



EDITORIAL

Look closely at the inside cover (facing page) of this issue, you will find a number of changes. The ones to which I particularly wish to draw your attention concern addresses, mine and that of Steve Brandt, the SAfa treasurer. While Steve's postal address has not changed, both his FAX and BITNET entries have. As for me, I have left Iowa State University and taken a position at the University of Minnesota, Duluth. This involves a substantial relocation, which may affect my work on Nyame Akuma, so I request your forbearance during the transition period. I also take the opportunity to remind you that all questions concerning subscriptions, delivery of issues, etc. should be addressed to Steve Brandt. My responsibility is limited to the editorial domain.

The following obituary note concerning Miguel Ramos was kindly provided by David Lubell:

Miguel Ramos, former Director of the Centro de Pré-História e Arqueologia within the Instituto de Investigação Científica Tropical in Lisbon, died of cancer in December 1991. Ramos had worked for a number of years on the prehistory of Angola and Moçambique, and published some of his results in *LEBA: Estudos de Quaternário, Pré-História e Arqueologia* of which he was also editor. He had been a student of Leroi-Gourhan but was trained initially as a geologist. He served as president of the Portuguese Quaternary Association and was the national INQUA delegate. His research institute was wonderfully equipped for geoarchaeological and palaeoecological research, but unfortunately there were rarely sufficient funds to undertake field work. The institute (Travessa Conde da Ribeira, 9, 1300 Lisboa) still houses a superb library on all aspects of African archaeology that he accumulated. Ramos was a warm and hospitable man who opened his centre freely to other researchers. Those of us who were his friends and colleagues will miss him sorely. African archaeology has lost, prematurely, a gifted interdisciplinary scholar.



ARTICLES

■ CAMEROON

Archaeological Research in South Cameroon: Preliminary Results on the 1990 Field Season

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Archaeological fieldwork was conducted under the direction of Pierre de Maret in South Cameroon during June, July, and August, 1990, in the central, littoral, and western provinces (Fig. 1). These excavations are related to de Maret's work at Yaoundé (1983).

Central Province

The site of NKANG in the Lékié department (4°16' Lat. N and 11°19' Long. E), which was discovered by Martin Elouga, was among those excavated. The village of NKANG is situated at the top of one of the many hills in the region (NKOL METOLO or METOLO hill) which border the SANAGA valley. Road construction in the vicinity of NKANG exposed some thirty pits, of which two were excavated. The majority of the excavated material is pottery, generally with incisions and comb impressions partially or entirely covering the pots. Lithic material comprises grinding stones and a polished axe. Snails, fish bones, and other bone remains, probably of rodents and ruminants, are abundant. One of the pits yielded iron slags and another one contained perforated discs in agate snail shell.

Additional excavations were carried out in the southern part of the province on the main road MBAL-MAYO-EBOWA, on

the left bank of the river NYONG near the village of AVEBE 20 km south of MBALMAYO. One test trench yielded pottery quite similar to that found at NKANG. The pit also contained nuts of *Canarium schweinfurthii* and of *Elaeis guineensis*. Still farther to the south, more sites were recorded in the villages of BENEALOT, NGOMES-SANE, and in the towns of NGULMELONG and MENGONG.

Littoral Province

In the area of MUNGO, close to the town of MELONG, the site of LELEM MANGWETE (5°9' Lat. N and 9°58'30" Long. E) was excavated. Some 30 features were visible in road cuts. They can be grouped into two categories: small, semi-circular, shallow (20 cm on average) structures that contain obsidian flakes and black earth but only a few sherds of very damaged pottery, and large funnel-shaped structures containing obsidian fragments and nuts, also poor in pottery. Fifteen of the 30 features were excavated; in general, LELEM MANGWETE yielded little pottery, no shaped tools, and many obsidian flakes, which are also evident on the surface.

Western Province

A test trench was dug in the area of BANGANTE, in the MAFAM district of the village of MANDJA (5°8'30" Lat. N and 10°34'12" Long. E). The excavations yielded a tremendous amount of pottery with variable decoration, a bone tool, and agate snail shells. Some iron slags were collected from the surface. The site covers more than 6000 m² and requires larger financial means for a proper, more detailed investigation.

Overview

The material from the 1990 field season in South Cameroon is still under study but our first impression is that the sites belong to the neolithic complex and the beginnings of the Iron Age, as found on dated sites in the area of YAOUNDÉ. The available dates from all sites of this complex, like OBOBOGO (Maret 1983), NKOMETOU (Essomba 1989), NDINDAN (Mbida 1986),

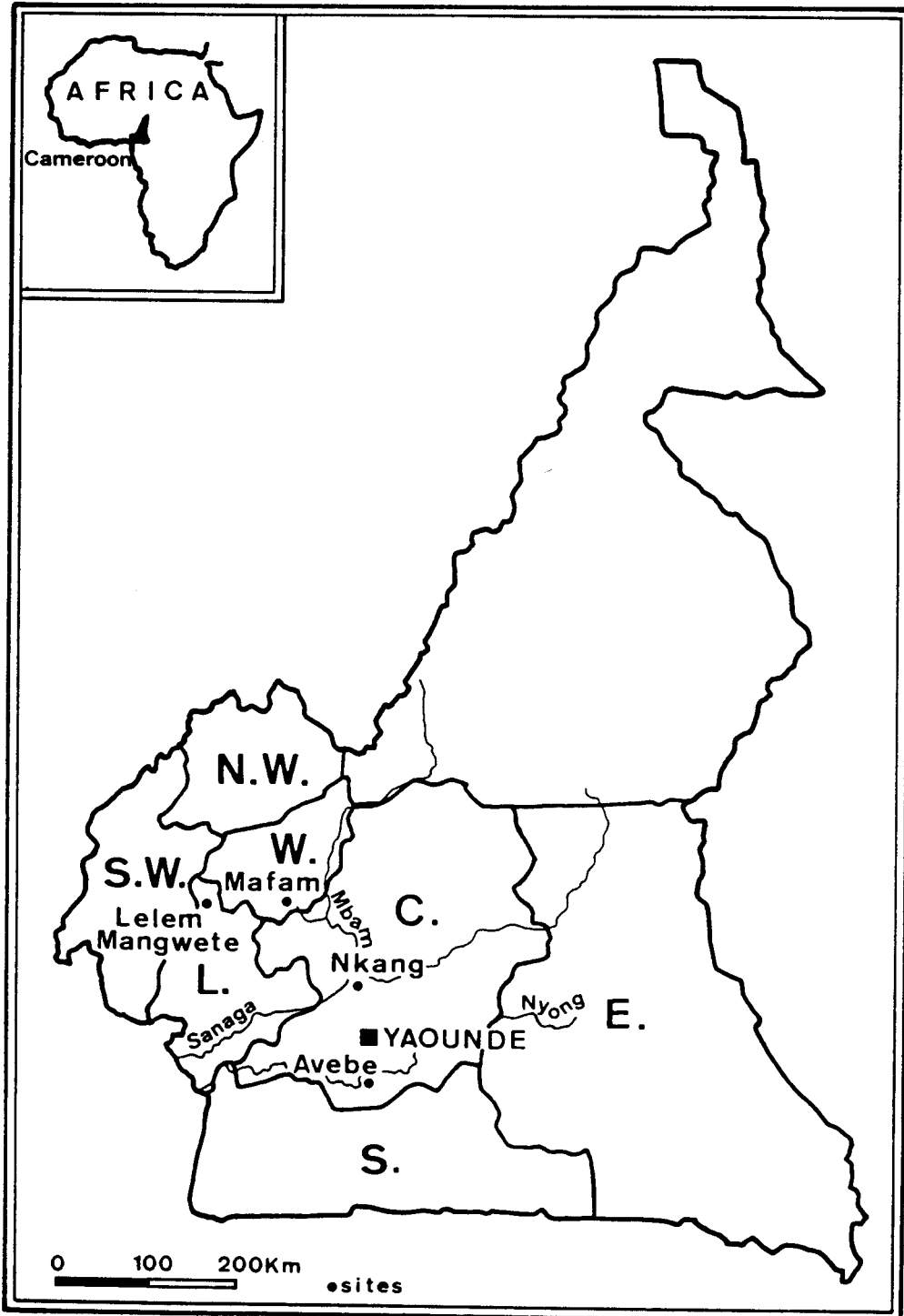


Fig. 1. Location of Sites. Provinces: L = Littoral; C = Centre; E = East; S = South; W = West; SW = South-West; NW = North-West.

and OKOLO (Atangana 1988) cluster within the first millenium BC and the first millenium AD, although there are some older dates at OBOBOGO and MNOMETOU. Dates are awaited from NKANG, AVEBE, LELEM MANGWETE, AND MAFAM but not yet available.

The pottery from all these sites has similar morphology. The vessels are ovoid with or without necks and have flat bottoms. Decoration involving comb impressions and incisions is prevalent, but composition of the clay varies from site to site. The decorative patterns bear some resemblance to the pottery of KOM in the northwestern province (Schmidt and Asombang 1990). The extent to which decoration covers the pot varies from site to site. Most of the pots are of moderate size with maximum diameter smaller than 250 mm.

Analysis of palynological and charcoal samples is expected to provide environmental information. The fish bones and other animal remains found at the sites of NKANG and MAFAM may reveal whether fishing and hunting played an important role in economic activities during the period in question.

Acknowledgements

We would like to thank the authorities of the Institut des Sciences Humaines from YAOUNDÉ, and Professor Pierre de Maret, José Guttierrez, Nathalie Desmaele, Genevieve Thiry, Martin Elouga, Abo Pkooloom Martial, and Quentin Gausset for their assistance and collaboration during the field season. For their hospitality I would like to thank His Majesty Nji Mouluh Pokam Seidou of BANGANTÉ, as well as Nicole Basque and the inhabitants of NKANG, LELEM MANGWETE, AVEBE.

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■ GABON

1991 Excavations and Laboratory Work in Gabon

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During 1991, excavations were restricted to what could be financed on European or private local funds. Indeed, the economic crisis suffered by African countries for the past few years has severely depleted local research funds. For example, the International Center for Bantu Civilizations established in Libreville received only five contributions from its ten member states. As a result of such financial problems, there have been delays in publishing the *Nsi* bulletin launched in 1987. As this paper is written, *Nsi* no. 8/9 1991 with more than a

hundred pages of information has just been sent to colleagues. From now on, subscriptions are not being issued for the bulletin. Anyone interested in receiving free copies is asked to contact me.

radiocarbon date has been obtained from a sample taken in square A: Beta-44107, 50 ± 50 BP.

Evinayong Site, Estuaire Province

Early in 1991 the Conoco Oil Company sponsored an environmental survey in the immediate area of one of its onshore oil rigs. The area lies near the Evinayong River, 32 km northeast of Libreville on the east bank of the Mondah Bight. In March I conducted a brief archaeological survey around the proposed oil platform site on the north bank of the river and rescue excavations on the platform site.

The archaeological site consists of a small summit some 2 m above high sea levels at $00^{\circ}36'16''\text{N}$, $09^{\circ}39'01''\text{E}$, an area that is surrounded by mangroves to the east, south, and southwest, and by forest to the north. The deposits comprise a 0.30 to 0.80 m clay mantle (7.5YR5/8 to 10YR5/6) overlying laterite. Excavation of four squares (A, B, C, and D) and two trenches (1 and 2) revealed an archaeological layer near the surface characterized by four small (c. 0.15 m thick and 20 m² in area) middens of *Anadara senilis* shellfish. Some *Ostrea tulipa* are also present. A radiocarbon date on *Anadara senilis* shells from square C has been obtained (Beta-44108, 440 ± 80 BP).

Apart from shellfish and charcoal, *Elaeis guineensis* and *Antrocaryon klaineanum* (Pierre) nuts and sherds have also been found in the middens. Wet-sieving with a 1.5 mm mesh has resulted in the recovery of only two fish teeth among the shells. The acidity of the middens is always around 8.2, and bone is extremely scarce in the deposits.

A second component is visible in trenches 1 and 2 and in square A dug on the river bank. An archaeological layer is evident on the surface some 11 m from the summit and plunges to the laterite surface some distance from the riverbank. This layer is stratigraphically and spatially distinct from the first one. It contains large *Anadara senilis*, *Ostrea tulipa*, *Tympanotonus fuscatus radula* and *Thais nodosa*, *Semifusus morio*, charcoal, and one blue European Pearl. A

The Ofoubou River Survey, Ngounié Province

During July and August, 1991, fieldwork was carried out in the western part of Ngounié Province, between Mandji and the Fernan Vaz, thanks again to the Conoco Oil Company, which has sponsored a large environmental survey in advance of oil platform and road work. The area surveyed contains forests on the hilltops and marsh forest in the low-lying areas. Thirty-four archaeological sites, some multicomponent, were discovered: 12 Stone Age, 3 Neolithic, 24 Iron Age (Clist 1991).

Stone Age Sites

Of the Stone Age sites, seven are "deep" sites—i.e., buried at ca. 120/150 cm in the sandy-clay—and "shallow" sites—i.e., buried at c 50 cm. Raw material usually consisted of small quartz pebbles or flint nodules. Both seem to come from river bottoms, since quite a few are water worn. Dolerite and quartzite have been also provisionally identified as raw material for tool manufacture. The quartz/flint association in the Ofoubou river area contrasts with the black jasper dominated assemblages of the Yombi/Mandji savannas to the east, on the other side of Mount Igoumbi.

There is no striking difference between "deep" and "shallow" sites when it comes to typology: tools are few, around five percent, with quite a lot of debitage. There seems to be an evolution from larger flakes ("deep" sites: ca. 50/60% at $16 \times 31/5$ mm) to smaller ones ("shallow" sites: ca. 50% at 8×16 mm).

"Deep" sites must be older than 8,000 bp while "shallow" sites are more recent. "Deep" sites contain bifacial tools and discoid cores, while "shallow" sites have no evidence of true microliths as in other relatively recent sites in Gabon (see chapters on Gabon in Lanfranchi and Clist 1991).

Neolithic Sites

Three sites share common characteristics: they are buried at ca. 50 cm and have pottery of a very distinctive type and no lithic artefacts. Two have been test excavated (sites 5 and 16).

Nearly all the pottery vessels are closed forms with everted rims. These rims are left undecorated except for a characteristic channelling that runs around the pot. Pots have flat bases. The mean thickness for the lip is 7 to 9 mm, for the body 10 to 15 mm, and for the bases 19 to 22 mm. The pots are thus quite thick.

The insides of the pots are undecorated. A space is left free of motifs under the lip above the first decorative element on the neck, which consists of incised zig-zags horizontally placed, comb impressed chevrons, or obliquely placed comb impressions. The body and shoulder are decorated by way of comb impressed chevrons, by chevrons made by incisions or by covering impressions possible done with a comb. Only one body sherd is decorated by a walking impressed comb at sites no. 5 and 2, while three are thus decorated at site no. 16. One base sherd is decorated. Site 5 has been dated to 2,390 ± 50 BP (Beta-46141) while site 16 has been dated to 2,160 ± 70 BP (Beta-46139).

Iron Age Sites

Out of the 24 Iron Age sites, six can not be precisely ascribed to any particular time period: their sherds are too weather-worn. On the other hand, 12 other sites do not have a large enough sample of sherds to enable one to group them.

Sites 12 and 30 of the Ofoubou survey are closely similar to the Yombi Pk.8 site date to 1910 ± 80 BP (Beta-20063): especially characteristic are the out-turned decorated lips with internal impressed decoration, oblique comb impressions zig-zagging through a unit made up of horizontal incisions (see Digombe, Locko, and Jézégou 1987; 15-16, 44, and Fig. 2). Some later villages are present as attested by sites no. 33 and 35 with a distinctive type of ware dated respectively to 1090 ± 70 BP (Beta-46140) and to 1190 ± 80 BP (Beta-48066).

Palaeoenvironment

A pit was dug at site 35 from the surface to -160 cm. The column of sediments was analysed for delta 13C content. Although we were unable to date the lower part of the column due to low carbon content, it is interesting that 13C readings all fall between -33‰ and -27‰, which points to forest vegetation throughout the sequence.

Discussion

The small area of the Ngounié tropical rain forest surveyed contains a substantial number of archaeological sites of all periods. According to their ceramic typology and radiocarbon dates, the Neolithic sites are very similar to more northern sites such as those on the Fernan Vaz, along the Ogooué and on the Estuary. They thus constitute a southerly extension of a distinct ceramic tradition and show that villages have been located within the forest since at least 2,400 years ago (Clist and Jézégou 1991).

Taking into account the longer time period of the Iron Age, one finds no evidence for a change in population density from the Neolithic to the Iron Age: ca. 0.2 inhabitants per km². Stone Age figures could have been as low as 0.04 inhabitants per km². Early Iron Age pottery typology is, again, clearly different from what is known along the Ogooué and around the Gabon and Mondah estuaries further to the north.

Oveng site, Estuaire Province

Discovered in 1982 by B. Peyrot and R. Oslisly on the west bank of the Mondah estuary (Peyrot and Oslisly 1983), the Oveng site was first excavated between 1985 and 1989 over an area of 19 m² (Clist 1989, Van Neer and Clist 1991). Five radiocarbon dates from these excavations put the Early Iron Age occupation of the site around 1,700 BP. In April and December, 1991, a large area of ca. 100 m² was excavated.

An important addition to previous years' results has been the discovery of Late Iron Age and Late Stone Age material in some trenches. Late Iron Age artefacts were found in most trenches in the top 10 or 20 cm. The artefacts comprise iron objects, pot

sherds, and European-made pot s fragments. *Ostrea tulipa* shells are also present in the Late Iron Age levels. Late Stone Age material was found under the Early Iron Age layer in, e.g., trenches no. 4 and 14. In trench 14 some 550 artefacts of flint and quartz per m² were excavated.

The spatial analysis now possible shows that Oveng is a village site with a refuse area containing four separate shellfish dumps on the southwest hill slope. The habitation area may be located on a relatively flat surface northeast of the slope, while a third area close to the east slope, which contains iron slag, small fragments of tewels, and laterite blocks, may be an iron-working location.

village was the prime object of our excavations, the duration of the Late Iron Age village was not investigated. With its 15 Late Neolithic refuse pits well dated by eight coherent radiocarbon dates and its 144 m² excavation area, Okala is clearly of prime interest in the study of early food production on the Atlantic coast of central Africa.

Okala Site, Estuaire Province

Four new 14C dates from the Okala site have been processed during 1991 and are indicated by asterisks in the following list:

Stone Age	*Beta-46142	39690 ± 670 BP.
	*Gif-8614	5580 ± 60 BP.
Late Neolithic	Beta-20780	2,230 ± 60 BP.
	Beta-20788	2,250 ± 60 BP.
	Beta-25546	32,290 ± 80 BP.
	Beta-25548	2,120 ± 60 BP.
	Beta-25549	2,460 ± 60 BP.
	Beta-25582	2,450 ± 70 BP.
	*Gif-8611	2,210 ± 80 BP.
	*Gif-8612	2,170 ± 50 BP.
Late Iron Age	Beta-20787	560 ± 50 BP.
	Gif-8612	440 ± 50 BP.

During the Stone Age short stays by hunter-collectors between c. 40,000 and 5,500 BP are evidenced by several artefact lenses dispersed in the clay mantel on the Okala hilltop. The first village to appear on this site is a Neolithic community dated ca. 2,450–2,400 BP. It is not yet clear if the Neolithic settlement was continuous up to the recent dates ca. 2,200–2,050 BP or if the village moved to another hill before returning to the site. What is clear is that the hill was unoccupied between ca. 2,000 bp and 600 bp when a Late Iron Age village was founded there. As the Late Neolithic

Phytolith Database

With the collaboration of the Herber National du Gabon headed by A. Louis, an initial collection of more than 100 botanical specimens has been assembled for phytolith extraction. Further botanical sampling will be done during 1992. Any palaeo-environment lab interested in collaboration with respect to the phytolith database is welcome.

Miscellaneous

A radiocarbon date has been processed from fieldwork done by a Gabonese student, A. Asseko Ndong. His sample comes from the Elarmitang iron-smelting site in Woleu-Ntem province: Gif-8613, modern. This result confirms our previous dates for similar furnaces. From Equatorial Guinea, Gif-8610 760 ± 40 bp dates the Akom site excavated in 1985. This confirms the Iron Age date proposed on the basis of ceramic typology and is close to the Ayene date of 620 ± 60 BP (Clist 1987).

