relation to the plan which is published in our former report\textsuperscript{14}, the changes refer to the transept of the church which was terminated on both sides by apses, not by rectangular vestibules as it was suggested before. The main entrance, which was expected on the axis of the building has appeared to be placed, like at most Nubian churches, in the southern gable-end of the narthex. Certain premises as to the roofing of the church have been obtained through observing the existing remnants of the naos\textsuperscript{15} as well as by finding the remains of pilasters in the south aisles.

The present report will be of necessity limited within the detailed part, only to the description of those uncovered in this season’s rooms, with respect however, to the wholeness of the church in its spacial lay-out especially regarding the data which would help to the reconstruction of the parallel structures in the northern part of the edifice.

Those unearthed in this campaign, southern and south-western parts of the church are much better preserved than the previously uncovered part of the building (Plate xxx), though effective destruction which begun as early as in the 14th century\textsuperscript{16} by diggers for building material for new construction at the time, has also affected this part of the building.

Relatively well preserved is the outer southern wall, which in a considerable part reaches nearly its original height. Most of the inner walls separating the naos from the lateral rooms are retained to the height of one metre on an average, except of the southern section of the outer eastern wall, the wall dividing Baptistry Room and Diakonikon and the walls of the staircase which were totally dismantled. The cylindrical piers in this part of the building reach an average height of one and a half metres above the floor. Only the granite columns were not thus destructed, still


\textsuperscript{14} Cf. above, fig. 1, p. 127. The plan is reproduced also in Orientalia 36 (1967), pl. lv. Another up-to-date sketch plan of the church has appeared also in Africana Bulletin 5 (1967), fig. 2.

\textsuperscript{15} The terms for the church parts used here generally agree with those employed by W. Y. Adams, Architectural Evolution of the Nubian Church, 500–1400 A.D., JARCE 4 (1965), pp. 87–139, cf. also above, p. 125 n. 4.

\textsuperscript{16} Cf. above, p. 140.
standing high on their bases, and the floor paving, almost in the whole church, is relatively well preserved\textsuperscript{17}.

\textit{The External Appearance of the Church}

A proper notion about the external appearance of the church can be virtually given only by the southern part of the building since only foundations of the northern, eastern and a remarkable part of the western walls are left. The southern wall, however in its eastern section reaches an average height of 5 m. above the level of the inner floor\textsuperscript{18}. The farther westwardly part of the wall is preserved on an average of 3 m. above the floor, attaining at the south-western corner of the church hardly 0.90 m. of height. Similarly (about 1.00 m.) the southern part of the outer western wall protrudes between the corner and the line of the axis of the building.

The outer walls of the church including its foundations, are constructed entirely of red-brick and are of uniform thickness of 1.10 m. The remarkable feature is, what was already mentioned in the former report\textsuperscript{19} that the walls of the church are fully covered from outside with compact, grey-pink plaster. Similar gravel-lime plaster can be found inside the church either (apse, narthex) yet this occurs only occasionally while on the most of walls preserved fragments certify the use of plasters of considerable contents of mud, much less fast, which got washed off by rains after the roof had collapsed.

The massive outer longitudinal walls of the church 29 m. long are broken with recesses made on the axis of the transept and corresponding to its width. These rectangular recesses, 3.50 m. wide are deepened in relation to the corresponding face of the wall of about 1.10 m., i.e. they exactly cover the thickness of the outer wall. These recesses were surely inspired by the size of the transept apses which otherwise should have been much elongated and would considerably vary from the plan of the semicircle. Maybe, the recesses also aimed at composition purposes thus cutting off the monotony of the blank wall in the external elevation at the same time emphasizing

\textsuperscript{17} In fact 12 columns were found \textit{in situ}. The remaining 4 were lying down (some broken) in the layer 3 composed mainly of the church rubbles. They survived because they were too heavy to transport, thus were left untouched. The preservation of the floor is explained by the fact that when destruction started the church had been covered by nearly 1 m. thick layer of rubble, so, for the diggers the walls were within reach from the top, but the pavement remained invisible.

\textsuperscript{18} The level of the pavement varies from $+11.55$ m. in the Staircase and the southernmost part of the Narthex to $+11.95$ in the North-western Room. In the general description of the church an average level of $+11.80$ m. has been chosen. The detailed description, however, of the fragments of the edifice above the floor level gives their heights measured from the level of the respective pavements. For the $\pm 0$ level assumed cf. K. Michafowski, \textit{Kush xiv}, p. 293 n. 13.

\textsuperscript{19} Cf. above, p. 128. The plastering of outer walls appears one of distinctive features of the Southern Nubian churches. Among others similar plaster as was used in our church has been observed on the remnants of red-brick walls in the neighbouring sites as Goqob, Letti, Hag Magid and Araq ed-Dom.
FIG. 8. PLAN OF THE LATEST ARABIC DWELLINGS (LEVEL 1)
1, Fragments of structures of the Christian Period (red-brick walls and granite columns of the church); 2, Red-brick walls of the Arabic Period; 3, Mixed red-brick and mud-brick walls of the Arabic Period; 4, Mud-brick walls of the Arabic Period; 5, Corer of the church walls; 6, Edges of the excavation; 7, Store compartments in the courtyard; 8, Numbers of rooms discovered; 9, Figures showing relative heights according to the Nile level; 10, Fireplaces; 11, Posts (inside) inserted into the pavement; 12, Mud floor.

FIG. 9. PLAN OF THE MIDDLE ARABIC LEVEL (LEVEL 2)
From 1 to 5, as above Fig. 8. 6, Ledges showing the position of the roof beams; 7, Edge of the excavation; 8, Numbers of rooms; 9, Figures showing relative heights.

facing p. 154
the transversal axis of the building. The recess is clearly preserved in the southern wall. The remnants of the similar recess were also found while examining foundations of the northern outer wall by the north end of the transept. Such a kind of establishment is quite a novum in the Nubian ecclesiastical architecture.

The western outer wall of the church (Plate xxxa), fully uncovered in this season, 24.30 m. long runs with a slight bulging to the west which deforms the rectangular shape of the church. The south-western corner forms nearly the right angle while the north-western one makes an inconsiderably sharp angle. There seems to be no doubt that these differences had not been planned but they arose in course of constructing the building, perhaps due to the topographical features.

Taking the southern wall as an example we can tell about the enlightening of the church. It had narrow (0.65 m. wide) rectangular windows closed at the top with wooden beams. Three of them gave light to Baptistry Room and were situated at about 2.10 m. above the pavement level. One was set on the axis of the transept apse, two in the western part of the wall enlight the staircase. These three were situated at a higher level—2.75 m. above the pavement—while the tops of all six reached the same height about 4.40 m. above the floor. It is possible, judging after the preserved symmetry of their disposal that the last window in the south façade of the building was situated above the doorway to the narthex. The same quantity and similar disposition of the windows should have existed in the northern wall of the church respectively. Sure enough, also the rest of the façades of the church had windows, yet due to the state of preservation of walls their number and location is uncertain. From the functional point of view there should be five of them in both elevations.

The Outer Pavement and the Access to the Church (Plate xxxa)

As it has turned out, the church had outside along its western, northern and southern façades a paved ambit set at the level of + 11.00 up to + 11.35 m., i.e. averaging to 0.60 m. beneath the paved floor inside the church. The ambit pavement was made as well with terracotta tiles of the same type as were used for the church floor, as from stone slabs of sandstone and marble-like stone. Although the ambit has not yet been uncovered in its full width during this season, it seems probable that it has formed a wide platform levelling the irregularities of the rocky hill where the church was built.

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20 There is no doubt of existing windows in the inner walls, which gave light to the aisles. The nave and the transept of the church should have windows in the elevated parts above the roof. Cf. below p. 157.
21 Outside the eastern wall of the church a sort of pavement has most probably existed as well, yet the floor is not preserved, cf. above, p. 128.
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The main entrance to the building in question, and so far the only one found, was placed in the southern wall and led to the narthex. It is situated right on its axis\(^{22}\). The width is 1.25 m. as measured between the jambs. It is provided with a threshold composed of irregular stone pieces. The entrance is accessible from the level of above mentioned outer pavement by means of two steps made out of stone blocks (cf. PLATE XXXa). These are obviously of a later date, as the careless masonry suggests. The place was at least twice rebuilt, what is witnessed by the remains of two later platforms outside the entrance founded at + 11.08 and + 11.50 m. respectively, and paved with irregular pieces of stone and fragments of red-bricks. The latter could probably be contemporary to the above mentioned threshold of the main entrance.

The Narthex (cf. PLATE XXXa)

The narthex of the church is an elongated antechamber 18.30 m. long and 3.40–3.65 m. wide\(^{23}\). The room extends alongside the whole western wall, except that its northern part being separated probably by a wall running along the axis of the wall parting the naos from the northern lateral rooms. This wall distinguished a room of an unknown destination, located in the very north-west corner of the church.

In the wall 0.90 thick between the narthex and the naos there are three doorways situated symmetrically to the main axis of the church. The central one 1.20 m. wide led to the nave, the side doors (1.05 m. wide) are placed on the axes of the proximal aisles. All the three entrances were originally provided with thresholds of sandstone blocks, two of them still existing.

