EDITORIAL

This number must begin on a sad note. Neville Chittick, who contributed a short note which is published here, died suddenly last July in London. I only met Chittick once, at the Addis Ababa Pan-African Congress, but I remember him well as a man of great enthusiasms and force of personality.

I also regret to announce the untimely death in the summer of 1983 of Dr. K. Effah-Gyamfi, at the time Head of the Archaeology Section, Department of History, Ahmedu Bello University, Zaria, Nigeria. I have no further details.

You will have noticed that this issue is numbered 24/25 rather than simply 24. There are two reasons for this. First, I did not have sufficient material on hand in April to warrant publishing an issue. Second, I was away in the field from late May to the end of September and could not, therefore, produce an issue until now.

This raises a question, one on which I will be interested to have reactions. At the SAAAM meeting last spring, I reported that NA operates on a very tight budget and that I am able to stay within budget only by doing most of the work myself. Thus, until now, I have been solely responsible for almost all data entry, for layout and pasteup, and for keeping track of subscriptions. Dr. Mary Jackes has helped in many ways for which I am very grateful, and text entry for this issue was done by Rebecca Cole. However, it is no longer feasible for me to produce two issues per year, and fulfill the rest of my responsibilities, without assistance. Assistance costs money and we don't have very much to spend. The options are (1) to raise subscriptions (by at least 25%) and/or charge more for institutional subscribers, (2) obtain additional sponsorship when the special grant from the University of Alberta expires at the end of 1985, or (3) reduce the number of issues to one per year. I was given *carte blanche* by the SAAAM meeting to act as I see fit, and I have decided that it will be least disruptive to all concerned it I try publishing only one issue per year for the next year at least. Raising the subscription rate will probably lose more subscribers than it will raise additional funds. I am investigating the possibility of obtaining additional funding.

Therefore, I shall publish the next number in the spring of 1985. Material for that issue must reach me no later than the end of March.

Because of this alteration to the publication schedule, I am including invoices for 1985 subscriptions with this number. *If you subscribe through an agency, please send this invoice directly to them.*

SAAAM BUSINESS MEETING

At the business meeting held in Portland on 11 April, 1984, and chaired by Sheryl Miller, the following actions were taken.

1. A vote of thanks was given to John Atherton and Candice Goucher, respectively of the Anthropology and Black Studies departments, Portland State University, as well as to their Departments and their students, for their excellent job of organization which ensured the success of the meetings this year.
2. The proposal that NA become an official outlet for news of the Panafrican Association was accepted by the membership.
3. Those present were asked to vote on a motion of confidence in SAAAM, in view of the fact that other organizations are now giving more time to the concerns of African archaeologists than was the case when SAAAM was established. The vote in favor of continuing SAAAM was unanimous.
4. The venue for the next meeting was discussed. Invitations were presented from Harvard University, University of California at Los Angeles, and the Field Museum in Chicago. The last was for 1985 only so as to get SAAAM back on the original schedule of meeting in alternate years with AMQUA. The question of meeting in conjunction with other organizations (such as the Society for American Archaeology) was discussed, but members noted that attendance had not increased as a result this year, but had remained relatively stable. The final vote was to accept the invitation to meet at Harvard in Spring, 1986.
5. Nominations were received for a new Steering Committee and the following slate was elected: Steven Brandt, Merrick Posnansky and Larry Robbins. The Editor of NA remains Ex Officio.

NEVILLE CHITTICK AND THE BRITISH INSTITUTE IN EASTERN AFRICA

On reaching the age of 60 in 1983, Neville Chittick gave up the directorship of this Institute after 22 years. Not a man to take retirement easily, he was back in East Africa early in 1984 to continue his work in Somalia (as described elsewhere in this number). He was planning further expeditions for the coming season and at the same time assembling in book form the results of his excavations ten years ago at Aksum in Ethiopia when, on 27 July 1984 in Cambridge, he died of a heart attack.

Neville Chittick made an impression on all who met him, including many subscribers to this newsletter. What may not be generally known is that history and archaeology were not his original training. As an undergraduate at Cambridge he distinguished himself in law, and then qualified as a barrister. Although he never practised, his legal mind was apparent in his approach to archaeology, both its practical and academic aspects, and in his handling of historical and chronological evidence. A born traveller, his introduction to large-scale excavation was in the Mediterranean and Near East. Then in the early 1950s he took a post under Peter Shinnie with the Sudan Antiquities Service, moving in 1957 to Tanganyika as its first Conservator of Antiquities. When the British Institute of History and Archaeology in East Africa (as it called itself at first) was established in Dar es Salaam in 1960, Neville was chosen to take over from Richard Goodchild the following year.

His work on the Swahili coast, and at Kilwa especially, was thus carried over from the one job to the other, and continued after the move of the Institute's headquarters in 1964 from Dar to Nairobi. There is no need to record the details here of his fieldwork, excavations and discoveries, since these and his conclusions are set out in his publications. The most substantial are his books on *Kilwa* (2 vols., B.I.E.A. memoir 5, 1974) and *Manda* (B.I.E.A. memoir 9, 1984; £25, £17 to members) which latter, sadly, he did not live to see in bound form. While Kilwa in southern Tanzania has a long chronology as well as unparalleled architectural remains of the height of the old Indian Ocean commercial system of the 13th to 15th centuries, Manda off the northern Kenyan coast has a much richer evidence of the beginnings of Islamic maritime contact in the 9th to 11th centuries. Work on this early period of the coast and islands by other scholars is now filling out the picture (see in particular Henry Wright on the Comores in *Azania* this year), and makes the appearance of *Manda* very timely.

While Neville Chittick's prime concern was the coast and Eastern Africa's place in the wider world during Islamic and even Classical times, it would be wrong to think that he had little time for up-country archaeology (true though it is that prehistory *sensu stricto* and all things lithic were not to his taste). Such misapprehension was perhaps fostered by his own love to play the Devil's Advocate against those colleagues and critics who adopted what he saw as a sentimentally Africentric line, or who regurgitated the old characterizations of reactionary diffusionist Eurocentric scholarship. As one who spent his time in discovery, he had little patience for simplistic and tedious moralising. In fact he did as much as anyone to encourage interior Iron-Age archaeology in the Institute and through *Azania*, and he involved himself in this in both Tanzania and Kenya. Earlier this year he generously handed me his dossier of notes, photographs and measurements of irrigation sites by Lakes Eyasi and Natron. Throughout his career he was impatient to explore anew by sea and land alike – in dhows, on camelback or by light aeroplane where appropriate – and to unearth hard historical evidence. While cautious of new-fangled methods and speculative approaches – and openly contemptuous of much modern archaeological theory and its neologisms – he was fully aware of relevant non-archaeological sources, in the African interior as well as the Indian Ocean. With his gift for languages, he combined a command of the ancient literary sources and a conversance with current international scholarship covering a large part of the world.

Neville's work at Aksum, which was cut short by events in Ethiopia in 1974, is dealt with summarily in *Azania* IX. The Institute intends to have the full report of the excavations and finds completed as adequately as possible from the notebooks, illustrations and several expert contributions, for publication in its memoir series.

The coming volume of *Azania* (XIX for 1984) will include a list of his publications. As James Kirkman stated aptly in the Foreward to *Manda*, this journal *Azania* which Neville edited for it first eighteen years, together with the Institute library which he built up during his long directorship, will remain as lasting memorials.

One further piece of information regarding the Institute needs noting. Archaeologists visiting Nairobi during the last twenty years will recall the Institute and its library in Chiromo Mansion, one of the City's oldest buildings. This is the property of the University of Nairobi which was leasing it on generous terms. Now however the University needs Chiromo for its own use, and the Institute has therefore moved a mile away, to Laikipia Road in Kileleshwa. We are adjusting very satisfactorily to the new premises, and the library is quieter and brighter than before.

The Institute's address (PO Box 30710 Nairobi) and telephone numbers (43674 and 43330) remain unchanged.

John Sutton

A RADIOCARBON DATE FROM HEMANIEH, UPPER EGYPT

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Hamamieh is an important Predynastic site that has yielded a stratigraphic sequence from the Badarian to the Gerzean, also referred to as Nagada II (Brunton and Caton-Thompson 1928). Chronometric dating of this site is based on thermoluminescence dates (Caton-Thompson and Whittle 1975; Whittle 1975), and a single radiocarbon date (De Vries and Barendsen 1954).

The TL dates on the Badarian level (on a layer of breccia, and below a hearth) are 4690 ± 365 BC and 4510 ± 475 BC. Two dates from beneath the breccia are 5495 ± 405 and 5580 ± 420. Three dates from the Amratian or Nagada I level are; 4360 ± 355 BC (at 3.5 feet below surface), and 4330 ± 365 BC and 4450 ± 365 BC (at 5 to 5.5 feet below surface). The Gerzean or Nagada II is dated to 3775 ± 330 BC. Although the dates are consistent with their stratigraphic position, the standard deviations are very large. The precision of the dates may be improved by using weighted averaging, which leads to the following averages, and range using two standard deviations in years BC. Badarian (beneath breccia)5535 ± 290 6115-4955 Badarian (above breccia)4660 ± 290 5240-4080 Amratian (Nagada I)4378 ± 205 4780-3900 Gerzean (Nagada II)3775 ± 330 4435-3115

The radiocarbon date obtained by de Vries and Barendsen (1954) is 5110 ± 160 bp (GrN-223) and is calibrated to 3950 ± 260 BC (from tables of Damon *et al.* 1974) and to 4330-3665 (from tables of Klein *et al.* 1982).

During a visit to Hamamieh, T.R. Hays and I collected charcoal from a context identified as Badarian by Hays. The date from the charcoal sample (WSU-1728) is 5290 ± 130 bp and corrects to 3950-4145 ± 180 BC (from tables of Damon *et al.* 1974), and 4425-3790 from tables of Klein *et al.* 1982). The two radiocarbon age measurements are statistically similar, and the weighted average of these two dates is 4080 ± 160, with a range of about 4400-3800 BC.

Statistically the average radiocarbon date is similar to the average TL estimate from above the Badarian at a .05 level, but it is also similar to the average TL date on the Amratian. It is, however,significantly different at that level from the TL dates on the Badarian beneath the breccia, though it is similar to that average at the 0.01 level. At the 0.05 level, the average TL dates from beneath and above the breccia are similar. The average TL date for the Amratian is different at the .05 level from the Badarian beneath the breccia, but similar at the .01 level.

It is unfortunate that available TL and radiocarbon dates are not sufficiently precise to allow better temporal placement of the Badarian. The chronology of the Badarian from Hamamieh on the basis of the TL dates ranges from 6115 to 4080 (given two standard deviations). The range from the radiocarbon age determinations is somewhat narrower and spans a period from about 4400 to 3800. There is obviously a need for more radiocarbon dates from the various stratigraphic levels, cross-dated with ceramic assemblages. Given the narrower chronological range of the radiocarbon age determinations, and their greater reliability over the TL dates, the age of the Badarian at Hamamieh may be placed tentatively at 4400-3800 BC, pending further age determinations.

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RADIOCARBON DATES FROM NYANAWASE

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In view of the complexities involved in using oral tradition to date archaeological sites, it was considered important to obtain absolute dates as means of establishing the chronological sequence for the Akwamu Amanfoso Later Iron Age site. Eight samples (seven charcoal and one snail shell) were sent to Geochron Laboratories for analysis.

The samples consisted of two sets; four samples from Mound A (level 6, 8 and 11: charcoal and shell) and four from Mound B (levels 8, 10, 12, and 14). Before the samples were sent to Geochron for analysis they were dried to prevent moulding that it was thought could contaminate the samples and thereby alter the results.

The dates obtained (Table 1) range from near modern to almost three hundred years before present. These results are somethat disappointing; the three metre deposit was expected to yield earlier dates, stretching into five hundred or more years.

Although the dates are surprisingly late they appear to fall within the same time range. The Mound B dates are in correct chronological and sequential order, while those of Mound A do not conflict with each other. Taking the standard deviation into account the range for the Mound A dates is as follows: AD 1665 to 1895 (Gx 6251), AD 1700 to 1950 (Gx 6252), and AD 1675 to 1915 (Gx6253). There is thus no real difference among them, and we can estimate the date of Mound A to the late 18th century AD which agrees with the dates known from traditional and documentary sources. It should be noted that the dates presented above are not calibrated.

Another important point is that even though samples Gx 6250 and Gx 6254 are listed as modern, they range from less than two hundred years ago. The difficulty involved in dealing with these dates arises from the recent nature of the site. Mound B appears to span over three hundred years, and the period of standard deviation is fairly stable. I therefore conclude that the earliest occupations at Nyanawase are yet to be dated. It appears that the two most prominent mounds selected for excavation were among the most recent. Although continuous occupation of the site since the 17th century AD appears probable, it seems likely that after the AD 1730 defeat of the Akwamu some of the subjects identified with the incoming victors and retained their settlements at Amanfoso.

TABLE 1: Radiocarbon dates for Akwamu Amanfoso

Site	*ID*	*level/layer/ depth (cm)*	*Material*	*Years BP*	*Calendar yrs.*	*Lab. number*
Mound A	NY-1	6/5/148	charcoal	2 ± 120	modern	Gx 6250
	NY-2	8/6/191	charcoal	170 ± 115	AD 1780	Gx 6251
	NY-3	11/8/218	snail shell	125 ± 125	AD 1825	Gx 6252
	NY-4	11/8/218	charcoal	155 ± 120	AD 1795	Gx 6253
Mound B	NY-5	8/9/170	charcoal	9 ± 120	modern	Gx 6254
	NY-6	10/9/200	charcoal	11 ± 115	AD 1840	Gx 6255
	NY-7	12/12/230	charcoal	140 ± 115	AD 1810	Gx 6256
	NY-8	14/14/300	charcoal	280 ± 115	AD 1670	Gx 6257

PETROLOGICAL ANALYSIS OF IRON AGE POTTERY IN KENYA: Preliminary Results

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Until comparatively recent times the exclusive aim of pottery studies was the construction of time sequences and cultural phases through the compilation of detailed typologies. However, in the last fifteen years or so the potential wealth of social and economic information contained in archaeological pottery has been increasingly realised and exploited. This realisation has in turn necessitated the development and application of a wide variety of analytical techniques. One of these techniques employs the use of a petrological microscope to permit the precise determination of mineral and rock inclusions. The techniques of preparation involve the removal of a small fragment of pottery (c. 10mm × 10mm) which is fixed to a glass microscope slide and ground with a diamond lap or with abrasive powder until it is exactly 0.03mm thick. Most of the minerals present in the clay are then transparent and can be studied under the microscope.

This technique was employed in the study of Iron Age pottery in Kenya. The pottery was obtained from sites ranging in age from the first century AD to as recent as one hundred years ago. The main aim of the project was to seek answers to questions relating to the production and acquistion of pottery during the Iron Age in Kenya.

The results seem to suggest that during the early Iron Age pottery was made by specialists. These specialists need not have been centred in one place. It seems probable is that there were a number of specialists operating at different centres but who all produced pottery in the same tradition. The same trend appears to be true during Middle and Late Iron Age times, although the later periods appear to have had more traditions than the earlier. Recent Iron Age assemblages from one area exhibited a lot of variation in their pastes, which is interpreted as an example of many centres of production exploiting different sources of clay. This would be a good example of the production of pottery by non-specialists. In other words, we are talking here about the domestic level of production.

As far as acquistion is concerned, the petrological results were interpreted in the light of ethnographic data. The pottery under study seems to have been acquired in one of three ways: (a) direct trading between adjacent or nearby communities, — this was probably the case in non-specialist cases; (b) direct distance trading between geographically separate groups, one of which travels to the other, — this could have been the case with the products of specialist potters; (c) successive proximity trading, i.e., through middlemen, — this could have also been the case with the pots produced by specialists.

PROSPECTION ARCHEOLOGIQUE AUX ALENTOURS DE TOMBOUCTOU, 1984 Rapport Préliminaire

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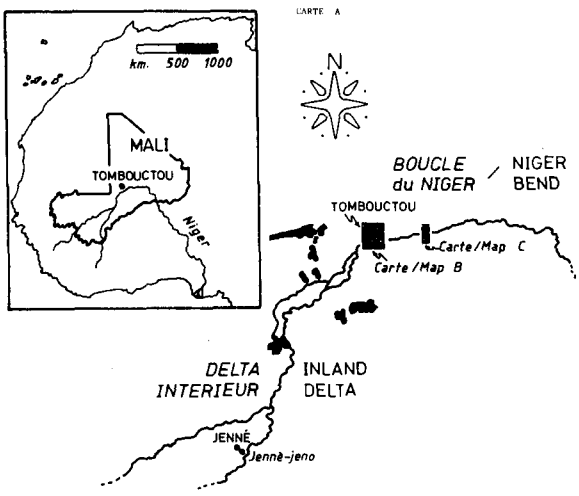
La Mission McIntosh entreprise pendant le mois de janvier 1984 à Tombouctou avait pour but d'améliorer d'une façon rigoureusement scientifique la connaissance archéologique de la Boucle du Niger, surtout dans les environs de Tombouctou. Elle se comportait d'un survol archéologique et géomorphologique des environs de Tombouctou et d'une localité près de Gourma-Rharous pour inventorier les sites anciens (voir Carte A). Le premier secteur (de superficie 260km^2; soit 13km × 20km) se situe à l'est de Tombouctou; le deuxieme secteur (50 km^2; soit 5km × 10km) se trouve à environ 90km en aval de Tombouctou, 22km à l'ouest de Gourma-Rharous. La recherche a été possible grace à une bourse (no. 2748-83) accordée par la National Geographic Society des Etats-Unis, et a été poursuivie grâce aux concours et à l'assistance de l'Institut des Sciences Humaines de la République du Mali (Autorisation de Recherche no. 2374). Nous sommes profondement reconnaissants de l'assistance fourni par M. Tereba Togola, chercheur rattaché à l'I.S.H., qui nous a accompagné en mission.



Objectifs

Notre but principal était d'établir une chronologie des transformations dans le réseau des anciens établissements humains de cette region presque complètement negligée par les archéologues. A part le bref inventaire par R. Mauny (1952a, 1952b, 1961:114-15, 496-498) des mosquées, lieux publiques disparus (le palais de la période mandingue et la casba morocaine), et quelques ceramiques nondatées, rien n'avait été ecrit au sujet des emplacements historiques et préhistoriques de la ville ou de ses environs. Il nous semblait donc souhaitable à entreprendre une prospection systématique comprenant une étude détaillée des céramiques, un projet qui fournirait des informations utiles pour l'inventaire des sites archéologiques au Mali actuellement en cours sous la direction de l'I.S.H. Une étude complémentaire des éléments géomorphologiques nous semblait fondamentale pour mieux comprendre le milieu des anciens établissements et comment ce milieu a changé dans le passé.

Le deuxième objectif était d'examiner le début ainsi que le développement des liens commerciaux entre la Boucle du Niger et l'ancien métropole de Jenné-jeno, situé dans le Delta intérieur du Niger. Nous cherchions surtout la synchronisation des déplacements ou des accroissements des villages dans les alentours de Tombouctou avec ceux de l'arrière-pays de Jenné-jeno (voir McIntosh et McIntosh 1980, 1983a et 1983b; R.J. McIntosh 1983). Dans nos publications (surtout S.K. McIntosh 1981; voir aussi McIntosh et McIntosh 1981 et 1983c) nous avions déjà émis l'hypothèse que ces liens entre la Boucle du Niger et le Delta intérieur avaient été beaucoup plus anciens que historiens ne l'admettent. Pour faciliter cette comparaison entre les sites de ces deux régions, il fallait appliquer aux sites près de Tombouctou les mêmes méthodologies de ramassage de céramique et le même type de déscription que nous avions développées pendant notre recherche à Jenné-jeno.