Acknowledgements

The research grant from the London Society of Antiquaries has made possible the excavation in April and October, 1991, of the Oveng Early Iron Age site. I also thank the Conoco Oil Company for its support during the Evinayong and Ofoubou rivers surveys; the Ofoubou concession is a Dupont concession operated by Conoco.

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■ KENYA

Recent Excavations at Gogo Falls in Western Kenya

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The Gogo Falls Neolithic/Iron Age site was first excavated in 1983 by the British Institute in Eastern Africa, Nairobi, and reported in *Nyame Akuma* 26 by Peter Robertshaw. Those excavations yielded Neolithic and Iron Age artefacts as well as faunal and floral remains. A preliminary report on the analysis of a portion of the faunal remains associated with Neolithic artefacts was published in *Nyame Akuma* 28 by Karega-Munene. The preliminary results of the analysis of the floral remains were recently reported in *Nyame Akuma* 31 by Peter Robertshaw and Wilma Wetterstrom.

In 1989 further excavations were undertaken at the site under the direction of Karega-Munene assisted by Samuel M. Kahinju. These covered a total of 30 m², with a depth of archaeological deposits ranging from 0.5 m to 2.3 m. The excavations yielded pottery, iron artefacts, ostrich egg-shell beads, obsidian artefacts and flakes, and faunal remains. The iron artefacts consisted of a few complete arrow heads and various forms of rings, the rest being fragments of the latter. Attempts to conjoin the iron fragments have been unsuccessful largely because of their rusty condition. The complete ostrich egg-shell beads are polished discs of fairly standardised diameter. Most of them have bidirectionally drilled symmetrical perforations. The

incomplete beads as well as the complete ones are being studied with the aim of reconstructing the technology used in prehistoric bead-making.

Virtually all of the obsidian artefacts are less than 3 cm in length, the most abundant tool type being crescents. The obsidian flakes are generally less than half the size of the artefacts. Besides the artefacts and flakes, no obsidian cores were recovered. This may be related to the view advanced by Merrick and Brown (1984), following their electron microprobe analysis of some obsidian material from the site, that the obsidian probably came from quarries located in the Lake Naivasha basin, over 200 km away. Thus, the sheer distance from which the obsidian was obtained may have caused it to be treated as a precious commodity, deserving careful curation. We could also hypothesize that the place where the obsidian artefacts were manufactured was located at a reasonable distance from the living area in order to ensure that humans were not exposed to the dangerous sharp chips. If correct, this would imply that the manufacturing site itself is yet to be discovered.

Three Neolithic wares (locally known as Kansyore, Elmenteitan, and Akira) plus one "early" Iron Age ware (Urewe) are represented in the ceramic assemblage. Elmenteitan ware is represented by the largest number of diagnostic sherds (2,639) including one complete vessel, followed by Kansyore (1,676), Urewe (1,610) and Akira (45). Three of the wares, viz., Kansyore, Elmenteitan and Urewe are better represented in the excavation units from which they were recovered than Akira pottery which is not represented by more than 5 sherds in any of the trenches where it was found. Akira ware was also not found on its own, but in association with Kansyore, Elmenteitan and Urewe sherds. Kansyore and Urewe wares were, however, found on their own in the lowermost deposits of at least four and one of the excavated trenches, respectively.

The faunal assemblage consists of both identifiable and non-identifiable specimens, the former being a small proportion of the entire assemblage. The identifiable

specimens represent a wide range of terrestrial wild animals, such as equids, suids, rodents, dog, snake and buffalo, in addition to fish and domestic sheep/goat and cattle. A substantial number of both the identifiable and non-identifiable specimens exhibit evidence of modification such as cutmarks, gnawmarks and burning. Virtually all the large taxa are represented by broken post-cranial specimens; only small-sized animals like rodents are represented by some complete post-cranial specimens.

Several charcoal samples were collected in situ for dating. Some of these have been submitted to the Oxford Radiocarbon Accelerator Dating Laboratory and the dates are due soon. Two of them were associated exclusively with Kansyore pottery and may shed important light on the pottery's antiquity because the majority of the available radiometric on Kansyore ware are associated with assemblages that also contain other pottery types.

Limited flotation for plant remains was also undertaken. This was done in collaboration with a palaeoethnobotanist, who kindly undertook to identify the recovered remains. However, the results of the botanical analysis are not available to us at the time of writing this report.

Acknowledgements

We wish to thank the L.S.B. Leakey Foundation, the Deans' Committee of the University of Nairobi (Kenya); Smuts Memorial Fund, Bartle Frere Exhibitions and Antony Wilkin Fund (Cambridge); and Boise Fund (Oxford) for funding this research.

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■ NIGERIA

Recent Archaeological Surveys in Borno, Northeast Nigeria

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Since the pioneering work of H. Barth, E. L'enfant, P. Noel, H. Gaden & R. Verneau, F. R. Wulsin, L. Pales, J. P. Lebeuf, A. D. H. Bivar & P. L. Shinnie and G. Connah, no large scale archaeological research has been conducted in the Nigerian Chad Basin (Connah 1983). This report covers recent fieldwork within the basin, carried out by a joint research team involving the Universities of Frankfurt and Maiduguri. The main subject of the collaborative project is the mutual interaction between prehistoric cultures and their environments. The focal point of our research is the Holocene settlement history of the Nigerian Chad Basin, with special emphasis on Later Stone Age archaeology. In this respect, our project continues Connah's work, whose excavations in Borno provided basic information about the region's prehistory. Especially relevant is his investigation of Daima, a large mound near the border of Cameroon with deposits that yielded uncalibrated radiocarbon dates

from about 550 B.C. to A.D. 1200 or A.D. 1300 (Connah 1976, 1981).

The first field campaign was carried out from December 1990 to January 1991. In this initial stage activities were restricted to survey. The intention was to get an impression of the general archaeological situation and to locate suitable sites for excavations in following campaigns. In view of the considerable expanse and monotony of the landscape in north-eastern Nigeria, surveys had to be restricted to a manageable geographical size. We used Tuley's (1972) environmental division of the Chad Basin and surveyed selected areas within the following units (Fig. 1):

1. Flat plains with lagoonal clays (*firki*) to the south of Lake Chad. The area chosen for survey within this unit is north of Dikwa.

2. The Bama Deltaic Complex, consisting of dispersed longitudinal dunes and deltaic deposits comprised of aeolian and alluvial sands and clays. The complex is encircled by *firki* plains in the east and the Bama Ridge in the west. Surveys were concentrated around Gaji Gana, ca. 60 km north of Maiduguri.

3. Bama Ridge, which represents a former shoreline associated with a high water level of Lake Chad. The beach sands associated with the paleoshoreline can be traced from the Cameroon border to the Niger frontier.

Firki Plains

To the south of Lake Chad, flat plains with lagoonal deposits are the predominant landform. Dark clays, locally known as *firki* and occasionally interrupted by sand islands, cover an area of more than 5,000 km². Archaeological reconnaissance is not very difficult in this part of the Chad Basin, because huge areas can be surveyed from one position. Easily visible from great distances are sandy mounds that rise several metres above the flat plain. After heavy rains these mounds resemble islands in the sea. They represent the only permanently habitable sites in the *firki* that yield extensive archaeological deposits.

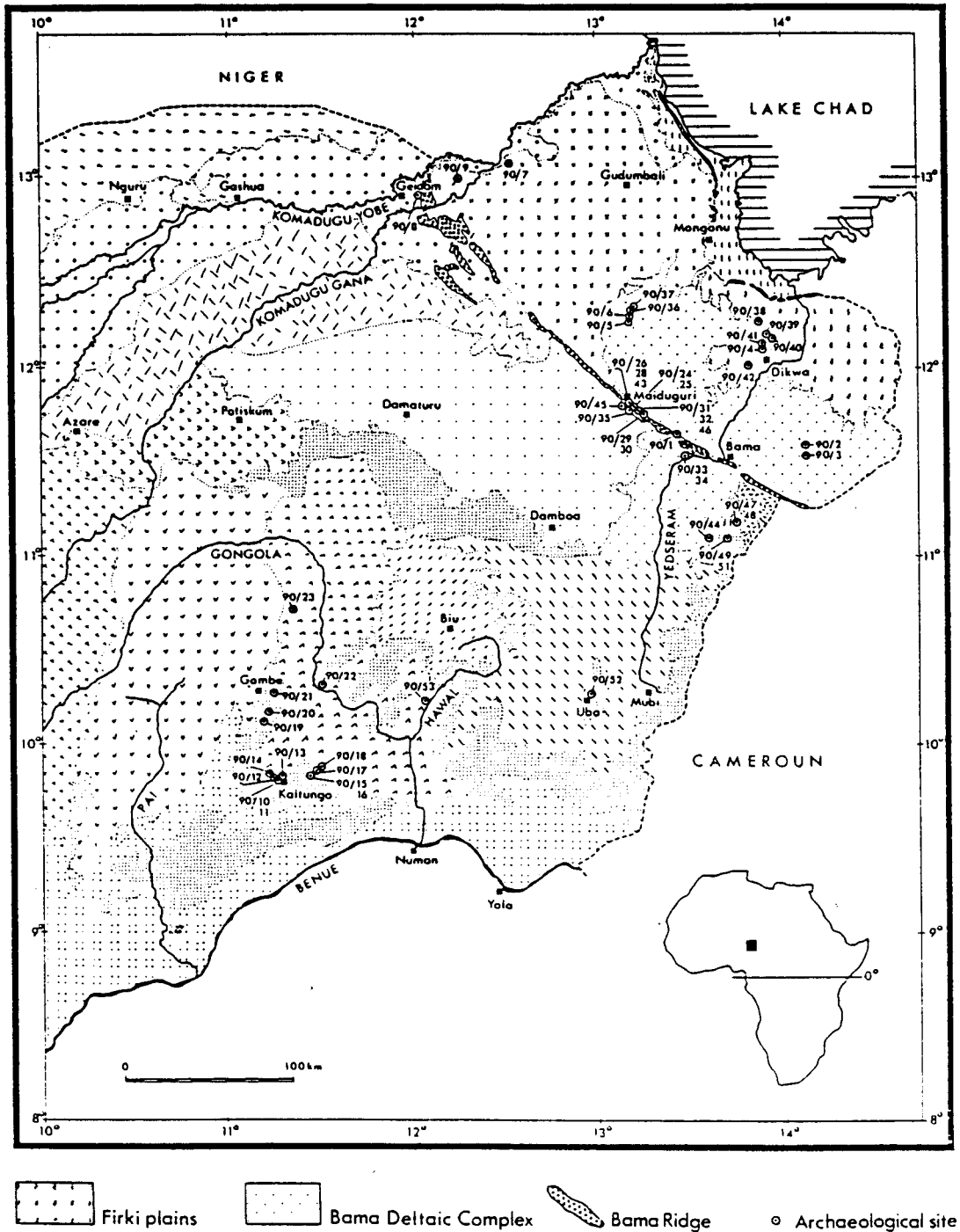


Fig. 1. Map of NE-Nigeria. Major relief units according to Tuley, 1972.

The *firki* and its characteristic settlement mounds had been described by Connah (various references; for the distribution of sites in Cameroon and Chad see Lebeuf 1969). The results of Connah's excavations had shown that the region was settled during the transition from Stone Age to Iron Age in the first millennium B.C. We surveyed the plain in only a small section north of Dikwa (Fig. 1). Six settlement mounds were localized. On two of them test trenches yielded layers with potsherds down to 2.5 m below surface. Such small scale excavations focused on stratigraphy are expected to complement Connah's investigations of the *firki* plain.

Bama Deltaic Complex

The Bama Deltaic Complex covers the southern section of the region between Bama Ridge and Lake Chad (Bawden, 1972: 64). The landscape has a low relief formed by previous deltas of the rivers Yedseram and Ngadda (Fig. 1). In the central section, sand plains and clayey depressions predominate, whereas flat, stabilized longitudinal dunes occur in the north and southeast.

So far, we have surveyed only the dune areas and found a simple regularity in the distribution of archaeological sites: there is a preference for dunes or sandy hills. Interdune areas and depressions contain deposits of clay like the *firki*, where rainy season floods prevent the establishment of permanent settlement.

Gaji Gana (90/5)

In the area surveyed, settlement mounds are the most common, or at least the most conspicuous type of archaeological site. In general they are smaller than the *firki* mounds and, as noted by Connah (1981: 53), occur mostly in groups. We came across such mounds (sites 90/5 and 90/6) near Gaji Gana, a small village lying about 60 km north of Maiduguri (Fig. 1). The area is scheduled for further exploration because the surface material seems to represent a so far unknown phase in Borno's prehistory.

The sites are very low settlement mounds. Site 90/5, for instance, has a height

of about only one metre and a diameter of approximately 150 m. There are some ponds in the vicinity of the settlement. We do not know anything about the age of these ponds, but it seems possible that such water reservoirs may have a connection with the neighboring prehistoric settlements. When the ponds are not dried up, pastoralists use them to water their herds of cattle and goats at present. About 1 km away from the site there is a vast expanse of land consisting of a typical *firki* soil. Characteristic vegetation of the area includes *Balanites aegyptica* and *Acacia sieberiana*, but there are no trees or bushes on the mounds.

Interviews with villagers from the vicinity yielded no information about former settlements on the mound. This might suggest that the mounds are older than sub-recent. In fact, there are archaeological indications pointing to the presence of layers of considerable antiquity in the mound's stratigraphy.

Surface exposure affords ready access to the potential archaeological content of the mounds. Strong winds have removed sediment in the northeastern part of the mound to a depth of approximately one metre, concentrating archaeological materials on the surface. Wind erosion has also laid open contracted burials and animal bones. The surface of the mound is covered with innumerable potsherds, mostly broken into small fragments, which might be of different ages because of sediment deflation. Besides abundant undecorated sherds, there are a few "fine" pieces with rocker-stamped (or rocked zig-zag) decoration (Fig. 2.1). In comparison to other collections from the Gaji Gana area, this decoration is rare and is not present in inventories of obviously sub-recent age. Rocker-stamped decoration is widely distributed in North and West Africa and in parts of Central Africa (Eggert 1984: 283ff.). Although not confined to any specific period, rocker-stamped decoration generally seems to represent an archaic element in the ceramic traditions of these regions. This is also demonstrated for the Chad Basin chronology by the Daima sequence. According to Connah (1976: 344), rocker-stamped decoration ("walking

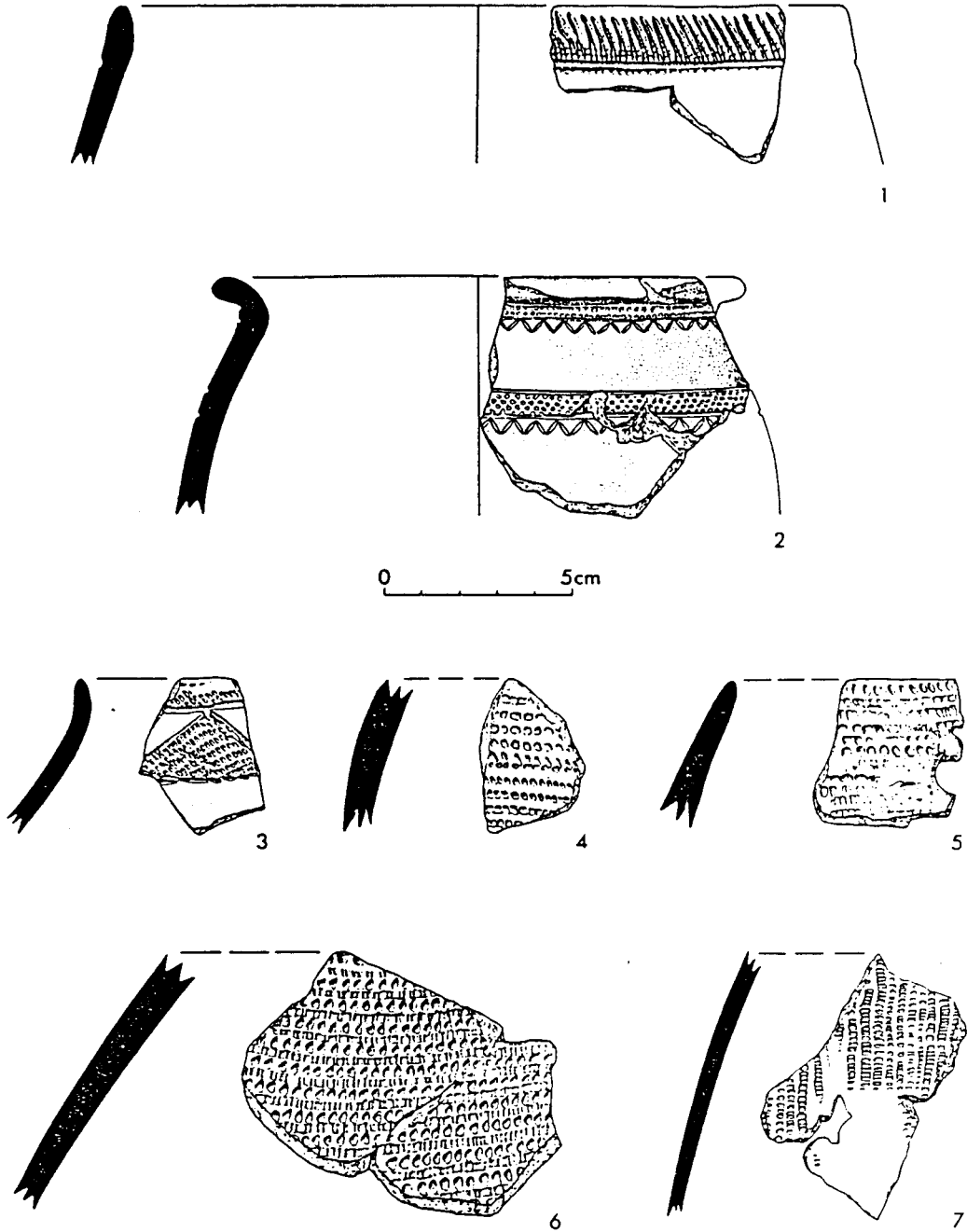


Fig. 2. Pottery. 1-3: Gaji Gana (90/5). 4-7: Konduga (90/1).

comb") is present at Daima only in the lower part of the mound.

There are also a few pieces of metal (copper and iron) pointing to an iron age occupation phase. Of special interest are stone artefacts from the Gaji Gana mound. There are no natural stone deposits in the Chad Basin. All raw materials for stone working had to be collected from sources much more than 100 km away from 90/5. For this reason, and as demonstrated recently by Connah and Freeth (1989) with regard to the stones of Daima, inventories like the one from 90/5 are of special value for the reconstruction of far-reaching contacts in the past.

Most of the Gaji Gana stone artefacts, of which there are hundreds, are flakes of volcanic rocks with ground areas. They are probably re-used fragments of ground stone axes, which were also found at the site (Fig. 3, 11–12). In addition, there are artefacts made of granite, sandstone and other, so far unidentified raw materials. Most common are fragments of grinding stones, pounders and axes. We also found bifacial arrowheads with concave bases made of basalt (Fig. 3, 1–2) and silica (Fig. 3, 3–10). Widely distributed in the Sahara, such pieces are rare in the later prehistory of the West African savannah where geometric microliths and backed bladelets are common. Arrowheads of Saharan appearance found in West Africa savannah environments are also reported from the Ntereso site in Ghana, belonging to the Kintampo Culture and dated around 1300 B.C. (Davies 1980: 215; Flight 1975: 214), from Dutsen Konbga near Jos (York 1978) and from Shilma, Borno (Connah 1981: 62). Together with ground stone axes and pottery, arrowheads are connected with Saharan elements moving southwards around 5000 B.C. to 2000 B.C. (Shaw 1980: 77).

Bama Ridge

The Bama Ridge is a beach or offshore bar, running from north of the Mandara Mountains in a straight northwestern line to Geidam (Fig. 1). It attains its maximum height between Maiduguri and Bama where

it stands up to 12 m (Bawden 1972: 64), representing the most prominent landmark in the Nigerian Chad Basin.