The Naos

The previously identified\(^{24}\) plan of the interior of the church comprising the Greek Cross plan combined with adjoining aisles (cross-in-square) has been completed this year by discovering an apse closing the southern end of the transept (PLATE XXXb). This apse is laid on a plan close to a semi-circle of 2 m. radius and has been designed out of the line given by the outer edge of the wall dividing the naos from the lateral rooms. Consequently the apse has been visually deepened by the thickness of that wall (cf. FIG. 6).

Lower part of the apse is fairly well preserved up to 1.50 m. of its height. On its upper part, instead, only the fragments of the face can be distinguished, allowing, however, to find that a semi-dome which might have covered the apse began quite

\(^{22}\) It is obvious that the church should have possessed also, like in most of the churches of Nubia (cf. U. Monneret de Villard, *La Nubia Medioevale*, III, p. 19) another entrance from the north. The state of preservation of the part of the northern outer wall allows to exclude its existence on the northern edge of the narthex. The only place where it could be situated seems to be the axis of the transept (cf. fig. 7). Such a disposal of doorway would correspond to the analogous one in the Faras Cathedral, cf. the plan in K. Michalowski, *Die Kathedrale aus dem Wüstenland*, Zurich, 1967, pp. 66 and 97; id., *Kush* XII (1964), fig. 1, p. 196.

\(^{23}\) The differences of the width of the narthex are due to the bulging of the outer wall.

\(^{24}\) Cf. above, p. 127.
high and in no case not lower than ca. 4.50 m. above the pavement level. This minimum height is indicated by the position of the wooden beam over the window, which is located on the axis of the transept 4.40 m. above the floor.

South aisles (cf. PLATE XXIXb) of the church show a similar arrangement as the north ones (cf. FIG. 6). Of the four granite columns separating the south aisles three are preserved in situ. The fourth westernmost one was found in the stratum of rubble (3e) top to the west, being broken into two pieces. Its capital decorated with Maltese crosses was found in the nearest vicinity.

The extreme south aisle is separated from the side rooms by walls 0.90 m. thick. Inside it there are pilasters projecting from the wall into the aisle, each 0.70 m. wide and 0.15 m. thick, distributed on the axes of aisle sections designed by the columns (cf. FIG. 7). Similarly situated pilasters occur also in the face of transversal walls closing the aisles.

It is possible to say, basing upon the above mentioned discovery of pilasters and the known to us system of distributing columns that the church seems to have had a roof which rested on arches stretched between pilasters and the capitals of columns as well as between the columns of the nave. Thus the height of the aisles should amount to ca. 6.50 m. above the floor level assuming that the arches were not exceeded so they should rise about 1.20 m. over the capital of the column.

The nave and the transept were higher than the eastern and western parts of the aisles. Resulting from the distance between columns the arches here must have been considerably higher and amount to 2.20 m. over the capitals over the central bay, that is to say reaching nearly 8 m. of height over the pavement. The height of the nave and the transept within this conception could be optionally increased by the heights of the walls built on the arcades enclosing the transept and the nave. In this way, also, the central part could be additionally elevated by means of similarly situated walls based on the arcades of the central bay.

Applying such elevated walls above the nave and the transept or even only above the central bay respectively, could provide side lights to the cross naves. Doing the windows in the upper parts of the nave and the transept in case there exists no elevation is theoretically possible too, yet only small openings could be made than located under the summits of the arches. In the case of our church it looks rather unlikely.

It seemed that the semi-dome of the main apse was closed lower than the utter height of the nave and perhaps it reaches only to the height of the arches made in the

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25 Two other granite capitals were found also in this part of the church. Undoubtedly they belong to the two westernmost columns of the row dividing the nave and the proximal south aisle. On the whole the number of the capitals belonging to the architectural composition of the church, found during all the campaigns amounts to eleven.
aisles\textsuperscript{26}. Yet, the most questionable are the apsidal ends of the transept. In course of the reconstructions and the changement of the special lay-out which occurred probably in the 10th century\textsuperscript{27} two cylindrical piers were adjusted right on the diameter line of the apse which could have served for nothing if the semi-dome had existed at that time. So, either both transept ends were destroyed before the rebuilding took place, or the apsidal ends of the transept never have been vaulted but flatly roofed and were as high as the aisles. Within such arrangement apsidal closing of the transept would have resulted out of the artistic conceptions with no counterpart in the liturgical function of the apse.

Both possibilities, flat roofing or a semi-dome placed relatively low over the apsidal end of the transept permit free accessing to all the parts of the roof or an overhead gallery, which could have existed above the aisles open to the inside of the transept and nave.

Admitting this spacial lay-out of the naos of the church implies that the roof supported by the arcades was flat and made of timber. This is the only possible solution in view of the way of spacing the bases of the columns. The configuration of them considerably diverge from lines of the net of modular division, which in consequence gave rather rectangular spans than square ones. This way of constructing would probably witness that the possibility of covering the spans with domes had not been taken into consideration, as the irregularities in the form of spans and deviation of their axes would make this task extremely difficult or just impossible. Yet these anomalies make no hindrance from stretching the arches, which are linked independently and may provide the substructure for the wooden ceiling. The rectangular spans are even more favourable for good installation of the beams.

\textit{The Staircase (PLATE XXXIla)}

The staircase of the church occupies the space adjoining from the south to the south-west section of the aisles. It forms a rectangular room measuring 5.25 m. × 3.00 m. between the narthex and the transept apse and it is situated parallel to the North-western Room in the northern part of the church. An entrance 1.05 m. wide leading from the extreme south aisle opens the way to the staircase.

The whole room except for a fragment of the southern wall is considerably ruined. The bearing walls of the staircase are dismantled down to the level of the floor, the same goes for the flights. However, from the preserved elements as well as from the rubble strata containing, among others, fragments of steps of stone it is

\textsuperscript{26} Judging from quoted examples by Monneret de Villard, \textit{Nubia Medioevale}, i, pp. 51, 186, 187, 202, 208 it can be stated that the vaulting of the apse is always constructed lower than the utmost height of the nave. Another argument dealing with our church pointing out the low closing of the semi-dome of the apse is later reconstruction of the church. The rebuilding assumes in this part building up arches between the easternmost piers in the Haikal and the elevation over the apse.

\textsuperscript{27} Cf. above, p. 163.
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possible to trace its spacial lay-out and construction. The important element to carrying out this reconstruction is the first step fragmentarily preserved.

The stairs ran upward around the rectangular bearing pillar measuring 2.45 × 0.95 m. built of red-brick, alongside the north, east and south walls thus forming square landings in the north-east and south-east corners. The substruction to the northern flight of the stairs was filled with red brick rubble, but under the southern one, since it was quite high, a narrow alcove was made, probably a kind of small depository, likely being vaulted. Judging from the preserved plaster on the northern wall, the curve of vaulting started in the south-east corner at the height not lower than 1.30 m. above the floor. Undoubtedly it sloped upwards in the west direction. The depository was furnished with a floor of mud-brick. It could be closed with a wooden door as judging from a threshold where a stone is found with a hatch for fastening the door and a hole in the south wall for setting a valve. Another hole about 2 m. above the floor points the place where a lintel was installed.

The stairs were made of sandstone blocks 25–27 cms. wide, 1.10 m. thick and 0.08–0.10 m. high, laid on a course of bricks and jointed with mortar. The ends of the blocks seem to have been engaged into the bearing walls in order to strengthen the construction, what can be proved by the dilapidated face of the south wall in its parts corresponding to the line along which the stairs ran.

From the size of the preserved first step 0.25 m. wide and 0.18 m. in height28 it can be believed that the first landing in the north-east corner must have been located about 1.90 m. above the floor of this room (which is set at relative level of + 11.55 m.) Let us assume that within the flight alongside the east wall there is enough room only for four steps, than the other landing in the south-east corner would be disposed at the height of 2.75 m. over the pavement that is exactly on the level of a preserved window in the southern wall, situated in the way that it would give light to both the landings. The following flight at the southern wall (assuming that the both parallel flights had equally ca. 10 steps) would allow of hardly reaching the height of 4.65 m. There should have existed therefore an additional flight of stairs, leading up to the roof, since the maximal height of the columns in the naos together with their capitals amounts to ca. 5.20 m. over the pavement. It may be that at the mentioned height (4.65 m. over the pavement) there was a platform over the western part of the staircase29 and the additional flight went over the first northern section of stairs, which would allow for attaining the minimum height of 6.60 m., i.e. just the presumable tops of arcades supporting the flat ceiling over the aisles.

Rooms in the South-eastern Part of the Church (cf. PLATE XXIXb)

The south aisles are closed by a nearly square room measuring 4.80 × 4.30 m.

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28 The steps of the same dimensions were found also in the Faras Cathedral. The very staircase of the Cathedral is an excellent analogy as to the lay-out and construction for the staircase of our church.