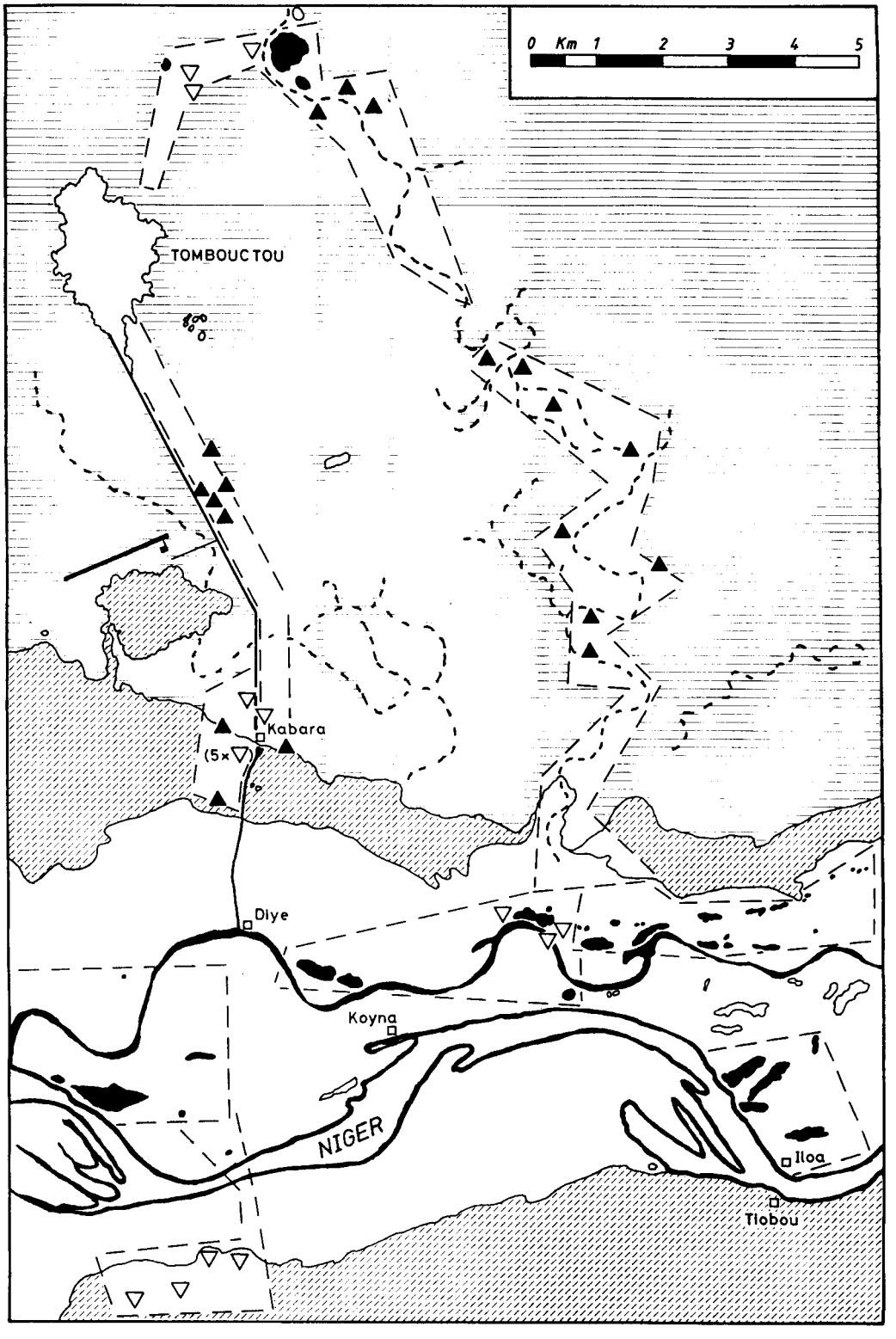
Cette prospection préliminaire fournirait les données fondamentales nécessaires pour la planification d'une campagne de recherche plus approfondie dans l'avenir. En vue de ceci, nous avons projeté d'examiner la valeur relative des photographies aeriennes pour le survol archéologique et géomorphologique dans cette région. Pour une telle étude trois aspects d'utilité sont à évaluer dans les photos aeriennes: 1) La précision pour déterminer les frontières entre tous les éléments géomorphologiques variés; 2) la vérification des sites putatifs identifiés sur les photos comme vrais établissements anciens sur le terrain; 3) la découverte de sites invisibles sur les photos.

Méthodologie (voir Carte B)

Notre méthodologie commence par la stratification du champ d'étude par rapport aux éléments géomorphologiques vus sur les photographies aériennes, notamment: 1) la *plaine d'inondation* près du fleuve Niger; 2) la zone des éléments dunaires remodellées par l'action fluviale (*dunes remodelées*); et 3) le champ du *cordon dunaire*. La première zone se comporte de marigots, de mares, et d'argiles hydrophiliques inondées. C'est dans ce zone, près du fleuve, qu'on trouve la majorité des sites identifiés sur photo (50 des 80 sites putatifs y étaient identifiés). Par contraste, les dunes remodelées ne démontraient que 4 sites douteux au sud du Niger et 7 sites putatifs au nord du fleuve. 19 sites putatifs étaient identifiés dans le cordon dunaire, une zone croisée par plusieurs oueds seches. Un oued majeur coule à 4,5km à l'est de Tombouctou.

Nous avons divisé la plaine d'inondation au nord et au sud du fleuve en cinq blocs de survol, qui comprenait ensemble à peu près 50% de la surface totale de la plaine d'inondation dans notre champ d'étude. Quarante des cinquante sites putatifs sur la plaine se trouvent dans ces cinq blocs. Nous avons traversé à pied chaque bloc, et visité tous sites putatifs afin de les verifier en tant que vrais sites archéologiques. Dans chaque bloc de prospection, nous avons choisi 50% des sites ainsi découverts et vérifiés pour un examen plus détailé. Pour cette étude préliminaire, il nous paraissait plus important de faire un échantillonage complète de sites de tailles differentes et d'aspects divers (d'après la photo) que de faire une sélection strictement randomisée. Statistiquement, ce dernier façon comporte le danger d'une concentration de sites de même type.

CARTE B



Nous examinions trois sections parmi les dunes remodelées, dont: 1) un bloc au sud ou se trouvent la plupart des sites douteux; 2) un bloc au sudouest de Kabara; et 3) la partie est du delta ancien (le secteur distal) du grand oued. Tous ces blocs étaient entièrement parcourus.

Nous avons investigé trois aspects differents du champ de dunes. Le premier était un endroit au nordouest de Kabara, avec deux sites putatifs. Nous sommes remontés le grand oued à l'est de Tombouctou, suivant un chemin zigzag afin de mieux examiner ses bordures ainsi que son fond. La dernière prospection des dunes suivait une transect de 7,5 par 0,5km. Nous avons parcouru cette surface metre par metre, en voiture, afin de trouver des sites, de n'importe quelle date et dimension. Dans le cordon dunaire et dans les dunes remodellées, chaque site trouvé était collectionné et décrit en détail.

Une prospection pareille d'une transect de 2,0 × 0,75km au nord du fleuve et de 3,75 × 0,5 km au sud a été entrepris aux environs de Mangabéra (une village Songhai de la rive droite, à 22km à l'ouest de Gourma-Rharous) (voir Carte C). Nous avons choisi cette transect parcequ'elle comprenait trois sites apparament très grands. Egalement, nous voulions déterminer si les résultats du survol aux alentours de Tombouctou seraient applicables aux autres secteurs de la Boucle du Niger. Chaque site choisi dans la plaine d'inondation, comme tout site découvert sur les deux sols dunaires, ont éte soineusement examiné. Un chercheur de l'équipe parcourait la surface du site, prenant note de la présence et de la quantité de chaque élément majeur (par example, restes des maisons, tombeaux, fourneaux). Toutes les petites trouvailles (pipes, fusaioles, perles, scorie) étaient de même annotées. La méthode de description est restée identique à celle employée pendant notre survol des alentours de Jenné-jenno en 1977 et 1981. Ce même chercheur decrivait les caractéristiques géographiques de chaque site (les sols autour du site, les tapis de sable récents, la proximité d'eau, l'élévation). Les autres participants de la Mission s'occupaient du ramassage de poterie. A chaque site tous les tessons étaient ramassés par une surface de $4m^2$. Sur les sites importants et sur ceux portant plusieurs ensembles ćeramiques sur la surface, les ramassages étaient faits à plusieurs endroits de la même dimension. Cette méthodologie diffère de celles utilisées en 1977 et 1981 car les surfaces de ramassage n'étaient pas choisis au hasard avec l'aide d'une table de numéros randomisés. Les sites près de Tombouctou sont trop ensablés pour un ramassage de céramique statistique. Après le ramassage formel, les deux chercheurs reparcouraient la surface de chaque site afin de trouver d'autres ensembles de tessons à noter. Donc, à présent dans la Boucle du Niger nous avons des données sur les établissement anciens, de leur poterie, et d'autres trouvailles qui se trouvent assez comparables à ceux recueilliés aux environs de Jenné-jeno au Delta intérieur du Niger.

Resultats I: Sites archéologiques

1. Transformations dans le réseau des anciens établissements

Le rapport final de cette Mission exposera la synthèse définitive des modifications demontrées entre les unités géomorphologiques préférées comme zones d'habitation pendant des périodes diverses. Cette synthèse nécessite la considération des données géographiques et des données détaillées des céramiques de chaque site. Pour le moment on se contentera d'une discussion préliminaire des differents types de sites découverts et de leur correlation avec les trois unités pédologiques que nous avons identifiées.

Le Tableau A illustre les quatre catégories de sites étudiés: 1) les grands sites (d'une étendue de plus d'un hectare); 2) les petits sites d'occupation permanente; 3) occupation temporaire sur dune (dépôts superficiels); et 4) d'autres localités à occupation temporaire (trouvés surtout aux bords des oueds et dans les creux dégonflés par le vent sur les terrains dunaires). Sur la plaine d'inondation, la plupart des sites anciens (77%) sont d'une occupation permanante et sont en majorité de grande étendue (62% du total). Par contre, sur les dunes remodelées et sur le cordon dunaire 12 des 20 sites (60%) sont d'une occupation temporaire. Parmi les 8 sites d'occupation permanente trouvés sur les dunes remodelées ou le cordon dunaire, 6 sont soit à l'intérieur, soit sur les bordures de l'oued majeur à l'est de Tombouctou. Ces chiffres sont généralement valables pour les environs de Mangabéra, où 3 des 5 sites de la plaine d'inondaion ont des dépôts profonds, tandis que 3 sur 5 sites sur les dunes sont d'accumulation superficielle.

Ces résultats sommaires indiquent que dans le passé les facteurs déterminant le choix d'un lieu d'habitation étaient les mêmes qu'aujourd'hui: les établissements humains étaient étroitement liés au lit du fleuve, sauf la où les conditions hydrologiques extraordinaires les laissaient pénétrer plus loin de fleuve, au desert.

CARTE C

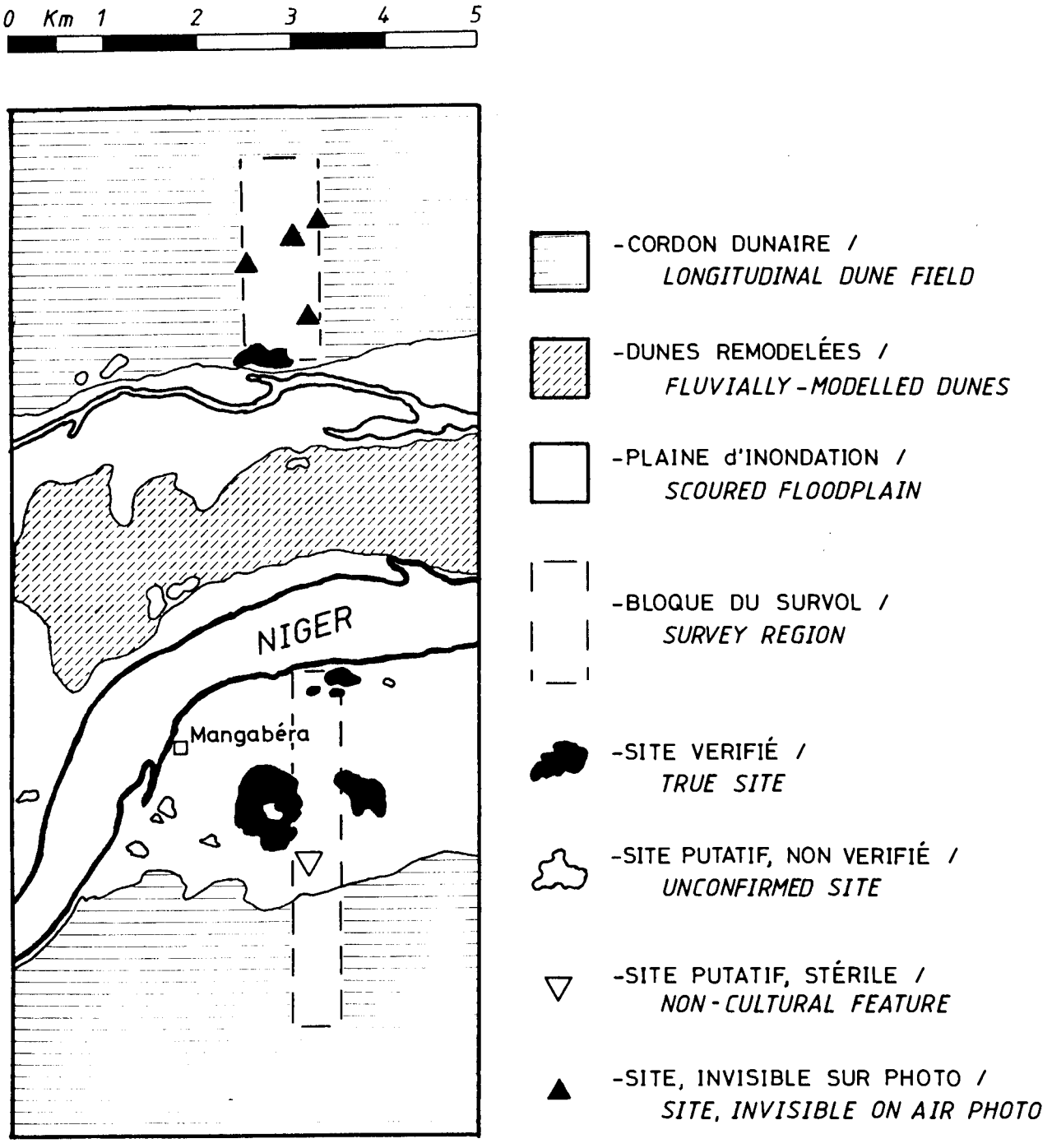

0 Km 1 2 3 4 5
NIGER
Mangabéra
-CORDON DUNAIRE / LONGITUDINAL DUNE FIELD
-DUNES REMODELÉES / FLUVIALLY-MODELLED DUNES
-PLAINE d'INONDATION / SCOURED FLOODPLAIN
-BLOQUE DU SURVOL / SURVEY REGION
-SITE VERIFIÉ / TRUE SITE
-SITE PUTATIF, NON VERIFIÉ / UNCONFIRMED SITE
-SITE PUTATIF, STÉRILE / NON-CULTURAL FEATURE
-SITE, INVISIBLE SUR PHOTO / SITE, INVISIBLE ON AIR PHOTO

TABLEAU A

Unité Géomorphologique	*N° Sites Etudiés*	*OCCUPATION PERMANENTE (dépôts profonds)*		*OCCUPATION TEMPORAIRE (dépôts superficiels)*	
		Grands Sites	*Petits Sites*	*Grands Sites*	*Petits Sites*
Prospection TOMBOUCTOU	33	13	5	6	9
Plaine d'Inondation	13	8	2	3	0
Dunes Remodelées	1	0	0	0	1
Cordon Dunaire	19	5	3	3	8
Prospection MANGABERA	10	5	0	2	3
Plaine s'Inondation	5	3	0	0	2
Dunes Remodelées	0	0	0	0	0
Cordon Dunaire	5	2	0	2	1
TOTAL	43	18	5	8	12

TABLEAU B

Unité Géomorphologique	*N° Sites Putatifs*	*Sites Pupatifs STERILES*	*Sites Invisibles sur Photos Aériennes*	*Sites Putatifs sur les Blocs de Survol*	*Sites Putatifs VERIFIES*	*N° Sites ETUDIES*
Prospection TOMBOUCTOU	80	17	18	58	41	33
Plaine d'Inondation	50	3	0	40	37	13
Dunes Remodelées	11	9	1	9	0	1
Cordon Dunaire	19	5	17	9	4	19
Prospection MANGABERA	*8*	*1*	*4*	*7*	*6*	*10*
Plaine d'Inondation	6	1	0	6	5	5
Dunes Remodelées	1	0	0	0	0	0
Cordon Dunaire	1	0	4	1	1	5
TOTAL	88	18	22	65	47	43

2. Les liens entre la Boucle du Niger et la région de Jenné-jeno

La conclusion la plus importante de cette étude sera la comparaison chronologique des changements principaux dans le réseau des sites de la Boucle du Niger par rapport à ceux déjà découverts dans le Delta intérieur. Cette chronologie proviendra de l'analyse définitive de la poterie, pas encore completée. Néanmois, au niveau préliminaire de ce rapport, on peut déjà prévoir de grandes différences entre la Boucle du Niger et les alentours de Jenné-jeno. Le Tableau A montre que la région de Tombouctou ainsi que celle près de Mangabéra portent autant, si non bien plus de sites anciens sur les sols exondés (bien que pas loin de l'eau permanent) que sur les terrains inondés. Ces résultats sont en contrast frappant avec les résultats des prospections autour de Jenné-jeno, ou les buttes anciennes sont beaucoup plus nombreuses dans la plaine d'inondation à travers toutes les périodes anciennes. La préférence actuelle des habitants du Delta intérieur d'occuper les unités géomorphologiques exondées (les dunes et levées), n'était établi que quelques siècles après l'abandon définitif de Jenné-jeno et de la plupart des autres sites associés (McIntosh et McIntosh 1983b; R.J. McIntosh 1983). Les sites de ces deux grandes régions du Mali présentent d'autres différences. Près de Tombouctou et près de Jenné-jeno les sites de la plaine d'inondation sont de vrais tells, c'est-à-dire, des tertres construits entièrement de dépôts culturels. Ceux de la région de Tombouctou sont beaucoup moins élevés, ce que pourrait impliquer une occupation plus courte ou du moins peu permanente par rapport à celle démontrée dans les fouilles à Jenné-jeno et à Hambarketolo.

En contrast avec l'histoire des établissements près de Jenné, tous les sites anciens de la Boucle du Niger, ceux situés sur les sols dunaires ou ceux près du fleuve, souffrent énormément d'un ensablement continu. Il est très rare de trouver un site où 50% de la surface est libre de dunes récentes. Ces sites sont plus pauvres en vestiges anciens que ceux aux environs de Jenné-jeno. Celà peut- être la conséquence soit de l'ensablement, soit de la pillage des antiquaires locaux à la recherche d'anciennes trouvailles à vendre aux touristes de Tombouctou. Les trouvailles non-céramiques sont minimales, peu denses et peu variées. Les pipes sont assez communs sur les sites les plus récents, mais les autres objets trouvés abondemment dans le Delta intérieur (par ex., les poids de filet, hameçons et lames en fer, bijoux en cuivre, perles, et surtout, scorie) y sont extrêmement rares. Même les éléments majeurs (murs de maisons, tombeaux, fours) sont très rares. A cause de la pauvrété et du caractère peu varié des vestiges non-céramiques, il est difficile, sinon impossible, d'établir une analogie dans la Boucle du Niger pour les deux faits majeurs du réseau de sites du Delta intérieur découverts au cours de nos prospections de 1977 et de 1981: (1) Les sites liés à Jenné-jeno et situés dans son arrière-pays démontrent une fort tendance de concentration. Les sites de l'arrière-pays et surtout l'agglomeration qui entoure Jenné-jeno immediat sont fortement concentrés (McIntosh et McIntosh 1983a et 1983b). L'occupation des sites individus dans ces concentrations n'était pas séquentielle, mais simultanée. (2) Chacun des sites composant une agglomération est, probablement, une "communauté fonctionnelle" distinct. Les témoignages de différenciation fonctionnelle (épaisse couche de scories et restes de fours sur un site; hameçons et plusieurs poids de filet sur un autre) sont en défaut à tous sites visités en 1984 aux alentours de Tombouctou ou de Mangabéra.

3. La valeur rélative des photographies aériennes

L'utilisation des photos aériennes pour un projet de prospection exige l'évaluation de deux critères nécessaire: visibilité et identification. Par visibilité nous voulons dire le pourcentage des sites anciens qui peut être trouvé sur les photos. Identification veut dire la vérification sur terrain que tout site putatif (identifié sur photo) est un vrai établissement abandonné. La situation idéale est une visibilité et une identification de 100%, c'est-à-dire une correspondence parfaite entre la réalite archéologique sur terre et les informations disponsibles sur les photos. Pendant les deux campagnes de prospection près de Jenné-jeno, nous avons demontré que tous les sites dans la plaine d'inondation peuvent être facilement vus sur les photos et que tous ces sites sont des tertres de dépôts culturels. Cependant, bien que tous les sites putatifs sur sols exondés aient été identifiés comme vrais sites, il existait des sites en plus qui n'y étaient pas visibles. Ces résultats implique qu'il est facile seulement sur les sols inondés d'employer des systèmes de hasard statistique pour choisir un échantillonage de *sites individus* (au lieu de blocs de survol) dont la distribution est démonstrablement représentative pour une étude d'occupation régionale plus profonde ou pour une campagne scientifique de fouilles à plusieurs endroits associés.