The ridge is connected with a high water level of Lake Chad. According to most scholars the water level of Lake Chad came up to a maximum of 320 m above sea level roughly around 6000 to 5000 B.P. The water level of Palaeochad exceeded the present lake level of 280 m by about 40 m. Consequently, extensive areas of the Chad Basin must have been inundated and settlement could only have taken place after the huge palaeolake shrunk. As an elevated and not inundated area the ridge might have played an important role during the period of post-Palaeochad colonization.

Along a few sections the ridge consists of a near-parallel series of bars. In the valleys between the bars, sandy deposits have accumulated in channel cuts that are several metres deep. Between Bama and Maiduguri we found potsherds in such channel fills, where the sherds were clearly in secondary context. The most probable origin of this re-deposited material might have been the top of the ridges. The large number of sites suggests intense prehistoric settlement in the area under consideration.

One of these ridge sites was discovered near Konduga (90/1), next to the road between Maiduguri and Bama (Fig. 1). In a sandpit on top of the ridge potsherds were found below one metre of consolidated sands (Fig. 2.4–7). The potsherds are decorated by the rockerstamping technique involving short combs with probably 3–5 teeth (Concerning the ceramics we are indebted to W. Schuck (University of Cologne) and H.-P. Wotzka (University of Frankfurt) for their comments). Associated charcoal gave a radiocarbon date of 6340 ± 250 B.P. (KN-4300). The charcoal pieces are well rounded. Therefore Thiemeyer emphasizes "that at this time the lake must have had a high water level of about 320 m." (Thiemeyer in press). The site yielded the first date for the Bama Ridge and it probably represents one of the earliest settlements in the Nigerian Chad Basin.

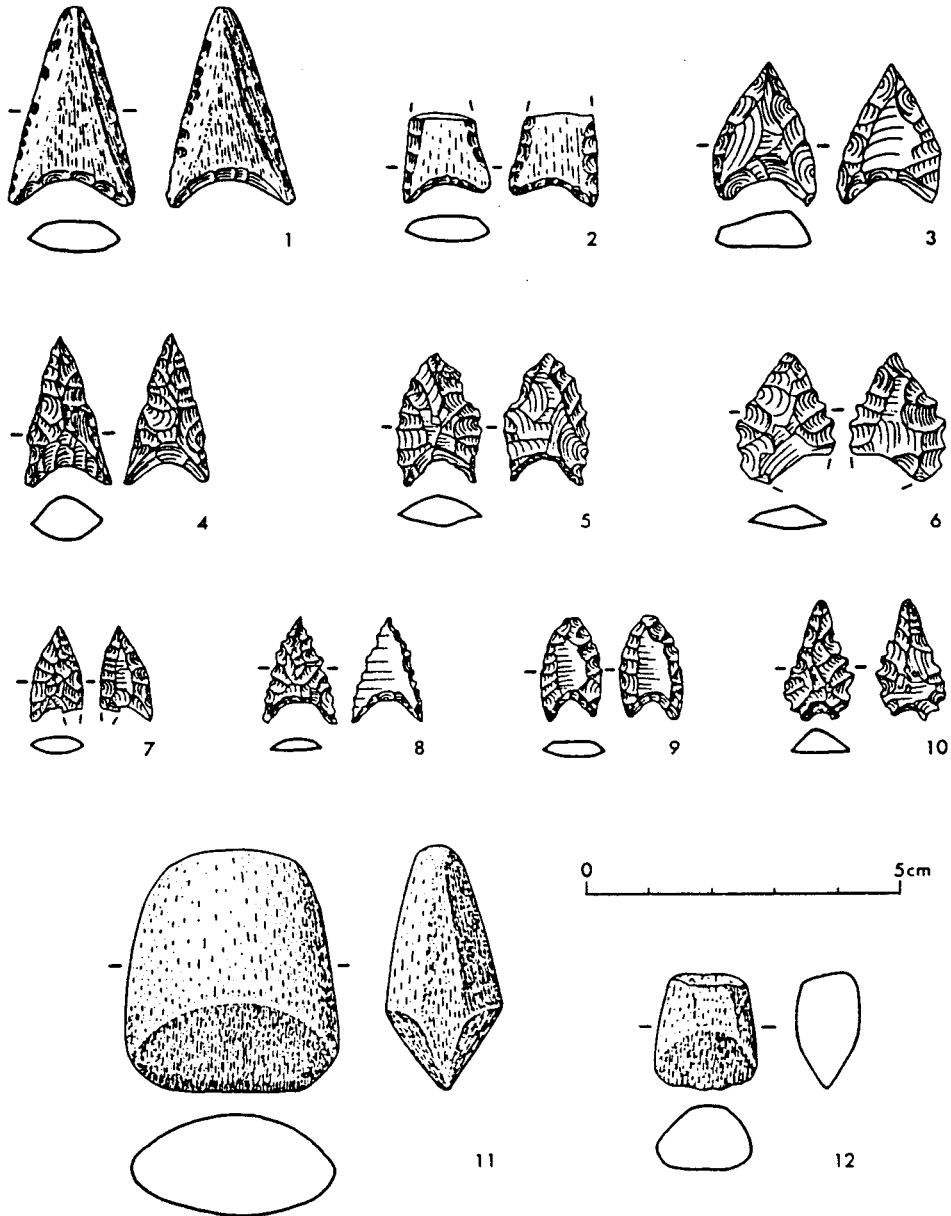


Fig. 3. Stone artefacts from Gaji Gana (90/5).

Conclusions

Initial surveys within different landscapes of the Nigerian Chad Basin revealed several new sites indicating that previous archaeological maps (Connah 1981: 46) represent only the "tip of an iceberg."

The discovery of the Konduga site on top of the Bama Ridge clearly demonstrates that there is no 3000 B.P. barrier (Connah and Jemkur 1982) in the area's settlement history. We rather can assume that prehistoric sites were established on the ridge during the mid-Holocene highwater level of the Paleochad. After the lake's regression, the settlement of its former bed probably also took place from there. Excavations will be carried out to collect more data about environment, economy and material culture of the inhabitants.

Another important site that may add substantially to Borno's prehistory is a mound near Gaji Gana. Lying in an area archaeologically so far unknown, it offers not only a chance to reconstruct man's adaptations to the sandy region east of Bama Ridge, but also to investigate far-reaching contacts up to the Sahara. In addition, large scale excavations of other sites within a limited area of about 100 km² are scheduled to test Connah's hypothesis that the presumed short sequences of the low Yobe type mounds should reflect lightly built huts and (in contrast to the high firki type mounds) high mobility of small village communities based on a mixed farming economy (Connah 1981: 197ff.).

Acknowledgements

We are indebted to J. Freundlich (University of Cologne) for the radiocarbon date of Konduga and H.-P. Wotzka for correcting the English translation. The figures for this article were drawn by B. Voss (SFB 268, University of Frankfurt).

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■ SUDAN

Radiocarbon Dates from Mesolithic Sites in the Atbara Region, Sudan

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For the three Mesolithic sites that we have excavated in the Atbara region since 1984 (Fig. 1), we now have 36 radiocarbon dates and they are thus better dated than any other comparable sites in the Sudan.

The dates are presented in Table 1 and Fig. 2 and it is apparent that they cover a long timespan.

Abu Darbein

The Abu Darbein site has the oldest dates, with a concentration around 8600–8300 bp; the two later dates are based on material from the outskirts of the site, area 2 (Fig. 3). However two more dates are being processed to get a more secure age estimate for the site. The artifacts such as pottery, clearly indicate that this is the oldest of the three sites. This is reflected in the decorative pattern used which consists of rather roughly impressed dots, the vessels seem more crudely executed and in addition the pottery appears to be less abundant than at the other sites.

El Damer

As can be seen from the table, the dates span a time period of a thousand years. However the main part of the settlement, where we have excavated the graves (Fig. 4), concentrates around 8040–7780. (seven of

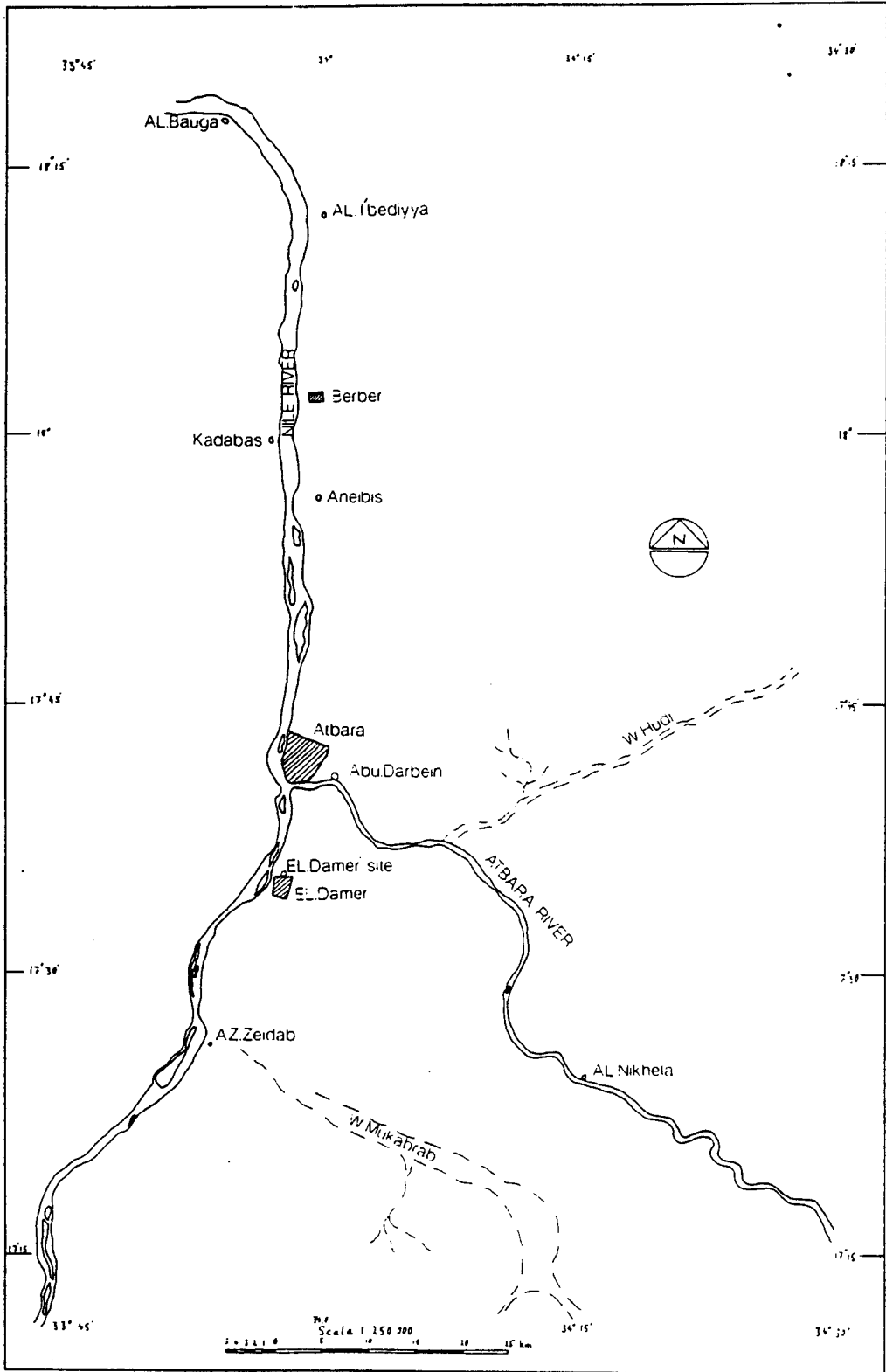
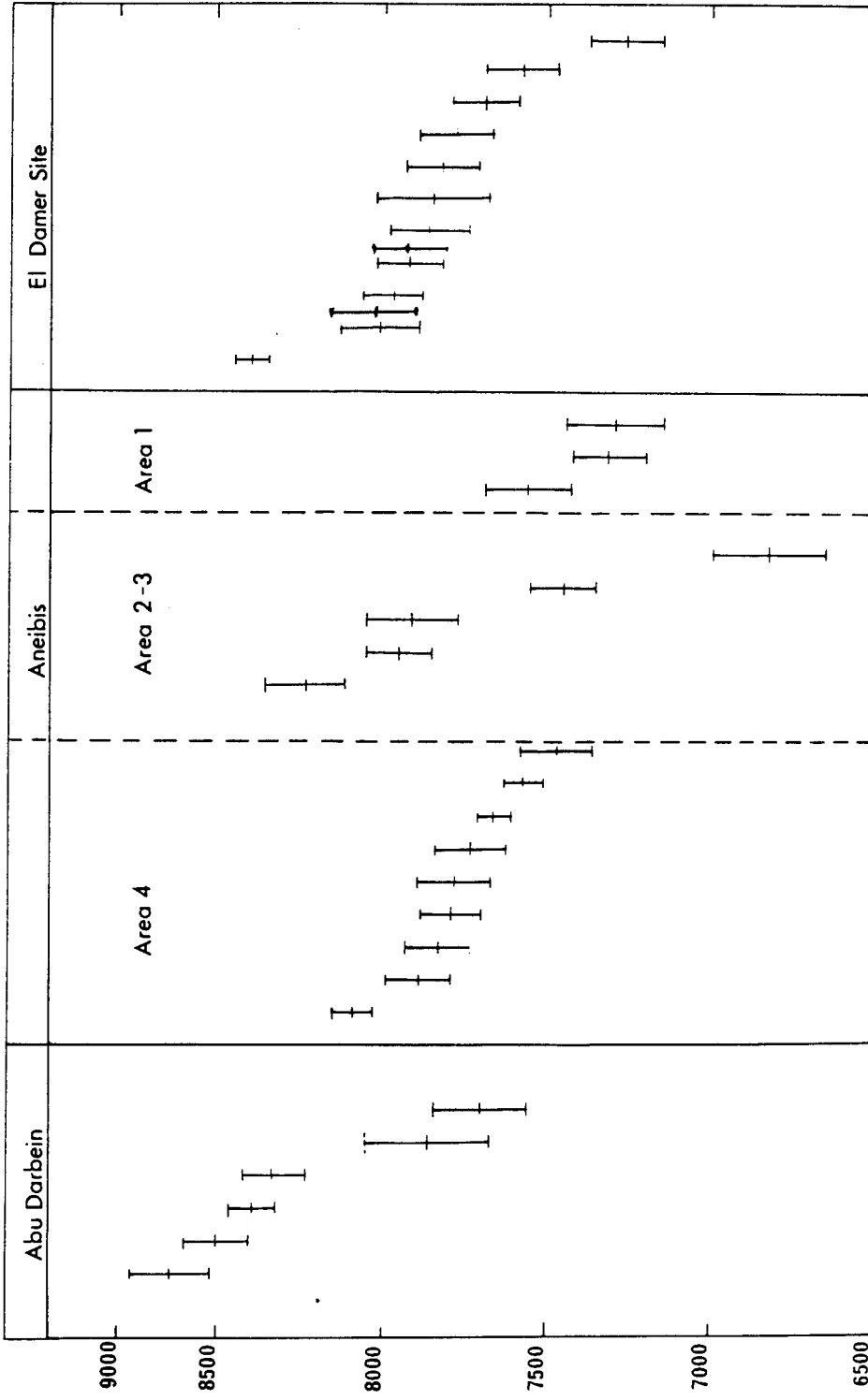


Fig. 1. Map of the Atbara Area.



C years B.P. (1950)

Fig. 2. Diagram showing the radiocarbon dates from the three sites.

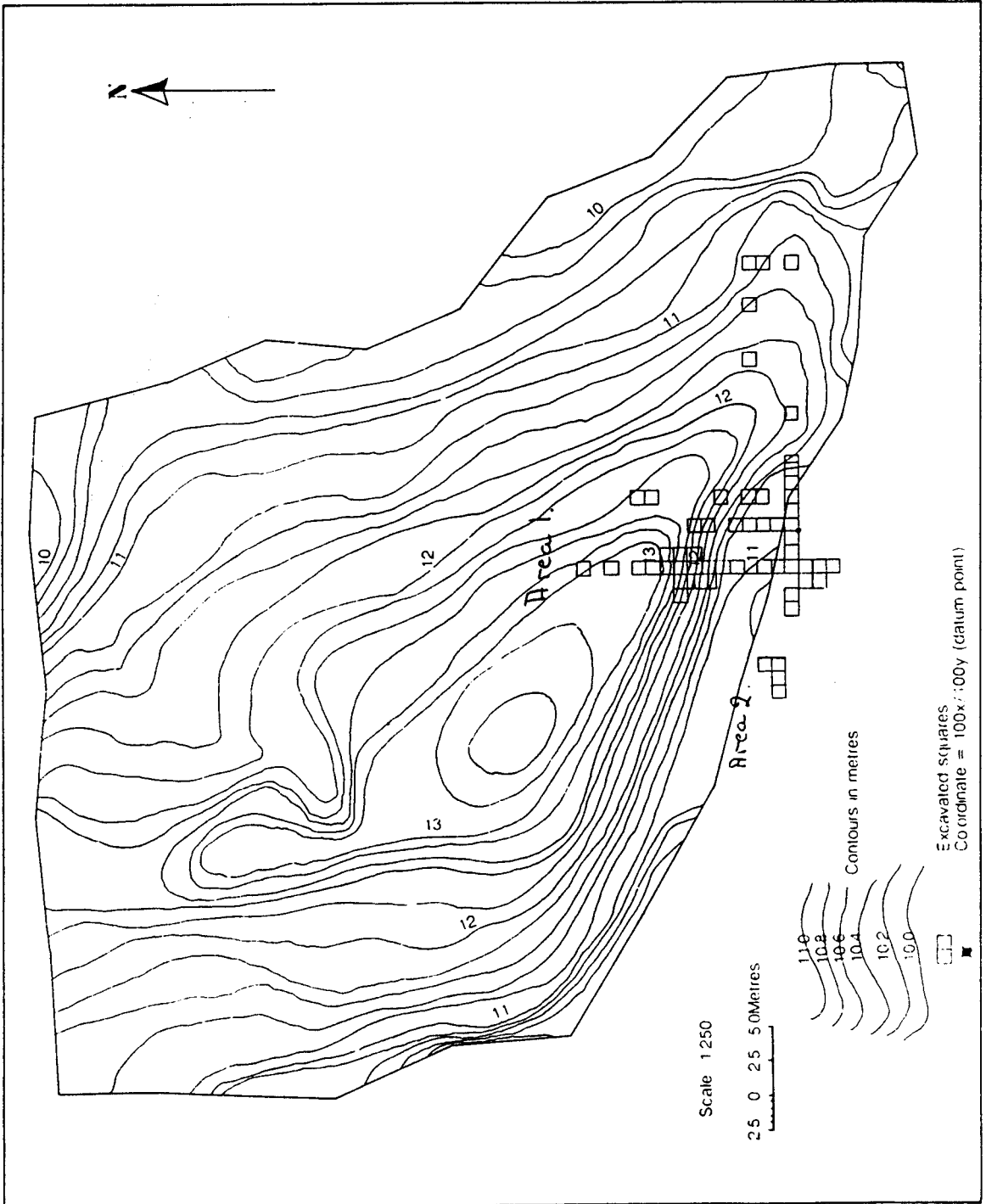


Fig. 3. Map of the Abu Darbein site.