29 Which does not prevent the existence of the window, which should be closed at 4.40 m. above the floor like all the others in the same façade.
which is situated on the southern side of the Sanctuary Chamber (main apse), parallel to the North Sacristy (Prothesis) which was L-shaped, as stated during the former excavations. This room used to be called Diakonikon, however its function in a Nubian Church is not clear. In the church in question the only remnants of it is the well preserved pavement of terracotta tiles (while in the western part of the room ordinary red-brick) for all the walls have been dismantled to the level of the foundations. The Diakonikon seems to have been accessible through an entrance from the proximal south aisle made on its axis, but the disposal of the doorway is based only on a principle of an entrance to the Prothesis, which was set on the axis of the proximal north aisle. Another entrance to that room in the north-east corner 0.65 m. wide, led from the Eastern Passage.

The only structure preserved in the Diakonikon at the level of the floor is a square platform 0.20 m. elevated, with sides ca. 1 m. long, laid with terracotta tiles of the same sort as the pavement of the church and situated with a deviation of 18° to the walls of the room (cf. PLATES xxxb and xxxib). It has most probably been a fire-bed as is evident after the great quantity of ashes at and nearby the structure. This could be a place of preparing incense for the liturgical ceremonies, or possibly a type of oven for baking Eucharistic bread.

Another elongated room (PLATE xxxib) has been made at the east side of the southern apse of the transept, along the southern wall of the church. This room 11.50 m. long and 2.85 m. wide is given access by two doorways, one of which 0.85 m. wide was made in the curve of the apse of the transept. The other one of similar width has been set at the axis of the easternmost span of the aisles.

In the south-western corner of the room in the west wall there has been made a kind of shallow semi-circular niche 1.30 m. wide and ca. 0.25 m. deep, conchoidally vaulted at the height of 2 m. above the floor, what could be easily deduced from the preserved fragments of vaulting. Fragments of the preserved plaster in the niche are bearing evidence of violet and red colours being doubtlessly remnants of a wall painting. Unfortunately the composition of this fresco cannot be deciphered out of the remaining traces.

At the level of the floor in this corner there are preserved remnants of a rectangular (1.50 × 2.20 m.) basin with its edges risen with the thickness of a brick only above the pavement. The whole basin as well as its edge are covered with coarse-grainy waterproof greyish-white plaster which is yet different in consistency from the outside plaster of the church.

30 Cf. above, p. 129.
32 The similar structure of the hearth serving as oven for baking bread with its surface inlaid with potsherds has been known at Dongola later in the Arabic times and an example was disinterred in the room II.B3 (cf. fig. 9). It serves at the original phase as a fireplace, then the red hot charcoal is removed from its surface in order to use it for baking.
POLISH EXCAVATIONS AT OLD DONGOLA

Another smaller basin measuring $1.00 \times 1.20$ m. adjoined the above mentioned from the east side, what is evidenced by fragments of waterproof plaster preserved at the level of the floor.

Sure enough, we deal here with a baptistery of the church, yet the way of constructing of the basins which was rather primitive in relation to the resting structures of the interiors admits to state that it dates back to the latest period of using the church. The original place of a baptistery basin of the church\(^{33}\) may be found only through the examination of the lower pavement scheduled for the following season of excavations.

In connexion with the existence of the basins in the described room it has been called on the Baptistery Room, although other constructions uncovered in the eastern part of it point out that the room has accomplished not only this function.

The most important discovery was made in the east part of the Baptistery Room. The eastern wall is here widened and within this wider part a semi-circular recess is formed of a radius of 1.35 m. The construction is here partially preserved up to a height of one metre and a half. The above preserved face of the wall and relics of the inner south-east corner of the church witness that the apse-like structure which went inward did not run higher and was not originally designed as a vaulted apse or a niche (cf. Figs. 6 and 7).

As far as 1.10 m. west from the recessing part of the wall there was a wooden rail, evidenced by two (they must have been four originally) pottery holds (pipes) of square section (cf. Fig. 6) let into the pavement which could only serve for holding a wooden screening.

The semi-circular frame may be created as an apse-like background to the altar set exactly on the diameter of the semi-circle. As an altar a perpendicular parallel piped block of grey granite was used, its surface being carefully polished, measuring $0.55 \times 0.40$ and 0.95 m. high (Plate xxxiiia, cf. Plate xxxib). At the northern face of the block a hieroglyphic inscription was discovered containing titulature of King Taharka (689–664 B.C.). The incised inscription of four vertical registers is contained within the rectangular incised border of $17 \times 15.5$ cms. and read as follows: (Plate xxxiiib).

\(^{33}\) It should be noted that original baptistery of the First Cathedral at Faras (built ca. 625 A.D.) was situated outside the church close to its south façade. Afterwards in 707 A.D. when the general rebuilding of the church occurred this area was included into thus created room at its south-eastern corner, called by the excavators the Bishops’ Room which exactly corresponds to the Baptistery Room in the Church of the Columns. For the baptistery at Faras see: K. Michalowski, Die Kathedrale . . . , pp. 69.
'Beloved of Amon-Re, the Lord of Neswet-Tawy\textsuperscript{34}, beloved of Amon-Re of Gem-Aton\textsuperscript{35}, Son of Re: Taharka, may he live eternally\textsuperscript{36} King of Upper and Lower Egypt: Nefer-Atum-Khu-Re, given life.'

The original purpose to which this block could serve in Pharaonic times is difficult to ascertain. Sure enough, it represented a freely standing element of architecture but whether it has furnished the interior of a temple or had even only a function of a landmark remains as yet an open question. The short inscription containing only the official titulating formula gives no indication as to the destination of the monument. Its discovery is however important for the history of the site for the block represents the first architectural Pharaonic element found in Old Dongola itself\textsuperscript{37} and hereby testifies the existing in the area of this town of the structures dating back to the Taharka Period. It is assumed, of course, that this element has not been transported to the church from a very distant place. The block was used as a later complementary element of the church interior, adjusted after the second pave-

\textsuperscript{34} i.e. Karnak. Taharka built here a kiosk cf. F. Daumas, \textit{La civilisation de l'Egypte Pharaonique}, pp. 460–461.

\textsuperscript{35} Gem-Aton is the name of contemporary Kawa cf. Porter-Moss, \textit{Bibliography}, p. 180 ff. The whole expression in the Taharka titulature is rare.

\textsuperscript{36} \begin{array}{c} \text{\textsuperscript{\textbullet}} \end{array} \text{ probably intended for } \begin{array}{c} \text{\textsuperscript{\textbullet}} \end{array}, \text{ cf. examples quoted in } H. Gauthier, \textit{Le Livre des Rois d'Egypte}, \textit{iv} (1915), pp. 32 ff.

\textsuperscript{37} Few Pharaonic objects listed in Porter-Moss, \textit{Bibliography} (cf. p. 193 ff) with the provenance ascribed to Old Dongola were only reported to be found in the area.
ment was laid, and certainly not just of appropriate dimensions for an altar, since it was not used as such in the Sanctuary Chamber where the altar of red-brick had been constructed at that time, but rejected to the Side Chapel. Taking all this into consideration it looks most probable that the block in question must have been within reach of the builders at that time and it was not the one to search for.

A Greek marble stela found at the foot of the altar at the upper floor level (Plate XXXIII), yet not constituting its original part (no evidence of jointing with mortar) seems to be other significant discovery. Although it is preserved incomplete (the top lines of the text are missing), the tombstone contains necessary data about the deceased. The text refers to Ioannes son of Zacharia Augustus, protomeizoteros\(^{38}\) and the Eparch\(^{39}\) *obit* 17 Khoiakh 600 A.M. (December 883 A.D.). Age of the deceased 56 years. The formula of the tombstone is typical for Nubia and contains the prayer for the dead taken from the liturgy of the Byzantine Orthodox Church\(^{40}\).

The tomb to which the stela belongs has not yet been found, however, the position of the floor tiles in the vicinity does not exclude that it was simply located underneath the pavement.

The tombstone of Ioannes is a valuable document for dating the first rebuilding of the church\(^{41}\). Although it is not an integral part of the paving, its emplacement proves that the upper pavement must have existed already in 883 A.D. The first rebuilding of the interior comprised the paving of the whole church with a new floor and rising the Haikal considerably in relation to the remaining part of the naos. Generally, the same type of floor tiles was used as in the original pavement of the church. Hereby an additional argument is given in favour of rather early dating of this rebuilding. This changement was most probably associated with the erection of the tribune in the main apse\(^{42}\). And here again we must turn to the Faras Cathedral so far the best analogy not only to the spacial lay-out and functional division of the interior of the church, but also to the rebuilding occurred. The first renovation of the


\(^{39}\) Ioannes on the stela has the title of ἑπαρχος τῶν γαδηρών which might be associated with the Greek word γαδηρα ‘country’ but the translations of the title as ‘Eparch of countries’ in the sense of ‘the governor of the village regions’ in view of the Greek form used, seems rather unlikely. Γαδηρ from the other hand associates with the contemporary name of the village situated a little to the north from Old Dongola viz. El Gaddar (El Ghaddar) which is possibly not of an Arabic origin.


\(^{41}\) Another main rebuilding of the church which occurred around the 10th century and comprised addition to the nave and transept of 24 cylindrical piers, will not be discussed here as it was fully described in the former report (cf. above, pp. 158) and the present campaign of excavation did not provide us with new data concerning it.