Le Tableau B illustre les résultats dans les régions de Tombouctou et de Mangabéra. Dans la plaine d'inondation des environs de Tombouctou, 50 sites

putatifs étaient identifiés sur les photos aériennes, parmi lesquels 40 se situaient sur les blocs de survol. Parmi ces 40 sites putatifs, nous avons verifié 37 comme sites archéologiques; 3 sont des éléments géomorphologiques sans traces humaines. Nous n'avons pas trouvé des sites invisibles sur les photos. Donc, la plaine d'inondation démontre une visibilité parfaite et une identification de 93%. En générale, ces chiffres sont de même valables pour la région de Mangabéra.

Les sols sablonneuses posent des problèmes. Sur les dunes remodellés, aucun des 9 sites putatifs sur blocs de survol était un site archéologique, et le seul site trouvé dans cette unité géomorphologique était invisible sur les photos. Sur le cordon dunaire, 4 parmi les 9 sites putatifs étaient de vrais sites (identification de 44%). Malheureusement, 17 des 21 sites découverts étaient invisibles sur photo, ce qui donne une visibilité de 19% seulement.

Les photos aériennes ont moins de valeur pour une prospection des sols d'inondation dans la Boucle du Niger que dans le Delta intérieur, à cause des dunes qui ressemblent aux tertres culturels. La valeur est beaucoup moindre dans les deux unités dunaires.

Resultats II: L'Analyse céramique

La quantité de céramique ramassée à chaque site était variable selon la densité des tessons sur la surface. En générale, entre 100 et 300 tessons ont été collectionnés à chaque site, un numéro suffisant pour la caractérisation préliminaire de plusieurs ensembles céramiques datant d'époques différentes de l'Age du Fer. L'ordre chronologique de ces différents ensembles nous est suggerée par la comparaison entre les céramiques provenant de Jenné-jeno et celles ramasseés dans les alentours de Tombouctou. Les similarités sont frappantes entre les ensembles céramiques de ces deux regions.

Les objectifs des analyses céramiques actuellement en cours sont: 1) de décrire les ensembles céramiques que nous avons reconnu aux sites investigés à la Boucle du Niger; 2) de documenter les similiarités aussi bien que les différences qui existent entre la poterie du Delta intérieur et celle de la Boucle du Niger; et 3) de formuler des hypothèses sur la chronologie des ensembles céramiques de la Boucle du Niger, bases sur les éléments stylistiques communs à la poterie de Delta intérieur (dont la chronologie est déjà bien établie) et celle de la Boucle. La chronologie résultante de la céramique devra rester hypothétique jusqu'au moment que les fouilles scientifiques, menant aux datations absolues, soient entreprises aux sites de la Boucle du Niger.

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RECENT NAMIBIAN COASTAL ARCHAEOLOGY

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Rescue excavations were recently undertaken in the dunes outside Walvis Bay. The rescue work was focussed on human skeletal material which was eroding out of the shifting dune sands and which had become badly damaged by the natural elements as well as carnivore activity. Once this work was completed it was decided to investigate reports of middens in the area. Previous excavations had been carried out on a midden complex at Wortel situated several kilometres to the west and on the very edge of the dune field within which we were presently working (Jacobson and Vogel 1977; Burgess and Jacobson in press).

A short walk through the dunes revealed literally hectares of midden material spread out in a thin veneer over the surface of the dune streets. Here and there dense patches were also visible. This area forms part of the mouth of the Kuiseb River and is very complicated from a geomorphological point of view. The midden material lies on river sediments which are incised in places by channels. Also overlying the sediments are dunes up to 8m or so high; these create bays in which the archaeological material is found. Whether the middens extend under the dunes is not known at present. Some of the material has obviously been disturbed by running water but our observations were confined to those areas assumed to be in a primary context. Obviously, these are preliminary observations which could alter as a result of more detailed work and specialists reports.

The temporal relationships of such a spread are complicated and it will be extremely difficult to establish boundaries to discrete occupational events. What is interesting, however, are the spatial associations of the material. A number of random collections were made and while it is hoped to return for more detailed work later, a few preliminary observations may be of interest. From a visual survey made over 5 of the dune surrounded bays, a number of interesting associations were noted. These naturally will still have to be tested against detailed excavation though, nevertheless, allowing for the highly visible surface nature of the deposit we feel they have some reality.

The excavation of the Wortel Complex, several kilometers nearer the coast, yielded mainly the remains of the sand burrowing white mussel, seal and bird. There was very little in the way of fish. The dune complex, on the other hand, yielded the following: there seemed to be a negative correlation between fish remains, represented overwhelmingly by otoliths and white mussel which confirms the Wortel complex's finding. Only scattered mussel shell was found at the dune complex which could be a function of this areas being further from the coast although occasional accumulations were found, though with a minimal fish component. On the other hand, there appears to be a strong correlation between bird and seal at both complexes except that at Wortel these are found with white mussel whilst at the dune complex they are associated with a minor terrestrial fauna component. There are also a few dense clusters of black mussel (a rock dweller) generally associated with fish only.

As I have mentioned above, these visual observations will have to be tested against hard data from field excavations. Nevertheless, these tentative visual observations do provide a number of hypotheses relating to the spatial variability of coastal middens which could have a wider relevance for coastal as well as interior surface sites.

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ANCIENT MINES IN THE NORTH OF IGBOLAND

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Many scholars, since publication of the Igbo-Ukwu finds by Thurstan Shaw (1970), have been trying to discover the source of raw material used for their production. Onwuejeogwu and Onwuejeogwu (1976) and Chikwendu and Umeji (1979) speculated that one possible area could be north of Igboland.

Geological investigations have confirmed the presence of galena with some percentage of copper at Enyigba, Ameri and Ameka, all in the Abakaliki zone (Orajaka 1965 and 1972; Farrington 1952). This paper reports on a research project undertaken to see if ancient mines could be located in the area and, if found, to determine what type of ores were obtained from them.

It was difficult to determine the presence of any evidence for ancient mining activities in the area from interviews of local inhabitants. Modern mining corporations have been working in the area for over five decades, and any ancient sites must have been affected by recent mining activities.

However, I was lucky to meet some people who confirmed that there were ancient mines at Ikwo. Elder Imoke Nwigiri from Enyigba, and Emma Alugbana from Ameka, took me to a site very close to the Ameka daily market which they described as one of the ancient mines in the Ikwo area. Unfortunately it had been closed by rice chaff coming from a nearby rice mill and loose earth from recent mines opened by the Nigerian Mining Corporation. Mr. Alugbana said that before the mine was filled up it was about 15m deep and 50m long. While there, I observed some women with iron hoes, picks and knives searching the loose earth from the recent mines for any galena not already collected by the miners. Similar situations were observed all over the Ihoto Hills where I located many recent mine shafts.

From the description of this filled shaft it apears that these ancient miners made use of open cast mines. Elder Imoke Nwigiri, however, informed me that his people also collected ore on the surface and at the foot of the hills after rains.

When I asked what they did with the ore, I was informed that it was smelted. It should be pointed out that only Mr. Emma Alugbana and Elder Imoke Nwigiri had any idea that the people of the area smelted ore in the past. Although one finds many pieces of slag as one walks through the area, it was difficult to locate any smelting centres. However, after an intensive search I was able to locate three major smelting centres. These were at 'Offia Agarana', Enyigba, Ameri and Ameka.

At 'Offia Agarama' I was surprised to see many pot sherds mixed with the slag. Elder Imoke Nwigiri, who said that he took part in the smelting, said these were the sherds of bowls used in the smelting. He said that the ore and the charcoal were put in the bowls and that the smelting took place in bowls. I had doubts about this information, because I was able to observe lumps of brownish burnt clay that could be parts of fallen furnace walls. At Ameka and Ameri, only gathered heaps of slag were observed and I have been unable to identify either furnaces or large quantities of pot sherds associated with the slags.

I asked what actually was produced from these smelts (iron, tin, copper etc.) and was told by Emma Alugbana that their people produced many things including copper and zinc. There was no way I could test this information. Most of the slag samples were very heavy, very dark and appeared to have double faces with a rough upper surface and a very smooth surface that seems to have rested on smooth, conically-shaped object.

I collected samples of slag, debris, and hopefully some locally smelted metals for spectrographic analysis. It was easy to collect slag samples, but it proved difficult to get any locally smelted and worked metal. I was finally able to obtain one "Okpogu Igbo" (literally, Igbo money), a type of precontact currency used by the people of Abakaliki and Cross River areas. I was informed that this was the currency used at the 'Igboji' market, a border market between Abakaliki and Akunakuna people from the Cross River areas. The final unfashioned products of the smelting were sold in this market. A sample from this, along with four slag samples were sent to the National Steel Council, Metallurgical Research and Test Division, Jos, for analysis to determine the proportion of elemental constituents of the samples. The results of the spectrographic analysis for the four slag samples are given in Table 1.

TABLE 1: Results of spectrographic analyses as percentages

Sample	*Fe*	*CaO*	*MgO*	*SiO_2*	*Al_2O_3*	*Others*
Enyigba 2	17.35	0.001	0.001	52.57	9.52	20.56
Ameri	63.20	0.001	0.001	11.48	3.36	21.96
Ameka	62.92	0.001	0.001	19.91	3.36	13.81
Enyigba 1	57.10	0.001	0.001	24.80	3.92	14.18

The results (as percentages) for the 'Okpogu Igbo' are as follows: Fe - 31.5; Sn - 5.24; Cn - 49.94; Zn - 10.0; Pb - 2.40; Mn - 0.08; P - 0.03; others - 0.81. It appears that this is a bronze object with a considerable amount of iron. It is not possible to ascertain the reason for the high iron content but it is thought that in order to increase the strength and still retain the ornamental properties of the material a high iron content would be essential.

Visual observations of the pulverized slag specimens were also made. Enyigba I appeared to be an aggregate of grey unreduced iron ore, and brown particles of what could possibly be alumunosilicates were observed. Enyigba 2 also appeared to be grey unreduced iron ore and silicate grains. The unreduced iron ore was interspersed with quartz. The Ameri sample consists of aggregates of fused, partially reduced iron. The Ameka sample appeared to be aggregates of partially reduced iron ore without visible quartz crystals.

What struck me immediately was the level of iron in these samples. All showed predominantly aggregates of what appeared to be partially reduced iron ore, quartz, alumina and silicates.

The results of these analyses have not brought me nearer to my goal, but have instead raised additional questions about ancient iron working in parts of Eastern Nigeria. I am now going to collect and analyze ore samples from Enyigba, Ameri and Ameka. Meanwhile I appeal to anyone who knows where I can collect locally smelted and worked metals around Abakaliki to contact me so that I can take some samples for further analysis.

This project is being financed by a grant from the University of Nigeria Nsukka Senate Research Grants Committee.

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ROCK-SPLITTING IN THE SAHARA?

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While examining some tumuli adjoining a rock outcrop in the Immidir/Mouydir region (25°00'N 04° 10'E), something was noticed protruding above the top surface of a boulder and seemed to be part of a broken stone rod.

Notes made at the time were later stolen. In Fig. 1, however, the compass laid atop the boulder is 7.5 cm long and the cord is wrapped around the end which points south. The boulder can be seen to be split basically into a north and a south portion, with the north portion divided again into two pieces. The rod fragment is inserted in such a way that it currently separates the north and south portions.

It did not prove feasible to examine it closely, being wedged tightly in place and defying all attempts to budge it. Yet it looked typical of many objects which have been described as pestles, small enough to be used with one hand and probably less than 20cm in length. One may frequently come upon implements of this kind, except that they are normally broken obviously at one end only, if at all. It is difficult not to suspect re-use, as pestles, of fragments of stone rods formerly measuring anything up to 1m in length, with varying types of tip, the use of which has yet to be determined (Gast 1965: 318).

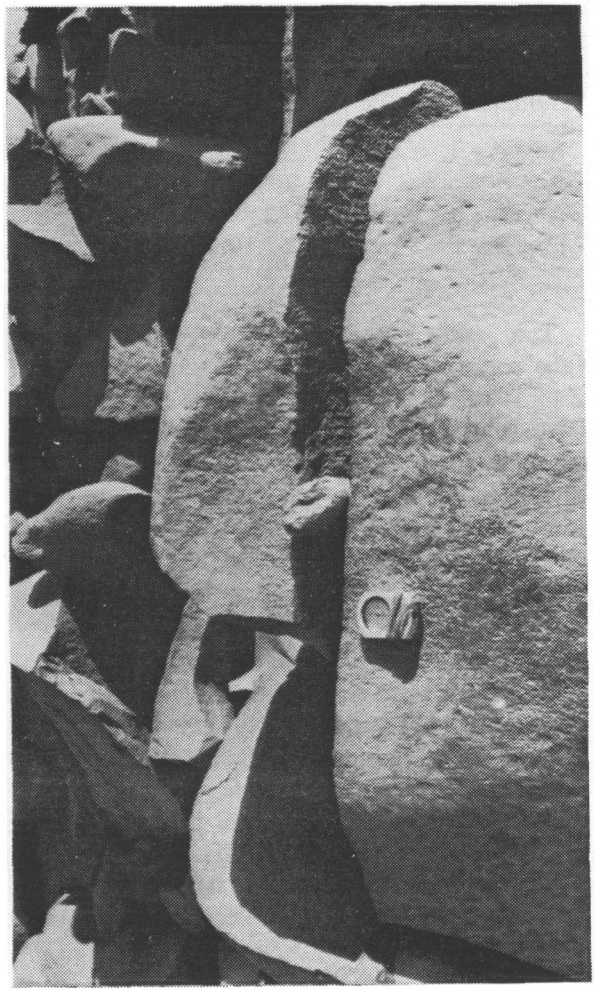
Such long rods, as well as short pestles, occur as surface finds in association with Neolithic grinding equipment, whose upper stones can display a bewildering variety of shapes. (Milburn and Rees 1984: 45).

Examination of other boulders in the same outcrop revealed a number which appeared to have been split, though whether by nature or otherwise is unknown. Stones contained in adjacent tumuli were sometimes fragments rather than complete: considerable weathering had also taken place.

This particular outcrop, one of several lying astride low, rolling hills, proved to be of further interest due to the presence, on three sides, of examples of what has been termed *monument en V* or *V plat*, sometimes reaching several hundred metres in length, though seldom exceeding 40cm in height (Milburn 1981). Indeed the monument site which gradually revealed itself, spread over rather more than a square kilometre, proved to contain nine such structures, a unique quantity so far as I know. A single "axle shape" – its "arms" set at 180° to one another, rather than in a V – lay in a cunningly concealed position at the eastern extremity.

A number of Vs lay sprawled partly across, or adjacent to, outcrops from which stones were presumably taken to build them. That provisionally listed as 3A lay on flat ground, surrounded by adequate building material in the form of suitably-sized stones, the scarcity of which, for some metres around the structure, could indicate that such stones had indeed been so employed.

However the two Vs listed as 5A and 6, both on higher ground and each less than 100m from the outcrop under consideration, were constructed on stony terrain, though this was composed of little more than numerous pebbles, with the resulting need for larger stones to be brought in from elsewhere.



It was only then that the probable situation became apparent. Disregarding the occurrence, on V 5A, of a pottery sherd and a flake of hard greenish stone (jasper?), of which plenty more flakes were seen adjacent, it becomes possible to surmise the use of the stone rod in connection with the business of rock- splitting, though in a manner currently unknown to me.

It is provisionally thought that only the middle portion of the stone rod is currently to be seen: the two somewhat ragged ends presumably indicate breakage, though whether in connection with rock-splitting or some prior activity is unknown. A second fragment of a pestle (or a long stone rod) lay on the surface within a few metres of the northern "arm" of 5A, though its context could not be determined.

I would be grateful for news of any comparable phenomena in northern Africa and especially in the Sahara. No Vs have yet been dated, so that they cannot be attributed to a metal-possessing folk. Indications are that they are oriented about east

southeast and may possess a single contracted burial, lying on the right side, head to south and facing the same direction as the V itself.

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SOMALIA

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Archaeological survey work was carried out in northern Somalia in January-February 1984. This represents a continuation of work done in 1975 (Chittick 1976) and was chiefly concerned with regions which it was not possible to examine at that time. Attention was chiefly directed to the coast and its immediate hinterland.

An interesting Islamic settlement was identified at Biya Guure a few miles east of Berbera; this was roughly surveyed and small test cuts dug in two buildings. The village was built on a spur overlooking a wadi in which there is water, apparently permanent, and it seems that the inhabitants practised irrigation-based agriculture. The lowest courses of the buildings are of rubble; part of the superstructure, of mud-brick, survives in one case only. The pottery is almost all of imported types, mostly glazed, among which sherds of Chinese origin are commonest. These wares and Islamic glass date the settlement to the 14th and 15th centuries. It is thus contemporary with the town sites of the Adal emirate further west, south of Zaila'. It is however the only site of this period in the Berbera region, though there are two known on the plateau about 150 km to the south. A small settlement on the coast immediately to the west of Bosaso, dateable to around the 15th century, was also recorded.

The recording of cairns and other drystone monuments, known in Somali as *taalos*, was proceeded with. The most important group found were close to the Butyaalo creek east of Qandala also on the north coast, between Bosaso and Cape Guardafui. This is the region where most of the best quality frankincense is produced. There is a group of around 200 *taalos* here, almost entirely cairns. The larger and better-built of these are neatly covered with shingle; there is often a row of standing stones on the eastern side, as found in the great cairn-field of Salweyn, near Hais. There were only isolated examples of what have been termed disc monuments (circular features flush with the ground) and low rectangular 'platform' monuments. No artefacts other than stone flakes were found in the vicinity. Close to the sea shore, however, a few hundred metres away, are extensive shell middens, extending for about a kilometre parallel with the shore. At one point, where a shallow drainage line cuts through mounds, are the remains of what appears to have been a dam constructed of boulders. A few fragments of coarse, very gritty pottery were found; this is similar to a ware found at Hafun and believed to have been manufactured in the coastal region. There is no evidence as to whether the shell-middens and the nearby cairn field are contemporary.

Nothing of early date was found between Berbera and Zeila' (Saylac in the official orthography). Search was made at these two places for possible traces of the ports mentioned in the *Periplus of the Erythraean Sea* believed to be identifiable with these two ports, but without relevant result; the earliest material recorded from Zeila' is of the 14th century, and nothing was found at a possible alternative site for the port of Avalites futher north at Tokhosho, where there are important salt workings. A photographic record was made of the few surviving stone buildings of Zeila', all of which, except for one mosque, are partially ruined or on the verge of collapse.

The expedition was undertaken jointly with personnel from the Academy of Arts and Sciences. Funds were kindly provided by the British Institute in Eastern Africa, and a Landrover generously loaned by Mrs. Hilary Costa-Sanseverino.

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EXCAVATIONS IN SOUTHERN SOMALIA

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In September 1982, excavations were carried out at archaeological sites surveyed some months before (NA 20, 1982). The research was supported by a fellowship from the Istituto Italiano per l'Africa, and by a grant from the Ministero della Pubblica Istruzione. The Somali Academy of Sciences and Arts provided a Landrover and driver, and was represented during excavations by Mr. Ahmed Duale.

In Hilo Ari (North of Baardheere, Middle Juba Valley) two stone cairns were examined: Tum. 2, a drystone structure on the right bank of the river, and Tum. 3, an earth mound covered with slabs of stone, on the left bank.

Tum. 2, with a diameter of about 12m, and a maximum height of 1.25m, was found to be built up with stones in the upper part, and with stones mixed with earth in the lower 25 to 50cm. No trace of timber structure was found inside, but a kind of oval pavement was present at ground level, in a slightly eccentric position, correspnding to the depression on the top of the cairn. The stones of the "pavement" were not in a flat position, but more or less upright. They disappeared after approximately 30cm, and covered a shallow depression, which was found empty except for an unidentified grey trace which appeared to cross it 10cm below the stones. No archaeological item was recovered. A few bones were found within the drystone level of the cairn: they were from a bovid, a small rodent and a bird.

Identical stone cairns were seen and described by U. Ferrandi in 1897 close to Gondut wells, some 70km north of Hilo Ari. They were ascribed by Somali to a mythical giant people, the Mandole, or to the Galla.

Tum. 3 was 7 × 8m. Half of it was excavated. It was built up of earth mixed with stones, which became larger closer to ground level. About 1kg of charcoal and some charred seeds were collected from this part of the structure. They were later determined as *Palma* sp. seeds, and as fragments of *Nymphaeceae, Juncaceae,* and possibly *Cyperaceae*. No grave was found. A ^{14}C determination gave a modern age, i.e. less than 200 years.