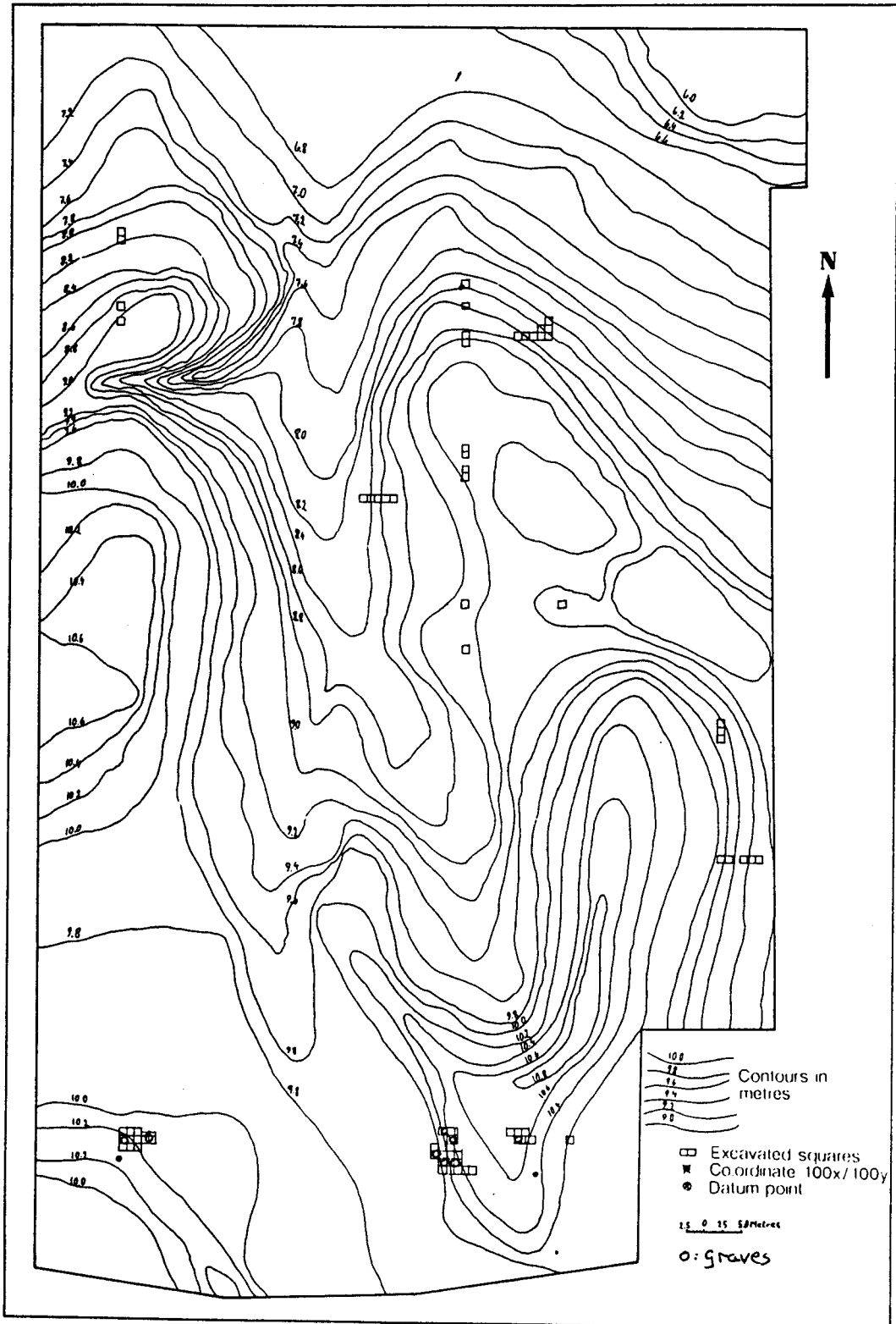


Fig. 4. Map of the El Damer site.

these are obtained on shell material recovered from the graves and are listed as no. 4-10 on Table 1). The later dates from the site are based on material taken at the outskirts of the settlement where the mound slopes down towards the river. The pottery material found on this site is varied, not only in terms of the type of decoration employed but also in the presence of quite a number of different types of abraded pottery artifacts (Figs. 5, 6).

Aneibis

We have the widest range of dates from this site, spanning a period of almost 1500 years, from 8240 to 6820 bp. The most mixed area seems to be the area designated as area 2 which is situated at the steepest part of the site and thus seems to contain a temporal mixture of material resulting from downward displacement of later artifacts. The oldest part of the site is in area 4, located in the eastern part of the site with a more gentle slope to the settlement ridge (Fig. 7). The general impression is that this site is the youngest, as seen in the pottery which is well decorated especially the rims (Fig. 8). Most dates concentrate around 7890-7290 bp. A characteristic feature of the site is the decorated bone and shell artifacts (Fig. 9).

The three sites have been subject to quite severe deflation. The average thickness of the cultural deposit was around 50 to 60 cm at the deepest. Cultural material can be seen to have washed down the slopes of the sites. Caneva has estimated that ca. 80 cm of the cultural deposit has been removed by deflation at the Neolithic site of Geili, North of Khartoum (Caneva 1989). It is likely that the deflation has been just as severe for the three sites in the Atbara area.

The Atbara settlement mounds have been used for later burials. This is a typical feature of Sudanese prehistoric sites located along the main rivers. The mounds have been considered the most suitable places for cemeteries in the floodplain. These secondary burials have thus disturbed the earlier cultural deposits. In most cases (except some larger Meroitic burial mounds located at El Damer) the disturbance by later

burials could not be detected on the surface. The cultural deposits appear unstratified on all sites. This is a common feature for Mesolithic, as well as Neolithic sites, in the Middle Nile region (Haaland 1987, Caneva 1989) and makes it more difficult to see the actual contour of the later graves.

These factors have complicated the datings of the three sites. However the interpretation of the material is as follows; the sites were located in a favourable riverine habitat. They have been occupied on and off for a long period of time. It is hypothesized that we have the remains of a sedentary population during the period when we have the concentration of dates. It is also apparent that the dates we have from the El Damer site are more supportive of a hypothesized sedentary population than are the dates the two other sites.

Evidence to support the interpretation of a sedentary population includes:

- a. the size of the settlements (Abu Darbein site is 1600 , El Damer 6000 and Aneibis is 7000 square metres),
- b. thickness of the cultural debris,
- c. the presence of graves,
- d. the high frequency of potsherds found, especially at El Damer and Aneibis,
- e. archeological material which shows that the people inhabiting the sites were exploiting a wide set of resources; fishing, shellcollecting, hunting and plant gathering The broad spectrum of resources exploited, with an emphasis on aquatic species (abundant and predictable resources which could be stored) permitted a sedentary way of life.

Table 1

Laboratory	Site, square, level	bp	B.C. calibrated	13C o/oo
ABU DARBEIN				
1 T-8624	101x/99y level 5	8640 ± 120		-9,5
2 T-6381	108x/96y level 1	8500 ± 100		-9,2
3 T- 8525	101x/98y level 4	8390 ± 70		-7,8
4 T-8626	112x/103y level 1	8330 ± 100		-5,5
5 T-5728	101x/90y level 1	7700 ± 140		-7,1
6 T-5727	101x/90y level 4	7860 ± 190		-5,3
EL DAMER				
1 T-7485	105x/87y level 4	8390 ± 50		-6,0
2 T-9698	125x/109y level4	8040 ± 120		-5,5
3 T-9689	125x/107y level 4	7910 ± 115	7040-6600	-7,6
4 T-8637	21x/55y levels 7-8	7970 ± 90	7050-6680	0,6
5 T-8639	21x/54-55y level 4	7820 ± 110	6790-6490	-2,5
6 T-8633	21x/54y level 8	7920 ± 100	7040-6620	-0,6
7 T-8632	22x/98y level 3	7860 ± 120	7030-6510	-0,3
8 T-8640	22x/99y level 3	8010 ± 120		-1,9
9 T-8634	22x/99y level 4	7850 ± 170	7040-6480	-1,9
10 T-8638	21x/54-55y level 5	7780 ± 110	6700-6470	-3,3
11 T-7484	54x/140 levels 2-3	7690 ± 1100	6610-6430	-6,5
12 T-8635	57x/138 level 2	7580 ± 1110	6550-6240	-8,2
13 T-8631	137x/54y	7260 ± 1110	6180-5990	-5,9
ANEIBIS				
area 2				
1 T-8643	58x/98y level 3	8230 ± 120		-5,7
2 T-8644	59x/89 level 3	7950 ± 100	7060-6650	-3,2
3 T-6384	46x/98y level	7450 ± 100		-7,5
4 T-7481	56x/93y level 1	6820 ± 170	5840-5540	-2,5
area 3				
5 T-7482	64x/107y level 5	7910 ± 140	7050-6570	-2,3
area 4				
6 T-8648	48x/146y level 6	8090 ± 60		-0,6
7 T-8641	46x/146y level 5	7890 ± 100	7030-6600	-4,3
8 T-8647	48x/146y level 5	7830 ± 100	6810-6500	-3,4
9 T-8646	48x/146y level 2	7790 ± 90	6700-6480	-1,6
10 T-8645	48x/146 level 3	7660 ± 50	6560-6440	0,1
11 T-7483	49x/147y	7780+110	6690-6470	-2,7
12 T-6385	43x/147y level 1	7730 ± 110		-10,
13 T-8636	45x/ 148y level 3	7570 ± 60	6470-6270	-2,3
14 T-8642	46x/ 146y level 4	7470 ± 110	6440-6170	-1,4
area 1				
15 T-7480	103x/96y level1	7560 ± 130	6550-6190	0,2
16 T-6382	100x/98y level 1	7310 ± 110		-8,9
17 6383	100x/98y level	7290 ± 150		-8,91

bp; 14C age before present, B.C. ; calibrated age (MASCA). The dates are based on freshwater molluscs. It is a reliable datable material as are all freshwater molluscs, whose mean age is 0 (Reidar Nydal personal communication). All dates are measured for isotopic fractionation (13C) and corrected. The dates have been processed by Laboratoriet for Radiologisk Datering, Trondheim. Two more dates from the site of Abu Darbein are being processed by the Godwin Laboratory, University of Cambridge and the results are expected to be out in July, 1992.

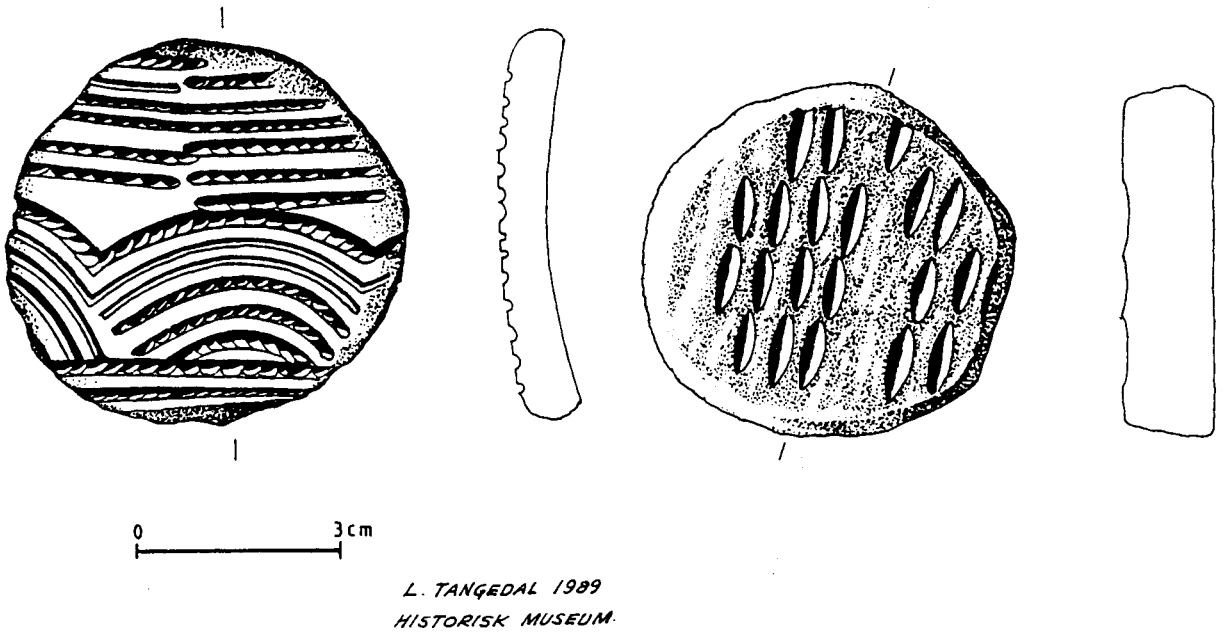


Fig. 5. Abraded disk shaped pottery artifacts of unknown function from the El Damer site.

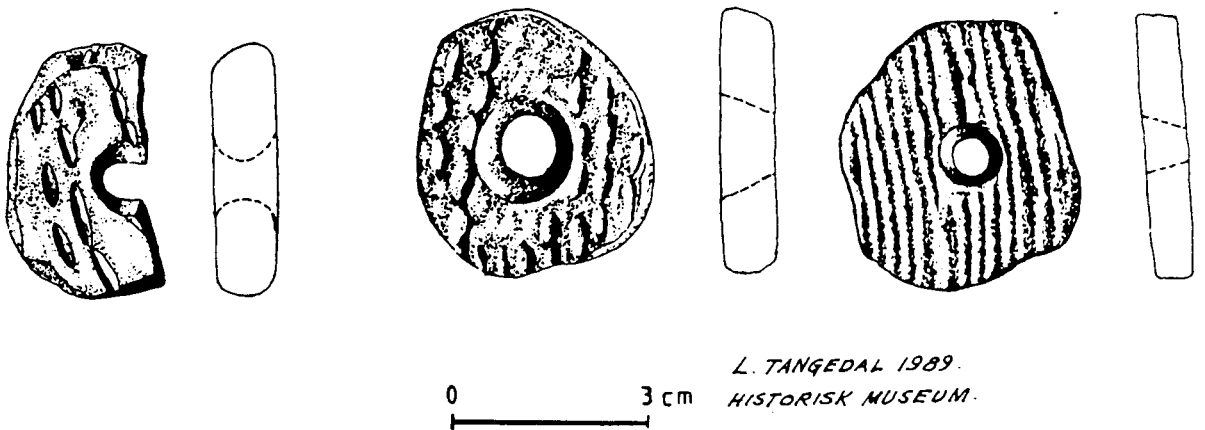


Fig. 6. Abraded pottery artifacts from El Damer, probably netsinkers used for fishing.

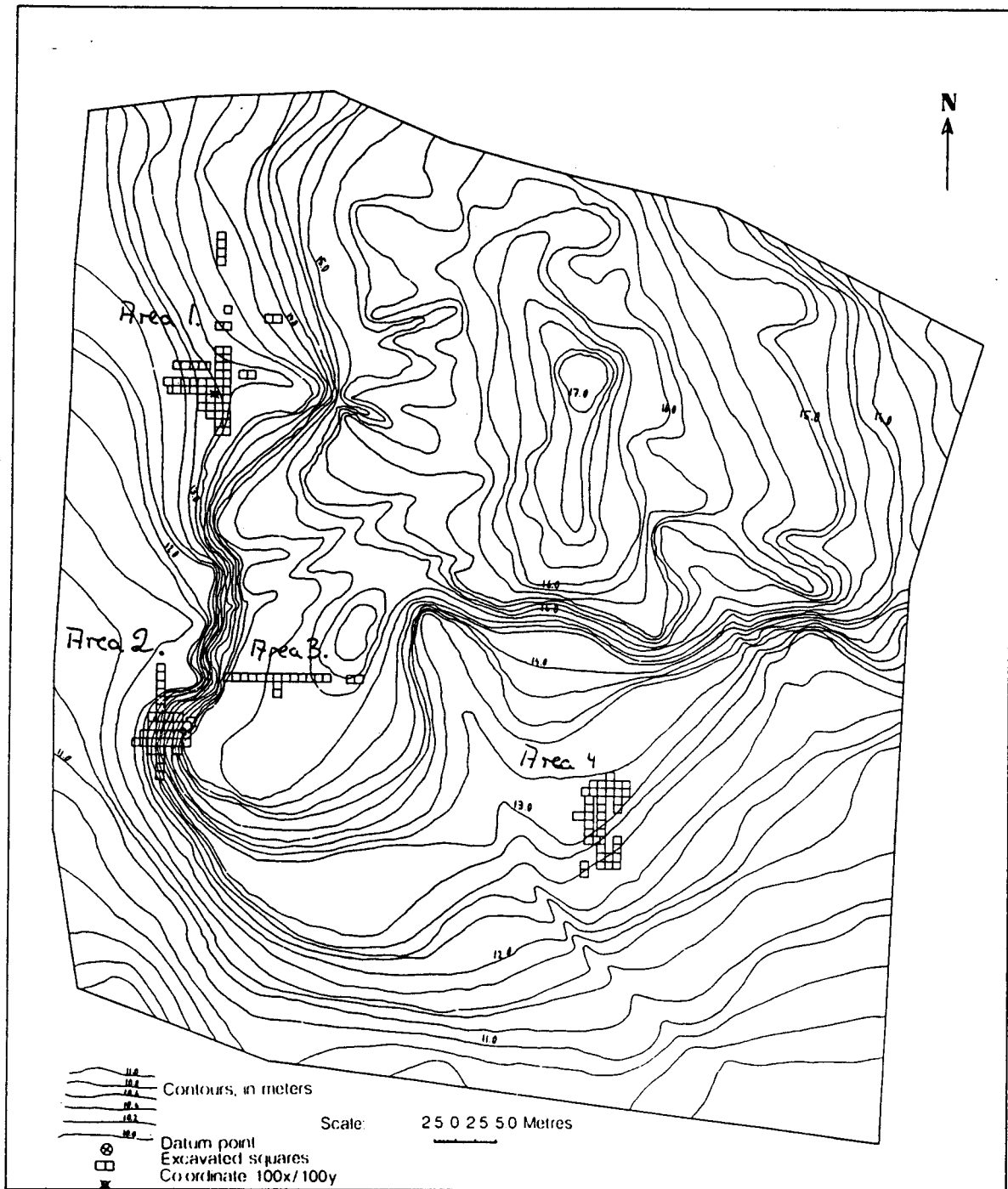
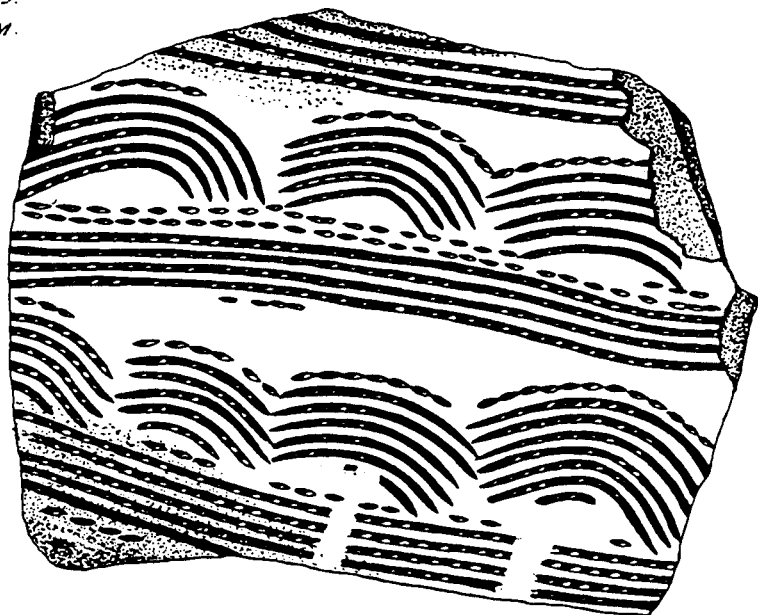


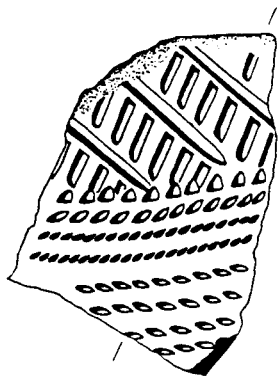
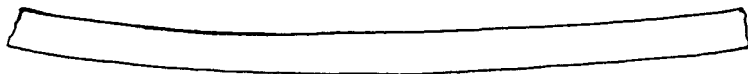
Fig. 7. Map of the Aneibis site.



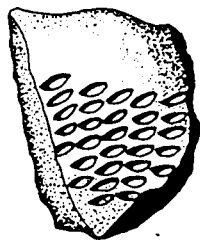
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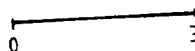
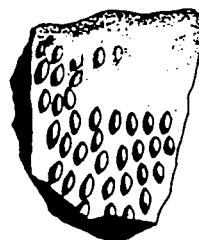
a



b



c



A. 98 x 146 y
L 5

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Fig. 8. a: potsherd from Aneibis with a typical dotted wavy-line pattern; b: decorated rimsherd from Aneibis; c: sherd that is decorated both on the outside and the inside.