\(^{42}\) For the evidence of, cf. above, p. 158.
enlarged in 707 A.D. Cathedral concerns the same elements as in our Dongolese Church, i.e. the constructing of a new floor and erecting the tribune in the apse. In Faras this rearrangement was made during the time of the reign of King Georgios I earlier than 902 A.D. and most probably in the second half of the 9th century\textsuperscript{43}. That is precisely at the same time when the rebuilding of our church must have taken place. These similarities stress even more the reciprocal connexion of these two churches in question.

As far as the date of erecting the Church of the Granite Columns is concerned the present campaign has not provided us with any new data, so accordingly to the previous discoveries the church may be dated back to the early 8th century\textsuperscript{44}.

The date when the building ceased to fulfil its liturgical function, i.e. the 14th century, has been affirmed by the evidence of pottery found this year in the layers inside the church\textsuperscript{45}, where most of the material were sherds of W14 and R28 types of the Terminal Christian Period, that is not earlier than 1350 A.D.\textsuperscript{46}.

\textsuperscript{43} Cf. K. Michalowski, \textit{Die Kathedrale}, pp. 97.
\textsuperscript{44} Cf. above, p. 135 and \textit{Kush} xiv, p. 299.
\textsuperscript{45} For the detailed description of layers cf. above, p. 137.
Preliminary Report of the Southern Methodist University Expedition in the Dongola Reach

by Anthony E. Marks, T. R. Hays and Jean de Heinzelin

After the completion of the salvage archaeological programme in the southern Aswan Reservoir, Southern Methodist University began a project which planned to fill the gap between the known prehistoric remains of the Second Cataract and the known prehistoric material from Subsaharan Africa. The first step in this long term project was made possible by a National Science Foundation Grant to Dr Joel Shiner, for archaeological survey and excavation south of the Aswan Reservoir.

The first area chosen for intensive investigation was within the Dongola Reach, some 450 km. south of Wadi Halfa (Fig. 1). With the kind permission of the Sudan Antiquities Service, a concession area was granted which extended from Ed Debba, at the mouth of Wadi el-Melik on the south-west bank of the Nile to the village of Korti on the same bank, a distance of some 80 km. along the Nile. This area was chosen for a number of reasons; (1) it was far enough south of the Second Cataract so that some cultural differences might have been expected, (2) it lay south of the large pre cambrian badlands of the Batn el-Hajar which seemed to form a potential barrier to the even spread of cultures along the Nile, (3) it lay at the northern end of the large Wadi el-Melik which extends over 500 km. from the highlands of Dafur, and (4) a rapid reconnaissance had shown that there were intact silts and numerous sites along the Nile in the area.

Survey and excavation of prehistoric sites from Ed Debba to Korti took place from the 1st of November 1966 to the 15th of January 1967, and geological survey and mapping of the same area was undertaken by Jean de Heinzelin during the month of December 1966. The following report represents a preliminary summary of the geological and archaeological findings and all conclusions presented here must be viewed as being tentative.

Geology: Introduction

The area from Ed Debba to Korti can, from a geological point of view, be divided into three types of landscapes;

(a) Isolated jebels; two near Ed Debba, the rest between Ganetti and Korti.
(b) Wadi deposits; mainly the Wadi el-Melik, but also Wadi Kuleiwat and several others near Korti.

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FIG. 1. MAP OF NORTH-EAST AFRICA, SHOWING CONCESSION AREAS OF THE
SOUTHERN METHODIST UNIVERSITY EXPEDITIONS
(c) The Pleistocene and Holocene Nile.

These three types of landscapes can be characterized as follows.

A. *The Jebels.* The largest jebels are capped with conglomerates and gravels which are more recent than the Nubian sandstone. Where present, ferruginous sandstones are usually very coarse grained; there is almost no fine grained quartzite of the type normally used as raw material in the Wadi Halfa area during the Nubian Middle Stone Age. The surface and slopes of the jebels are covered with irregular cobbles of chert and grey quartzite which have eroded from the conglomerates. The foot of the jebels seems to have undergone extensive washout until the very late Pleistocene, so that the ‘older pediments’ which could have included Acheulean artifacts were almost entirely redistributed. This washout is apparently a consequence of heavy rains.

B. *Wadi Deposits.* Wadi deposits are the most extensive of the three types of landscapes. These deposits may be sub-divided into three observable facies:

1. Wadi bottoms, which are sandy and recent in origin, particularly the large wadi fan of the Wadi el-Melik.

2. Several sheets of gravel which are superimposed on each other, or encased in each other. All these sheets are rather similar lithologically; mostly quartz. They differ mainly by the colour of their matrix, the oldest is red (up to 10R), while the youngest is light brown (7.5Y/R up to 10Y/R). These gravels are for the most part sterile, except at times at their tops, which can have incorporated artifacts of various ages, sometimes heavily rolled and sometimes fresh, but always more or less derived.

3. Sandy pediments. These fill old gullies between the gravel ridges. They are similar except for colour, which ranges from 2.5Y/R to 5 and 7.5Y/R. At a few places these pediments have incorporated derived artifacts, but none contained artifacts *in situ.* The outcrops of these pediments are always very restricted in area.

C. *Pleistocene and Holocene Nile.* Two successive fluviatile formations are obviously present. These have been termed the Girra Formation and Goshabi Formation. These formations may be characterized as follows:

1. The Girra Formation. This formation reaches a height of about 5 m. above the present floodplain. It is very flat, uniform, and not at all dissected. It is accompanied by lateral pediments (10Y/R) on which rest various deflated early ceramic sites. It is thus assumed to be pre-5,000 B.P., which suggests an equivalence to the Argin Formation north of the Second Cataract (Wendorf, Shiner, and Marks, 1965, p. xviii).

2. The Goshabi Formation. This formation reaches an elevation of about 13 m. above present flood plain. It usually consists of three units; (a) gravel, which rests on (b) fluviatile sand, which rests on (c) silts with concretions. While mostly sterile, artifacts have been found *in situ* in both the fluviatile sand and at the contact between the fluviatile sand and silt. The silts are rarely exposed as there is relatively
little dissection of the formation. The Goshabi Formation is matched by sheets of gravels at the same elevation in the wadis. A correlation may be made with the Sahaba Formation north of the Second Cataract (Wendorf, Shiner and Marks, 1965, p. xvii).

While these three landscapes characterize the concession area as a whole, they do not occur uniformly over its whole length. The variation in landscapes is important in connection with the prehistoric remains, and so the concession area will be divided into four areas—from south-west to south-east—and each will be considered geologically. The four areas are the following; (1) Ed Debba—Wadi el-Melik, (2) Girra—Goshabi, (3) Ganetti—Jebel Tamaka, and (4) Jebel Tamaka to Korti.

**Ed Debba—Wadi el-Melik**

This area extends about 5 km. along the Nile. It is defined on the west by Nubian sandstone and gravel outcrops which form the western boundary of the Wadi el-Melik. On the east, the area is delimited by an additional outcrop of Nubian sandstone and gravel behind the village of Karmakol. This outcrop forms the eastern boundary of the Wadi el-Melik depression. Within this area there are three sub-areas: (1) the wadi-fan, sand covered with a good deal of vegetation. This fan merges into the actual wadi bottom. (2) The edges of the Wadi el-Melik. The edges consist of gravel sheets, cut by tributary wadis which, in places, merge into river deposits. (3) The hills behind the western edge of the Wadi el-Melik. These hills consist of gravel sheets resting on Nubian sandstone. Between these hills are outcrops of sandy pediments. The hills and the wadi edge were surveyed for a distance of 10 km. from the Nile, although they continue for a much greater distance.

**Girra—Goshabi**

This area is much larger than the previous one. It runs along the Nile for about 37 km. and may be divided into three main sub-areas: (1) extending along the Nile, up to 5 km. inland, the landscape consists of Girra and Goshabi Formation silts and their associated pediments. The Goshabi Formation is present as a series of former islands, while the Girra Formation silts form large embayments between the Goshabi remnants. (2) Beginning about 5 km. from the Nile and extending for several kilometers inland is a band of gravel sheets of varying age which are cut by numerous shallow, sand and pediment filled drainages. This band is covered by Acacia trees and small scrub. (3) At about 12 km. from the Nile begin a row of gravel hills resting on Nubian sandstone. These hills extend well inland.

**Ganetti—Jebel Tamaka**

This area covers a distance of about 10 km. along the Nile. It is somewhat more complex than the other areas, and may be divided both along and back from the Nile. The first sub-area consists of the immediate surroundings of Ganetti. Behind the village are heavily desiccated remnants of the Goshabi Formation. Behind these is
the main branch of the Wadi Kuleiwat which cuts through various gravel sheets. About 8 km. from the Nile begin a series of jebels, the largest being Karabat Abu Kuleiwat. From the eastern edge of Ganetti to Jebel Tamaka the landscape is somewhat different. Along the Nile are Girra silts and pediments which grade into low gravel hills, similar in pattern to that seen behind Girra. Again some kilometers inland, there are a series of jebels, standing out from the gravel landscape.

**JEBEL TAMAKA—KORTI**

This area extends 28 km. along the Nile. It is naturally delimited on the west by Jebel Tamaka, a high Nubian sandstone outcrop which almost reaches the Nile, but its eastern boundary is arbitrarily fixed by the limit of the concession area. Within this area, there are a very few, isolated remnants of both Girra and Goshabi Formations, but the vast majority of the area is covered by gravels which rest on Nubian sandstone. These gravels often reach the Nile edge.