A sample of charcoal from a small test pit opened in Spring Cave at Baydhabo gave the same result. The charcoal was found associated with some decorated pot sherds, as well as bones of bovids, camel, small artiodactyls, carnivores, hare, birds, and also tortoise shell and molluscs.

Further surveys were made around Bur Muun (close to Dhiinsoor) and from Kismayu to the border with Kenya, where tumuli are apparently made with earth, as might be expected in an alluvial area.

Present-day informants, as well as those quoted by Italian explorers at the end of last century, are completely unaware of the meaning of these cairns, while oral tradition goes back with remarkable accuracy to more than one century ago. This is in apparent contrast with the recent age of Tum. 3, which is in accordance with a similar date from a cairn excavated by I.M. Lewis at Gan Libah (*Man* 1961, 61:103-6). However, it should be remembered that, until fairly recent times, Galla people inhabited Southern Somalia. South of the Juba River, for instance, they were defeated by Somali after three years of struggle, around 1869.

Seeds and charcoal were determined by Dr. Paolo Paoli, Museo Botanico, Firenze, and by Dr. Giovanna Cuiffi, Orto Botanico, Firenze. Bones were examined by Prof. A. Simonetta, Università di Camerino. Dr. G. Calderoni, Istituto di Geochimica, Università di Roma, processed the samples for radiocarbon dating. Futher investigations are planned in 1984.

ARCHAEOLOGICAL MISSION OF THE UNIVERSITY OF GENEVA TO KERMA

1983-1984 SEASON

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The Swiss Archaeological Mission to the Sudan recommenced its work at the beginning of December 1983, for a period of two months. Once again, various urgent interventions, necessary for the preservation of the local patrimony, were added to our research programme.

The three sites uncovered this season have permitted continuation of the work which has been ongoing for several years. Thus, new quarters have been studied in the town, near the religious centre. In the eastern necropolis, a tomb containing a painted coffin, on which a few hieroglyphs can still be distinguished, has raised the question of exchanges between the population of Kerma and Egypt at the beginning of the Middle Kingdom. For the period which followed the colonisation of the New Kingdom (between 1500 and 1000 BC), the study of a building of the Napatan epoch has proved to be exceptionally interesting. Although this building was reconstructed several times, and even misplaced, its general layout remained almost unchanged during more than two centuries.

The ancient city

The new houses found to the south of the Deffufa seem to be aligned along a wide depresion existing across the town. This axis could belong to one of the principal routes leading from the estern gateway towards the entrance of the religious centre of Kerma. The depression has been hollowed out little by little, due to the effect of wind erosion and human and animal traffic. A wide, sinuous wall and structures rounded off with burnt bricks protected the habitations.

At the centre of the city, the plan of several of the houses has helped us to complete the picture of the urban development. Whereas the town originally consisted of a small nucleus of houses, an overall orthogonal plan is perceptible for a epoch that can already be determined as Ancient Kerma (the end of the third Millenium). These houses, which were built within a quadrangular courtyard, usually consisted of two rooms. The kitchens, situated to the south, were placed in an enclosure which also contained installations for small livestock.

The eastern necropolis

Two new sectors of the necropolis have been studied. In the first, the tombs were relatively well preserved. Cattle skins protected the corpses of the dead. The loin cloths worn by the dead are made of two pieces of leather, of different colour, knotted together on the abdomen. Traces of wood and strings placed in the hands of the subjects show that they were archers. One of them was accompanied by his dog, two goats and two sheep.

The tombs of the second sector were almost completely pillaged. Nevertheless, a large circular sepulture has provided the important information. Three robber holes had been dug in the tumulus, which was covered with basalt and quartz stones. Underground galleries allowed the pillagers to gain access to the riches of the deceased. Paradoxically, it was the collapse of one of these that preserved an installation situated at the surface of the tumulus. It consists of an offering table – decorated with animals modeled in clay – and a jar and its support. A wooden coffin painted in yellow as well as pottery intended for offerings were placed in the pit. On the sides and one of the ends of the coffin there are traces of a band and a column of hieroglyphs painted in blue. The signs, and the separation lines are highlighted in black. The decoration is not unlike certain Egyptian coffins of the Middle Kingdom. unfortunately, the mediocre state of preservation prevents a reading of the hieroglyphs.

The Napatan Building

The remains of the Napatan edifice consists of a quadrangular block, 15m long on the side. The thickness of the walls shows that the building was of some height. The living rooms, access to which was by a ramp, were on the first floor. The ground floor was occupied by vaulted stores. Inside these, jars were well sunk into the floor. Analysis of the contents of several of these containers has allowed us to test the hypotheses proposed after excavations at Meroe, where identical pottery was also found in situ. For Garstang, who excavated that site at the beginning of the century, such containers were involved in funerary rituals, the jars being used as containers for the remains after cremations. More recently, and still concerning Meroe, P.L. Shinnie has proposed that the jars were used to store grain or were fireplaces. At Kerma, a sifting of the contents of the containers has indeed shown that they were used to store grain. Mostly cereal grains (barley) and fish bones in large quantity have been recovered, together with kitchen waste, and a few bones of domestic animals. Up to the present day, corn and dried fish have remained staple elements of the food of the local population.

The central body of the edifice was surrounded by annexes and courtyards. The kitchens were placed on the western side and then moved to the south. Several circular ovens and jars designed for storing certain foodstuffs have been preserved. We have also uncovered the foundations of adjoining rooms, long and narrow, and very characteristic of this period. On the northern side two circular structures with relatively thick walls perhaps served to protect trees. Later, these arrangements were reused as depots for jars and for the installation of a granary. The building was abandoned at the end of the Napatan epoch.

GASH DELTA ARCHAEOLOGICAL PROJECT: 1984 FIELD SEASON

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The Italian Archaeological Mission to Sudan (Kassala) of the Department of African and Arabian Studies, Istituto Universitario Orientale, Naples, has continued investigations of the Gash Delta (Eastern Sudan) in January and February 1984 under the direction of R. Fattovich. The members of the team were Mauro Coltorti (geomorphologist), Patrice Lenoble (archaeologist), Karim Sadr (archaeologist and surface surveyor), Adelina D'Alessandro (assistant archaeologist), Bruno Castiello (assistant archaeologist), and Cristina Damiani (illustrator). The Sudan Antiquities Service, Khartoum, was represented by Mr. Abdallah Mohamed Abdallah, Inspector for Archaeology. The funds were suppled by the Italian Ministry of Education (research funds 40%), the Ministry of Foreign Affairs, and the National Research Council.

In this fifth field season the IAMSK carried out the following investigations: (1) geomorphological survey of the Kassala-Khashm el Girba transect; (2) archaeological survey of the southwestern delta from Kassala to Shurab el Gash; (3) proper excavations at Mahal Teglino (K 1); (4) preliminary recording of the early historical remains and tumuli in the southern delta and adjacent plains; (5) reinvestigation of two major sites discovered in the 1980 reconnaissance of the delta (K 2, WG 1 formerly KGar. 6).

Geomorphological Survey (M.C.)

Work centered around the Jebel Taka and Jebel Abu Gamal inselbergs, along the left bank of the Gash and in the Shurab el Gash area. Around Jebel Taka and Jebel Abu Gamal a sequence of four main sediments has been identified:

1. Basal, strongly weathered, argillified soil of granitic origin, possibly related to a wetter climate, not easily datable.
2. Brown soil at the foot of the slopes or blackish soil near the slopes developed perhaps in a tree savanna environment under the present climatic conditions or in a slightly wetter environment.
3. Alluvial sediments of the Gash intermingling with (2) at the southern end of Jebel Taka.
4. Deposits of human occupation directly overlying (2), with an aggradation phase due to the accumulation of natural silts and a recent phase of gully erosion.

Along the left bank of the Gash a lot of sediments, belonging to the deposits of natural levees, are visible. The possible palaeochannel of an ancient meander of the river can be also identified. It is presently filled by recent silts.

In the Shurab el Gash the sandy silts of a palaeochannel have been traced below the surrounding alluvial plains. It was probably an ancient main bed of the Gash flooding towards the Atbara river.

The palaeochannels probably go back to the Late Pleistocene or Early Holocene, however, the present bed of the Gash was probably cut after the Middle Holocene.

Archaeological Survey (K.S.)

The archaeological survey covered about 325 km^2 in a zone bordered to the north and northwest by the Khashm el Girba-Kassala railway line, to the west by longitude 36°15', to the south by the northern limit of the Shurab el Gash (the area which was surveyed in 1982; see NA 23: 17-19), and to the east by the Gash river. Sixty sites were located and fully recorded. They have been classified in conformity with the nomenclature of the cultural phases and groups in the Khashm el Girba-Kassala area suggested by Fattovich, Marks and Ali in the *African Archaeological Review*, 2, 1984 (in press).

Of these sites, one belongs to the earliest cultural group of the Atbai Ceramic Tradition in the general Kassala area; the Malawiya Group (Saroba Phase), going back to the 5th millenium BC. Sixteen sites of the Kassala Phase, going back to the 4th-2nd millennia BC, were recorded; one large mounded site as well as three small sites of the Butana Group, and twelve sites of the Gash Group. Eleven sites of the Hagiz Group (Jebel Taka Phase), probably dating to the late 1st millenium BC - early 1st millenium AD, have been identified. Of the remaining sites, eighteen have been attributed to the

Jebel Mokram Group of the 2nd millenium BC, related to the Atbai Tradition, and eleven to the Gergaf Group probably contemporary to the Fungj period. Materials of the Gash, Hagiz, Mokram and Gergaf Groups moreover occur as minor components in mixed sites. One site is a tumuli field without associated ceramics and the rest could not be placed securely in any of the cultural phases and groups.

In addition to the sites located in the survey zone, three tumuli fields of the early historical period were recorded around the base of Jebel Taka.

In terms of spatial distribution, the Malawiya Group sites (one from the 1984 survey, and another one from the 1982 season) are located in the Shurab el Gash area, at the southern end of the present survey zone. The Butana Group sites are located in the eastern half of the survey zone, though the 1982 survey showed that sites of this group are concentrated mainly in the Shurab el Gash area. The Gash Group sites are concentrated in the west central portion of the survey zone, more or less at the northwest edge of the Shurab area and further north in the open steppe. Two minor occurrences of Gash Group ceramics were also found on sites close to the Gash river in the eastern part of the survey zone. The Hagiz Group sites are concentrated in two areas, one in the west central part of the survey zone: a distribution similar to that of the Gash Group sites, and the second with three large sites, in the eastern part close to the Gash river. The Jebel Mokram Group sites are concentrated in the Shurab el Gash area, but a few large sites of this group are found further to the northeast by the Gash river, and in the open steppe at the north part of the survey zone. The Gergaf Group sites and minor occurrences are found in almost all areas of the survey zone, with the highest concentrations at the northwest edge of the Shurab el Gash. The early historical tumuli fields are located at the base of Jebel Taka, but no associated habitation sites have been located so far. No early historical ceramics were found in the survey zone proper.

On the basis of the information gathered this season it is possible to establish a preliminary site typology for the occupations of the different time periods.

The Malawiya sites in the Shurab el Gash area are fairly small, ca. 1ha in area, and have only about 30cm of archaeological deposit. The Butana sites are of two types. The first is the characteristic large mounded site covering an area of ca. 10ha with 1-2m of archaeological deposit. The second type is a small surface site iwth lower densities of artefacts. The sites of the Gash Group can also be divided into two preliminary types similar to those of the Butana Group, with the exception that there is only one large mounded Gash site (K 1, Mahal Teglinos) whereas large Butana sites are found all the way from the Gash to the Athara river. The Hagiz Group sites appear to be similar to the small Gash Group sites. The Jebel Mokram Sites are generally fairly large (ca. 3-4ha) and often have distinctly separate concentrations of artefacts. In addition the Jebel Mokram Group sites are often associated with small mounded features which were interpreted previously as the remains of wells or water pools (NA 22: 28-30) but which now appear more likely to represent house mounds (the definite nature of these mounds remains to be tested). The Gergaf Group sites are always small (maximum 2ha, but usually less than 1ha in area) and have a very low density surface scatter of artefacts. The only large Gergaf sites known so far are found in the Atbara river valley to the west of the present survey zone (NA 22: ibid.; the Gergaf and Hagiz sites comprise the two subsets of what was then referred to as the Korak Group).

At this stage of the survey it appears that there are clear differences in the settlement patterns of the various time periods. The objective for future research will be to complete the survey coverage and to gain a better understanding of the intrasite variations in the occupations of the sites of different time periods.

Rock Drawing (R.F.)

During the survey a quartz outcrop with rock drawings was discovered to the north of Shurab el Gash. Fourteen distinct groups of rock engravings were identified. They represent very schematic figures, probably symbols. The most common motif is a circle with a dot in the middle surmounting two crossed lines. Their meaning is still uncertain. They might however becompared to some tribal marks. The age of these figures is unknown. They could be relatively ancient, insofar as they have the same patina as the basal rocks.

Excavations at Mahal Teglinos (R.F., A.D.'A., P.L.)

The season was devoted to drawing the topographic map of Mahal Teglinos (K 1), opening two trenches in the central sector of the site, and to excavating a tumulus at the entry of the site.

The first trench was 6 × 6m. It was excavated in conformity with the AAA grid system and was progressively reduced to a 1 × 2m test pit in order to get a complete view of the possible spatial distribution of the materials in the upper layers and a

complete stratigraphical sequence at that spot. Sterile soil was reached at 215cm.

Fifteen living floors were identified. In the upper two strata, at 25-30cm and 55-60cm, possible evidence for structures has been found. In the lower ones traces of possible postholes have been noted.

On the basis of the ceramics at least five main archaeological levels can be recognized. They are characterized by a progressive decrease of scraped ware from the top to the bottom of the sequence, and are marked by evident stylistic changes at 35, 60, 150 and 180cm.

In the first two levels the scraped ware is very abundant (ca. 80%). In the first level particularly some potsherds similar to specimens from Shaqadud cave in the Western Butana have been collected. In the second one a finer scraped ware and black polished inside ware with a graphite (?) slip are present. They represent the typical Gash Group occupation of the site, suggesting two developmental subphases. The third level is characterized by the occurrence of black topped ware and rims with a zig-zag band pattern like the decorated ones of Early Kerma and C-Group pottery, and by a lower frequency of scraped ware. In the fourth level a black ware, with polished or rough surface, is common. In the fifth level only undecorated sherds have been collected.

The faunal remains from the third level seem to suggest a basic change in the adaptive strategy. In the upper 100cm fish and shell are very abundant, while in the lower strata they are almost absent and mammal bones are frequent.

The second trench was opened at about 20m to the south of the previous one. Two main archaeological levels were exposed. In the upper one a large amount of scraped ware, associated with a completely new set of decorated potsherds, was collected. It suggests a later occupational stage which might have disappeared in the main trench because of surface erosion. In the lower one the same pottery as the first level in the main trench was found. It was associated with some circular stone structures about 1m in diameter, and filled with ground stones. Their function is still uncertain, but a funerary use can be safely rejected.

Finally, a circular tumulus was excavated at the entry to the site. It covered an almost circular pit grave that contained four burials. No grave goods were found, save for a bronze ear ring near the third burial and some beads near the first (lowest) burial. On the basis of the kind of burials and the type of ear ring it might date to the Meroitic period. However, the shape of the grave is different from typical Meroitic tombs in the Nile valley, and more reminiscent of contemporary Ethiopian tombs.

Historical Remains and Tumuli (P.L., R.F.)

Five early historical graveyards have been investigated along the western side of Jebel Taka (K 4, K 5, K 24, K 25, K 26). Two of them were recorded in the 1980 survey (K 4, K 5). The others were discovered this field season.

The ceramics from plundered tombs suggest a date during the Late Meroitic and Post-Meroitic periods, and there is some evidence that might indicate an Early Christian age. However, the ceramics have some specific decorative patterns that could represent a local tradition. Potsherds similar to the Aksumite and Post-Aksumite ones of northern Ethiopia were also collected in all sites. At K 4 and K 25 some fragments of white Mediterranean amphorae with a wavy suface indicating Late Roman and Early Byzantine age were found (see also NA 17: 65-71).

The numerous tumuli scattered along the cliffs of the inselbergs from Jebel Tukulabab to Jebel Ekebit were recorded in a more accurate way than in the previous seasons. They have different shapes and sizes. Two main types can be distinguished.

The first type is represented by circular or conical stone cairns ranging from 2.5 to 10-15m in diameter. They are often clustered, with one or two major tumuli surrounded by the smaller ones. They might date to the Post-Meroitic Period.

The second type is represented by rectangular structures, ca. 6 × 5m in size, with a round core. They are usually associated with an oval stone cairn placed at their northern side. These structures are located mainly near Jebel Timberi Tie, Jebel Tukulabab, Jebel Taka and Jebel Ekebit. Their age is uncertain. An early Islamic date might be possible, insofar as they recall the tombs at Jebel Maman.

Re-investigted sites (R.F.)

Two major sites (K 2, WG 1) discovered in 1980 have been re- investigated during this field season.

K2 is located along the northeastern slopes of Jebel Taka. It covers an area of about 100,000m^2 with four main assemblages, each about 100m in diameter. Three assemblages can be safely attributed to the Hagiz Group (Jebel Taka Phase), going back to the late 1st millenium BC - early 1st millenium AD. The fourth one seems to be mixed, as materials of both the Butana Group and the Hagiz Group have been collected on the surface.

WG 1 (formerly KGar 6) is a large settlement of the Jebel Mokram Group, dating to the 2nd millenium BC. It covers a surface of ca. 80,000 m^2 with thirteen main assemblages, possibly representing the different compounds of one or two villages.

RADIOCARBON DATING FOR THE EARLY MEROITIC IN NORTHERN NUBIA

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Some doubts have been cast on the chronology that was put forward for the early Meroitic cultural horizon, located between the Second and Fourth Cataracts, and recently defined chiefly as a result of the Spanish excavations in the cemetery of Amir 'Adbdallah (Abri, Northern Province) (see NA 23: 20-22 and Fernández 1984). The doubts were reasonable as comparative material was scarce and many supposedly early Meroitic features (grave-types, handmade pottery, bronze bowls) were also present in the well-known Late Meroitic culture (post 1st century AD) of Lower Nubia and elsewhere. Furthermore, the traditional way of cross-cultural dating used was rather weak since only the wheel-made, burnished slipped wares could be dated according to Adams' recent excavations in the late Ptolemaic levels of Qasr Ibrim (Adams manuscript: wares RB); the authorized opinion of this investigator clearly stated that this kind of pottery is not at all known in Lower Nubia (Ibrim apart).

I shall omit here the somewhat complex reasoning that I followed in trying to overcome those shortcomings, but instead present the new radiocarbon analyses made on wood from the coffins of intact graves of Amir 'Abdallah (Table 1).

TABLE 1:
Radiocarbon dates for Amir 'Abdallah

Grave	*Years BP*	*Years BC (calibrated)*	*Lab. number*
199	2220 ± 120	280 ± 130	UGRA-150
234	2130 ± 100	180 ± 110	UGRA-151
426	2130 ± 90	180 ± 110	UGRA-152
506	2320 ± 90	465 ± 150	UGRA-153
331	2180 ± 90	207 ± 100	I-11561

The samples were measured by Teledyne Isotopes and the University of Granada. These are the first radiocarbon dates for the period in Northern Sudan (the dates from Gezira Dabarosa 6-G-9 are rather puzzling as they overlap with late Meroitic times and are associated with atypical material items: Hewes 1964). They all clearly belong to the early Meroitic period (3rd to 2nd centuries BC) except for grave 506 which is placed in the 4th century. This was one of the nine graves of the small northern cemetery, allegedly the initial burial place of the site.

The dates were calibrated using the latest tables (Klein *et al.* 1982)., including 68% of the confidence and dismissing the Poisson error. Only the date from the northern cemetery (UGRA 153) moved to the 5th century, but a test of analysis of variance (F-test) shows that there is no statistically significant difference among the five mean values ($F = 1.11$; see the method for ^{14}C dating in Long and Rippeteau 1974) and that the five dates could actually correspond to an "instant of time" and be approximately coeval. A t-test of the significance of the maximum time difference between the means (285 years) gives a comparable result.

Therefore, it is feasible to average the five dates to obtain a mean date of 247 ± 43 BC for the first phase of the cemetery; i.e. with a 68% chance of being during the 3rd century BC (the mean is 210 ± 49 if we reject the earlier date from the northern cemetery). Calibration of the mean value gives 225 ± 90 BC, which accords with our previous estimate of the 3rd to 2nd centuries for phase A. There were no available samples from phase B, where burnished slipped wares were much more abundant and Aswan pottery appeared, supposedly during the 1st century BC.