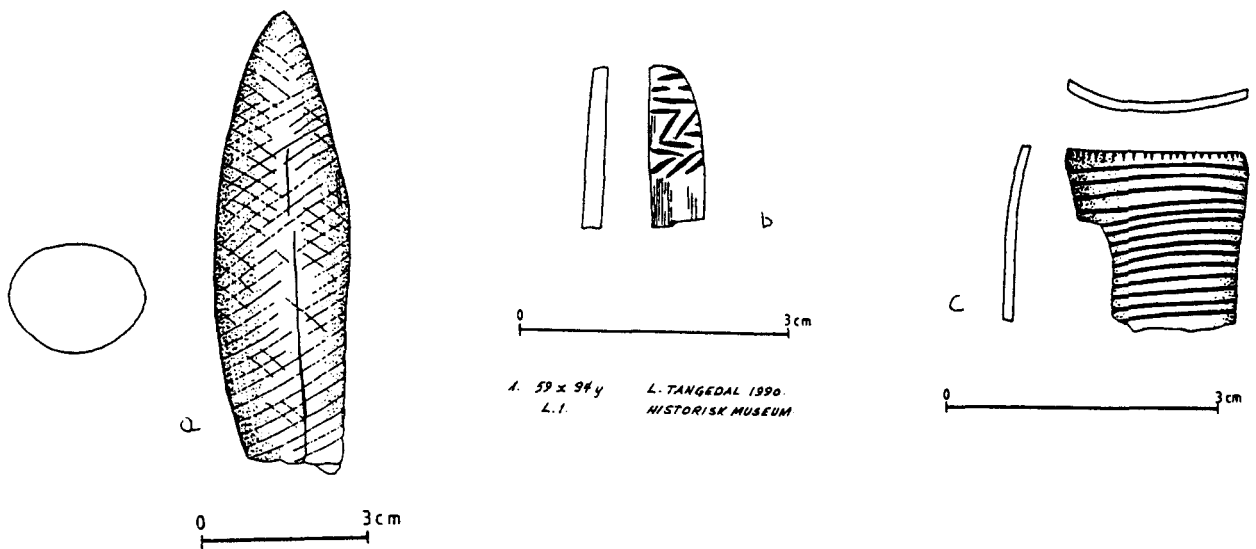


Fig. 9. Bone artifacts from Aneibis. A: decorated bone spear; b: decorated bone pin; c:

Acknowledgements

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■ TANZANIA

An Archaeological Survey of the Songwe River Valley, Lake Rukwa Basin, Southwestern Tanzania

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Ever since 1987, when a number of geneticists proposed an African origin for anatomically modern humans (Cann et al. 1987; also more recently, Vigilant et al. 1991; Wilson and Cann 1992), the Middle Stone Age (MSA) has become a focus of renewed attention in African archaeology. Dating between 200,000 and 30,000 years ago, the MSA is the period predicted for the appearance of the last common ancestor for all living human populations. This ancestral group may also have made the transition to anatomically modern *Homo sapiens sapiens* early in the MSA. But our knowledge of culture history for this period remains poor, especially when compared to coeval developments in Eurasia. Clearly more work needs to be done to understand MSA variation in time and space, and to interpret hominid behavioral patterns (site use, mobility, technology, and adaptation) at this time.

With the permission of the Tanzanian Department of Antiquities and the Commission on Science and Technology, I began a field project dealing with MSA and Later Stone Age (LSA) archaeology in Rukwa and Mbeya Regions in 1989 (Willoughby 1990, 1991). Part of the Western or Albertine Rift in southwestern Tanzania, this area is only now being examined by prehistorians. The closest sites which can be used as points of reference for stone age developments in this region are Kalambo Falls, Zambia (Clark 1969, 1974) at the southern end of Lake Tanganyika and

Isimila (Howell et al. 1962) outside of Iringa, about 300 km. to the northeast of our study area. After a visit in 1989 which was reported in Nyame Akuma (Willoughby 1990), I selected the Songwe River valley which flows into Lake Rukwa from the south as the initial focus of an intensive archaeological survey which was begun in the fall of 1990. A number of people had already briefly examined the area for prehistoric sites including Desmond Clark (1970; Haynes 1970) in 1966 and a team from the University of Illinois in 1976 (McBrearty et al. 1982, 1984). Desmond Clark identified MSA material at Galula village near Lake Rukwa as well as at the main highway near the Mbeya limeworks at the Nyara (or Nanyala) tributary of the Songwe. At the stream level at Nyara, Clark collected two core axes, two cleaver flakes, 12 choppers, core scrapers, proto-handaxes, four polyhedrons, three small flake tools and 20 flakes detached from radial and/or Levallois cores. Materials included gneiss (mainly for the larger pieces), quartzite, quartz and chalcedony (Clark 1970: 350, 1988: 279-80), and the artifacts were classified as Sangoan. A second deposit, six m above the first, contained MSA tools lacking the heavy duty elements of the former (Clark 1970: 350). At Galula, from a deposit of fine gravel about 10 m. below the top of the Rukwa lake beds, Clark collected several small abraded quartz flakes, and one discoidal core, all of which he assigned to the MSA (Clark 1970: 350; 1988: 280). Several LSA microliths and Iron Age ceramics were also found on the modern ground surface above the MSA level (Clark 1970: 350).

In 1976, Sally McBrearty, Thomas Wynn, and S. A. C. Waane examined the Songwe where it crosses the main highway in the same general area as Clark ten years before them. This was done as part of a survey west and south of the regional capital of Mbeya (McBrearty 1982, McBrearty et al. 1984, Wynn and Chadderdon 1982). The surveyor identified six MSA sites (SASES # IdIu1, IdIu3, IdIu4, IdIu7, IdIu9, IdIu10), two LSA sites (IdIu2, IdIu5), and one mixed MSA/LSA (IdIu6) occurrence (see Fig. 1 and Table 1). In their preliminary report,

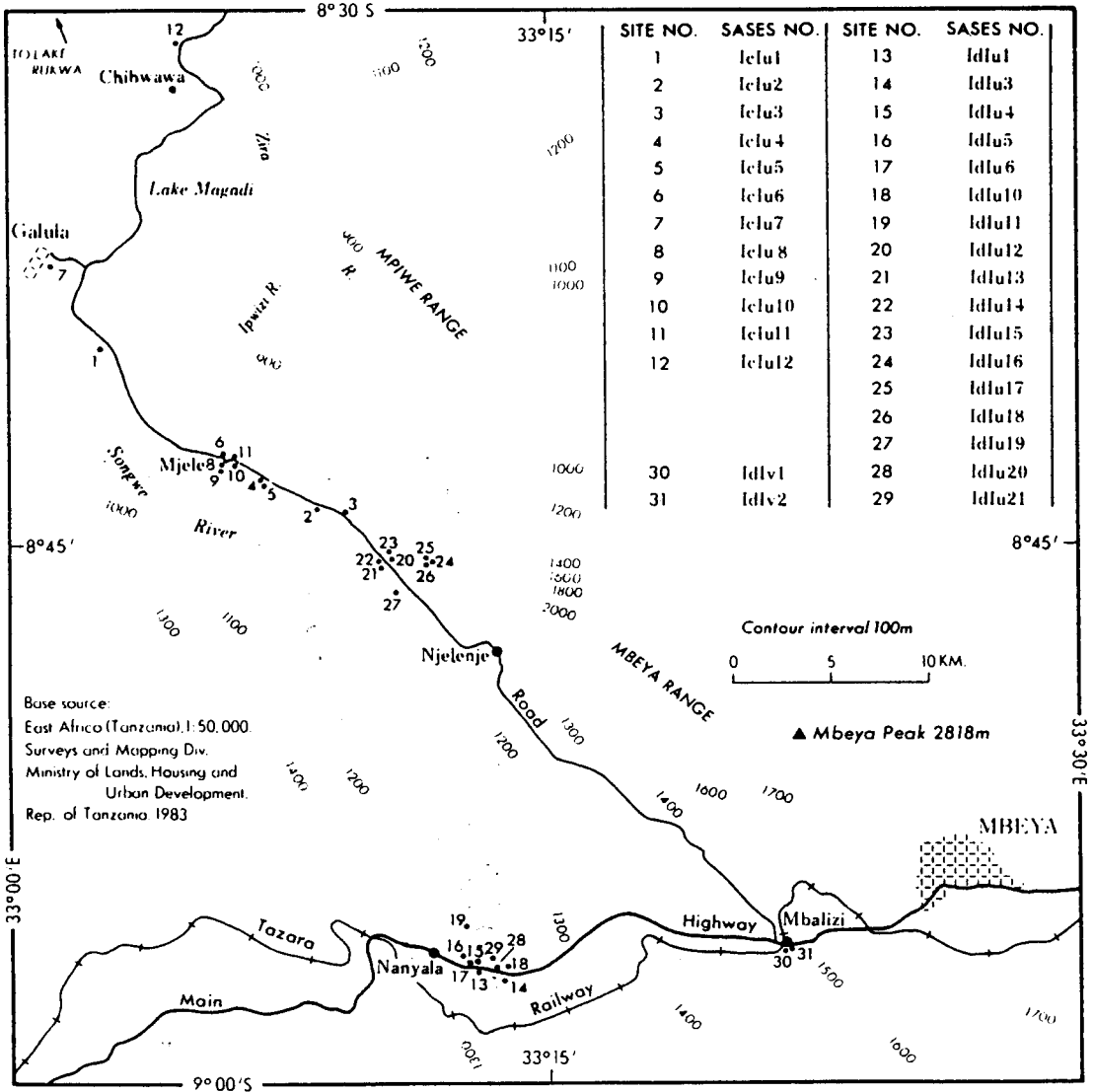


Fig. 1. Archaeological sites along the Northern Songwe River: 1990 survey results.

Table 1: Summary of sites examined in Songwe River valley in 1990.

Map #	SASES #	Site name	Cultural Designation
1	IcIu1	none given	LSA / Iron Age
2	IcIu2	Mjele 1	MSA
3	IcIu3	Mjele 2	MSA
4	IcIu4	Mjele 3	MSA
5	IcIu5	Mjele 4	mainly LSA + some MSA
6	IcIu6	Mjele 5	fossil bone site
7	IcIu7	Galula 1	Iron Age
8	IcIu8	Mjele 6	MSA + LSA
9	IcIu9	Mjele 7	LSA
10	IcIu10	Mjele 8	MSA + LSA
11	IcIu11	Mjele 9	Iron Age
	IcIu11N	north of IcIu11	2 small outcrops of fossil bone and stone tools just north of IcIu11
12	IcIu12	Chibwawa 1	LSA?
13	IdIu1	?	MSA
14	IdIu3	?	MSA
15	IdIu4	?	MSA
16	IdIu5	?	LSA
17	IdIu6	?	MSA + LSA
30	IdIu7	?	reclassified to IdIv1
31	IdIu9	?	reclassified to IdIv2
18	IdIu10	?	MSA
19	IdIu11	Songwe 1	MSA
20	IdIu12	Njelenje 1	MSA
21	IdIu13	Njelenje 2	Iron Age + Stone Age?
22	IdIu14	Njelenje 3	Iron Age
23	IdIu15	Njelenje 4	Iron Age
24	IdIu16	Njelenje 5	Iron Age rockshelter
25	IdIu17	Njelenje 6	LSA and Iron Age rockshelter
26	IdIu18	Njelenje 7	Iron Age rockshelter
27	IdIu19	Njelenje 8	MSA
28	IdIu20	Songwe brickworks	MSA associated with modern brickmaking
29	IdIu21	Songwe 2	MSA and Iron Age
30	IdIv1	Mbalizi 1	MSA (formerly IdIu7)
31	IdIv2	Mbalizi 2	MSA (formerly IdIu9)

Note: for IdIu1 to IdIu10, see McBrearty et al. 1982, 1984; no site names assigned to these.

and Table 1). In their preliminary report, McBrearty et al. (1984: 131) also proposed that the earliest human settlement in the Rukwa Rift Valley occurred during the MSA, since they found few Early Stone Age artifacts. Based on our first season of survey, we have no reason to reject this idea, as we did not recover any clearly ESA material at all. Despite extensive erosion of the highway region, we were able to identify most of McBrearty et al.'s (1982, 1984) Songwe River sites for which published information was available (IdIu1, IdIu3, IdIu4, IdIu6, IdIu7, IdIu9, and IdIu10). IdIu5 was not found, although some material was collected in the vicinity of the supposed site location. IdIu2 was not relocated, and, since no published information was available for IdIu8, we could not look for it. IdIu7 and IdIu9 were reclassified as IdIv1 and IdIv2 respectively, as they are located in Mbalizi village where the Tazara railway crosses the main highway, part of the next SASES unit east of the Songwe.

North of the highway in the vicinity of the village of Galula are extensive lacustrine deposits formed by Lake Rukwa in pre-Pleistocene times and cut through by the Songwe and other rivers sometime during the Pleistocene. The only archaeological material we recovered from the lacustrine terraces was found on or near the modern ground surface, and belongs to the LSA or Iron Age: some small stone artifacts and potsherds at IcIu1 south of Galula and potsherds and one piece of iron slag at IcIu7 within the village. Despite a number of extra opportunities to survey around Galula village whenever our vehicle was in the shop for repairs, only one retouched flake tool was located. The site mentioned by Desmond Clark (1970: 350) within the village of Galula was not relocated.

About 15 km. south of Galula, the lacustrine deposits end and the river valley is composed primarily of Pleistocene terraces deposited by the Songwe at various times; these terraces became the focus of our survey. At altitudes varying between 980 m above sea level at Mjele and 1,200 m above sea level at the main highway, the terraces yielded most of the stone age materials we

discovered. A few fossil bones were also recovered from the area which forms the boundary between the lacustrine deposits and the Songwe river terraces (site IcIu6 and two separate outcrops north of IcIu11, labelled IcIu11N) and are currently being identified by Dr. Kathlyn Stewart of the Canadian Museum of Nature.

In addition to the sites identified by McBrearty's group, we located 23 new archaeological sites in a span of about 70 km along the east side of the Songwe river and on both sides of the river where it crossed the highway. All were plotted on 1:50,000 topographic maps and assigned SASES numbers (IcIu1 through IcIu12, and IdIu11 through IdIu21; see Table 1 and Fig. 1). A site had to have a certain density of surface artifacts; a number of other less dense "localities" were also recorded and sampled. These were kept as separate collection units in relation to defined sites, eg. north of site IdIu13 (IdIu13N). Added to material collected in 1989 from Milanzi rockshelter (IaIo3) and Mkamba (HxIo) near Sumbawanga to the northwest (Willoughby 1990), we now have 61 artifact samples for analysis. All sites have provisionally been assigned to one or more of the MSA (IcIu2, IcIu3, IcIu4, IdIu1, IdIu3, IdIu10, IdIu11, IdIu12, IdIu19, IdIu20, IdIv1, IdIv2), LSA (IcIu5, IcIu9, IcIu12), MSA plus LSA (IcIu8, IcIu10), mix of LSA and Iron Age (IcIu1, IdIu13, IdIu17) or Iron Age (IcIu7, IcIu11, IdIu14, IdIu15, IdIu16, IdIu18). This was done on the basis of specific artifact form and assemblage characteristics. One site has separate MSA and Iron Age components (IdIu21). A few rockshelters were found on one hill east of the mountains northwest of the city of Mbeya, and these contained Iron Age (IdIu16, IdIu18) or LSA material underneath Iron Age materials (IdIu17). All of the other sites are open-air occurrences.

In addition to the Songwe sites, we were able to rediscover a major chert quarry north of Igurusi village 50 km east of Mbeya (IdIx1). In 1959, E. J. Haldemann (1960: 11) described finding a site near Igurusi containing small chert cores along with cores made on fine-grained volcanic rock and trimmed cobbles. We think this site is

the place where we found great numbers of chert flakes, blades and finished tools. These were spread about a kilometer in all directions from a small chert butte known locally as Chamoto or Shamoto Hill. This area is currently being mined by a Morogoro company to obtain raw materials for ceramic production. The cherts were usually light in colour (white and yellow predominate), and none of this material has been found in the Songwe area.

Representative samples of surface materials were taken at each site or locality, in order to have comparable information as well as clues to regional differences in site contents. Typological and technological analysis is being done, the results of which will be combined with data about raw material sources to yield preliminary information about hominid territories and mobility patterns. Sample sizes in the defined sites range from approximately 200 stone artifacts to over 700 at Iclu4. Separate localities usually have fewer than 150 pieces, and can have a minimum of 20 (as seen in the Iron Age sites). Since the collections made were so extensive, it was decided to analyze these materials in ways used primarily for excavated assemblages in order to increase the available information, which would in turn give some direction to future work. All stone age artifacts are being classified using the system developed by Michael Mehlman (1989) for his study of Nasera and Mumba-Höhle near Lake Eyasi in northern Tanzania. Mehlman's system has four major groups (retouched tools, cores, debitage including whole flakes, and ground stone) and can be used to examine any post-Acheulean material. It has proven quite workable for our area, as Mehlman provides a key for comparing typological categories from earlier work done elsewhere in East Africa (Clark and Kleindienst 1974; Merrick 1976; Nelson 1973). Metric and non-metric attributes are also being recorded. It is hoped that this combination of typological and technological attributes will yield information on culture history, raw material availability and choice, stages of artifact production, and perhaps site use. But since the data comes mainly from surface collections, the conclusions will be primarily

used to identify patterns for future testing against excavated assemblages.

Examination of the approximately 10,000 flaked stone artifacts and ceramics recovered from test pits and surface collections in 1990 is continuing, so only preliminary results can be given here. Some of the MSA material is being studied for an M.A. thesis by Gregory Miller, a graduate student at the University of Alberta. The collections contain a wide range of artifact types. Some are dominated by whole flakes, others by angular waste products. Most of the cores are what Mehlman labels peripheral ones (discoidal or radial, along with a few true Levallois cores). There seems to be a continuum of shapes for some raw materials ranging from partly flaked peripheral cores through radial and discoidal to Levallois cores. In addition to the radial cores, a few single platform cores are also found in MSA collections, though none resemble the classic blade cores of the Upper Palaeolithic or the ones which produced the MSA flake-blades at sites such as Klasies River Mouth in South Africa (Singer and Wymer 1982). More often, adjacent double platform, opposed double platform, and multiple platform cores make up the bulk of nonperipheral cores collected, and these are always a small percentage of total cores. The number of retouched tools varies greatly by site, but the predominant forms are always scrapers. A few points, becs, and burins have also been recovered from MSA contexts. Most of the backed pieces are quartz and consist of geometric microliths and microburins; these all probably belong to the LSA and are found with small quartz debitage.

In Mehlman's study area in northern Tanzania, as elsewhere, the most commonly used raw material was quartz. On first inspection, the most striking thing for the MSA assemblages in the Songwe valley is the wide range of raw materials used, especially when contrasted with the almost total reliance on small quartz nodules in the succeeding LSA. Michael Bisson states that quartz was often the only material available for manufacturing small scrapers and geometric microliths; "with the steady decrease of tool sizes beginning in the MSA,

and in particular the greater reliance on retouched flakes, other, more brittle materials had to be employed. In many areas this was quartz" (Bisson 1990: 104). In others, it was obsidian. But during the MSA in the Songwe Valley, almost any stone which is hard, fine-grained and fractures conchoidally was used for stone tool manufacture, including quartz, quartzite, flint/chert, and a number of different volcanic rocks (obsidian, basalt, rhyolite, and even more porphyritic ones). The percentage of volcanics among the materials increases from a small fraction in the north to maximum amounts (half or more of the artifacts) near the highway. This is expected, since the highway sites are closest to the volcanic highlands from which these materials may have come. The cryptocrystalline silicates are all labelled flint/chert, even though they vary greatly in colour and form within and between sites.

Despite the variance in rocks and minerals used at different MSA sites, there does not seem to be a strong correlation of raw material with final artifact form in the MSA, as the same general types (flake and flake tools produced from radial and Levallois cores) are found at all sites in the Songwe valley regardless of the raw material present. But the range of materials seems to be site specific; this makes it all the more important to identify the localities from which the materials were obtained when we return to continue the fieldwork.

All artifacts and tools fall into the range of types Mehlman has defined for northern Tanzania (Mehlman 1989: 117). But few of the flake tools show much shaping after removal from the core; all would be classified as marginally retouched, only slightly more regularly shaped than pieces Mehlman calls trimmed or utilized flakes. All of the MSA collections are from open-air sites, and at least one is a place where raw material (quartz pebbles and possibly small, thin, chert slabs) was obtained and manufactured into tools (site Idlu19, located north of Njelenje village). The artifacts are found mixed with a layer of small quartz pebbles covering a modern hillside; the pebble deposit continues for about a kilometer on a north-south axis, paralleling

the course of the modern dirt road to Galula. While most of the cores collected there are quartz, the majority of flakes represent a wide variety of cryptocrystalline rocks (cherts, agates) as well as volcanic rocks.