**ARCHAEOLOGY**

Within the areas already described geologically, only two contained significant prehistoric remains: Ed Debba—Wadi el-Melik and Girra—Goshabi. Isolated finds were made in the other two areas but these were minor. The reasons for this situation rests on the inter-relationship between the surficial geology and site situation. Certain surficial features were preferred as living areas or workshops, while others were apparently never occupied or had been almost completely re-worked after prehistoric occupation.

Reverting to the original classification of the landscape into Jebels, Wadi Deposits, and Pleistocene and Holocene Nile, the following pattern of prehistoric occupation was observed:

(1) **Jebels.** Two groups of sites were located on the Jebels; workshops of Early Middle Stone Age aspect with numerous Levallois flakes and cores made from ferrocrete sandstone, but almost no retouched tools; and, second, small concentrations of microlithic flakes and debris made from chert pebbles derived from the conglomerates which cap many of the jebels. This last group appears to be of pre-ceramic age, perhaps what might be considered early Late Stone Age, but it was not possible to obtain sufficiently large samples to make closer definition possible. The first group of sites was not studied in detail as experience from the Second Cataract area showed that incredibly large samples would have been necessary before any significant results could have been obtained. Even then, results may well have been doubtful, as the small number of ferrocrete sandstone outcrops and the differential weathering seen on the artifacts at these sites indicated that they represented a number of occupations over a very long period of time.

(2) **Wadi deposits.** The wadi deposits which span a very long period of time and cover a vast area were by far the most structurally complex of all the landscape, but were also the least productive archaeologically. No sites were found which could be
considered *in situ*, although derived Acheulean material occurred sporadically in old pediments associated with certain gravel sheets. Sites of the El Melik group did exist on the surface of various gravel deposits but these were limited geographically to the western edge of the Wadi el-Melik.

(3) *Pleistocene and Holocene Nile*. The Nile silts and their associated pediments were, by far, the most productive for the archaeologist. Sites occurred in two situations: late Pleistocene sites were found *in situ* in the upper fluvialite sand of the Goshabi Formation and numerous early ceramic sites were located on the Girra pediments. No prehistoric material was found *in situ* in the Girra silts or the lower Goshabi Formation, although one site was found resting on the latter formation.

**Archaeological Survey**

A total of 93 prehistoric sites were recorded (Figs. 2 and 3). Not all, however, were excavated or collected. There are three reasons why this was the case:

1. Some sites obviously contained two or more cultural components which could not be objectively separated. This applied to the Early Middle Stone Age-like material, as well as to certain ceramic sites which contained some historic pottery and presumably some historic lithic material, as well.

2. Some sites were badly scattered by deflation or the concentration was too small to ever provide a valid lithic or pottery sample for analysis and definition.

3. Some sites were quite rich in both pottery and lithic material, but were fully identifiable without making more than a surface survey. These sites were only from those cultural groups which had already been extensively treated. In these cases, the sites were placed on the maps and marked according to their cultural group for distributional studies.

**Early Stone Age**

No Lower Paleolithic material was found *in situ*. In fact, only a few artifacts attributable to this period were seen within the whole concession area. Three areas were located where a thin scattering of derived material was seen (Sites N72, N77 and N87). In these cases, the material was weathered and incorporated into old pediments which filled gullies between gravel hills. Artifactual material consisted of a few rough bifaces, some unretouched flakes, a few globular cores, and two Proto-Levellois cores. The samples were very small, but there was no evidence for an evolved form of Acheulean at these three sites. All artifacts were made from a grey quartzite. Another locality, not given a site number, was seen on the northern slope of the Karabat Abu Kuleiwat, where two heavily eolized, ferrocrete sandstone bifaces of evolved type were noted.

**Early Middle Stone Age**

Again, evidence was poor for the human occupation during this period. Four sites of this type were located; N17, N75, N82 and N85. Each occurred on the top
of an isolated jabel and consisted of a workshop in the immediate area of a ferrocrete sandstone outcrop. Artifacts included large numbers of flakes and cores, showing a well developed Levallois technique. The artifacts showed differential weathering, and it was apparent that these sites had been used as quarries and flaking stations over a long period of time. Tools were very rare, but it is perhaps significant that no biface or biface fragments were seen, although two bifacial foliate point fragments were seen at Site N14. These sites were very reminiscent of the Nubian Middle Stone Age workshops seen to the north of the Second Cataract.

**LATE MIDDLE STONE AGE**

A group of three sites may be tentatively identified as Late Middle Stone Age on the basis of their position in the Goshabi formation. Such a placement assumes that it is correct to equate the Upper Goshabi Formation with the dated Sahaba Formation and the Lower Goshabi Formation with the Dibeira-Jer Formation, both found north of the Second Cataract (Wendorf, Shiner and Marks, 1965, pp. xiii-xvii). If this is the case, the three sites found within it should date no later than 10,000 B.C. and may be as early as 18,000 B.C.

Sites within the Goshabi Formation were rare, owing to minimal dissection. Two sites occurred in the inverted relief at Goshabi (Sites N2 and N6) and one was found deflating from some Goshabi silts just west of Abu Dom (Site N91). Only Sites N2 and N6 can be placed in relative stratigraphy within the Goshabi formation, while N91 can only be stated to occur within the same general formation. Site N2 occurred partly *in situ* at the contact between the Lower Goshabi silts and the fluviatile sands of the Upper Goshabi Formation. Site N6 had recently deflated from the fluviatile sands of the Upper Goshabi Formation, making it stratigraphically younger than N2.

**SITE N2**

Technologically, and typologically, this assemblage exhibits a number of quite archaic traits, considering its position within the geological sequence. Technologically, it is characterized by large flakes with little butt faceting, a significant but crude Levallois component, and a utilization of a number of types of lithic material of which rough quartzites and wadi chert predominate. Quartz, ferrocrete sandstone, fossil wood, and Nile pebble also occur, but in small quantities.

Typologically, the assemblage is dominated by two tool types; unretouched Levallois flakes and denticulates. Other tool types, however, are significant, particularly a number of bifacial foliate fragments, a single biface, partially backed elongated flakes, side-scrapers, and surprisingly enough, even a few large scaled flakes (FIG. 4).

**SITE N6**

While stratigraphically younger than Site N2, this assemblage shows a number of close typological and technological similarities with the former site. The archaic
KUSH

elements—the large, crude flakes, the bifacial foliates and bifaces—are no longer present, but other N2 traits are accentuated.

Technologically, there is a reduction in artifact size, an increase in the amount and quality of the Levallois component, and a somewhat greater use of Nile pebble as compared with Site N2.

Typologically, unretouched Levallois flakes and denticulates still predominate, side-scrapers are less numerous, and partially backed elongated flakes and burins increase in importance (Fig. 5). Generally, however, both assemblages seem to belong to the same lithic tradition. The assemblage from Site N6 is reminiscent of the Kormusan from Wadi Halfa (Marks, 1967b), although it differs from it in a number of typological features.

SITE N91

The assemblage from Site N91 is in some ways quite distinct from those at Sites N2 and N6. Technologically, it can be characterized by an almost exclusive use of brown quartzite as a raw material, and the manufacture of most flakes from atypical or discoidal cores. A Levallois component is present, but is not as strongly manifested as at either Site N2 or N6.

Typologically, by far the dominant tool type is the denticulate, followed by unretouched Levallois flakes. Side-scrapers, burins, truncations, scaled flakes, and other types are numerically rare. In fact, this assemblage shows a more limited range of tool types than does either Site N2 or N6. Bifacial foliates and partially backed flakes are absent.

Without the benefit of complete studies, it now seems that this assemblage is distinct from the specific manifestation of the lithic tradition seen at Sites N2 and N6. It falls, however, within a general flake tradition which includes a significant Levallois component. As such, it probably represents a similar technological level as seen at Sites N2 and N6, but belonging to a different industry.

CERAMIC PERIOD

Sites of this period were, by far, the most numerous of any within the concession area. Most occurred on the Girra pediments in the area between Girra and Ganetti, while a few were located on the gravel hills on the western edge of the Wadi el-Melik (Fig. 2). Although only a preliminary analysis has been undertaken so far, it is possible to divide these sites into four groups: the Early Khartoum Related, the Karat Group, the Tergis Group, and the El-Melik Group. These names are presented provisionally; in the case of the Karat and Tergis Groups, they seem to be definable industries, as yet unknown from other areas. The Early Khartoum Related Group owes its name primarily to Early Khartoum-like pottery which occurs in primary association with a previously unknown lithic industry. The El-Melik Group now seems to show some very broad similarities with the Abkan industry at the Second
Cataract (Shiner, 1967a). In addition, there is a single site (N7), which does not fully fit with any of the groups. It will be described at the end of this section.

These industrial groups have been ordered chronologically on the basis of specific traits which connect them to already known and dated industries and cultures. In brief, while the use of ‘type fossils’ is not always reliable, they are all that is now available for this area. The tentative sequence is the following:

1. Early Khartoum Related. The presence of Wavy Line pottery and Dotted Wavy Line pottery and the absence of typical Khartoum Neolithic pottery indicates a general contemporaneity with the earliest known ceramic sites in the Sudan.