We obtained another date (UGRA-149) on wood from the burial- bed in Tomb 624 in the nearby Kerma cemetery (see Fernandez 1982). The date is 3400 ± 100 BP (1750 ± 105 BC calibrated) and thus agrees with the date known from historical-cultural sources for the transition between the Middle and Classic Kerma phases, a time culturally defined for the cemetery.

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FIELD RECONNAISSANCE NEAR EL GHADDAR (NORTHERN SUDAN): February 1984

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The Dongola Reach Survey Project was originally conceived by Dr. N.B. Millet of the Royal Ontario Museum who, in 1976, undertook an inspection tour of the area. For reasons beyond his control the project had to be postponed and since other duties kept Dr. Millet in Toronto it was decided that the execution of the survey be handed over to the author.

The main goal of this year's activity was therefore to become acquainted with administrative and logistical matters. Thanks to the invaluable help of the Sudan Directorate General of Antiquities the continuation of the project now seems assured. Apart from organizational matters the author's activities also included a brief, one-man exploratory survey near the village of El Ghaddar on the east bank of the Nile. The study area was located almost in the middle of the concession area, which extends from Ed Debba to El Khandaq, and lay immediately north and east of the Polish concession at Old Dongola. The northern limit of the reconnaissance was at Jebel Ghaddar. A total of 3 to 4 km^2 was covered and all the sites found were located on air photo 39089 as detailed maps of the region are lacking.

This year's survey added thirteen new sites to two previously reported by Jakobielski and Krzyzaniak (1968: 149) and Jakobielski (1983). The conditions of the permit limited the work to surface survey. Therefore the detailed cultural affiliation of many of the sites can not be ascertained until after test excavations during the next season. However, it is already apparent that there are two groups of sites: those of the historic periods (mostly Christian and Muslim) which are located on the sandy plain, and Neolithic and Palaeolithic sites which are distributed along the wadis on the terraces and gravel hills farther away from the river. These prehistoric sites are characterized not only by abundant lithic debitage but also by the large quantities of shells and shell fragments.

The mounds containing Christian material (red bricks, potsherds, plaster fragments) were all located near the Polish concession and clearly represent an extension of the remains of the Christian settlement of Old Dongola. The Muslim sites all seemed to be cemeteries, and in some instances were grouped around the tombs of the local holy men (e.g. site EG/ROM 3 "Jebel Sheikh Wahag"). Certainly the most impressive in terms of size, was site EG/ROM 4 located SSW and at the foot of Jebel Ghaddar. It contained perhaps eighty or more tumuli of unknown date. While the pottery found was all hand-made and seemed early (i.e. pre-Meroitic), the lack of diagnostic material precludes any final judgement at this time. It is hoped that the full-scale field work will be resumed next autumn with the systematic survey of Letti Basin, the southern limit of which is at El Ghaddar.

Acknowledgements

I wish to thank Mr. A.M. Akasha, Acting Director of the Sudan Directorate General of Antiquities, Mr. Sid Ahmed Kamier, Director of Excavations, and Mr. Mahmoud el-Tayeb, Inspector, for their help and cooperation. I am very grateful to Dr. S. Jakobielski and other members of the Polish Mission for their hospitality and help at El Ghaddar.

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RECONSTRUCTION AND RESTORATION WORK ON MONUMENTS IN THE SUDAN

1983-84

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The seventh season of reconstruction and restoration work at the northern group of pyramids at Begrawiya (Meroe) was resumed by the Directorate General of Antiquities and National Museums from 28 January to 24 March 1984. The work was supported by the Central Institute for Ancient History and Archaeology of the Academy of Sciences of the GDR, and concentrated mainly on the restoration and protection of four offering chapels.

Pyramid Beg. N 9 (King Tabirqo, ca. 200-190 BC)

The interior wall surfaces of this chapel are not decorated with relief scenes as are most other chapels. The only other known example of an undecorated chapel in the northern necropolis is the one at pyramid N 3. However, there are a number of unfinished pieces of relief work on the walls of chapel N 9 which give the impression that they are not part of the original decoration. It seems that the decoration connected with the actual burial was painted on the normally applied coat of plaster and that the unconnected pieces of relief on the north and south wall are evidence of use in later times when the plaster had already fallen off. The unproportioned pylon is perhaps another indication of a shortened construction time as well as for less than usual care in the finishing work.

We closed the chapel with a roof to protect this unusual situation and the additional graffiti on the walls. The roof consists of two original roof slabs supplemented by eight precast concrete beams with incorporated glass bricks (see NA 23: 29-30).

Pyramid Beg. N 12 (unknown king, ca. 150-130 BC)

The work which began last season (NA 23: 29) was resumed. The southern chapel wall was carefully dismantled and reconstructed properly. Both the north and south walls were originally constructed in a kind of (Greek) *opus implectum* method. Those walls, as well as the pylon, proved to be unusually thin compared with other masonry walls of that period.

After having rectified and restored the two side walls, the chapel was protected with a roof of which no original slab remained as a sample. However, the former shape of the roof slabs could be discerned from marks left on the western chapel wall. The segmented form of the lower face of the slabs was carefully copied when the fourteen concrete beams were cast.

We were able to rebuild the pylon up to the horizontal square molding. We hope to finish work on the chapel during the next field season.

The difficult anastylosis of the veranda in front of the pylon was started and part of the southern wall with its engaged columns was restored on the original foundation.

Chapel N 12 will certainly become – together with the neighboring chapels N 11 and N 13 – the central point of interest for future visitors. The attraction lies in the architectural ensemble of this part of the necropolis as well as in the rich decoration of the chapels.

Pyramid Beg. N 13 (King Naqyrinsan?, ca. 130-110 BC)

During this season the pylon of the offering chapel was reconstructed completely. The missing parts of the chapel side walls, with their horizontal square molding and cavetto cornice, were rebuilt. All outer parts restored by brickwork were plastered.

The interior of the chapel was left unfinished and used as a temporary store for relief blocks belonging to other destroyed chapels. The entrance to the chapel was closed by a double-leaf door in accordance with the ancient arrangement.

Pyramid Beg. N 20 (King Tanyidamani?, ca. 110-90 BC)

The chapel of this pyramid was found completely destroyed except for part of the first course and two relief blocks still in situ on the northern side.

During recent years, many relief blocks have been recovered from the vicinity as well as from beneath Reisner's dump of 1921 excavation debris. Drawings and photographs of these blocks were used last summer in Berlin to reconstruct the chapel walls. We observed that the pylon was also decorated in relief; this is not common in the northern necropolis (e.g. pylon N 6, N 11, N 19, N 22, N 34).

The newly recorded relief blocks, and the importance of the scenes depicted, required immediate restoration of the chapel. About 50 blocks, from all four walls as well as the pylon, were incorporated. Fortunately, we found ten more blocks and frag-

ments belonging mostly to the northern wing of the pylon, beneath the excavation debris of the 1921 Harvard-Boston expedition. Among these were two fragments of the 'false window' which once adorned the eastern face of the pyramid.

The reconstructed chapel was protected by a roof and a double- leaf door, but there was neither time nor material left at the end of the season to finish the work by plastering the supplementary brickwork.

Documentary work and observations

The recording of architectural and structural details in the northern and southern pyramid fields continued. The faces of a number of pyramids were measured stone by stone in an attempt to produce exact architectural drawings and to record on them the many graffiti, reused blocks and quarry marks which cover the surfaces of many stones.

More evidence was found (e.g. at Beg. N 12) which contradicts the practice (introduced by Reisner) of differentiating between pyramids with and without plinths as significant types in the study of building sequences. Instead, our studies confirm my explanation (*Meroitica* 7: 316) that the plinth was used primarily for structural purposes, to level uneven or sloping ground in the process of building a pyramid. The presence of a plinth certainly does not represent a special type of pyramid.

Southern and western pyramid groups

The architectural survey and recording of fallen architectural and relief blocks continued, in view of projected future reconstruction of some of the chapels.

Facilities for visitors

A room at the entrance to the pyramid fields has now been arranged as an Information Room for visitors. Lay-outs, drawings (inluding a colored diagram of a reconstructed pyramid), and panels with explanations in English and Arabic, are displayed along with a small showcase containing some objects. More photographs and explanations will be added next season, and a project for a site museum is under preparation.

Summary

A survey of the practical work carried out so far shows that:

(1) four pyramids (N 19, 26, 27, 32) and eight offering chapels (N 1, 5, 18, 19, 26 27, 28, 32) are now reconstructed completely;
(2) six offering chapels (N 6, 9, 12, 13, 20, 25) are nearly finished and work has begun at five more (N 8, 14, 36, 40, 41);
(3) eleven pylons are reconstructed, nine of them completely;
(4) preparation of a joint publication (history of research, architecture, reliefs and inscriptions with discussion) has started.

Rock inscriptions from Semna East (Kumma)

The reassembling of the broken pieces from the hieroglyphic rock inscriptions from Semna East continued (see NA 23: 30 for Semna West).

About 105 inscriptions were dismantled in 1968 from the east bank rock buttresses of Aswan-type granite at Kumma. The very hard and dry material, with many intrusions of, among others, large feldspar crystals and quartz veins, broke up into small pieces when the inscriptions were cut out of the rock. More than 600 fragments are now being assembled and glued with a special stone cement (Akemi). During the last season, 54 inscriptions were restored completely as well as five more not recorded in Dunham & Janssen (1960), *Second Cataract Forts I. Semna Kuma*.

Kerma

In November 1983, work started in cooperation with the University of Geneva expedition. One of the objectives was to protect the Western Deffufa against unauthorized climbing and the further destruction of the staircase.

A part of the eastern side was raised using large adobes along the original face in order to close the otherwise easy access to the top of the Deffufa. More adobe was built up in front of the staircase where a wooden door was installed.

We also made preparations for future research in the interior of the Western Deffufa where, in its lower portion, an earlier sacred structure seems to exist.

TEMPLE 'MEROE 250'

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During the winter of 1983-84, the Central Institute for Ancient History and Archaeology of the Academy of Sciences of the GDR carried out an architectural survey and recording work at the site of the so-called 'Sun Temple' at Meroe.

Destruction by the strong prevailing winds has reached an alarming state. Deeply-cut inscriptions seen by Garstang in 1909-10 are now obliterated. The soft sandstone masonry is being eaten away and even the more resistant Meroitic lime plaster is eroding. It was therefore decided that it was urgent to record was is left of the structure.

Temple Meroe 250 was excavated under Garstang's direction in 1909-10. However, the published description and the few plans and photographs available do not provide a complete picture of what was found.

The architectural recording was done by the writer, while photographic recording and study of the inscriptions was done by A. Burkhardt. To facilitate the recording and future documentation, the individual structure remains were given numbers (which do not coincide with those used by Garstang). The complex consists of the following:

- the Temenos wall (No. 247) with its main entrance at the east and a smaller entrance at the west;
- a room (No. 248) with a central row of three columns at the NW corner of the Temenos;
- the Temenos proper (No. 249) enclosed by the Temenos wall;
- the temple proper (No. 250);
- the 'priests' house (No. 251);
- the high altar (No. 252) to the east of the Temenos;
- the so-called 'kiosk' (No. 253) east of No. 252;
- the remaining wall foundations (No. 254) east of No. 253;
- the building (No. 255) SSE of No. 250;
- the hafir SE of No. 250;
- two brick-strewn areas (Nos. 1107 and 1108) west of the SW corner of the Temenos and one brick-strewn area (No. 1100) north of No. 254.

A plan of the complex was drawn and the several structures within the barbed-wire fence were measured and drawn. Many levels were taken to allow preparation of sections and to compare the different foundation heights.

The present state of decay and wind erosion of the masonry was recorded, and a number of wall faces were drawn, stone by stone, in order to prepare drawings as a framework for the eventual incorporation of reliefs and graffiti. Of special interest was the study of evidence related to different building periods.

Photographic recording centered on the temple (No. 250) with its reliefs along the lower part of the structure and on the internal temple in the hypaethral and peristyle court. About 560 relief and architectural blocks and fragments were recorded.

Work will continue next season and will include measures for restoration, stabilization and protection.

MACROBOTANICAL REMAINS FROM SHAQADUD:

Interim Note

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The site complex of Shaqadud (16° 15'N, 33° 45' E) is situated in the western fringe of the Butana 50km southeast of the River Nile at Wad Ben Naga (Marks *et al.* in NA 16: 30- 35, 20: 47-50 and 21: 38-40) and about 140km northeast of Khartoum. The Naga archaeological monuments are 12km west of Shaqadud.

The site consists of a cave (Sl-A) and a midden (Sl-B) situated within a small box-canyon. Archaeological survey and excavations were conducted during 1980, 1981 and 1982 by a joint team from the Department of Archaeology at the University of Khartom, the Institute of Applied Science at North Texas University, and the Department of Anthropology at Southern Methodist University. The funds for the project were provided mainly by a National Science Foundation grant, with additional support from the University of Khartoum.

This report is on the macrobotanical remains which were recovered from the cave site (Sl-A). In order to ensure representative recovery of macrobotanical remains and to eliminate possible errors due to localized concentrations, 4 to 5kg of soil samples were taken from each level of the excavated area. In addition, soil samples were taken wherever charcoal concentrations, ash and hearths were uncovered during the excavations. Chance discoveries of sizable seeds (e.g. *Ziziphus* sp.) were also made during excavation and screening.

A flotation cell was used to process the soil samples and Dr. Ekhalas A. Bari of the Department of Botany at the University of Khartoum, is supervising the gross sorting the identifications of the botanical remains. Although the process of identification and analysis is still in progress, it is sufficiently advanced to permit this interim note.

The results obtained so far attest to the presence of a number of genera and species. Grains of *Pennisetum* sp. (brum) Stapf and Hubbard (col. Ar. dukhn) have been identified and it is the earliest evidence so far from Sudan. MASCA calibrated radiocarbon dates from this site (Sl-A) range from 2178 ± 93 BC (SMU-1133) to 2801 ± 91 BC (SMU-1128). While it is not yet certain whether this species was domesticated, it is evident that the area of Shaqadud lies at the eastern part of the natural habitat of the pearl millet belt sitated north of the equator and south of the Sahara (Harlan 1977). However, the morphology of the grains is to a large extent similar to that of the pearl millets that are presently cultivated in the area to the south and east of Shaqadud. One grain of *Sorghum* sp., similar to some of those growing wild in the area further south, was also found. We hope that detailed comparative analysis of these wild grasses will enable us to identify the grain in question to the species level. Seeds of *Panicum turgidum*, Forsk (col. Ar. toman), as well as large number of fruits and seeds of *Grewia tenax*, (Forsk) Fiori, (col. Ar. guddeim) and seeds and fruits of *Ziziphus spina-christi*, Lam. (col. Ar. sidir/nabag) were found. In addition, evidence of annuals and perennials were also recovered including seeds of *Solanum dubium*, L. (col. Ar. gubbein), *Sida alba*, L. (col. Ar. umm-shadeida) and *Setaria* sp., Stapf.

Given this variety of tree/shrub, annual, and perennial species, we hope that completion of the identification and analysis of the macrobotanical remains will enable us to draw a comprehensive picture of the adaptive strategies related to the exploitation of plants, as well as to develop ideas regarding the prevailing climate during the occupation of the site.

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ARCHAEOLOGICAL RESEARCH IN THE AREA OF RABAK AND ATBARA, SUDAN

1983-84

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The 1983 field season

Archaeological survey and test-excavations were carried out in January-February 1983, in the area between Jebel Tomat and Rabak along the White Nile ca. 180-230km south of Khartoum (Fig. 1). The fieldwork was undertaken to get information on the nature and extent of the Khartoum Neolithic type of settlement patterns. The archaeological material recovered indicated the presence of the same type of cultural tradition as previously found in the Khartoum area. Furthermore the people in the southern area seemed to have maintained their adaptation over a period of about 2000 years after the Khartoum Nile settlements were abandoned. The material thus fills the gap in the cultural history of the Khartoum Nile region.

Five sites were recovered, but archaeological fieldwork was concentrated on the Rabak site, since the others were badly disturbed by agricultural activities and roadbuilding. The site is located 3km east of the present flow of the Nile, on a bank of the river. It is elevated ca. 3.5m above the surrounding alluvial plain. The surface material is scattered in a large area ca. 200m east-west and 130m north-south. However, the cultural deposit seems to be restricted to an area of 200 × 80m (or 16,000m^2). Middle Palaeolithic tools of Mousterian type were also found on the surface, however none of these were present in the excavated square. It thus seems likely that the Rabak site was occupied for a shorter period during Mousterian time. All together 18m^2 were excavated, both in the center and at the outskirts of the site. The cultural deposit showed no stratification and arbitrary levels of 10cm each were employed. The cultural deposit generally varied between about 50 and 80cm in depth, although one square had a deposit of 150 centimeters (interpreted as due to downcutting and use as a kitchen-midden, since the material in this area consisted mainly of burnt fish and shell remains.

Three radiocarbon dates were obtained and the results are given in Table 1.

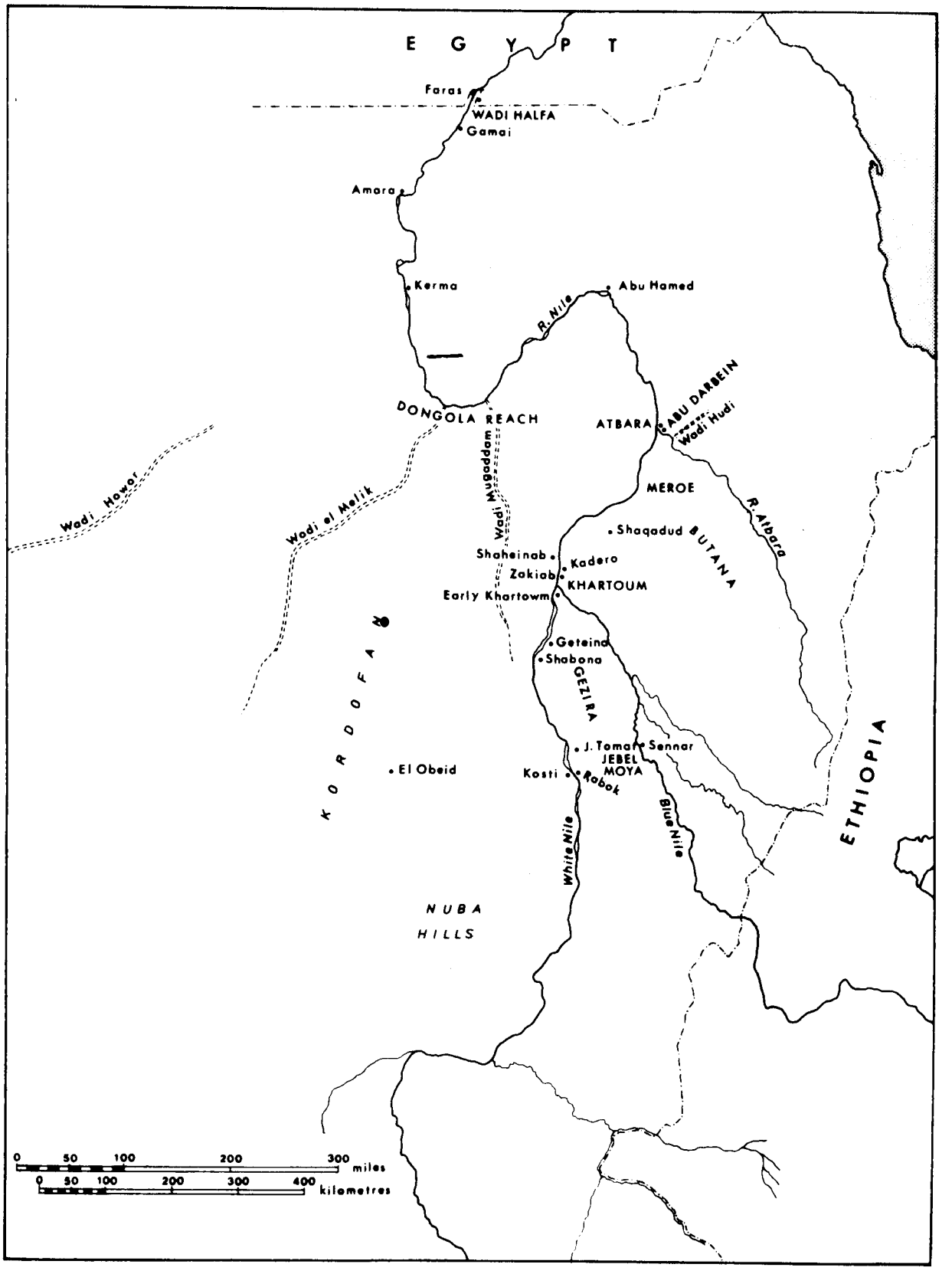

Fig. 1: Map of major sites mentioned in the text

TABLE 1: Radiocarbon dates for Rabak

Provenience	*Material*	*Years BP*	*Years BC (MASCA)*	^{13}C $^{0}/_{00}$	*Lab. number*
107x/100y level II	shell	4490 ± 100	3270 ± 110	–1.9	T-5132
107x/100y level 6	shell	6050 ± 100	4990 ± 110	-2.3^{+}	T-5133
107x/100y level 15	shell	6020 ± 130	4890 ± 200	–5.0	T-5134

The site shows an occupation span of nearly 2000years. However, more dates should be obtained to get a clearer picture of the chronology.