The 1990 field season provide a useful regional picture, as well as surface samples of artifacts from the MSA and later periods. But little datable material was obtained, so we have relied initially on lithic typology for site identification. The next step is to obtain culture-historical sequences through excavation of key well-preserved, unaltered sites, as well as by geological mapping and geomorphological interpretation of the river valley deposits. The first ones to be examined will be Idlu17, the rockshelter with an Iron Age component stratified over a LSA one, and Idlu19, the possible MSA factory site, both north of Njelenje. Work proposed for the next field season also includes an attempt to establish whether or not an Early Stone Age occupation is present in this region. We will also continue to survey for new sites, as well as to identify sources of the lithic raw materials used during the MSA. Finally, the associations between the lacustrine-edge fossil bones and stone tools of Iclu11N and nearby sites will also be investigated further.

The distance materials were transported, in combination with data concerning processes of lithic reduction, will provide information about site use, territorial ranges and mobility patterns of MSA hominid groups. This information is needed in order to ascertain subsistence, technology and adaptation at the time when modern human behavioral patterns were thought to have emerged. In addition, since the Rukwa Rift Valley has only been studied recently, any information we can provide will assist in the clarification of the course of prehistory in southwestern Tanzania, a key area which could be used to compare two of the best studied ones for the MSA, northern Tanzania/Kenya and Southern Africa.

Acknowledgements

The field research described here was conducted under permits obtained from the Department of Antiquities (excavation

licence 7/90), as well as the Tanzania Commission on Science and Technology (permit reference CST/RA.47/ 2180/90/47), and I thank the members of both organizations who facilitated our work. It was primarily funded through SSHRC research grant #410-90-0408. Earlier preliminary fieldwork was financed by a grant from the L. S. B. Leakey Foundation, as well as through SSHRC Canada Research Fellowship #455-87-0163. Thanks to the members of the field project, Gregory Miller and Julie Cormack of the University of Alberta, and O. S. Kileo, Eliwasa Maro, and Peter Abwalo of the Tanzanian Department of Antiquities.

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FORUM

"Aux Origines de L'Afrique Centrale" Exhibition and Book

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In 1989 my colleague Raymond Lanfranchi launched a project with Yves de la Croix the head of the French cultural centre of Libreville. Its objective was to make available the first synthesis of modern archaeological research written in French and to present it in all the countries of the region via a roving exhibition. The project was taken up as an official cooperation agreement between the CICIBA Archaeology Department and the French cultural centres of central Africa, i.e., ones in Cameroon (Yaoundé and Doula), in Centrafrique (Bangui), in Congo (Brazzaville), in Zaïre (Kinshasa, Lubumbashi, and Kisangani), and in Equatorial Guinea (Malabo and Bata). Three persons were in charge, in alphabetical order B. Clist, Y. de la Croix, and R. Lanfranchi.

In all 18 authors worked on the 270-page volume edited by R. Lanfranchi and myself; 33 percent of them are Africans. After looking in a general way at modern and past environments, archaeology is taken up in chapters dealing with the Early and Middle Stone Ages, the Late Stone Age, the Neolithic, the Early Iron Age and the Kongo, Teke and Luba kingdoms. One chapter is devoted to Bantu languages. Anyone interested is asked to contact Sepia éditions, 6 Avenue du gouverneur général Binger, 94100 Saint Maur, France (180 FF/number, post included). (Editor's note: *Aux Origines*

de l'Afrique Centrale will be reviewed in a forthcoming issue of *Nyame Akkuma*.)

The exhibition was opened in Libreville in May 1991. It was scheduled for Equatorial Guinea between July and October 1991, Cameroon from November 1991 to January 1992, Congo from February to March 1992, in Centrafrique during April, in Chad in May, and in Zaïre starting from June. In September 1992, it is hoped it will return to Gabon.

A duplicate of this exhibition will be shown in Paris (France) sometime during 1992. It consists of 35 plastic panels, each 90x120 cm, with text, colour photographs and black and white drawings printed on them. While the book addresses an academic audience, the exhibition is intended for the lay public, presenting the research results on a regional scale and thus being much more general in character.

**TL Authenticity Testing:
West Afrocama Terracottas**

Working Party Report

Professor Rod McIntosh, Rice University, reports that the Committee for Archaeology at Oxford University has approved a policy change regarding the TL laboratory's practise of running dates on terracotta artifacts illicitly obtained by art dealers from Mali. The policy change is largely due to the efforts of Professor Ray Inskip; since it relates to SAfA concerns discussed at the 1990 meetings in Gainesville, the policy change is included here verbatim:

The Working Party (Professor Tite, Mr. Inskip, Mrs. Stoneham and Dr. Moorey) met on Thursday, 16 May 1991, at the Research Laboratory for Archaeology and the History of Art. Dr. Moorey took the chair. Mrs. Doreen Stoneham provided details of her procedures and her recording system. She also pointed out that the Laboratory had been providing a TL

authenticity service for more than 20 years and that, as well as its direct service to museums, TL authenticity had made a major contribution to the Laboratory's research funds. It had thus played a significant part in establishing and maintaining the Laboratory's worldwide reputation.

The Mali Case was reviewed in detail, as well as other areas of potential concern in West Africa. After discussion the Working Party agreed to recommend to the Committee for Archaeology, through the Science Sub-Committee, that they formally adopt the following policy:

"with regard to fired clay artefacts of West African origin the Research Laboratory will in future restrict its services to the dating of:

- a. specimens recovered in the course of lawful archaeological excavations submitted by a responsible person. They must be accompanied by details of the site, context, excavator and excavator's affiliation; by a verifiable certificate of export from the country of origin specific to the object; and by a photograph of the object.
- b. specimens held in the collections of recognized museums (excluding private collections/museums) submitted with full documentation including accession number, date of acquisition and, where applicable, a verifiable certificate of export specific to the object and accompanied by a photograph of the object.
- c. specimens which may be the subject of litigation involving the police or public prosecutors' offices, accompanied by verifiable documentation.

Dating/authentication of such West African objects will no longer be carried out for private individuals, salerooms or commercial galleries."



PUBLICATIONS

Archeo-Nil

*Société Pour l'Étude des Cultures
Prepharaoniques de la Vallée du Nil
c/o Cabinet d'Égyptologie
Collège de France
Place Marcelin Berthelot
75005 Paris, France*

In its newsletter of January, 1992, *Archeo-Nil* announces the following publications that may be of interest to readers of *Nyame Akuma*:

B. Midant-Reynes, *Préhistoire de l'Égypte. Des premiers hommes aux premiers pharaons*, Paris, ed. A. Colin, février 1992.

Une synthèse actuelle (dans un domaine qui évolue très vite) et claire, qui permettra aux spécialistes aussi bien qu'à un plus large public curieux de la genèse de l'Égypte historique, de faire le point sur une question passionnante, en intégrant les résultats de la science internationale.

L. Allard-Huard, *Nil-Sahara. Dialogues rupestres/Sones Talk, I, La culture des chasseurs*, septembre 1992.

Ouvrage bilingue français-anglais, qui met en ouvre environ 250 documents rupestres significatifs provenant des recherches de l'auteur, de son mari, le général Huard (dont les propres travaux, en collaboration avec le professeur J. Leclant, sont bien connus) et de leurs collaborateurs. Le domaine couvert va du Nil au Hoggar.

Bulletin of the History of Archaeology

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The *Bulletin of the History of Archaeology* first appeared in May 1991 as a result of growing interest among the membership of the Society for American Archaeology, which has formed a committee to promote work on this topic. Each annual volume comprises two issues published in a format very similar to that of *Nyame Akuma*. While the major focus of this new bulletin has thus far been the history of archaeology in North America, the editor (Douglas Givens) is aggressively attempting to widen the *Bulletin's* geographical coverage. Thus, I was recently asked to serve as the *Bulletin's* associate editor for Africa. In order that Africa is properly represented in the *Bulletin*, I would like to urge readers of *Nyame Akuma* to submit contributions for the *Bulletin of the History of Archaeology*. These contributions can include short articles, which will not be refereed, news of work in progress, information on bibliographic and archival sources, announcements of meetings, obituaries and news of recent publications. The only stipulation is of course that contributions must be clearly related to the history of archaeology. Please send all contributions and correspondence to me at the address given above.

For subscription information write to the General Editor, Douglas R. Givens, Department of Behavioral Sciences, St. Louis Community College, 11333 Big Bend Blvd., St. Louis, MO 63122, U.S.A. The subscription rates are currently \$5 for institutions and individuals in the United States, \$8 for airmail delivery elsewhere and presumably less for surface delivery.



MEETINGS

Abstracts of Papers and Reports

1992 SAfA Meeting

Society of Africanist Archaeologists Biennial Meetings

*March 26-29, 1992
University of California
Los Angeles, CA U.S.A.*

The 1992 biennial conference of SAfA was hosted at UCLA by an organizing committee directed by the outgoing president and secretary, Merrick Posnansky and Peter Robertshaw, respectively. Abstracts of the papers and reports presented at the meetings are reproduced below.

The conference was attended by about 135 people representing some 31 countries, including students and established scholars from several African countries. In addition to the approximately 90 papers and reports whose abstracts are included here, the conference also found room for a general business meeting at which these decisions were reached:

1. The venue for the 1994 conference will be the University of Indiana, Bloomington, Indian, where Nicholas Toth and Kathy Schick will be hosts.

2. Elections for the 1992-94 SAfA board had the following results:

- | | |
|------------------|--------------------------------------------|
| President | Kathy Schick |
| Secretary | Nicholas Toth |
| Treasurer | Steve Brandt |
| At large members | Kofi Agorsah |
| | Pierre de Maret |
| | Kearsley Stewart (co-opted student member) |

Adande, Alexis B. A.

Research on Stone Sculptures from Bidogato: Preliminary Report on Recent Fieldwork

Ten years from our first visit to the site of Bidogato where stone sculptures were discovered accidentally by farmers, a multidisciplinary team (archaeologists, historians, anthropologists, museologists and architects) went on a preliminary survey in the region of Ouesse from January 20 February 3, 1992. Although no sculptures were excavated during the archaeological survey, numerous artifacts were collected. Samples for laboratory analysis were collected and new information was recorded which will help throw more light on the probable origins of these unique pieces of African art. Additional fieldwork is necessary for a better understanding of these elements of cultural heritage.

Aguigah, Angele

Iron-working at Tado

Archaeological research at Tado has led to the discovery of metallurgical sites (slag, tuyeres, furnaces). Surveys and excavations of these sites have revealed the existence of a very active metallurgical industry in the region which is as yet undated.

Ambrose, Stanley H.

The Pleistocene Cultural Sequence at Enkapune Ya Muto, Kenya

Enkapune Ya Muto rockshelter, in the central Rift Valley of Kenya, contains a long cultural sequence including one Middle Stone Age and two Upper Pleistocene Later Stone Age industries. The MSA horizon has a typical radially prepared core technology. The date of 41,400 BP on charcoal is best considered a minimum estimate of its true age. The overlying LSA is dominated by very large backed blades and geometrical

microliths. There are no technological features suggesting a transition from the MSA. Based on the age of overlying strata this industry may date to older than 45,000 BP. The overlying LSA industry is characterized by thumbnail scrapers, backed microliths, outils ecaillés, radially flaked discs, faceted platform flakes, and partially bifacially flaked "knives." Ostrich eggshell beads are represented in all stages of manufacture. This industry is dated to 35,800 BP on charcoal and 36,000 BP on ostrich eggshell carbonate. This sequence suggests that (1) the LSA began in East Africa prior to 45,000 BP, (2) the transition from the MSA was abrupt, and (3) the trajectory of change in lithic technology was nonlinear.

Asfaw, Berhane

Early Acheulian from the Southern Ethiopia Rift Valley

Acheulian sites in the Ethiopian Rift valley are unknown south of Lake Langan. None of the archaeological sites in the Omo valley and south, or the northern Kenyan rich paleoanthropological areas, have produced any tools that may be attributed to the Acheulian. The newly discovered Konso area in the northern Omo administrative region consists of a very extensive distribution of tools on the surface and in situ. In almost all the places tools are found with associated fauna. The tools are mostly hand axes, and the form are generally dominated by trihedral pick like forms. The constancy of the trihedral forms of tools in all sizes suggests more tradition than functional task specificity.

Bailey, Robert C.

Humans as Foragers in Central African Rainforest

The purpose of this paper is to stimulate archaeologists working in Africa to address the hypothesis that humans never subsisted in African rainforest independently of domesticated plants and animals. The hypothesis is important because it touches on fundamental questions concerning the range of past biological and cultural adaptations to African environments and

about the processes contributing to the formation and maintenance of dynamic change in tropical rain forests. It requires careful reexamination of many widely held assumptions, from the great time depth of contemporary African rainforest areas, to the high productivity of tropical rainforests; and from the isolated existence of "precontact" short-statured African forest hunter-gatherers, to the pristine status of some of today's African rainforests.

The paper examines the paleoclimatological evidence for the presence of human foragers in African rainforests prior to the introduction of cultivated foods. Patterns of land use by contemporary foragers and horticulturists provide insights into processes contributing to forest composition and diversity. A program of ethnobotanical and experimental studies may be useful for testing the hypothesis. However, an archaeological research program is outlined and proposed as the truly definitive test.

de Barros, Philip

Preliminary Report on Excavations at Agarade Rockshelter, Togo, West Africa.

In December–January 1988–89, an expedition, financed by Wenner-Gren funds, sought to examine LSA/Early Iron Age technological and adaptive transitions in central Togo. This research was a follow-up to the study of the Bassar iron industry. After a failure to locate a suitable rockshelter in the Bassar region, efforts were successful in the adjacent Kotokoli (Tem) region. Radiocarbon dates suggest an initial occupation ca. 3500 BP. Aside from a few flint biface thinning flakes, 99 percent of the stone assemblage consists of a white quartz with some evidence for the flaking of clear quartz crystals. Typically, the assemblage is overwhelmingly dominated by reduction debris with few recognizable tools. A probable pre-ceramic level is present, but termite disturbance has clouded its temporal distinctiveness. An edge-ground stone axe was recovered in a unit in front of the entrance. Faunal remains were negligible, but some charred seeds were recovered. Iron slag was found only on the surface. The

shelter was used for palm nut processing during the Later Iron Age and a hearth from this period was excavated.

Barthelme, John

Lenderut: A New Acheulean Site in the Southern Kenya Rift

Lenderut is a newly discovered Acheulean site located southeast of Lake Magadi in the southern Kenya rift. The site's geology is complex and consists of up to 7 m of interbedded lacustrine silts and silty clays, silty sands and cobble layers, and carbonate horizons which were deposited in probable lacustrine, lake margin, and fluvial environments. The artifactual and fossiliferous assemblages primarily appear to be situated in a complex cut and fill sequence. Artifacts are abundant and are derived from at least two distinct horizons. Handaxes, light duty retouched tools and debitage were recovered. Well preserved faunal remains were excavated at one locality. The faunal assemblage included equids, suids, carnivores, horn cores from at least four tribes of bovids, and cranial and dental remains of the extinct gelada baboon, *Theropithecus oswaldi*. The site remains to be radiometrically dated but is likely to date from the early to middle part of the Middle Pleistocene.

Bellomo, Randy V.

Early Pleistocene Evidence of Hominid-Controlled Fire at FxJj 20 Main, Koobi Fora, Kenya

Until recently, unequivocal evidence of early hominid use and control of fire in Africa could not be substantiated due to lack of an established methodological approach which could address the problem scientifically. A methodology is now available which can identify and discriminate between archaeological evidence of fire resulting from natural processes (e.g., grass fires, isolated tree stump fires, and forest fires), and archaeological evidence of fire resulting from human activities (e.g. multiple-burn campfires). The methodology, which was formulated using data from controlled fire experiments and verified using data from

known archaeological fire features, consists of three components, including: (1) macroscopic examinations of in situ features, (2) magnetometer studies of samples in the laboratory. Samples and data from the FxJj 20 Site Complex, Koobi Fora, Kenya, were analyzed using the methodological approach, and results indicate that unequivocal evidence of hominid-controlled fire exists at the site of FxJj 20 Main, dated at 1.6 million years ago.

Bollong, Charles A.

Hunter-Forager Pottery from the Zeekoe Valley: Techno-Function Analyses

On-going research investigating the pottery technology of the pre-and protohistoric Bushman hunter foragers of the Zeekoe Valley, Cape Province, South Africa is revealing a greater diversity of materials and manufacture than previously described. Relationships with technologically distinct Khoi or pastoralist wares are considered, as well as possibilities for determining vessel contents through fatty acid analysis.

Brandt, Steven A., and Mabulla, Audax

An Archaeological Reconnaissance of Late Quaternary Deposits at Olduvai Gorge, Tanzania

During August and September 1990 we conducted an archaeological reconnaissance of sections of the Ndotu, Naisiusiu, Holocene and related deposits within and above the Main and Side Gorges at Olduvai. The main objective was to determine the potential of the Olduvai Gorge region for developing a long-term multi-disciplinary project on biocultural change during the late Quaternary. In addition to a surface survey we conducted test excavations at the following five sites: HdJe2, R.L. Hay's type locality for the Ndotu Beds, is located in the Main Gorge. Three 1-m² units exposed a diffuse scatter of in situ MSA artifacts, fossilized faunal remains and ostrich eggshell fragments. HdJe2 is situated in the Side Gorge. Three 1-m² units failed to reveal any artifacts in situ although late Acheulian/early MSA artifacts were collected from the surface. HdJe7 is situated

on the open grasslands near the rim of the Side Gorge. Three 1-m² units produced a number of potsherds but few stone artifacts. HdJe9, located in the Olbalbal Depression, revealed a dense concentration of LSA and/or Pastoral Neolithic (PN) stone artifacts, faunal remains, ostrich eggshell fragments and beads. HdJe9 is located on the open grassland near the rim of the Main Gorge. Three 1-m² units revealed concentrations of LSA and/or PN flaked and ground stone artifacts as well as bone, pottery, ostrich eggshell and beads. Stone cairns were also present.

Brandt, Steven, Hindie, Girma, Talibi, Azhir, and Walters, Neal

Exploratory Investigations Into the Origins and Evolution of Food Producing Systems in Southwestern Ethiopia

From late January through early March 1992, a research team undertook an exploratory reconnaissance of the highlands of Southwestern Ethiopia. The main purpose of the survey was to evaluate the potential of establishing a long-term multidisciplinary research project on the evolution of Ethiopian food production. Particular attention was paid to recovering data relevant to understanding the evolution of the Ensete Complex. The Ensete Complex is one of the four main food producing systems of contemporary Ethiopia, and is one of the most dependable and sustainable indigenous agricultural systems in Africa. It is based upon the growing of *Ensete ventricosum* a bananalike plant which, although it does not produce an edible fruit, is processed into a wide variety of food products. Since the Southwestern Ethiopian highlands had been investigated by archaeologists, the primary goal of the archeological team was to locate and test-excavate primary context sites with the potential of yielding environmental, economic, technological, spatial, and socio-political data at different scales that could be tied to a chronometrically dated sequence. Other team members focused upon obtaining contemporary agronomic, ecological, and socio-economic data. This paper summarizes the results of the reconnaissance.

Brooks, Alison S., and Yellen, John E.

Middle Stone Age Assemblages from the Upper Semliki Valley, Zaire

Between 1985 and 1990, in conjunction with the Semliki Research Expedition, the authors and colleagues conducted archaeological excavations at seven sites of Pleistocene (>730 kya) to Holocene age in the Semliki River Valley of Eastern Zaire (Kivu Province). Lithic industries at these sites (Ishango 11 and 14, Kasaka 2, Kabale 1, and Datanda 2, 9, and 16) ranged from Oldowan and Acheulean-type industries to fully microlithic industries with ground stone axes. In this paper, we will consider "Middle Stone Age" and "transitional MSA/LSA" levels at the Katanda sites. These are stratigraphically and chronologically earlier than the lowest levels at the Ishango sites (ca. 25 kya) and are dominated by discoidal core technology, associated with bone harpoons and evidence for fishing. A spatial and artifact analysis of the now fully excavated occupation horizon, or "pavement," at Katanda 9 will be presented, together with data from 1988-1990 excavations in corresponding levels of Katanda 2 and Katanda 16.