2. The Tergis Group. While the pottery appears to be distinct from that found at Shaheinab, the presence of stone rings and gouges suggests that it is later than the Early Khartoum Related Group and might well be synchronous with the main stage of the Khartoum Neolithic.

3. The Karat Group. The lithic industry is quite distinctive, but the presence of numerous thin burnished sherds with a ‘wolf tooth’ decoration points to connexions with both the upper levels at Shaheinab and the Early A-Group of the Second Cataract.

4. El Melik Group. This group shows a definite decline in stone technology, and numerous rough sherds of plain and incised ware seem to be later than any known ‘Khartoum Neolithic’ or A-Group types. Thus, it is now postulated that this group is the latest of the prehistoric ceramic groups in the area.

**Early Khartoum Related Group**

A total of seven sites fall into this group. Two types of sites were seen: small dense concentrations of chipped stone, ground stone, and pottery (Sites N13, N40, N41, N79) and isolated concentrations of pot sherds, unassociated with other artifacts (Sites N15, N62, N92). The first group forms the basis for the industry description, while the second, owing to fortuitous survival, will permit the reconstruction of at least one pot with typical Early Khartoum decoration.

Chipped Stone: By far the most characteristic tool of this group is the lunate. It accounts for over 20 per cent of all tools at all sites. There is a special type of lunate which has almost half of the backed edge formed by perpendicular flake scar, similar to a burin facet. If only a few of these had been found, one might assume that they were accidental. As there were significant number from every site, however, this technique must be considered intentional and diagnostic of the group as a whole. Other microlithic tools include small numbers of triangles, trapezes, backed microblades and microflakes. In fact, backed tools always account for more than 45 per cent of all tools at each site. Other tools include a few denticulates, notched pieces, truncations, scrapers, borers, micropoinçons, groovers, retouched flakes, as well as very rare examples of burins, scaled pieces and gouges. Microburins occur, but never exceed 6.5 per cent in any assemblage. Most tools are small, and microlithic tools account for over 85 per cent of all tools at each site (FIG. 6).
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Ground Stone: There is a fairly wide variety of ground and pecked stone, although they are not as numerous nor as varied as those found at Early Khartoum. Hand stones (manos) were most common, occurring in two basic shapes: round with flat surfaces, and oval, with one surface keeled on the long axis, but flat on the other. Other pecked and ground stone include quern fragments which are shaped on both faces but show extensive utilization in the form of a marked concavity only on one surface, a single fragment of a stone ring, and a single sandstone rubber. One additional type was found which does not seem to occur at Early Khartoum; a sandstone ‘palette’. These are oval in shape, smoothed on both surfaces, and have an average thickness of only 1.5 cm.

Pottery: Of all the ceramic groups, pottery is most common here. In spite of this, a very few pottery types dominate the sherd collections (FIG. 7).

Almost all sherds are relatively thick, even rim sherds. Body and base sherds indicate that relatively large vessels were utilized. Three types of temper were used. The most common is chaff, accounting for about 80 per cent of all sherds, but quartz sand and quartz sand mixed with mica (micaceous ware) were also present. Virtually all sherds have an outer slip which ranges in colour from dark red to a whitish grey. Over 80 per cent are various shades of red.

Just about all sherds were decorated, and well over 99 per cent of the decorated sherds have designs over their entire surface. Decorations fit into the classification for Early Khartoum, including Wavy Line and Dotted Wavy Line types. On preliminary analysis, however, it seems that a more rigorous classification will be necessary as the ‘Dotted Wavy Line’ sherds include both a true dotted wavy line and a mat impressed ware, both of which were classified by Arkell under the same type. Rim decoration is not common but includes rough milling rims and a very few with finger nail impressions.

It is worth noting that no typical ‘Khartoum Neolithic’ sherds occurred, although a few atypical sherds show close similarities with the sherds from Site N7, to be described at the end of this section.

TERRIS GROUP

The eight sites of this group occur only on the Girra pediments in the immediate area of the central section of the village of Goshabi (Sites N3, N30, N46, N47, N55, N56, N57, N90). Unlike sites of the other groups, these tended to be quite large in area, with dense concentrations of chipped and ground stone. No pottery was found on the surface, but two sites (N3 and N55) contained some material, in situ, including a few pot sherds.

Chipped Stone: This industry cannot be even generally characterized by a single tool type, as it is rich and varied. Lunates, triangles, and trapezes are common, but never exceed 12 per cent of any assemblage. Backed flakes and microblades are also present in significant numbers. Microburins are present, but in small numbers.
Fig. 2. MAP OF DONGOLA REACH CONCESSION AREA
Fig. 4. ARTIFACTS FROM N2.

a, d, biface and fragment; b, scraper; c, scaled piece; e, denticulate.
Fig. 5. ARTIFACTS FROM N6.

a, e, h, j, denticulates; b, bec; c, pseudo-Levallois point; d, i, scrapers; f, partially backed flake; g, burin; k, retouched flake; l, n-o, Levallois flakes; m, Levallois point.
Fig. 6. Artifacts of the Early Khartoum Related Group.
a, backed fragment; b–c, f, h–l, n, lunates; d–e, trapezes; g, partially backed blade; j–k, lunates formed by burin blows; l–m, J shaped geometrics; o, s–u, z, scrapers; p, q–r, piercing tools; v–y, denticulates; aa–bb, micropolycasts.
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Fig. 7. EARLY KHARTOUM RELATED GROUP POTTERY

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Fig. 8. ARTIFACTS OF THE TERRIS GROUP.
a, double backed piece; b–d, lunates; e–g, triangles; h, multiple tool; i, geometric; j, scaled flakes k, u–v, x, scrapers; l, p–r, w, piercing tools; m–n, s–t, denticulates; o, burin.
Fig. 9. Artifacts of the Karat Group.
a-f, lunates; g, m, micropoints; h-l, backed blades; j, piercing tool; k, r-x, end-scrapers; l, burin; n, notched flake; o-q, truncated flakes; y-z, gouges; aa, polished axe.
Scrapers occur in varied amounts, form 8 to 21 per cent of the assemblages. Piercing tools are common but occur in widely divergent percentages; from 4 to 17 per cent. Other tools include denticulates, notched pieces, truncations, scaled flakes, burins, becs, picks and gouges (FIG. 8).

While there is a significant overlap in tool types between this group and the Early Khartoum Related Group, the relative occurrences of these types are very different. The Tergis Group is primarily a flake industry and is not as microlithic as the Early Khartoum Related lithic industry.

**Ground Stone:** The ground stone tools from the Tergis Group are very similar to those from the Early Khartoum Related Group. All the same types occur, except that there are a number of hand stones in this group which are domed on one surface, rather than being actually keeled. Another difference rests in the significant numbers of stone rings present in the Tergis Group, while only a single fragmentary example occurred in the Early Khartoum Related Group.

**Pottery:** Relatively few sherds were recovered. These, however, showed a number of characteristics.

All sherds were of moderate thickness and tempered with a fine quartz sand. None were as thick as the typical sherds of the Early Khartoum Related Group. Most sherds had a reddish outside slip and either no slip or a buff slip on the inner surface. Those with a red slip are normally lightly burnished on the outer surface, but never on the inner surface.

Decorative motifs were restricted to the upper portion of the vessel bodies and include a two line band of simple punctates or a thick chord impressed band, close to but not reaching the rim. One sherd showed a roughly milled rim, otherwise all rim sherds were undecorated.

**Karat Group**

Sites of the Karat Group were the most numerous of any in the concession area. All were located on the Girra pediments between the villages of Girra and Ganetti. The general absence of such pediments further to the east may well account for the absence of Karat Group sites in that area. A total of 19 such sites were located (Sites N16, N34, N37, N39, N43, N44, N45, N48, N58, N59, N60, N61, N65, N66, N80, N81, N86, N87, N88). These sites were easily recognizable by the presence of dense concentrations of burned Nile pebble, associated with sherds, chipped stone, and small numbers of ground stone artifacts.

**Chipped Stone:** There is one dominant class of tools at all Karat Group sites: end-scrapers. These are normally made on macrolithic, ovoid primary flakes, many of which were heated prior to flaking. It is quite common to find such end-scrapers on pieces of rock which have been split by heating, rather than by flaking. All end-scrapers, which vary from true circular examples to denticulated end-scrapers, often account for as much as 40 per cent of each tool assemblage. Significant numbers of
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side-scrapers, lateral denticulates, and perforating tools are also present, each accounting for about 10 per cent of each assemblage. Microliths are relatively rare, the most common being small lunates, which normally account for 5 to 6 per cent of each assemblage. Other tools include notched flakes, backed microblades, scaled flakes, truncated flakes, and burins (FIG. 9). These, however, are always rare and are generally atypical in their manufacture.

Ground Stone: The most significant feature of the ground stone is its rarity. Only two types occur; the most common is a round hand stone which is flat on both faces. A very few quern fragments were found, concave on the upper surface, but unworked on the under surface.

Pottery: As all these sites were surface concentrations, sherds, while present, were small and usually heavily weathered on at least one side. Thus, relatively few sherds at each site were useful for study. On the basis of these, however, a number of traits were definable.