The pottery from the deepest levels is almost identical to the Khartoum Neolithic tradition (Fig. 2, a & b). It is therefore clear that this tradition extended more than 200km south of Khartoum. The pottery from the upper levels (Fig. 2, c & d) is related to the Jebel Moya tradition (Addison 1949: Plates XCI and XCII). However, the lithic material is rather different from the Khartoum Neolithic tradition. Gouges are totally absent and the flaked lithic artifacts are very crude with very few of the standardized tools (lunates, groovers and scrapers) which are common features in the Khartoum Neolithic. Grinders are also rare, suggesting that utilization of plant resources was of minor importance. Bone artifacts included harpoons and beads.

Analysis of the faunal material shows a heavy emphasis on fishing with some hunting of different sized animals. It should be noted that bones from domestic cattle were found in level 6, and this shows that domestic cattle were present by 6000 BP, as early as in the Khartoum area. The difference between the two areas is that this southern region shows a continuous occupation during the 5th millenium BP, when the Khartoum area seems to have been abandoned.

The 1984 fieldseason

Fieldwork was undertaken in January-March 1984, along the Atbara, from the town and ca. 60km eastwards. No archaeological fieldwork had been done in this area and the specific aim was to see if the Khartoum Neolithic tradition extended into this northern region.

There are extensive traces of prehistoric settlements, especially in the area along Wadi Hudi which is well known for the presence of large rounded blocks of good quality chert. Lithic artifacts were found scattered more or less continuously along the ridges of the wadi, however neither pottery nor organic materials were found. The types of lithic tools recovered (groovers and scrapers) give a strong indication that the main period of utilization was during the Neolithic. Further support for this interpretation is provided by the absence of blades. Archaeological fieldwork concentrated on one site, Abu Darbein (Fig. 1). The site is located on the edge of the Atbara River on an old bank 10m above the present floodplain. The site is estimated to be about 30 × 40m in area. However, test pits of only $20m^2$ were excavated and based on these it was not possible to limit the extent of the site. The maximum depth of cultural deposit found was ca. 60cm, and levels of 10cm were employed.

The main part of the site is clearly related to the Early Khartoum tradition since the most characteristic type of pottery found was unburnished Wavy Line. The sherds show that mica was used as temper, and pieces of mica were also found in the cultural deposit. It should be noted that the upper levels contained potsherds which show affinities to the Khartoum Neolithic tradition, and that here as well mica was used as temper. The lithic artifacts consisted predominantly of lunates and some thin elongated backed blades; very few other flaked tools were found. One polished stone axe and a broken stone ring were recovered in the upper levels. Very few grinders were found and not a single gouge. The bone artifacts consisted of bone harpoons and needles.

A preliminary analysis of the osteological material indicates a heavy emphasis on exploitation of aquatic resources with less emphasis on hunting.

The archaeological material recovered at the Abu Darbein site, indicates clearly that both the Wavy Line and Khartoum Neolithic traditions extended into the Atbara region which is thus an important link between the areas of Khartoum and Wadi Halfa. The estimated period of habitation of the site is from ca. 8000 to 5000 BP. Samples of

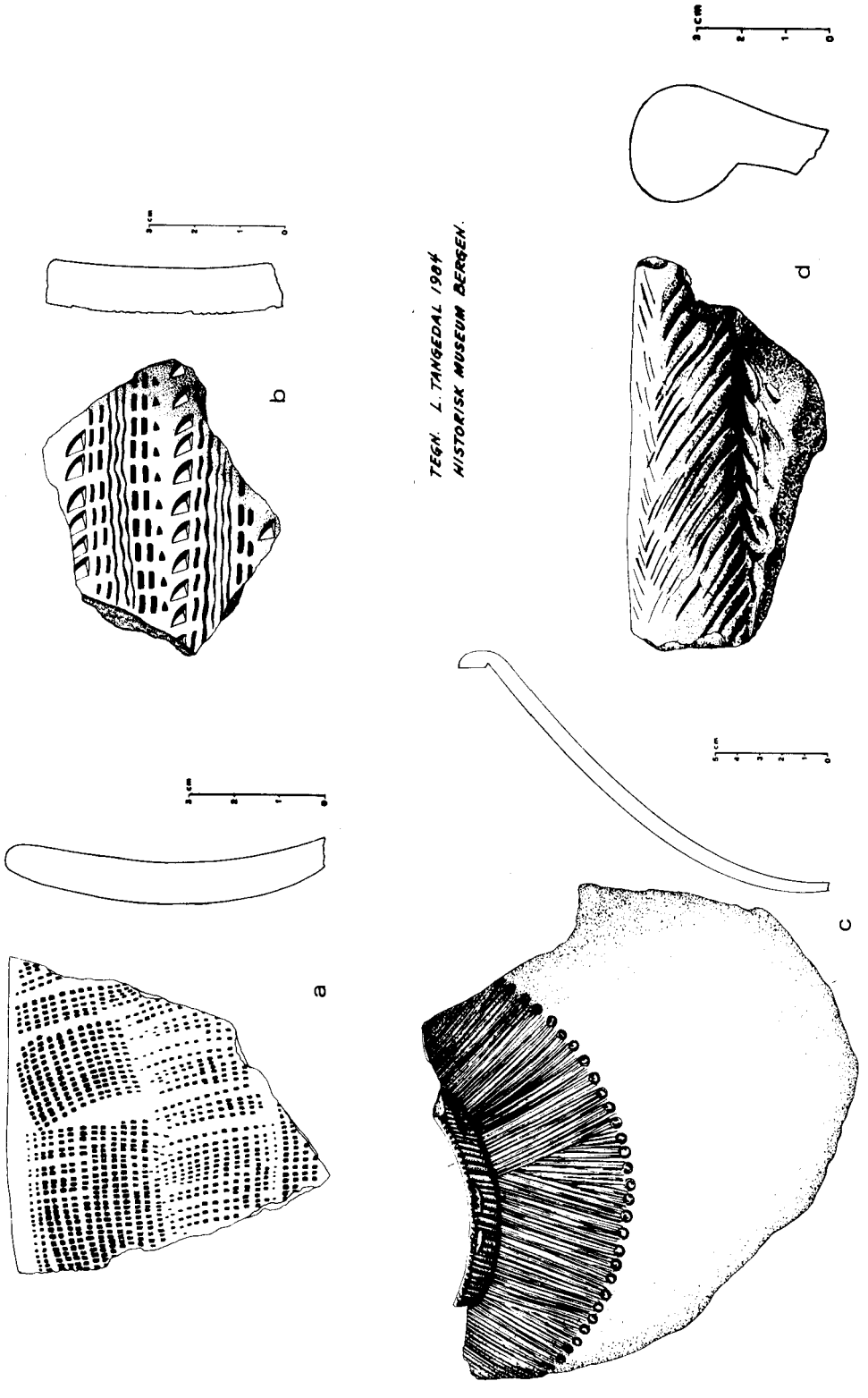

Fig. 2: a & b, potsherds from level 6 related to the Khartoum Neolithic; c & d, potsherds from level 2 and 3 related to the Jebel Moya tradition

shell were collected for radiocarbon dating, and the results should be ready shortly.

Acknowledgements

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BUTANA ARCHAEOLOGICAL PROJECT: 1983-84

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Since the end of the 1982-83 field season, the Butana Archaeological Project has been involved in the analysis of a huge amount of material shipped to SMU, as well as in producing a series of preliminary reports for publication. Because a number of these are currently in press (*African Archaeological Review, Norwegian Archaeological Review*) and others are under review now, this note will focus only on a few issues which need clarification.

First, let me provide a *mea culpa*. I truely did misquote Geus in using the term phase II rather than group II. Although he may not have implied any chronological order for his groups, my own feeling is that they are probably chronologically orderable.

Second, there is a dire need to clarify the radiocarbon dates so far published for the Butana Archaeological Project. Initially, a short series was published by me (NA 21: 38-40). Although I failed to note it, these were preliminary dates which were still in need of additional correction by the laboratory. Very recently, these same samples, as well as an additional sample, were published inadvertently in the *Journal of African History* by A. Close. This time, however, the dates were supposed to be the final calibrations from the laboratory. Unfortunately, these too are not accurate, since the dates, as reported, did not take into account the fractionation correction. Although this often has only a marginal effect on the date, even such small differences published under the same laboratory number leads to considerable frustration for those attempting to use such dates. Therefore, the dates given here are those which are correct and which will appear in *Radiocarbon* when the Southern Methodist University Laboratory publishes their recent work.

Shaqadud

The excavations at Shaqadud took place in both a large midden and in a deep cave. The former contained a stratified sequence going from Khartoum Mesolithic into Khartoum Neolithic, while the latter contained a stratified sequence of materials all datable to the 3rd millenium BC. These have no clear analogue in the Nile Valley and, therefore, are unnamed and, as yet, undescribed in publication. The following dates from Shaqudud are now available in final form:

TABLE 1:
Radiocarbon dates for Shaqadud

Provenience		*Years BP*	*Lab. number*
Cave	— level 16	3615 ± 88	SMU 1133
	— level 38	4123 ± 86	SMU 1128
	— level 54	4059 ± 65	SMU 1127
	— level 71	4046 ± 101	SMU 1208
Midden Khartoum Neolithic	— level 18	5584 ± 74	SMU 1134
Khartoum Mesolithic	— level 50	6893 ± 131	SMU 1186

Although the dates from the cave are not stratigraphically ordered, they are so close that they are statistically the same. In short, it is good evidence for a very rapid accumulation of sediments within the cave.

In addition, there are three still temporary dates on other Khartoum Mesolithic levels which are consistent stratigraphically and show that the Shaqadud midden covers most of the Khartoum Mesolithic period. Perhaps only the very earliest of it is missing.

A. Close also published a date from site KG14 located along the Atbara River, just north of Khasm el Girba. This too needs correction. The final, correct date is 6215 ± 75 BP (SMU 1139). There are now a total of 13 radiocarbon dates from our work in the eastern Butana and the southern Atbai but, since the archaeology is not yet fully understood, it is thought that the dates alone will

add little useful knowledge. We are now working on a publication which will integrate the archaeology and the dates.

A final note: additional funding has been received from the National Science Foundation and we plan on a significant field season during the Winter of 1984-85.

Another final note: Dr. Abbas Mohammed-Ali, former Chairman of the Department of Archaeology, University of Khartoum, and co-principal investigator on the Butana Archaeological Project spent the past academic year at SMU as a Fulbright Scholar. Largely because of his efforts, the final reports on the Shaqadud excavations should be completed within the next 12 months.

THE GERGAF GROUP:

The latest archaeological phase in the southern Atbai, East Central Sudan

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This is a brief report on the ceramics and settlement patterns of the last archaeological phase in the area between the Atbara river (at the town of Khashm el Girba) and the Gash river (south of Kassala town), which dates just prior to the Egyptian colonial occupation in the early 19th century.

The settlement data for the area west of longitude 36° 15′ to the Atbara were collected by the Butana Archaeological Project (BAP) under the direction of A.E. Marks (see NA 21 & 22) with funds awarded by the National Science Foundation (grant BNS 8102649). The settlement data for the area east of longitude 36° 15′ to the Gash River were collected by the Italian Archaeological Mission in Sudan (Kassala) under the direction of R. Fattovich of the Istituto Universitario Orientale, Naples. The ceramic report is based on the collection of the BAP housed at Southern Methodist University in Dallas. One radiocarbon sample (charcoal and humates) from the Gergaf site (KG 114) has been processed. The result is a temporary date of 159 ± 75 BP or AD 1791 (SMU 1289). The ceramics of the Gergaf group have a fairly porous paste with almost equal ratios of coarse mineral and fiber tempering. Surface colour of the sherds ranges from pinkish red to brick red. Buff-coloured sherds are also found. Full information on the variations in vessel form is not yet available. However, the majority of the vessels appear to be similar to design C6iii (Fig. 1). The rim tops of the Gergaf group vessels almost always have a characteristic flattened, as opposed to rounded, appearance. Another characteristic element is the occasional presence of lugs or handles on the body of the vessel.

In a typical assemblage of Gergaf group sherds up to 40% are decorated. Of these the overwhelming majority (up to 85%) are decorated with zoned bands of cross hatched or simple hachured incisions around the top part of the vessel. Design C6 iii (Fig. 1) is the most common variety. C6 i and ii are found less frequently (Fig. 1). An associated design is a simple cross incised on the face of the aforementioned lugs.

The only other major decorative pattern found on Gergaf group ceramics (up to 15% of the decorated sherds) is an unpatterned punctate design. This appears to have been produced by wrapping the vessel with cord, or alternatively by stamping the vessel with a cord-wrapped paddle.

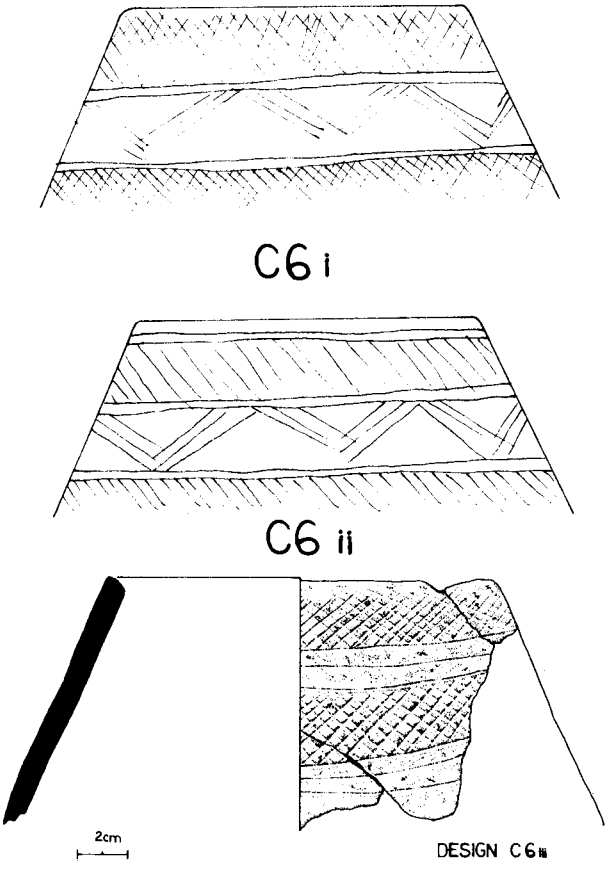

Fig. 1:

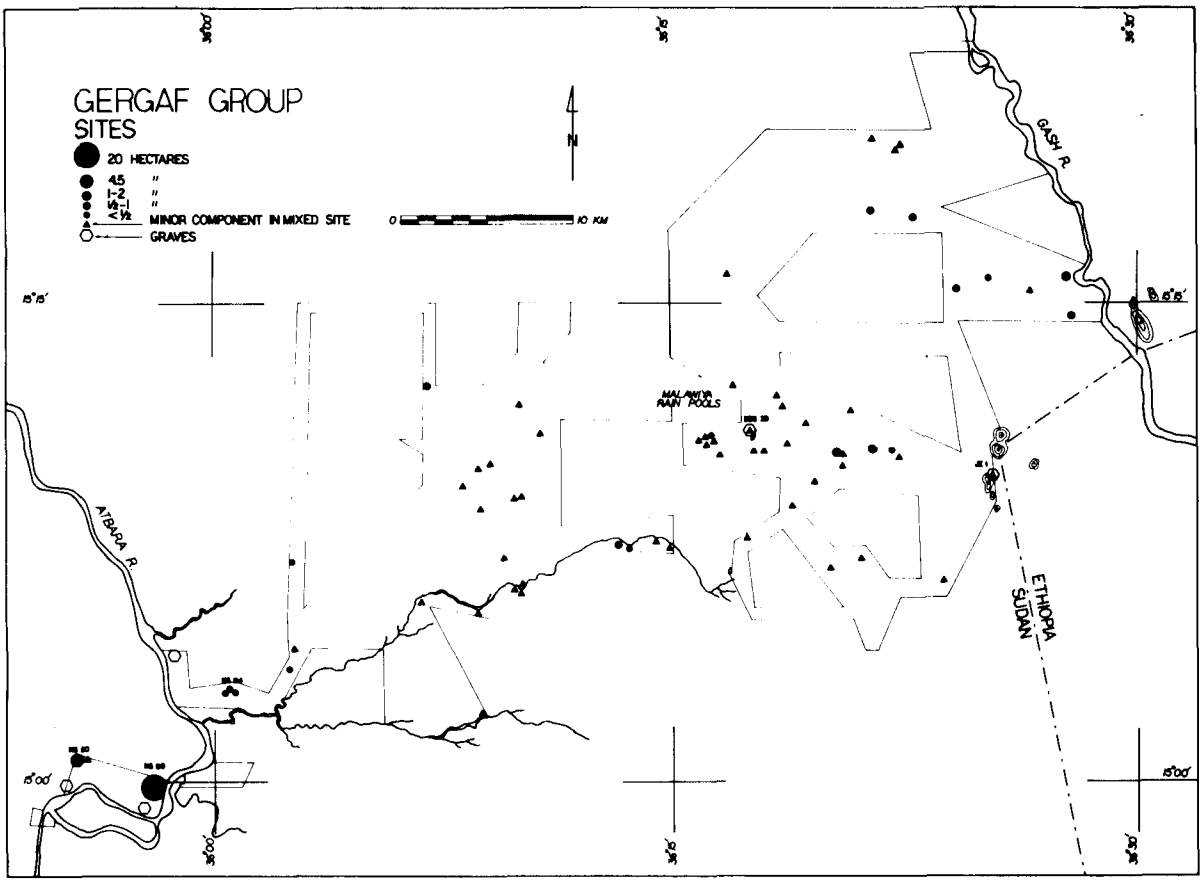

Fig. 2: Plan of site and excavations

In four seasons of fieldwork (81/82, 82 BPA; 82,84 IAM) 71 Gergaf sites and occurrences were found (Fig. 2). The largest of the sites, KG 60, is ca. 20ha in area and is composed of 17 medium to high density concentrations of artefacts, which range in size from ca. 100 to 1000m^2. The intervening areas between the concentrations generally have a very light scatter of cultural materials. None of the concentrations have much depth of deposit.

Site KG80, a few kilometers to the west of KG60, is ca. 4.5ha in area, but its intra-site nature is unknown due to heavy disturbance from modern roads and villages. All other sites of the Gergaf group are under 2ha in area. Small, undisturbed Gergaf sites, such as KG114, have a very low density cover of artefacts indicating a short term occupation. Most Gergaf materials, however, are found as minor components in mixed sites; hence their size is unknown. Nevertheless, given the small amount of materials recovered in such situations, it is unlikely that they represent occupations of any significant duration.

In addition to the settlements, three definite Gergaf cemeteries were located along the Atbara river, one within the bounds of KG60. Two other cemeteries were found east of longitude 36° 15′, but neither is as yet positively identified as being associated with the Gergaf group. The cemeteries on the Atbara each contain from 5 to 20 grave superstructures. Each is made of a circle of river cobbles or other available rock. They range in diameter from 1.5 to over 5 meters. A few quadrilateral superstructures are also found. In addition, each of the grave superstructures is analogous to Funj graves in the central Sudan.

Gergaf sites and occurrences are found in all environmental zones of the study area, ranging from river floodplain to badlands river valley (karab), and from the wooded areas of the Shurab el Gash (SE of Malawiya) to the open steppe north of latitude 15° 15′.

The presence of large sites by the Atbara and the Gash suggests a seasonal cycle which probably includes congregation on the Atbara during the dry seasons (late fall, winter, and spring) and dispersal in the steppe (note high density of sites in the area of the Malawiya rain pools) during and after the summer rainfall. The presence of many Gergaf occupations on top of sites of earlier periods may be due to

the fact that earlier sites provided a suitable surface (covered with stone and broken pottery) for occupation during the wet season. Indeed, an analogous pattern exists today in the spatial behaviour of some of the inhabitants of the Atbara river valley. Their settlement system will be examined more closely in the coming field season.

The overall pattern of the Gergaf group settlements is quite similar to the patterns described for groups as far back in time as the early 'pastoralists' on the Nile River. Interestingly, however, at this stage of research, it appears that in the East Central Sudan study area, it is only the Gergaf, the latest archaeological group, that exhibits this 'typical' pattern. None of the earlier groups in the area, going as far back as 6000 BC, had a settlement organization analogous to this so-called typical pattern.