Burg, Suzanne M. M., and Ellison, James G.

Ethnoarchaeology in Southwestern Tanzania

People's systems of meaning are based in part on their traditions and knowledge of the past. Ideas about the past inform people's action in the present. Euroamerican archaeology serves this purpose for the dominant cultures of Europe and America.

Social histories show that people are not passive recipients of external influences. People actively incorporate, transform, and resist these influences in their daily lives through their systems of meaning. During the past hundred years, the Nyakyusa of southwest Tanzania have faced immense challenges in long distance trade and porterage, Christianity and Islam, mining and commercial agriculture, labor migration, war, taxation, changing governments, and nationalism.

Through colonialism, Euroamerican archaeology as a way of knowing about the past has been transplanted into an African context, disregarding indigenous ways of knowing the past. African peoples have studies of the past that do not employ the concepts, categories, and methods of Euroamerican archaeology, but nonetheless function as ways of apprehend the present. Our intention is to interpret the larger, historical trends that have involved southwest Tanzania during the past hundred years in terms of how the Nyakyusa used their traditions and knowledge of their past—their archaeologies—to participate in their history.

Caneva, Isabella

Environment and Prehistory in the Khartoum Province (Sudan)

A reconstruction of the prehistoric land use and settlement pattern in central Sudan has been attempted in the last twenty years through the intensification of both field archaeology and laboratory analysis. The hunting and gathering economy was replaced in this area by the diffusion of pastoralism, towards the beginning of the fourth millennium B.C. The adoption of a pastoral economy is seen as a fundamental adaptive feature that determined a specific social organization of the groups involved and probably influenced the ecological deterioration of this territory. This feature seems to characterize not only the prehistoric occupation, but also the succeeding communities, such as the Meroitic and Christian, although they belong to sophisticated urban civilizations.

Casey, Joanna

The Kintampo Complex in Northern Ghana: A Lithic Analysis

This paper looks at the lithic assemblages from a series of ceramic LSA sites referable to the Kintampo Complex in Northeastern Ghana, West Africa. The sites contain both a formal component of groundstone axes and chipped stone microliths, and an informal component of expedient tools consisting of utilized bipolar

elements. The sources of the lithic raw materials are not located in the immediate vicinity of the sites. By comparing the types of raw material and the types of modification, a pattern emerges which suggests a relatively sedentary population with a widely ranging subsistence strategy and trading networks.

Childs, S. Terry, and Dewey, William

Comparing Iron Production and Use in Zaire and Zimbabwe

Our recent interdisciplinary research explores the significance of iron and copper manufacture and use to societies in south-central Africa over the last 1,500 years. This paper marks a new phase in our synthesis of archaeological, art historical, historical, and metallurgical data. Specifically, we examine the socio-cultural dimensions of iron production and use within contexts of increasing cultural complexity by focusing on the Congo of southeastern Zaire, the Shona of Zimbabwe, and their predecessors. We compare techniques of iron production, the social contexts of iron use, and multiple levels of social meaning associated with both the production and use of specific objects from the two areas.

We also consider the lacunae in our research data and avenues for future study.

Chikumbi, Donald Chilengwe

The New Heritage Law of Zambia: Its Implication for Archaeology

In December 1989, a new heritage law came into effect in Zambia. This repealed and replaced the National Monument Commission Act to create the National Heritage Conservation Commission. Compared to the previous act, the new act has wider implications for archaeological preservation and management. Given the limited resources (financial, personnel, etc.) that most developing countries are facing, what are the possibilities of effectively implementing such a law for the benefit of archaeology in Zambia?

Clark, J. Desmond, Schick, K. D., de Heinzelin, J., Hart, W. K., Walter, R. C., and Gabrielle, G.

Sediments, tectonics, archaeology and chronology in the Middle Awash region of the Afar Rift, Ethiopia: A preliminary report on the results of the 1990 field season

After eight years and jointly with researchers from the Laboratory of Paleoanthropology, Ministry of Culture, Addis Ababa, fieldwork was resumed in the fall of 1990 in the section of the Afar Rift lying between Gewane and Messalou River. Seven distinct formations were identified and preliminarily mapped and described in the Dawaitoli, Bodo and Hargufia drainages, each formation separated by tectonic faulting. A number of interstratified tephra and lavas were found and collected. Processing and dating of samples is continuing but some preliminary results are available.

The archeologists concentrated on survey with the geologist and geochronologist to establish the sedimentary and tectonic history between the late Miocene and the beginning of the later Pleistocene. This was invaluable, enabling us to establish the sequence in the northern part of the study area. Between 0.7 and 0.5 m. yr. only archaeological assemblages of flake and core/chopper tools were found. Sites appear to be mostly in "primary" context and in association with datable tuffs. In later sediments, associated with tributary channel fills, are a number of occurrences associated with Acheulian bifaces (handaxes and cleavers) dating from 0.3–0.2 m. yr. Most of these are in fine-grained channel sands and silts but one tested appears to be primary. The Bodo hominid (archaic *Homo sapiens*) and a very well preserved Middle Pleistocene fauna belong in the same formation. In the latest formation Middle Stone Age artifacts occur. This was essentially a season of survey that has provided the background for excavation of selected occurrences, excavation and further survey in 1992.

Connah, Graham

Kibiro and the Salt of the Earth

The women of Kibiro, a Ugandan fishing village on the southeastern shore of Lake Albert, extract salt from alluvial deposits adjacent to hot springs at the bottom of the Western Rift Valley. They do this by a method for which no parallel is yet known: leaching recycled earth that absorbs saline moisture from exposed areas of the deposits called "salt-gardens." These contrast with the salt-pans in use at Lakes Katwe and Bunyampaka also in the Western Rift. The Kibiro technique raises a low salt content found in natural springs to a level where the resulting brine can be economically boiled and also reduces the magnesium content of the finished salt. Most importantly, it allows the sustainable exploitation of a renewable resource, which archaeological evidence indicates has been utilized for the past 700–800 years.

Cornelissen, Els

Site GnJh-17 and its Implications for the Archaeology of the Middle Kapthurin Formation, Baringo, Kenya

Research on site GnJh-17 was part of a renewed archaeological program in the Middle Kapthurin Formation (1980–87) under the general direction of Dr. F. Van Noten. Research in 1966 had revealed a "Late Acheulean with prepared core technique" (Leakey, 1969) in the upper part of the Formation between the Grey and Bedded Tuff. Unfortunately, the typical Late Acheulean artefacts were surface specimens. New excavations, conducted in order to specify their in situ origins, revealed a palaeosoil-sequence on site GnJh-17. Despite natural disturbance processes (vertical pedoturbation and flooding), the flaking residues of both palaeosoils are well preserved. The evidence from site GnJh-17 was compared with the 1966-sequence. Because the use of raw material and the nature of the sites compared are similar, the typo technological characteristics would indicate that the Late Acheulean industry corresponds to a sequence of Late Acheulean and Middle Stone Age industries. Dating the sequence is difficult because the Grey Tuff is

undated and the date of 230,000 B P associated with the Bedded Tuff could not be confirmed.

different areas become integrated into the Eurocentric World System are examined.

David, Nicholas

Ethnoarchaeology and Realism

The aims and practice of ethnoarchaeology are evaluated in the light of mainly African examples. It is argued that ethnoarchaeologists contribute to archaeological interpretation in three main ways: by explicating cultural transformation processes, by the study of systems of artefact production, and by the generation of higher order law-like statements that relate material to other aspects of culture. Examples of each are discussed in terms of the securing of inferences. It is further argued that attempts to use ethnoarchaeological analogies for the identification of specific small scale social arrangements in the archaeological record are unlikely to be successful. On the other hand, ethnography carried out by archaeologists that privileges things over words can contribute significantly to the revitalization of ethnology.

Denbow, James

Preliminary Report on the 1991 Archaeological Reconnaissances on the Congolese Coast

Denbow, James

University of Texas Archaeological Research Expeditions to Botswana, 1990-91

Donley-Reid, Linda W.

Ethnoarchaeology in Swahili Houses of Kenya

This paper offers ethnographic interpretations of archaeological features and finds from two eighteenth-century coral mansions and one twentieth-century clay freed slave's house in Lamu. The combined excavations and ethnographic information yielded evidence of angels, jinni, protective medicines (shreds, stones, beads and bones), sacrificial animals, symbolic graves, underground rooms and upper and lower class toilets; plus the earliest carbon date for Lamu. The data is based on excavations and ethnographic surveys done in the 1980s. This work is sponsored by the National Museums of Kenya and the National Geographic Society.

DeCorse, Christopher

Culture Contact. Continuity and Change on the Cold Coast, 1400-1900 A.D.

Utilizing archaeological, historical and ethnographic data on the African settlement of Elmina, Ghana, this paper examines African-European interaction. Studies of African-European interaction in West Africa have frequently emphasized the impact of European societies on indigenous cultures. Documentary records on the Gold Coast indicate that there was extensive change in African socio-political organization, economic structures, and various aspects of material culture. Archeological research similarly suggests that some areas experienced dramatic change during this post-European period. However, while there was clearly a great deal of change in certain aspects of Gold Coast society, data from Elmina suggest that in some respects there was a great deal of cultural continuity. Variables affecting the manner in which

Eggert, Manfred

Reconnaissance of the Sangha and Likwala Rivers (Congo)

Essomba, Joseph Marie

The Question of "Pits" in South Cameroon Iron Age Archaeology

Over the last ten years, archaeology in the forest area of South Cameroon has led to important excavations in the sites of Obobogo and Ndindan (Maret 1986), Nkometou (Essomba 1986, 1991), Pan-Pan (Essomba 1988, 1991), Okolo (Atangana 1988), and Oliga (Essomba 1991). The data from research at these sites are fundamental to developing archaeological Iron Age research in forested Central Africa, both from a chronological perspective and also for the study of distinctive structures.

There are two primary types of structures at the Oliga and Pan sites, where old iron smelting furnaces have been excavated. The structures of the other sites (Nkometou, Ndindan, Obobogo, Okolo) have been mainly deep (1.5–2.5m) "pits" from which extensive archaeological evidence has been taken. The stratigraphic aspects of these pits and their spatial locations on the sites stimulate certain questions, among which the principal one seems to be the use or function of such pits in Central African Iron Age history. Some hypotheses have been offered on this question (Claes 1985, Maret 1986, Atangana 1988). For example, some researchers feel these pits were "silos" used to conserve grain and other food (Claes 1985, Maret 1986, 1989), but this interpretation is not altogether satisfactory.

This paper discusses the main hypotheses constructed on the functions of these pits and makes the suggestion that a more systematic approach to their interpretation in the Iron Age archaeology in this area is needed. The paper hopes to elicit reactions that will help to provide a greater understanding of the question.

Garcea, Elena A. A.

The Mesolithic Sites in the Geili-Kabbashi Area (Khartoum Province, Sudan)

From 1986 to 1991, ten different Mesolithic sites were sounded with a number of test excavations carried out by the Italian Archaeological Mission for Prehistoric Research in Egypt and the Sudan of the University of Rome, Italy. They are located on the eastern side of the Nile Valley, between 30 to 50 km north of Khartoum.

The trenches revealed archaeological deposits which yielded considerable amounts of artifacts and faunal remains. Some human burials were also found. The material culture included microlithic industry, grinding stones, ceramics, and ostrich eggshell beads. Faunal remains suggested a subsistence based on hunting, fishing and gathering of molluscs.

The sites were radiocarbon dated. They cover a period from the eighth to the end of

the seventh millenium b.p. Changes in the artifactual culture, settlement system, and interregional contacts could be observed in the deposits and will be dealt with at the UCLA conference.

Gosselain, Olivier P.

Stylistic and Archaeometrical Approaches to Present Pottery Technology in Cameroon

For two years, a comparative study of pottery chains operations in some twenty ethnic groups from Central, Western and Eastern Cameroon has been conducted. This has led to the recognition of a number of technological styles.

The combination of the use of experimental and archaeometrical approaches, in the field and laboratory (measurements, simulations, identifications of technological residues), allowed both the refinement of analytical tools in ceramology and the identification of technological choices of cultural origin as opposed to environmental and/or functional origin. From a stylistic point of view, the technological approach to pottery may prove to be extremely useful as regards the cultural reconstruction of past societies.

Goucher, Candice L.

African Hammer, European Forge: Transformations in African-Caribbean Technology

This paper examines the Caribbean encounter of African and European technologies in its historical and cultural contexts. While the existence of African continuities in some areas of Caribbean culture has been ably documented, technology transfer has not been studied as an equally inevitable consequence of the Atlantic slave trade. Of particular interest are the ways in which the African impact exceeded a mere labor component and imposed and transformed the African technological vision. The ethnographic, archival, and archaeological research on the eighteenth-century iron industry in Jamaica has revealed an ideal historical setting in which to examine the technological continuum. At the site of Reeder's Pen,

Morant Bay, a small number of European craftsmen relied on the technical skills of nearly 300 African metallurgists, both slaves and free maroons, to operate a brass and iron foundry. Further work is likely to measure the extent to which technology may be identified as an expression and repository of culture on both sides of the Atlantic. The Africans who peopled the diaspora came from societies with ancient technological systems, rich in cultural beliefs and technical skills. Their industries relied on constructs that avoided the western distinctions between natural and supernatural realms, and translated the extraordinary powers of the metallurgist into political, economic and spiritual affairs. Only by identifying the cultural processes governing African and non-African technological interaction will it be possible to understand the forging of new societies in the wake of the Atlantic era

Haaland, Randi

Holocene Adaptations in the Central Nile Valley: From Sedentism to Agriculture

The theme of this paper is to look at the importance of the domestic field in the emergence of sedentism. My database is three Mesolithic sites from the Central Nile valley, Sudan. By using the context of the material remains and ethnographic material I will look at the role of gender in structuring the activities on these sites. I will argue that in becoming sedentary the women were instrumental in this process. Early dates (9300 b.p.) on pottery from the area indicate that pottery was independently invented in Africa. I will further argue that this was the invention of women. It seems that population growth followed as a consequence of sedentism. This created resource stress in the area, specially on the plants utilized, such as sorghum which resulted in the cultivation of this plant.

Hall, Simon

The Pre-contact Wilton Sequence in the Eastern Cape, South Africa

This paper examines the hunter-gatherer (Wilton) sequence between 5500 and 1800 BP in the eastern extension of the Cape Fold Belt, South Africa. The emphasis is placed

on an expansion in the range of foods exploited, particularly from about 4500 BP. Two riverain shelter excavations show that freshwater shellfish and freshwater fish increase in importance while seed storage pits become an additional resource management facility from about 3300 BP. This intensification trend is interpreted as a strategy to compensate for reductions in hunter-gatherer mobility ranges and to allow longer occupations within smaller areas through the exploitation of a resource mix which is "aseasonal." Identity with "place" at regional and local scales is also intensified through the establishment of a style boundary and the elaboration of cave burial respectively. It is concluded that the interpretive potentials of the eastern Cape Wilton record cannot be met solely through analogy to the "local" Kalahari ethnography and that archaeological and ethnographic studies of more "complex" hunter-gatherers provide more appropriate analogues.

Haynes, Gary

Paleo-environments and Prehistory in Northwestern Zimbabwe

Most of the northwestern corner of Zimbabwe is in the National Parks Estate, protected as game reserves and safari areas, and the environmental history of this 25,000 square kilometer region is virtually unknown, as its culture history.

A multidisciplinary research project initiated in May, 1991, involves archeological surveying for Stone Age sites, detailed mapping and geomorphic study of Iron Age ruins and villages, optically luminescent dating of Kalahari Sand dunefields, dendroclimatological study of forests and woodlands on Kalahari Sands, and palynological study of vlei peat deposits and dassie-dung middens in rocky areas.

This report is the first summary of results to date.

Helgren, David M.

Locations and Landscapes of the Katanda Sites, Semliki Rift, Zaire

Katanda (Kt) is a Paleolithic site complex located along the eastern side of the

Semliki River within the Western Rift Valley of Zaire. These terrains arc along the tectonically dynamic, Edward-Semliki accommodation zone. The oldest site area, Kt2L, is associated with sandy, carbonate-rich substrates within the lower-Pleistocene Katanda Beds and above the ASB carbonate paleosol that caps the Semliki Beds. The Katanda Beds are the sandy residues of a lesser, southbound, Semliki River and adjacent footslopes. Again settlement was on sandy surfaces, either on the channel margin or in abandoned channel segments. Subsequently the Katanda area has been uplifted relative to the modern shore of Lake Edward. These sites reinforce the linkage between Paleolithic settlement and immediate riparian resources. Such settlement contexts apparently offered many comparative advantages.

Henshilwood, Christopher

Mussel drying, food storage and logistical mobility: a case from the late Holocene in the southwestern Cape, South Africa

Very large and homogeneous open air shell middens (megamiddens) along a stretch of Atlantic coastline in the southwestern Cape reflect hunter gatherer subsistence strategies which were dramatically different from those employed before and after the megamidden phase. In this paper I present the results of experiments by myself, Peter Nilssen and John Parkington in the drying and preservation of shellfish flesh as a means to understanding behavior involved in depositing these shell middens. Various techniques for drying shellfish were attempted, the results of which were assessed by bacteriological and compositional analyses of the samples.

Results indicate that shellfish can be dried effectively for later consumption with relatively little effort and technology. Bulk processing of mussels would be the most plausible explanations of the megamidden phenomena. Dietary implications of this research are briefly considered.

Herbich, Ingrid and Michael Dietler

Settlement Biography: A Ethnoarchaeological Perspective on the Dynamics and Symbolic Dimensions of Settlement Organization

The spatial organization of settlement among the Luo of western Kenya is determined by strict ritual regulations and a shared ideal model which symbolically underline the segmentary-lineage—based social structure and relations of seniority and authority. However, the actual layouts of homesteads evince considerable variation. This apparent inconsistency is explained by the fact that settlements are a dynamic form of material culture in a continual state of transformation. Examination of an individual homestead over the course of its typical three-generation life cycle reveals how its organization at any point in time reflects the interpretation of the ideal model according to the stage and composition of the polygynous extended-family residing in it. A wider focus reveals that the social landscape simultaneously contains settlements at all life cycle stages and that both micro- and macro-scale analysis within a diachronic perspective that we call "Settlement Biography" are necessary to comprehend underlying patterns. Implications for settlement archaeology are discussed.

Holl, Augustin

The Cemetery of Houlouf (Northern Cameroon): Fragments of a Past Social System

The tell of Houlouf, presently inhabited by the Kotoko, is situated in the southern part of the Chad basin, at 12°01' N lat. and 14°40' E Long. The settlement which is subcircular in shape, was surrounded by an impressive earthen wall with six gates, and measures 15.90 ha in area. According to ethnographic and ethnohistorical accounts, Houlouf was an ancient center of a polity and the earliest village in this part of the Chadian plain. Archaeological excavations carried out in the context of the Houlouf Archaeological and Ethnoarchaeological Project lasted from 1982 to 1991. A cemetery containing some thirty structures and associated to a habitation level was uncovered at a depth of 0.60 m and dated to

A.D. 1500–1600. Due to the peculiarities of this cemetery, which is unique in the Chad basin archaeological record, this paper will explore the different aspects of mortuary behaviour manifested in this data set and an attempt will be made to understand the social processes which have generated the patterns observed in the archaeological record.

Holmes, Diane L.

Craft Specialization in Predynastic Egypt: The Lithic Evidence from a Temple-Workshop Complex at Hierakonpolis

Recent excavations at locality HK-29A at Hierakonpolis in Upper Egypt have resulted in the discovery of Egypt's oldest temple structure together with associated craftsmen's workshops. Several distinct, standardized chipped-stone technologies are represented, in particular the production of bifacial tools. Knives and projectile points appear to have been the main bifacial products, and the debitage resulting from their manufacture dominates the lithic assemblage. These tools, however, were evidently made for use elsewhere as no whole, successfully finished bifacial items have been found at the site, except for a few projectile points, but even these have broken barbs or tangs which may have snapped during manufacture. In addition to the extensive flintknapping activities, stone beads were made and possibly other stone objects as well. The flint and other stones worked by the craftsmen at HK-29A point to the careful selection of raw materials from a number of different locales, most, if not all, at least some tens of kilometres away.