All pottery is of a thin, brownish ware, with a soft sand tempered paste. Where weathering was not advanced, all sherds were well burnished on both faces.

Two kinds of decoration of the outer surface were typical; a simple ‘wolf tooth’ pattern in a single band around the upper portion of the body, and a complex design made by small, irregular punctates which apparently covered the whole body of the pot. Large numbers of body sherds were undecorated. A number of rim sherds were finely milled, although not all rim sherds were decorated.

EL-MELIK GROUP

This is the only ceramic group which occurs in two different site situations; on the Girra pediments near the Nile and on the gravel hills on the western edge of the Wadi el-Melik, up to 9 km. from the Nile. A total of 13 El-Melik Group sites were located: (N8, N9, N32, N33, N89) near the Nile, and (N50, N51, N24A, N24B, N25, N27, N28, N29) on the gravel hills.

All sites consisted of surface concentrations of chipped stone, a very few pieces of ground stone, and variable amounts of pottery. These concentrations tended to be thin and site areas were usually small.

Chipped Stone: Unlike the lithic assemblages from the other groups, these are characterized by a high percentage of indifferently made denticulated and notched tools. Combined, they account for between 40 and 60 per cent of all tools. Technologically, blades are rare and odd flakes were often used in tool manufacture. Usually, only about half of all tools were microlithic and lunates and geometric forms were not numerous. Other tools included groovers, scrapers, backed microblades and flakes, truncations, scaled flakes, *micropoinçons*, and numbers of poorly retouched flakes which could not be included within normally recognized tool types.

Ground Stone: Ground stone was rare at the sites along the Nile and often absent at those sites on the western edge of the Wadi el-Melik. All pieces were
highly fragmentary but showed quern fragments pecked and ground only on one surface and round hand stones which were flat on both surfaces.

*Pottery:* Only two sites contained much pottery, N33 and N89. At both sites it was homogeneous, consisting of a rather thin, hard, quartz sand tempered pottery. Most sherds had a red slip on both the outer and inner surfaces. Very few sherds show any decoration, but when present, it tends to be in the form of simple incised lines. This pottery is quite distinct from all other found in the concession area and seems to be relatively late in the prehistoric sequence.

**SITE N7**

This site has not been placed within the recognized groups, owing to a number of factors; while showing some similarities with the Early Khartoum Related assemblages, it lacks a number of essential features which would permit its inclusion within that group. In addition, its site situation is unique, as is its overall lithic configuration. The site was located on the gravels capping the Upper Goshabi Formation and consisted of a surface concentration and a pit, containing *in situ*, pottery, chipped stone, ground stone, and animal bones.

*Chipped Stone:* While a large area was excavated, only 197 retouched tools were recovered. Over 85 per cent were made on Nile pebble and 67 per cent were microlithic. It is difficult to characterize this assemblage on the basis of a few tool types as many occur, but none in overwhelming proportions. The numerically more important types include denticulates, notched pieces, scrapers, lunates, triangles, and truncated pieces. Other types consisted of backed microblades of various forms, burins, scaled flakes, becs, and *micropoinçons*, among others. An outstanding attribute of the tool assemblage was the relatively large percentage (c. 45 per cent) of tools made on blades. This is high compared with other assemblages in the concession area.

*Ground Stone:* A single complete quern was recovered, although most of the ground stone was extremely fragmentary. The unbroken quern was made on a thin sandstone slab 31.2 cm. long, 18.8 cm. wide, and only 3.9 cm. thick. It had been roughly shaped around the edges into a rectangle but no pecking or grinding had been carried out on the under surface. The top showed a large but only slightly concave area where grinding had taken place. Other fragments of querns showed the same traits; rough shaping along the edges and no modification of the under surface. A few hand stone fragments were found but these were too small to be diagnostic.

*Pottery:* All sherds are tempered with a fine quartz sand, although much variety is seen in surface treatment and decoration. About half of the decorated sherds have a red to red-orange slip on both the inner and outer surfaces, while the other sherds do not show any evidence of slip at all. Sherds range from fairly thin at the rim to thick for the lower portions of the body. On the basis of decoration and slip, it is possible to estimate that sherds from at least seven vessels were present.

Decorative motifs include a number of types: punctate bands, flaring bands of short incised lines, which is reminiscent of basket work, shallow cord impressed
pattern which shows secondary burnishing, and complex patterns of small punctates which cover large surfaces. None of the sherds show any decoration of the inner surface.

**DISCUSSION OF THE ARCHAEOLOGY SEQUENCE**

The survey and excavation carried out last season between Ed Debba and Korti in the Dongola Reach resulted in the discovery of new prehistoric industries, the establishment of a local Late Paleolithic and Neolithic culture sequence, and has thrown new light on the problems of overall Nilotic prehistory. The limitations of these results are primarily attributable to the geological history of the area, discussed in a previous section.

The least successful part of this work was limited to the Early and Early Middle Stone Ages. While the survey located some areas containing Acheulean material and workshops of Early Middle Stone Age aspect, the extensive gravel wash had destroyed all living sites, and had scattered most of the workshops. The only conclusion possible under these conditions is that there was some human occupation of the Dongola Reach during these periods, but that the exact nature of such occupations eludes definition.

Significant results were achieved in the definition of two Late Middle Stone Age industries within the Dongola Reach. The least known of these, from Site N91, suggests a development out of something similar to the Nubian or Denticulate Mousterian, as found near Wadi Halfa (Marks, 1967a). The second industry is known from two sites, N2 and N6. These sites not only seem to represent the same industry, but also illustrate the nature of its technological and typological development. The earliest, N2, contains typological features—biface foliates and bifaces—which suggest an origin in the Sangoan/Lupemban tradition, aspects of which are present on an earlier time level at Khor Abu Anga (Arkell, 1949a), near Wadi Halfa at Argin 8 (Chmielewski, 1967) and perhaps even near the Second Cataract at Site 440 (Shiner, 1967b).

The later aspect of this industry, seen at Site N6, shows some striking resemblances to the Khormusan of Nubia (Marks, 1967b). Both industries rely heavily on the Levallois technique of flake production, both have large numbers of unretouched Levallois flakes and denticulates in their tool inventories, and both utilize a wide range of lithic materials. On the other hand, burins which are so typical of the Khormusan are very rare at Site N6. In addition, Site N6 contains some backed tools, a trait totally lacking in the Khormusan. The significance of these specific differences are as yet obscure, but they may be no more than regional variations of the same broad lithic tradition. If this is the case, it suggests a south-western origin for the Khormusan, or at least for some of its specific cultural elements.

It is of some interest that in spite of intensive survey which located over ninety sites, there was no clear evidence for pre-ceramic microlithic industries near the Nile in the Dongola Reach. It is possible that the very poor microlithic sites located on
some of the Jebels back from the Nile are of this type, but the paucity of material made industrial definition impossible. This absence of pre-ceramic microlithic industries is quite strange, considering the vast number and variety of such sites north of the Second Cataract. On the other hand, this negative evidence reinforces the belief that most of the Nubian Late Stone Age industries were either of local or northern origin. More than this, it indicates that the Halfan, Ballanan, and Qadan peoples did not spread south along the Nile, possibly owing to the hostile environment of the Batn el Hajar which begins just south of the Second Cataract.

The majority of prehistoric sites in the concession area contained ceramics. At least four distinct prehistoric ceramic groups were defined. Although no radiocarbon dates were obtained for these, cross-dating of specific traits made possible a relative sequence with approximate absolute dates for some groups.

At this preliminary stage of study, the relative sequence of ceramic groups is tentative. It is presented in the chart below, which includes the assumed dates, where relevant, and the specific traits which have made possible the cross-dating.

<table>
<thead>
<tr>
<th>Group</th>
<th>Approximate Dates</th>
<th>Cross-dated Traits</th>
<th>Cross-dated Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>El-Melik Group</td>
<td>?</td>
<td>High percentage of notched and denticulated tools.</td>
<td>Abkan (?)</td>
</tr>
<tr>
<td>Karat Group</td>
<td>c.3100 B.C.</td>
<td>Thin, burnished sherds, 'Wolf tooth' design.</td>
<td>Early A-Group Late Khartoum Neolithic (Shaheinab).</td>
</tr>
<tr>
<td>Tergis Group</td>
<td>c.3200 B.C.</td>
<td>Stone rings, gouges</td>
<td>Khartoum Neolithic (Shaheinab).</td>
</tr>
</tbody>
</table>

The probable contemporaneity between different geographical groups, due to some similar traits, should not be taken to mean an overall homogeneity of prehistoric ceramic cultures along the Nile south of the Second Cataract. While certain
material traits are effective for cross-dating, there are numerous significant differences between those groups which have been paired.

There is little question that the pottery of the Early Khartoum Related Group shows typical Early Khartoum decorative techniques and motifs. On the other hand, in the Dongola Reach chaff is the dominant temper used, while such temper seems to be rare at Early Khartoum. It is important to note that not a single ‘Khartoum Neolithic’ sherd was found associated with the Early Khartoum Related sites. This poses a number of problems. All sites examined by Arkell (1949b), indicated that in the Khartoum area, at least, there was always a mixture of Wavy or Dotted Wavy Line pottery with typical ‘Khartoum Neolithic’ sherds. For the first time, therefore, a group of sites have been located where this mixture is not present. It has yet to be resolved whether this is due to different geographical location or is temporally determined. If Arkell (1953, p. 102) is correct in his analysis, however, it would seem that the Early Khartoum Related Group may predate Early Khartoum.