PRELIMINARY REPORT ON EXCAVATIONS AT SOBA EAST, 1983-84

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This season eight weeks have been spent on the excavation of the red brick mound at the western end of mound B which was begun in the winter of 1982-83. These excavations have revealed three churches aligned east-west, two of which actually abut, while to the east of these buildings a number of mud brick structures were uncovered, lying beneath the gravel mound in this area.

Last season little evidence for pre-church occupation was found below Building A. A larger area was excavated below the nave and aisle floors of Building B. A considerable number of small pits and post-holes were found together with traces of mud brick walls. No occupation layers associated with these features had survived having presumably been removed by the builders of Building B. The mud brick walls only survived to a height of two courses. Underlying the southern side of Building B and extending under Building C, a shallow U-shaped ditch filled with silt was noted. The walls of both churches had subsided into this feature. Beneath the southern part of Building C, a red brick pavement and 'floor' formed of lumps of fossilized timber, were cut by the foundation tranches of the later building.

Of the churches, Building A is the earliest. There were three main phases of construction; from phase II three radiocarbon dates of ad 500 ± 120, ad 615 ± 55 and ad 700 ± 75 were recovered. Post-dating the construction of Building A, a freestanding mud brick structure enclosing a sunken red brick chamber with a lime plastered interior, lay a little to the south. This structure was demolished and the sunken chamber partly filled when the north wall of Building B was constructed across it.

Building B, measuring 26.5 by 22 m, was if anything, a more impressive structure than Building A. It made use of large stone blocks for pier bases between the nave and the aisles and also up against the aisle walls. The relief of Hathor found last year was probably being reused as part of the pulpit. The building was entered on the central axis through an impressive pillared doorway 12m wide. This gave access across two long narrow rooms into the nave, which was flanked by an aisle and two further rooms on either side. In its first phase the sanctuary area, room IV, was a rectangular room projecting a little beyond the east wall of the building. It formed the central room of a range of five extending across the eastern end of the building. At a later date the east wall of room IV was demolished, the room being provided with an apse projecting further to the east. On the main axis of the building, lying immediately to the east of the apse, a large tomb 4m in diameter was found. The burial, aligned east-west with the head to the west lay in a grave, 1.8m deep, below the level of the red brick superstructure which had been dug 30cm into the bedrock. Originally the grave had been roofed with a mud brick barrel vault the pit being then filled prior to the construction of the superstructure which had been built of specially shaped curved bricks, and the whole had then been rendered in lime plaster. Lying in the fill of the grave was found a large iron cross with a tang for afixing it to a wooden pole. The earliest floor in room IV of Building B, (and perhaps throughout the nave and aisles), had been of white plaster. Set in this floor were four red bricks which itself was sealed by a further floor of sand and a few red bricks set in it. Cut into this latest floor was a well dug pit. In phase II the whole building had been floored in red brick and in a few places a later floor of concrete survived lying directly over these bricks. Virtually all later levels within the building had been removed when the building was extensively robbed for its red brick walls and floors.

Building C abutted on the south wall of Building B. It is not clear whether these buildings are contemporary, but the differing styles of construction suggests that they are not. Building C consists of a nave flanked by two aisles. At the west end a narthex ran right across the building. Originally at the eastern end there was a range of five rooms, the outer two of which projected 3m beyond the aisles. Subsequently two walls were demolished leaving three rooms in this area. In the nave a pulpit of red brick was found and a higab constructed of the same material. Another slight red brick wall divided off the eastern end of the north aisle. In the south aisle a mud brick wall delimited a small narrow room, 5 × 1m in size. Throughout its life the building was floored in sand and had hence not been robbed as extensively as the other red brick buildings on the site. The eastern range of rooms all showed evidence for domestic occupation, yielding bone, ash and pottery.

The mud brick buildings were very well preserved, some walls survived to a height of over 2.5 m and still retained their first floors in situ. In the one such room extensively excavated, most of the fill below the burnt timber first floor was of layers of sand, but a pit and an occupation layer yielded numerous fragments of fine glass vessels. These mud brick buildings show evidence for a number of extensions and modifications. Two mud brick walls abut onto the walls of building B and directly overlie the construction deposits of the red brick walls. All the mud brick rooms excavated seem to have been destroyed by fire although it is clear that in one room at least it had filled with sand to within 50cm of the first floor level prior to the conflagration which destroyed the floor.

A small area excavated below the floor of the most southerly mud brick room revealed a large number of small post-holes. A large amount of pottery, particularly pilgrim flasks, were recovered from outside one of these buildings as was a number of mud bungs which had been deposited in pits.

A BRIEF CHAPTER IN MOBA CERAMIC HISTORY:

Description and Analysis of Pottery from Tyimu Ledgeshelter, Northern Togo[1]

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This article is a description of a collection of potsherds extracted from the walls of granaries situated in a ledgeshelter known locally as Tyimu (tchimu) in the Tanab outcrop of the Nano escarpment, Nano Canton, Dapaong Circumscription, Northern Togo.[2] The archaeology of this region is virtually unknown. The plane of the escarpment is northwest to southeast, extending between the towns of Nano and Bogou. Tyimu is located at about 0°8′20" E and 10°40′30" N. A total of 113 granaries of various sizes and shapes have been reported (Fig. 1). These are constructed of laterite soil, usually with straw, often containing shale fragments and, occasionally, sherd inclusions. The bulk of the latter comprises the pottery described here. The local population agrees that Tyimu and other lesser sites in the region served as refuges by the Moba during the times when the Tyokossi invaded in the late 18th century. Assuming that the granaries were constructed at that time, these sherd inclusions would represent 200 year old Moba pottery.

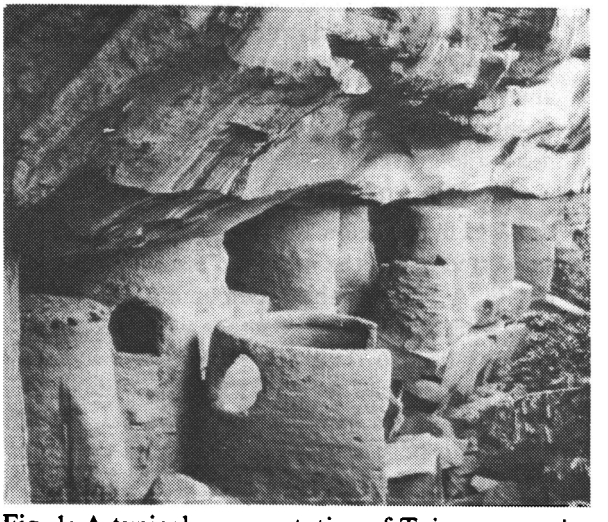

Fig. 1: A typical representation of Tyimu granaries

The collection consists of 132 sherds, ranging in thickness from 3.7 to 17.3 mm of which 33 show some clear sign of textured surface treatment, five are rimmed, and five from plates or bowls have red burnished interior surfaces. There are various gradations of brushing on a number of the specimens, but no clear line of demarkation separating brushed and unbrushed categories could be maintained. Color ranges from "reddish yellow" (5YR 6/6) to blacker more reduced fired hues. Interior surface irregularities on some examples indicate pattern construction by increments, probably fillets.

Description of Decoration Techniques

I. Rouletted (4 sherds)
   1. Large depression
      a. Kernal cob impressed (Fig. 2a). Sherd thickness 9.7 mm; individual impressions range in maximum diameter from 3 to 7 mm., minimum diameter from .5 to 4.5 mm. Puddled surface (1 sherd)
      b. Worn (kernal cob?) impressed, coarse (Fig. 2b). Sherd thickness 15.7 mm. (1 sherd)
   2. Small lineal and irregular depressions (Fig 2c). Sherd thickness 6.7 mm.; individual impressions range from .5 to 1.5 mm. (1 sherd)
   3. Indistinct (worn surface). Sherd thickness 10.5 mm. (1 sherd)

II. Cord Impressed (18 sherds)
   1. Lineal
      a. Very thin cord. Sherd thickness 6.7 mm., 6 twists/cm. Criss-crossing pattern. (1 sherd).
      b. Thin cord (Fig. 2g). Sherd thickness 11.6 mm., 6 twists/cm. (more tightly twisted than 111c). No chevron pattern. (1 sherd)
      c. Thin cord (Fig. 2e,f). Surface worn (smoothed over?); soft, less than 3 (Moh). Sherd thickness 8.5 to 9 mm., 5.5-6 twists/cm. Parallel lines, chevrons, no criss-crossing; four "disks" (see below), one with clearly abraded edges. (13 sherds)
      d. Thick cord (Fig. 2h). Sherd thickness 8.7 mm.; hard, over 4 (Moh); 5 twists/cm.; diagonal impressions n outside rim area (upper left to lower right), base of impressed area smoothed over, width of decoration 10.6 to 11.2 mm. (1 sherd)
   2. Irregular
      a. Twisted grass (Fig. 2i). Sherd thickness 13.6 mm. (1 sherd)
      b. Thin cord. Sherd thickness 5.1 mm. (1 sherd)

III. Cordmarked (6 sherds)
   Wet surface. Sherd thickness 5.4 to 11.3 mm. Appliqué node on one specimen — 3.4 mm. in elevation (Fig. 2j).

IV. Incised (3 sherds)
   1. Wide line (2.5 mm.) (Fig. 2m). Sherd thickness 18.0 mm. Diagonal criss-cross lines present; not smoothed over, high ridges. (1 sherd)
   2. Thin line (1 mm.). Sherd thickness 18.0 mm.
      a. Double parallel curved lines, interior is burnished (Fig. 2n). (1 sherd)

V. Excised (1 sherd)
   Sherd thickness 10.4 mm. Fire-blackened interior surface. Excising is probably accidental due to use.

VI. Grooved (Fig. 3e) (1 sherd)
   Sherd thickness 12.4 mm. Groove is on lip.

Description of Rim Form

Rims are upright with little contour thickening, no junctures, and rounded lips.

1. Slight sloping of interior toward lip (Figs. 2h, 3a see decoration IIId).
2. Slight interior lip ridge. Sherd thickness 11.6 mm. Laterally brushed on exterior and interior surfaces (Fig. 3c).
3. Slightly everted, rim more rounded and grooved, interior ridge higher (Fig. 3e, see decoration VI).
4. Lip flatter, interior ridge, slight exterior ridge near crest. Sherd thickness 8.0 mm. Surface is smooth with depressions (Fig. 3b).
5. Interior edge missing. Lip flatter, exterior ridge. Sherd thickness not measurable. May be portion of same vessel as 4 (Fig. 3d).

In addition there is a neck sherd, 11.4 mm in thickness at juncture. The surface is smooth, but exfoliates.

Description of Temper

On the basis of microscopic examination of eight decorated sherds two patterns of tempering seem to be present, neither associated with surface treatment.

1. Double size-graded temper with inclusions.
   a. Large - Quartz and feldspar in varying, but roughly equal amounts. The feldspar is a pink potassium variety.
   b. Small -Mostly quartz. Evenly assorted water deposited sand irregularly deposited in the clay. Little mica. Plant fibers occasionally present.

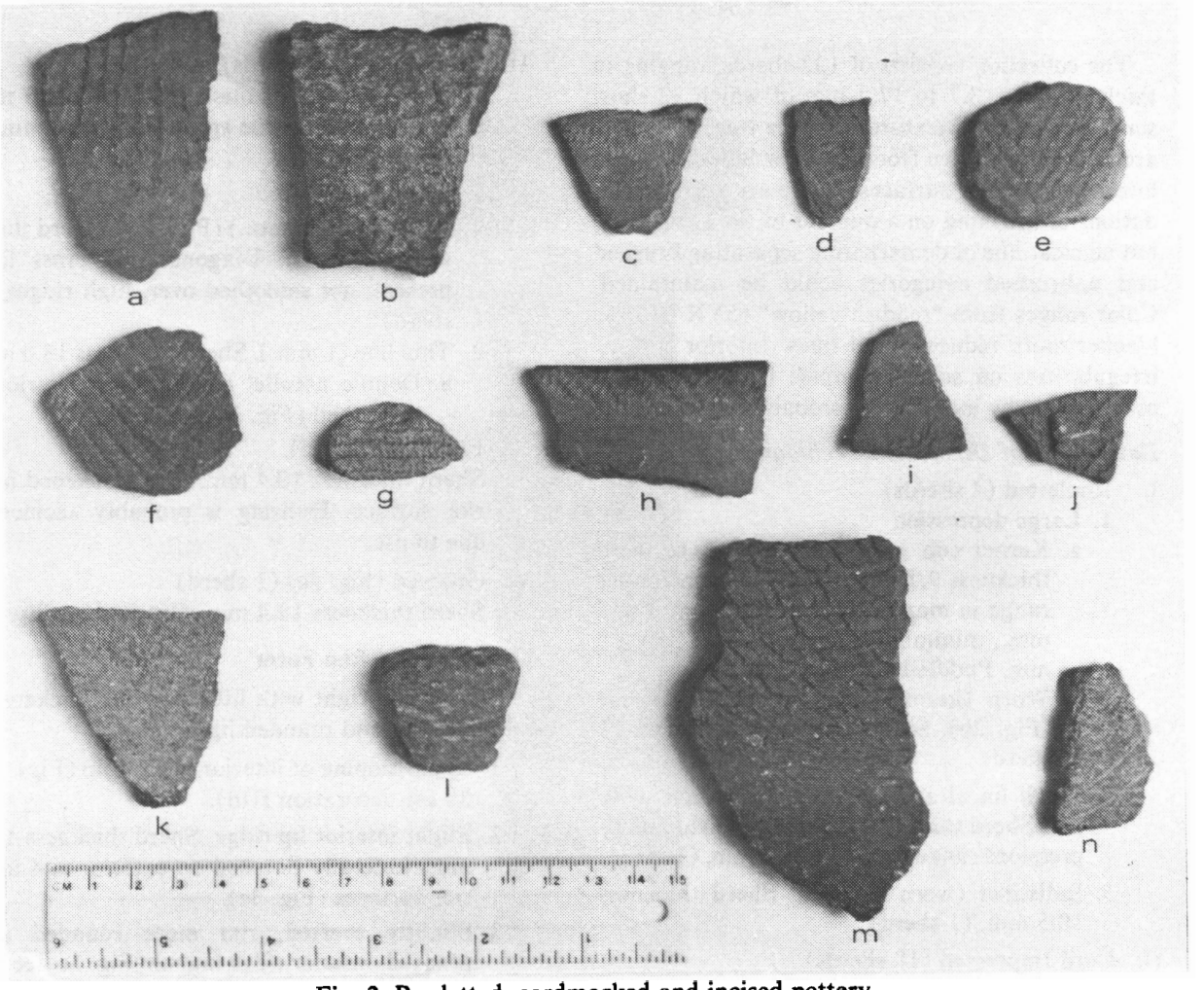

Fig. 2: Rouletted, cordmarked and incised pottery

2. Temper variable in size, less feldspar. Mica and rock grains. Inclusions come from same area as pattern one. The kernal cob rouletted sherds (see decoration II) contain extensive mica.

"Disks"

One thin cord impressed sherd in decoration category IIIC is circular (Fig. 2e). Closer examination revealed wear along a portion of the edge. Its thickness is 9 mm, and its dimensions are 35 by 36.9 mm. Another sherd in this category is also rounded, but with a projecting point (Fig. 2f). There is discoloration on the work surface of both of these examples. Two other sherds have suspicious edge surfaces in addition to some plain sherds. None are fully rounded. Similar disks from Begho B2 have been interpreted as Akan gold weights.[3] The "disks" shown in Fig. 3e and 3f weigh 16.6 and 18.2 grams respectively.

Tyimu pottery disk weights do not conform closely to the Islamic system of weights for mitkal (ca. 4.5 gms.) and wakia (ca. 27 gms.). Pottery fragments with abraded edges are common in West African sherd pavements, but no such features were apparent at Tyimu

Comparisons

All pottery recovered on the survey was identified as Moba by local informants. Little has been published on Moba ceramics.[4] No account of Moba pottery is indexed in the Human Relations Area Files. Differences between the Tyimu sherd assemblage and other recovered pottery on the survey are mostly the result of sampling variation. Most of the decorated Tyimu pottery is cord impressed, rather than deeplined incised. Design features on pottery collected that are specific to Tyimu are intersection angled lines, curved parallel lines, oblique zone lip cored impressing, lip grooving and appliqué. All these elements are present in contemporary Moba pottery.

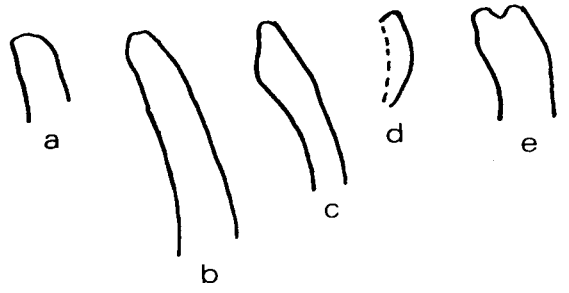

Fig. 3: Rim cross-sections

It was stated that the designs of the Tyimu sherds are identical to present-day designs by Moba potters who viewed our remains in the Nano market. Indeed there is greater variation by contemporary family traditions than there is chronological variation. However the pottery disks may represent remains of the Twi speaking Akan Tyokossi invaders. Moba potters believe that there is less individuality expressed in old Moba pottery, but that it is technically superior, that is "stronger".

Conclusion

It would appear that Moba pottery making is a conservative craft that has changed little during the last two centuries.

Acknowledgements

I wish to acknowledge the assistance given to me by Mr. Doubongue Koulbeme, our local guide; Mr. Ted Cook, for transport to Nano on the second expedition; Mr. Marvin C. Reichle, Department of Art, Ball State University, on observations of a professional potter; Dr. Harlan H. Roepke, Department of Geology, Ball State University, on temper analysis; Provost James V. Koch, Ball State University, The Minister of National Education and Scientific Research, Togolese Republic, and Mr. Robert R. LaGamma, American Cultural Center, Togolese Republic, for financial assistance; and, particularly, Mr. Paul Steinberg, a student at the University of California at Berkeley, who conceived the idea of in situ granary sherd collection and served as my French-English interpreter during the second expedition.

Notes

[1]A version of this article was read at "The Relevance of Archaeology in Africa: Contributions from Later Prehistory to our Understanding of Contemporary Issues" session of the XIth International Congress of Anthropological and Ethnological Sciences, August 24, 1983, Vancouver. General accounts of archaeological work in the area were given at the Society for Africanist Archaeologists in America, May 7, 1982, Berkeley and the "New Frontiers of African Archaeology" session, African Studies Association, October 22, 1981, Bloomington.

[2]B.K. Swartz, Jr., The Report of the Exploratory Archaeological Investigation in the West Central Portion of the Dapaong Circonscription, Togo Nord, the Togolese Republic, December 16 to 25, 1980 and January 31 to February 11, 1981. Part II of "Report to the Ministre de l'Enscignement de Troisième et Quatrième Degrè, Chargé de la Recherche Scientique of the Visit of B.K. Swartz, Jr., Professor of Anthropology, Ball State University, Muncie, Indiana, U.S.A. to the Togolese Republic, from November 26, 1980 to February 25, 1981" (1981). A brief account of this work is presented in Swartz, "Archaeological Exploration in Northern Togo," Nyame Akuma 18 (1981):58-59. For additional description of the Tyimu ledgeshelter see M. Posnansky and P.L. F. de Barros, "An Archaeological Reconnaissance of Togo, August 1979," Report prepared for H.E. The Minister of National Education and Scientific Research of the Republic of Togo under the sponsorship of the United States International Communications Agency (1980) 14-17.

[3]M. Posnansky, "Archaeology and the Origins of Akan Society in Ghana," in G. de G. Sieveking, I.H. Longworth and K.E. Wilson, eds., Problems in Economic and Social Anthropology (London 1973) Fig. 6, p. 57, especially middle left.

[4]A.W. Cardinall, "Our Mandate in North Togoland", Journal of the Royal African Society XXII (1922) states "the Bimoba . . . have a great pottery industry," 43. A. Nicolls and S. Hoover, "A Selected Bibliography of West and Central African Pottery," unpublished manuscript, Department of Art, Indiana University, cites accounts of Moba pottery in Leo Frobenius, Material der Deutschen Innerafrikanischen Forschungs expedition (Frankfurt am Main 1907).