The rich variety of ground stone and bone at Early Khartoum is not duplicated in the Early Khartoum Related Group of the Dongola Reach. It is significant, however, that most of the ground stone from this latter group falls within the types known from Early Khartoum.

Both the Early Khartoum Related Group and Early Khartoum contain numerous lunates in their lithic assemblages, but the Early Khartoum Related Group lacks the large examples so typical of Early Khartoum, and has microburins, an element unknown from Early Khartoum.

At this time, it appears that the two groups are closely related but that the Early Khartoum Related sites were not inhabited by migrants carrying the full Early Khartoum culture, or vice versa. It should be emphasized that the most striking similarities between these groups rests in decorative techniques and motifs for pottery, rather than in any total configuration of primary technological and typological traits.

The Tergis Group has been assumed to be generally contemporary with the ‘Khartoum Neolithic’ as known from Shaheinab. This was done on the basis of mutual possession of stone rings and gouges. It must be admitted, however, that this evidence is not nearly as strong as that used for the preceding group, the Early Khartoum Related. Stone rings have been found in Early Khartoum and appear to remain a material trait in the Sudan until relatively recent times. The gouges from the Tergis Group are by no means morphologically identical with those from Shaheinab, nor are they in any way as numerous. The pottery of the Tergis Group differs radically from the typical pottery found at Shaheinab, and is also quite rare. This is a marked difference from Shaheinab, where pottery was very common.

In the Early Khartoum Related Group lunates were a dominant tool type, while the lithic industry of the Tergis Group shows no such orientation. There are lunates and geometrics, but no one class of tools seems to be of paramount importance. This suggests that a number of activities were carried out at Tergis sites. The presence of
many ground hand stones and querns indicates the economic importance of plant foods (as was also true for the Early Khartoum Related sites), but no plant remains have been found to indicate whether any domestication had yet taken place. The numerous stone rings point to the possibility of agriculture as they are ethnographically associated with digging sticks and a horticultural economy. On the other hand, it has been suggested such stone rings may also have functioned as mace heads. The fact remains that at both the Early Khartoum Related and the Tergis sites ground stone forms an important element in the material culture.

The Karat Group has been equated temporarily with the Early A-Group north of the Second Cataract, and with the more recent levels of Shaheinab. This has been done solely on the basis of similar decorative techniques and motifs on pottery. The main connection in techniques is the presence of burnishing on all sherds in the Karat Group, although the sherds are also thin, well fired, and utilized a fine sand temper. The decorative motif which seems to be diagnostic has been referred to by Arkell (1953, pp. 72–73) and Otto (1963, p. 109) as an impressed ware of ‘zigzags of curved continuous lines’ and as ‘wolf tooth’ by Säve-Söderbergh (1964, p. 25). The ‘zigzag’ or ‘wolf tooth’ motif is not restricted to Shaheinab, Shaqadud, and the Early A-Group. It occurs as well at Early Khartoum and at recently found sites on the Atbara River. The essential feature of this motif in the Karat Group, however, is that it is always formed by continuous lines, is always on burnished sherds, and does not occur in association with either other typical A-Group or typical ‘Khartoum Neolithic’ sherds. This particular decorative type was rare at Shaheinab and when found in stratigraphic context, occurred in the upper levels of the site (Arkell, 1953, p. 78). Almost identical sherds were found in the excavations of an A-Group camp site on Matuga Island in the Second Cataract. As in the Karat Group, some of these latter sherds had milled rims (Adams and Nordstrom, 1963, p. 18 and pl. 1, a).

On the basis of these similarities and the absence of typical ‘Khartoum Neolithic’ sherds—a situation paralleled at Matuga Island—the Karat Group is considered to be more recent than the main stage of the ‘Khartoum Neolithic’ and possibly contemporary with the Early A-Group of the Second Cataract.

A problem, however, is posed by the lithic industry; it is not similar to either the Khartoum Neolithic or the Early A-Group. It is characterized by a preponderance of scrapers, as much as 50 per cent made on oval primary flakes. Lunates and geometrics occur only in small quantities and other tools are also fairly rare. These traits recur from site to site with little variation, indicating that the people of the Karat Group engaged in a rather limited number of activities which necessitated the use of stone tools. The few lunates and geometrics imply that, unlike the earlier groups, hunting played a rather small part in the economy of the group. Ground stone is present, but unlike the earlier groups, it is rare and shows little variation. Often only one or two ground stone fragments were found at each site, as compared with scores at Early Khartoum Related and Tergis sites. This suggests that plant foods were not of primary importance, either. The presence of large numbers of
scrapers and a reasonable number of fine piercing tools, both of which have been thought to be associated with skin working, indicates that this activity was of paramount importance. This, together with the apparent unimportance of hunting, suggests that these people were herders rather than farmers or hunters. Unfortunately, no animal bones were recovered, making this reconstruction of their economic base probable, but not proven.

Of all the defined groups, the El-Melik Group shows the most diversity. Sites occur both on the Girra pediments and on gravel hills well back from the Nile. Pottery is distinct from that occurring in all other groups, and is characterized by mostly undecorated sherds with a light red slip and a rough sand temper. A few sherds have incised decoration, unlike the sherds from earlier groups. Pottery, however, is normally rare and ground hand stones and querns are also uncommon. The lithic industry is made up mostly of roughly retouched denticulates and notches, tools, although a few lunates, scrapers, and piercing tools are present. Like the Karat Group, neither hunting nor plant foods seem to have been very important in the economy. While fishing may have played a part, many of the sites are too far from the Nile for its regular utilization as a source of food. Therefore, it is suggested that these peoples were also herders, although the direct evidence for this is weak.

CONCLUSIONS

The results of the work in the Dongola Reach are significant in that they present some insights into overall Nilotic prehistory. It is possible to say that some evidence was found for a continuous geographical occupation along the Nile for both Acheulean and Early Middle Stone Age peoples. More insight was gained, however, from the later material. The Late Middle Stone Age assemblages show strong technological and typological links with the Khormusan of the Wadi Halfa area but lack those specific traits of the more southerly Stillbay. The origin of this broad Nilotic tradition is suggested by the bifacial foliates at Site N2, pointing toward an older Sangoan/Lupemban base. The paucity of sites of this type, however, makes this observation highly tentative.

Another interesting feature of this Late Middle Stone Age tradition is the rarity of burins in the Dongola Reach as compared with the Wadi Halfa area. This dicotomy exists for all synchronic industry comparisons between the two areas and suggests that the burin is a northern trait which was never fully accepted south of the Second Cataract.

The apparent absence of pre-ceramic microlithic sites cannot now be accounted for and poses a number of problems. Owing to a lack of radiocarbon dates, the tradition seen at N2 and N6 cannot be firmly dated and might have lasted longer in the Dongola Reach than around the Second Cataract, being in part contemporary with the Halfan, Gadan, and Ballanan.

Perhaps more than in any other period, the early ceramic sites help to elucidate
cultural connections along the Nile. It is apparent that the presence of Early Khartoum pottery does not necessarily mean a movement of peoples carrying the full complement of Early Khartoum culture. In the Dongola Reach and at Wadi Halfa, this pottery is associated with lithic industries which are distinct from each other and from that at Early Khartoum. Therefore, it is highly questionable whether a meaningful cultural label may be put onto sites merely owing to the presence of this type of pottery. Work in the Sahara has shown the presence of pottery with similar decorative techniques and motifs (Hugot, 1963, p. 135; Tixier, 1962, p. 348). On the other hand, the lithic industries from the Sahara are neither closely related to the Nilotic industries associated with the same types of pottery, nor to each other. This tends to confirm the position that the decorative techniques and motifs of Early Khartoum pottery, and perhaps even the primary techniques of pottery making, spread rapidly over a wide area. This spread, however, was not the result of migration but of diffusion to pre-ceramic peoples who already had fully developed and distinct lithic industries.

Another interesting feature of the Dongola work was the apparent absence of typical ‘Khartoum Neolithic’ pottery. This suggests that after the initial spread of Early Khartoum pottery, the local inhabitants of the Nile, north of the Fourth Cataract, developed their own styles of pottery decoration and were sufficiently numerous to exclude extensive migration or diffusion of traits from the ‘Khartoum Neolithic.’

With the beginning of the Karat Group, there is evidence for a major shift in subsistence economy. Gone are the numerous grinding stones, querns, and microliths which suggests a mixed hunting and gathering (perhaps even partly horticultural economy). In its place are found indirect indications of herding. The small size of the sites, their low artifactual density, and the preponderance of skin working tools, all point to goat herders who lived in small temporary camps, often moving their herds short distances to take advantage of new areas for grazing.

At this period, during the occupation of the Karat Group, the pottery indicates more connexions to the North than to the South. This affinity, however, is relative and no strong connexions can be seen in either direction. As there appears to be no progenitor for the Karat lithic industry on the Nile, it is possible that its origins are to be found to the west of the Nile, where sheep and goat herders still live today.

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