THE CURRENT STATE OF ARCHAEOLOGICAL RESEARCH IN THE EQUATORIAL RAINFOREST OF ZAIRE

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Background

Since the first report on archaeological and ethnographic fieldwork in the Equator Province of Zaïre appeared in NA (Eggert and Kanimba 1978) three further articles on the first field season of 1977-78 have been published (Eggert 1980a, 1980b; Eggert and Kanimba 1980). The emergence and general background of Iron Age archaeology in Subsaharan Africa, which has a direct bearing on rather widespread conceptions of the role of the rainforest in large-scale Early Iron Age population

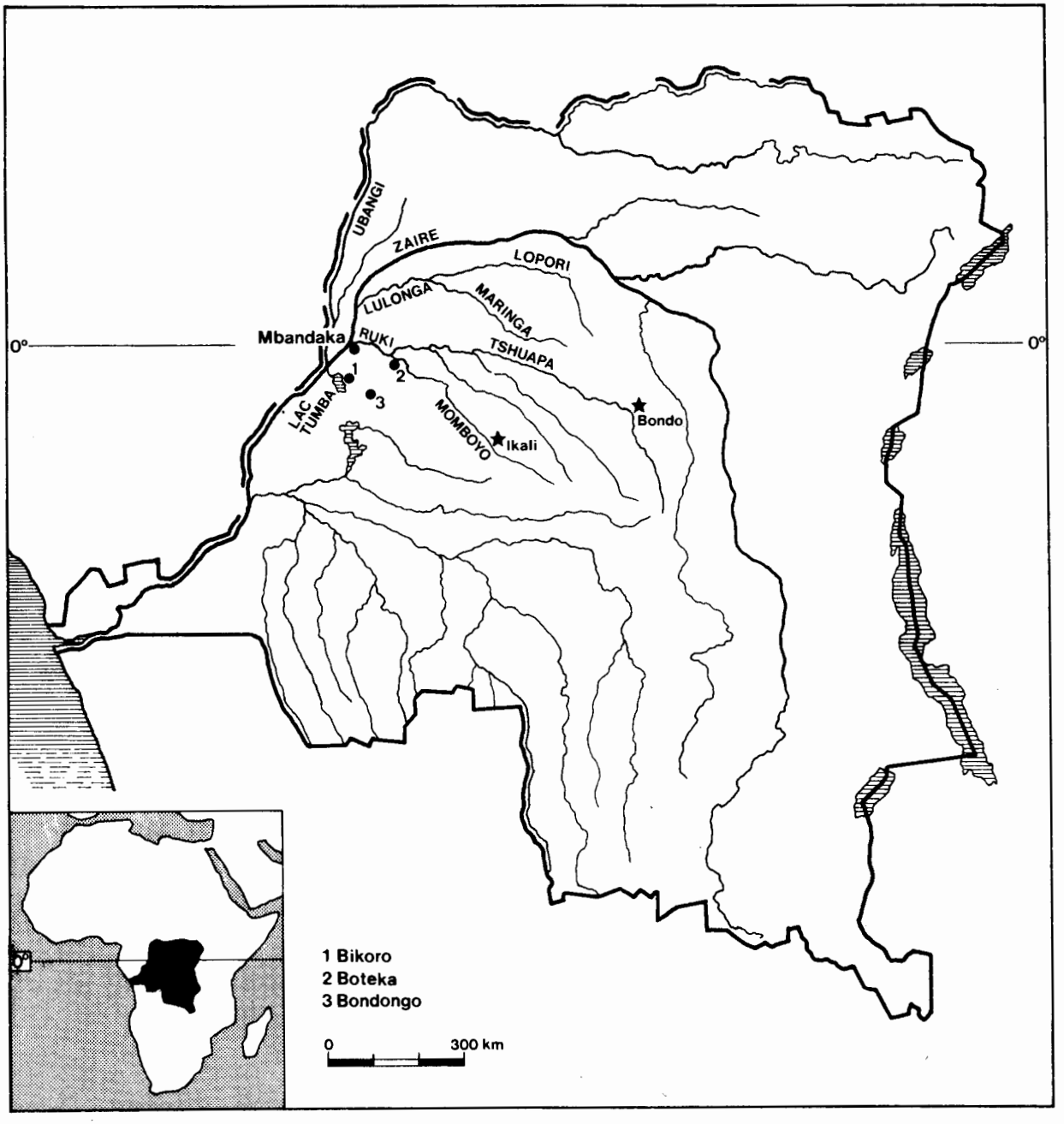

Fig. 1: The Republic of Zaïre

movements, was analyzed in a separate article devoted exclusively to the somewhat special relationship between historical linguistics and and archaeology (Eggert 1981). In the meantime, two further archaeological and ethnographic field seasons were carried out in Equator Province.[1] The following is a brief summary of the main points of the archaeological work.

1981-82 Field Season

The second field season took place from September 1981 through March 1982, and concentrated on test excavations and reconnaissance work at various places on the Zaïre, Ruki and Momboyo rivers.[2] In addition to this "river-based" research we made a survey of the hinterland leading from Mbandaka via Kalamba to Bikoro on Lac Tumba and then by way of Itipo on to Boteka on the Momboyo. This survey led to the discovery of ceramic evidence in the Bikoro area of Lac Tumba that is different from the material common on the Ruki and Momboyo. The fact that the survey did not produce one single sherd of classical Bondongo-type pottery lends strong support to the hypothesis that the vessels of the eponymous cache of Bon-

dongo-Losombo (Eggert 1980b) were not autochthonous to this region. Rather, they seem to be imports from the Ruki-Momboyo area.

By far most important result of our 1981-82 river-based fieldwork, was the establishment of a ceramic horizon thought to represent the very first settlement of the central rainforest by pottery-producing peoples. This horizon has been labeled after its type-site Imbonga on the Momboyo. Its very characteristic pottery shares some formal and/or decorative traits with the pottery ascribed to he so-called Néolithique leópoldien of lower Zaïre and the Kinshasa areas as well as with pottery from the site of Batalimo in the Central African Republic. On the level of decoration technique there is an interesting parallel to be found in the comb-stamped zigzag patterns ("rocked zigzag") on presumably Neolithic sherds from Northern Chad and beyond. Rather clear evidence of formal and ornamental development suggests a transition from Imbonga to Bondongo pottery. A monograph on the archaeological material of the 1977-78 and 1981-82 field seasons will be completed shortly (Eggert and Wotzka n.d.).

1983 Field Season

In 1983 our fieldwork in the central forest covered the period from the end of March through September.

Excavation of Iron-Smelting Furnaces

The first two months of the 1983 season were dedicated to systematic excavations at a fairly large site of iron production at Bamanya near Mbandaka. Some seventy slag heaps covering an area of about 450m^2 were counted. On the basis of test pits dug during the 1981-82 season, we concentrated excavation on the interior of horse-shoe shaped slag heap structures expecting the furnace somewhere in that area.

We were successful in that we found the remnants of several furnaces, including an extremely well preserved structure, belonging to a type generally known as "bowl furnace". Contrary to most known examples, however, the Bamanya furnaces had a provision for slag tapping complete with an associated slag pit. Thus, the classification proposed by Cleere (1972), in which "slag tapping" and "bowl structure" are mutually exclusive diagnostic features, does not accomodate our data.

Two radiocarbon determinations run on charcoal from the 1981- 82 test pits yielded dates of 2245 ± 195 bp (Hv-11570) and 65 ± 50 bp (Hv-12203) respectively. While the first date does not fit the relative position within the regional sequence of pottery fragments associated with the furnaces, the second determination, which translates to a dendrochronologically corrected date of AD 1680-1800, is quite consistent with it. The potsherds in question belong to what we call the Botendo horizon, representing the latest regional ceramic grouping prior to European contact (see Eggert 1983 for a discussion). It may be noted that during the 1983 season we excavated a level containing classical pottery of the Bondongo and the succeeding Nkile horizon (Eggert 1983) sealed off by a layer of slag representing the foot of a slag heap.

Analysis of the 1981-82 and 1983 excavations at Bamanya is well under way and will be published shortly (Eggert *et al.* n.d.). The technological analyses will be performed by Prof. Ingo Keesmann (Institut für Geowissenschaften Johannes Gutenberg-Universität Mainz). A background paper on the origin of Subsaharan iron production will be published by the end of this year (Eggert 1984).

River reconnaissance

The main objective of our archaeological work in the rainforest since 1977-78 has been to devise age-area cultural sequences on the basis of ceramic evidence leading from the initial settlement of the forest by pottery-producing peoples to the point of European penetration in the last quarter of the 19th century. This being the overall frame of reference, the particular objective of the 1983 field season was to extend these cultural sequences beyond the region of the Ruki and lower Momboyo as far as possible into the southeastern part of the forest. To this end, we designed a specific River Reconnaissance Project to survey the upper Momboyo as well as the Tshuapa, using a boat large enough to serve as a mobile base, and enabling us to cover distances up to 2500 kilometers without refueling.

We were thus able to accomplish a reconnaissance of the Momboyo as far as Ikali and of the Tshuapa as far as Bondo; distances from the mouth of the Ruki of 675km and 1100km respectively. Detailed results of this work are available in Eggert (1983), which also contains the first systematic presentation of the ceramic sequence we have established for the central part of the equatorial forest.

Botanical Evidence

During the 1983 season we also used soil flotation to obtain botanical evidence. We succeeded in obtaining samples of botanical interest associated with pottery belonging to the Imbonga horizon which represents the oldest ceramic evidence obtained thus far. Analysis of these samples will be

performed by Dr. Emile Roche of the Laboratoire de Palynologie of the Musée Royal de l'Afrique Centrale at Tervuren.

Conclusion

After three campaigns of reconnaissance work and test excavations in the Equator Province of Zaïre the objective of establishing a ceramic sequence can be considered largely achieved for the Ruki-Momboyo-Tshuapa river system. Currently, provisions are being made to extend the River Reconnaissance Project to the north and northeast. We hope to undertake this fieldwork, which will mainly consist of a reconnaissance of the Ubangi River as well as the Lulonga-Lopori-Maringa river system, in 1985.

Notes

[1] This project has been financed by the Deutsche Forschungsgemeinschaft and carried out in cooperation with the Institut des Musées Nationaux du Zaïre.

[2] For the localities and rivers mentioned in the text see Fig. 1, which was drawn by Peter Mlodoch (Hamburg).

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AFRICAN ARCHAEOLOGY IN BRITAIN

We are pleased to print here, a statement solicited by Dr. Stephen Green from Dr. Geoffrey Wainwright, retiring President of the Prehistoric Society, and which is of interest and importance to readers of NA.

The Prehistoric Society has recently taken the initiative concerning the British contribution to Pre- and Proto-Historic Studies in Africa. This initiative was based on the report of a special committee chaired by Dr. John Alexander (University of Cambridge) which recognised that the British contribution to these studies comprised 67 archaeologists working in the continent of which 16 were employed there but noted with deep regret that only one teaching post in Britain is designated as being African Archaeology. In his Presidential lecture to the Society in February, Dr. Geoffrey Wainwright emphasised the importance of the continent as an area of research interest for issues of global concern – the origins of tropical agriculture, the relationship of farmers and hunter-gatherers, and the spread of metallurgy. He emphasised that it is highly desirable that Britons continue to take a part in this work but that this would only happen if the subject was taught in some British Universities, if posts were made available in museums and if funds continued to be made available for work in Africa. The Society has therefore taken the initiative in raising

the matter with the British Academy, the Universities Committee of the Council for British Archaeology and the Museums Association to seek their views on the direct encouragement of work in Africa and the curation and publication of African collections. The Society also wishes to make it widely known that African papers and review articles will be warmly welcomed in their Proceedings. All material should be sent to the Honorary Editor, The Prehistoric Society, Department of Archaeology, University of Southampton, Southampton S09 5NH, England.

SLIDE EXCHANGE PROGRAM

At the Panafrican meetings in Jos, several of those attending discussed the idea of initiating an exchange of slides relating to African archaeology. What follows here is the list compiled by Rod McIntosh of those who have expressed interest to date. We encourage others to participate, and will publish additions to this list in future issues of NA. Offers of slides for exchange can be sent directly to the Editor.

Slides, with a short explanation of each, are offered for teaching purposes. These are to be exchanged against other personal slides. All those participating have agreed to respect copyright restrictions, and thus none of the slides offered can be used for publication without prior written permission. In each case here, the number of slides offered is 36.

Phil de Barros
Ecole des Lettres
Université de Benin
BP 1515
Lomé, Togo

Notse wall and axe polishing sites; Bassar iron industry; Nano rock shelter/refuge

Patrick Darling
Department of History
Bayero University
PMB 3011
Kano, Nigeria

Iron working, northern Nigeria; walled settlements

Nicholas David
Dept. of Archaeology
University of Calgary
Calgary, Alta., Canada
T2N 1N4

Central African megaliths (6); Rop Rock Shelter (6); north Cameroon Iron Age, Bé (12); southern Sudan test excavations (12)

David Lubell
Dept. of Anthropology
University of Alberta
Edmonton, Alta., Canada
T6G 2H4

Capsian sites and excavations, Algeria

Pierre de Maret
Musée Royal de l'Afrique Centrale
BP 1980
Tervuren, Belgium

Upemba Depression (Sanga), Zaïre; Central Africa (Stone Age, 'Neolithic', Iron Age, rock art)

Rod and Susan McIntosh
Dept. of Anthropology
Rice University
PO Box 1892
Houston, TX 77251, USA

Jenne- Jeno, Mali

Josette Rivallain
Département d'Histoire
Université d'Abidjan
BP V.34, Abidjan 01, Côte d'Ivoire

Sites à sels (Benin, Côte d'Ivoire); poteries, fabrication; pagnes et raphia et kita

Frank Willett
Hunterean Museum
The University of Glasgow
Glasgow G12 8QQ, U.K.
sculpture (Nok, Ife, Benin)

ANNOUNCEMENTS

Journals available for sale

Dr. H.B.S. Cooke (2133 - 154th St., White Rock B.C., Canada, V4A 4S5) offers for sale (or perhaps donation given appropriate circumstances) the following:

South African Archaeological Bulletin (complete);
South African Journal of Science (1946 to date);
Transactions of the Royal Society of South Africa (1947 to date);
South African Geographical Journal (1945 to date).

Those interested should write to him directly.

Sixth International Conference for Nubian Studies

The Society for Nubian Studies will hold its Sixth International Conference in Uppsala on 11-16 August, 1986. Those interested in taking part are requested to write to the Society for Nubian Studies, Institute of Egyptology, Gustavianum, S-752 20 Uppsala, Sweden.

International Palaeoanthropological Field School

The National Museums of Kenya initiates an annual palaeoanthropological field school at Koobi Fora, Lake Turkana, beginning in the summer of 1985. The school will conduct two six week field sessions focusing on the interdisciplinary study of palaeoanthropology in the field. Lectures on archaeology, geology, palaeontology, ethnology and ecology will be offered by researchers currently working in the field. The students will participate in ongoing archaeological/palaeoanthropological research in the Koobi Fora area. The program also includes an eight day study tour of central Kenyan localities of palaeoanthropological interest. University credit will be offered for the course. For further information, contact:

Dr. Harry V. Merrick
Head, Division of Archaeology
National Museums of Kenya
P.O. Box 40658
Nairobi, Kenya

MEETINGS

SAAAM

The Society of Africanist Archaeologists In America held its biennial meeting at Portland State University in Portland, Oregon, on the 10th and 11th of April, 1984. The local organizers were John Atherton (Anthropology) and Candice Goucher (Black Studies). The first day was given over to a symposium on *Culture and environment in the late Quaternary of Africa* organized by John Bower and David Lubell. Volunteered papers and the business meeting occupied the second day. The proceedings of the symposium, including papers by several who were unable to attend, will be published in the BAR African Series sometime within the next year.

The symposium papers, in the order of presentation, were as follows:

John R.F. Bower. Evolutionary patterns in the East African Neolithic;
Diane Gifford-Gonzalez. Prehistoric patterns of livestock utilization in Kenya;
Peter Robertshaw. Environmental and cultural change; a reappraisal of the relationship in the context of East African prehistory;
Steven A. Brandt. Late Quaternary prehistory and paleoenvironments in the Horn of Africa;
Sheryl F. Miller. Recent prehistoric patterns of environment utilization in the southern Congo basin
C. Garth Sampson. Putting the wind up the Smithfield: towards a seasonal mobility pattern from surface sites;
John Parkington. Holocene settlement patterns in the Cape;
Fekri A. Hassan. Variations in Nile floods and cultural dynamics in prehistoric Egypt;
William Farrand. Environmental setting of Capsian and related occupations in the high plains of northeastern Algeria;
David Lubell. Human-environmental relationships during the Holocene in the Maghreb;
Anthony E. Marks. Central Nilotic prehistory as seen from the Butana grasslands;
Nicole Petit-Maire. Paleoclimatology as Paleoecology: Holocene ecosystems in the present "Empty Quarter of Sahara".

The volunteered papers, again in the order of presentation, were as follows:

William Singleton. Dynamics of the late Pleistocene Nile: a tentative synthesis;
Diane Holmes. The lithic industries of Predynastic Egypt: a recent perspective;

Peter Sheppard. Technological change in the Capsian: presentation of the evidence and its relationship to environmental change;
Abbas Mohammed-Ali. The archaeology of the eastern Sahel, Sudan;
Larry Robbins. Recent archaeological research in southeast Botswana;
Peter Schmidt. Archaeological prospects in Gabon
Pamela Willoughby. Spheroids and battered stones in the African Early Stone Age;
Merrick Posnansky. Farm shelters at Hani, Ghana, and their implications for appreciating activity patterns between settlement sites;
Marcia Wright. Terminal decline and persistence in indigenous smelting: east-central Africa, 1924-1940;
Matthew Hill. Pallan Mandinka 1: excavating around rocks in a hard place;
Stanley Ambrose. Excavations at Twilight Cave, Naivasha, Kenya;
Steven Brandt. Parietal art from Karin Heegen Rockshelter, Somalia: towards a prehistory of pastoralism in the northern Horn of Africa.

PUBLICATIONS

Ghana Studies Bulletin

The first issue of this new journal, published in England, is now available. It is intended as a working tool for scholars concerned particularly with with humanities and social sciences relating to Ghana. Contents include a directory of current research, notes on archival resources, bibliography and book reviews. It is hoped that the GSB will provide a forum for cross-disciplinary studies concerned with Ghanaian society past and present.

The current subscription rate of $5.00 per year for 2 issues is made possible by a subvention from the Centre of West African Studies, University of Birmingham.

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Bruce Haight
314 Moore Hall
Western Michigan University
Kalamazoo, MI 49008

Subscription enquiries outside of North America should be sent to:

David Killingray
Department of History
Goldsmith's College
University of London
LONDON SE14 6NW.

New books

There are three new books dealing in whole or in part with African archaeology that have appeared recently.

Sahara ou Sahel ? Quaternaire récent du Bassin de Taoudenni (Mali) is edited by Nicole Petit-Maire and J. Riser and can be ordered from Librarie du Muséum, 36 rue Geoffroy- Saint-Hilaire, 75005 PARIS for either 305FF or US$38 including postage. It represents the fruit of several years of multidisciplinary research in the Taoudenni Basin, directed by Petit-Maire and including specialists in geology, palaeobotany, palaeontology, archaeology and physical anthropology. The book covers the interaction of human groups and changing environments during the past 10,000 years, the latter deduced from all possible types of evidence.

From Hunters to Farmers: The Causes and Consequences of Food Production in Africa is edited by J.D. Clark and S.A. Brandt and has just been published by the University of California Press. It contains 29 papers, most of which were given at a day-long symposium held during the 1978 meetings of the American Anthropological Association in Los Angeles. The coverage is pan-African and multidisciplinary, and, I (D.L.) agree with Brian Fagan who is quoted on the dust jacket as saying that "this is a work of the utmost methodological and cultural historical importance".

The third (1984) volume of *Advances in World Archaeology* edited by Fred Wendorf and Angela Close and published by Academic Press is just out. It contains three major papers on African archaeology. Glynn Isaac writes on *The archaeology of human origins: studies of the Lower Pleistocene in*

East Africa 1971-1981 and, as one colleage has put it to me, "that paper alone is worth the price of the volume" (US $65). John Parkington has a paper entitled *Changing views of the Later Stone Age of South Africa*, while David Lubell, Peter Sheppard and Mary Jackes suggest a re-interpretation of the early Holocene prehistory of northwest Africa in *Continuity in the Epipalaeolithic of northern Africa with emphasis on the Maghreb.*

Nubian Letters

Nubian Letters is an independent biannual bulletin for Nubian history and archaeology, published under the auspices of the International Society for Nubian Studies and the Department for Early Christian Art at the University of Leiden, The Netherlands. It is edited by Elisabeth de Ranitz and Karel Innemée.

Subscriptions are DFL. 45,- or the equivalent in other currency. They may be paid either to *Nubian Letters*, account 25.72.24.645 at Bank Mees en Hope, The Hague, or to the editors at

Smidswater 8
2514 BW The Hague
The Netherlands

For further information, please contact the editors.