Hudson, Jean

An Ethnoarchaeological Look at Settlement Patterns among Modern Aka Pygmies

Modern subsistence and settlement patterns of the Aka pygmies of the Central African Republic are summarized, with special attention to variations in mobility and group size and to the material correlates of variations. Ethnoarchaeological observations for sixty camps are used to model regional settlement patterning. Variables considered include group size and

composition, camp size, intercamp distance, and season and duration of occupation. Intrasite evidence for household size and composition and patterning of interhousehold distances are also reviewed.

Huffman, Thomas N.

Early Iron Age Archaeology and the Bantu Language Family

New archaeological and linguistic data suggests that the distinction between Eastern and Western Bantu evolved before the beginning of the Iron Age. Western Bantu, the older division, encompasses several major subgroups, and many Africanists previously thought one subgroup generated Eastern Bantu somewhere along the eastern fringes of the tropical forest. Now, according to new linguistic research, this older interpretation is not possible, and Eastern Bantu most likely evolved in the original proto-Bantu homeland in Cameroun, well after Eastern Bantu speakers had moved into the tropical forests of the Zaire River Basin.

Archaeologically, these two divisions are recognizable in the Early Iron Age. Western Bantu can be correlated with various ceramic entities in Central and Southern Africa, for example, Naviundu (Anciaux de Faveaux and de Maret 1984), Madingo-Kayes (Denbow 1990), and Divuyu (Denbow and Wilmsen 1986), while Eastern Bantu correlates with the Kalundu and Urewe traditions in East and Southern Africa (Huffman 1989).

Recent excavations in two first- to second-century A.D. village sites near Lake Ngami in Botswana confirm that Bambata pottery belongs to the Kalundu Tradition and was therefore made by Eastern Bantu-speaking peoples as well. Among other finds these two village sites yielded numerous cattle and small stock remains. This and other evidence raises the possibility that domestic animals may have been brought from Cameroun by Eastern Bantu speakers at a time when rainfall was lower and the tropical forest correspondingly reduced.

Juwayeyi, Yusuf M.

Some Thoughts about the White Paintings of the Dedza—Chongoni Area, Malawi

This paper attempts to present an alternative view regarding the meaning of the white paintings in the Dedza-Chongoni area of central Malawi. The area is apparently Malawi's richest rock art area. The predominant paintings are schematic in style and almost all of them are done in red paint. There are some sites, however, with white paintings most of which depict zoomorphic and anthropomorphic figures. The paintings range from rough realistic and mythological figures of animals and humans to modern objects such as cars and ox-carts. The existing literature agrees on the Chewa origins of the realistic figures. Often, a relationship between the paintings and initiation ceremonies is emphasized. Sometimes, reasons for the positioning of some figures at certain areas on the rockface are presented. This paper gives a simpler view and suggests that the realistic figures are a result of ordinary past-time artistic creativity of the male youths among the Chewa speaking peoples intended to amuse themselves and others rather than to convey any meaningful information.

Juwayeyi, Yusuf M.

A Preliminary Report on the Excavations of Mkandaumira Iron Age Site, Malawi

The excavation of the Mkandaumira Iron Age site in the Mtemankhokwe river valley within the southern lake Malawi area was undertaken as part of a project to understand the peopling of the area after the tenth century A.D. In the process, the excavation recovered, among other well-known pottery types, Namaso pottery. This is a newly described pottery that appears to lie in between the Early Iron Age pottery of Nkope and the Later Iron Age pottery cluster around the tenth century A.D. At the Mkandaumira site, the dates show that Namaso pottery was in use perhaps until the fourteenth century A.D. While the occurrence of this pottery at Mkandaumira site helps our efforts to understand it better, this paper looks at the entire assemblage from the site. Preliminary results suggest

that this part of the Memankhokwe river valley has been continuously occupied for the past 700 years.

Kelly, Kenneth G.

Historic Archaeology at Ouidah, Benin: A Progress Report

This paper presents the results of the initial season of historical archaeological research at the town of Ouidah and Savi, in the Republic of Benin. This project has been initiated in an effort to investigate the effects of the European slave trade upon the indigenous West African states of the Bight of Benin. Savi was the capital town of the Hueda kingdom, and a port of major significance on the West African coast until its destruction, in 1727, at the hands of the expanding kingdom of Dahomey. Ouidah was then established by the Dahomeans as their port of trade allowing direct access to European traders. This paper discusses the role of Savi and Ouidah in the trade, as well as their roles in the African societies of which they were part.

Kent, Susan

Patterns of Mobility and Patterns of Material Culture: An Ethnoarchaeological Perspective from the Kalahari

A study of the material culture from 45 occupied and abandoned camps located at the Kutse community just south of the Central Kalahari Game Reserve, Botswana, indicates anticipated mobility patterns influence the number of objects located at features. Other variables thought to potentially affect the number of objects at specific loci are also examined to determine which ones explain the most variance in artifact frequencies at features. The organization of material culture in reference to mobility patterns is examined and the relevance of the information for archaeologists attempting to discern mobility patterns in the archaeological record is discussed.

Killick, David

Historical Archaeology in Central Malawi

The miombo (*Brachystegia/Julbernardia*) woodlands of central Malawi have very low carrying capacity under rain-fed swidden agriculture and are unsuitable for herding. Human settlement in this biome during the Iron Age appears to have consisted of small villages that were frequently moved. This pattern changed abruptly from the mid-1860s in response to repeated raiding by several Ngoni groups. The surviving population aggregated into large permanent villages which remained in the same locations until the Pax Britannica was enforced in 1895. I will report upon historical and archaeological studies of some of these sites and discuss the ecological consequences of this change of settlement pattern.

Lee-Thorp, Julia

Isotopic Evidence for the Diets of Iron Age Farmers in South Africa

It has generally been assumed that the Iron Age peoples who have inhabited large parts of South Africa since about the first century A.D. were mixed farmers who grew crops and herded cattle and ovicaprids. Faunal studies have shown a reliance on domestic rather than wild stock, and evidence for cereal cultivation comes from rare finds of carbonized sorghum and millet grains, and more indirectly, from settlement patterns, grain pits and grindstones. But more specific questions about the details of Iron Age subsistence, such as the degree of reliance on domestic stock versus cereals, regional variation and within-site gender and status variation cannot be addressed using conventional archaeological techniques. We have analyzed the bone collagen of skeletons from various Iron Age sites for stable carbon and nitrogen isotopes in order to compare regional and intrasite variation. We found that children differed significantly from adults at Bambanyanalo. In general, the results show that Iron Age diets varied much more, on a regional scale, than previously assumed, and the contribution of climatic and vegetational variation is considered.

Matiyela, Lewis

Life of the San of the Inxu River Valley as Narrated by Maqoqa, the Last Survivor of the People

Up to 1988, there lived a San woman named Maqoqa at Gqaqhala, Tsolo district, Transkei. She was the last of the San people that lived in the Inxu River valley and had been forced out of the Sithulwini Cave by the Mpondomise (Nguni). The paper reviews lives of the San and the Nguni during the twentieth century.

Mbida, Christophe M.

New Evidence from the South Cameroon Neolithic Complex

During the summer of 1990 archaeological fieldwork was conducted in the southern part of Cameroon. In the central Province, the site of Nkang around Monatele, north of Yaounde, was excavated and a test pit made in Avebe some 100 km south of Yaounde. In the western Province (Grassfield) around Bangangte excavations were conducted at Mafam.

A great amount of material including potsherds, grinding stones, a polished axe, obsidian flakes, nuts of *Canarium swenfurthii* and of *Elaeis guineensis*, agate snails, fish and animal bones were collected from the pits. These pits showed great morphological and depositional differences. Different kinds of analysis are currently under way and are expected to yield more detailed and valuable information on the origins of western and Central African neolithic and Early Iron Age Complexes.

McBrearty, Sally

The Sangoan Record at Simbi, Kenya

Excavations at Simbi, Kericho District, Kenya, in 1989 and 1990 reveal in situ Sangoan artifacts in a sequence of volcanic and fluvial sediments capped by an airfall tuff radiometrically dated to ca. 50,000 b.p. Formal tools, including characteristic Sangoan picks, choppers, and large bifaces, make up only a small proportion of the total artifact assemblage, which is primarily comprised of flaking debris from casual and radial cores. Associated faunal remains

include the large hypsodont mammals *Pelorovis*, *Megalotragus*, and *Equus*; isotopic analyses of soil carbonates indicate an open habitat.

McDonald, Mary M. A.

New Radiocarbon Dates from Dakhleh Oasis, Egypt: Implications Concerning Regional Developments in Holocene Prehistory

A suite of nearly 50 radiocarbon dates sheds new light on the cultural sequences for the Holocene prehistory of Dakhleh Oasis, south central Egypt. For the early Holocene, the evidence now suggests a fairly complex settlement pattern involving both highly mobile groups and a more sedentary element inhabiting stone circle sites. For the mid-Holocene, the new dates suggest that a variety of artifacts and features occur in Dakhleh up to a millennium before their appearance on Nile Valley Predynastic sites. These dates also allow us to pinpoint when pastoralism was introduced in this portion of the Eastern Sahara.

MacEachern, Scott

"Symbolic Reservoirs" and Cultural Relations between Ethnic Groups

A number of archaeologists have recently considered the possible functioning of shared systems of symbols and beliefs—sometimes called "symbolic reservoirs"—within and between more or less closely related West African societies. These systems are viewed as generally coherent and capable of structuring artefact variation on a large scale. In this paper, I will examine the utility of the concept in a northern Cameroonians—northern Nigerian context and suggest a number of mechanisms by which elements of such a system could be established and maintained.

McIntosh, S. K., McIntosh, R. J., and Bocum, Hamady

The Emergence of Regional Polities in the Middle Senegal Valley

A six-month program of excavation and extensive, systematic regional survey in the central region of the Middle Senegal Valley

(MSV) floodplain has provided abundant data on the chronology and evolution of Iron Age settlement since initial permanent occupation ca. 200 A.D. Excavations undertaken at the mound sites of Cubalel and Sioure revealed 5.5 m and 5 m of deposits, respectively, created largely during the first millennium A.D. Twelve radiocarbon analyses suggest that the bulk of the deposits come from the time period 200–900 A.D. (calibrated). From the large pottery samples recovered, a preliminary ceramic sequence for the region has been established, permitting relative temporal placement of surface material from other sites in the region examined during survey. The survey, conducted systematically on 100% of the noninundated landforms available for permanent settlement, covered 460 km² of the Ile a Morfil, one of the most productive and densely populated sectors of the Middle Senegal Valley. For the 136 sites found and subjected to surface investigation during survey, data on size, location, hydrology, soils, vegetation, and surface vestiges were recorded. The resulting data offer a view of small-scale societies whose cultural repertoire, settlement pattern and distribution changed remarkably little during the first millennium A.D. Imported goods and exotics that might indicate the presence of elites are completely absent as is markedly hierarchical settlement patterning. Societies along the MSV were apparently rapidly transformed between 900 and 1100 A.D. into competing regional polities with ties to southern Saharan trade entrepôts such as Tegdaoust. This sequence of events poses interesting theoretical issues in comparative studies of cultural evolution in semi-arid floodplain environments, as well as explosive secondary emergence of new forms of political organization.

Mapunda, Bertram B. B.

Iron Age Archaeology of the Central-Eastern Shore of Lake Nyasa, Southern Tanzania

Several archaeological and ethnographic research projects have been conducted in the region surrounding Lake Nyasa, which borders Malawi, Mozambique, and Tanzania. The central-eastern shore of the

lake, however, remained archaeologically and ethnographically terra incognita until 1990, when Suzanne Burg and I conducted an exploratory archaeological reconnaissance along the lower Ruhuhu river basin.

The major objective of the research was to determine the archaeological potential of the region. The research involved surface investigation for archaeological occurrences and test excavations. Eighteen sites were located, of which four belong to the recent ("historic") period (ca. 1900–1981), nine to the Iron Age, and five to the "Later Stone Age". One historic site and three Iron Age sites were test-excavated. Three radiocarbon dates (based on charcoal samples) indicate that tentatively the Early Iron Age in this sub-region dates to the second half of the first millennium A.D. The technology of ironmaking in the region seems to have some similarities with that of the Matengo, a region about 100 km to the southeast of the lower Ruhuhu basin.

Future plans include conducting an ethnographic survey of iron and pottery making, extensive excavation, and obtaining more dates.

de Maret, Pierre

Preliminary Results of New Excavations in Mbi and Shum Laka Rock Shelters, Northwestern Cameroon

From December 1991 to February 1992, large scale excavations have been carried out in two rock shelters of the volcano range of north-western Cameroon. Preliminary results will be reported.

Mehlman, M. J., and Brooks, A. S.

Ishango: Light from the Heart of Darkness

Oldest levels with bone harpoons at Ishango, Zaire, date to ca. 25 kya. Associated is human skeletal material exhibiting tropical African or Negroid, rather than Khoisanoid, features. Ishangian lithic assemblages do not contain geometric microliths or other backed tools; however, they are "mierolithic" in size and dominated by bipolar core technology. Occurrences document differential exploitation of

riparian fauna (crab, fish, mollusca) and large mammal carcasses (topi, buffalo, hippopotamus). This data is consistent with, and further amplifies, evidence from northern Tanzania of similar antiquity. These sites affirm a relatively diverse material culture and specialized subsistence strategies which have limited MSA aspects and which antedate the LSA as narrowly defined by backed tools.

Miller, Duncan

Ingots of Indigenous Manufacture in Southern Africa

The work reported on in this paper forms part of the ongoing research into early mining and metallurgy in southern Africa being conducted in the Materials Laboratory of the Archaeology Department, University of Cape Town.

A wide variety of ingots of known or suspected indigenous manufacture have been found in southern Africa. The different types, including the well-known copper lerale, musuku, and nailhead ingots, a diversity of tin ingots, and more problematic zinc, brass, and lead ingots will be described and illustrated. The techniques used in the manufacture of the copper ingots will be described with reference to external morphology, optical metallography, and chemical analysis of included slags. Attempts at dating such ingots by AMS C14 dating of included charcoal will be evaluated, and recent work aimed at sourcing the raw materials will be reviewed briefly. A final discussion will deal with the significance of these ingots as ceremonial or trade objects and their importance in attempting to reconstruct pre-colonial trade routes.

Mitchell, Peter

Last Glacial Maximum Hunter-Gatherers in Southern Africa as an Example of a High-Technology Foraging System

Contrasts between late Pleistocene and Holocene hunter-gatherer adaptations in southern Africa were first identified some twenty years ago. These differences are explored further using the model of a high-

technology foraging system developed by Kelly and Todd (1988) for early Paleoindian occupation of North America. The development of a flexible, microlithic technology is argued to have been a key factor in the success of Last Glacial maximum (LGM) hunter-gatherers in southern Africa. The consequences of our current site sample representing only part of the LGM settlement system are assessed and areas for future research are outlined.

Mohamed, Amal A.

New Evidence of Backed Bladelets Technology in the Nile Valley

The excavations of the Spring of 1990 succeeded in dating site E71K12 from the Isna area in the Nile Valley. Also recovered are perhaps the largest ever faunal collection from the same site, giving a new meaning to the relationship between form and function.

Mutundu, Kennedy

Inferring Herd Management Practices from Age Mortality Profiles: Cautions from Kuku Plain in Southern Kenya

Models for certain ethnographic and archaeological pastoral subsistence patterns predict a maximization of female adult animals, with the largest proportion culled from each herd being made up of young bullocks, old cows, and bulls. Cattle age profiles in "Pastoral Neolithic" faunal assemblages from southwestern Kenya, however, show relative underrepresentation of aged animals. This paper reports similar mortality patterns in cattle managed by contemporary pastoral Maasai of Kuku Plain in southern Kenya. However, a large proportion of mortality is caused by natural factors rather than herd management practices, contrary to current assumptions.

Okafor, Edwin E.

Two Thousand Years of Nsukka, Nigeria, Bloomery Technology

Developments in the bloomery iron smelting in Nsukka region, Nigeria, have been identified through the study of iron smelting residues. During the study, various techniques of investigation were used. These

are ethnographic investigation, archaeological, and analytical techniques. The analyses were conducted at two levels, morphological and microscopic. These investigations discovered several hitherto unknown aspects of early iron smelting in the region. Results of the research show that Nsukka bloomery ironsmelting took place from about 756 ca. B.C. to about 1950 ca. A.D. During this long period, the industry passed through three phases. Each successive phase represented a technological improvement in the industry.

On the whole, Nsukka bloomery technology was very efficient in terms of iron extraction. Very little free iron oxide was left in the slags. In this regard, the earliest period of this industry was least efficient, while the latter period was most efficient as it succeeded in almost total extraction of iron from the slags and reduced labour need for the industry.

Major mineral phases in Nsukka slags are fayalite, hercynite, and wustite. Minor phases present in some of these slags are glass, leucite and magnetite.

It is evident from the research that the prevailing economic and political situations in the region controlled the development of the various technological phases of the industry. The threat to labour needs of the industry in the middle and the late phases of the industry was overcome by adopting straight smelting techniques which had the least labour need.

Parkington, John

"Going Down"—The >50,000 Year Sequence at Elands Bay Cave

At Elands Bay Cave we have excavated some 50 to 90 m² through a depth of one to three and a half metres. Over 40 radiocarbon dates provide the chronological framework for analysis and anchor the stratigraphic matrix of nearly 400 excavated units. Very clearly the deposition at EBC has been highly pulsed with episodes of repeated cave use separated by sometimes long (103–104 yrs) episodes of nonuse. During the depositional history the shape, size, and usability of the cave vessel changed considerably, particularly as the fringing

curtain of large boulders at the front and the interior chamber at the rear were respectively covered and filled. There is thus no guarantee that superimposed samples of artefacts and food waste were drawn from similar components of the varied behaviour of the cave occupants.

Broadly, the history of cave use covers parts of the MSA and LSA periods of the southern African stone age, from more than 100,000 years ago to 300 years ago. The earliest pulse may reflect the use of a quartzite seam in the cave as quarry for the extraction of a favoured raw material; above that there are deposits that date to the transition from MSA to LSA with well-preserved charcoal, bone, and artefact samples. A highly resolved picture of terminal Pleistocene environments is provided by a combination of faunal analysis, charcoal identification, oxygen isotope analysis of ostrich eggshell and marine shell and sediment analysis. We are in the process of generating a Terminal Pleistocene and Holocene record of sedimentation in the Verlorenvlei to complement this cave sequence and contribute to the environmental history of the area. Holocene pulses in the cave appear to be responsive to both environmental and social stimuli and can be integrated into the equally pulsed but more complex pattern of regional landscape use.

The advantages of having so many depositional units and so many kinds of biological and artefactual items lie in our ability to detect multiple shifts through this fractured sequence. A few examples will suffice here. One pulse that is well represented at Elands Bay Cave went in between about 4,300 and about 3,000 years ago. Similar depositional episodes are found at nearby caves and rock-shelters. In contrast with later pulses this one is very sandy, contains very few animal bones relative to shellfish and is dominated by mussels (as against limpets). The amount of water-worn shell and small gravel is high, mussel sizes are low, and the mussel shells show rather gracile form. Integrating this with other local sequences we can postulate a slightly higher sea level, a generally more intensive period of aeolian sand

redistribution, perhaps reflecting decreased vegetation cover, and rather brief and logistically specific visits to the coast by people.

In many ways this pattern leads logically onto the next, between 3,000 and about 1,800 years ago, when people apparently avoided caves and rock shelters, preferring to accumulate massive mounds of mussels adjacent to broad intertidal rock platforms. Here too there are few animal bones, few stone tools and almost no obviously domestic signature in the middens—no hearths, no burials, no stone features, no artefacts interrupted in mid-manufacture. We believe this to be an interesting interlude, marked by extreme logistical mobility, by mussel drying and storage in a sequence otherwise permeated by residential mobility.

Elands Bay Cave presents an opportunity to write the long term history of this part of the western Cape, at least it does when integrated with other sites. Our analyses are directed at densifying the observations we can use to write such a history and interpreting the patterns in terms of changing relations between people and the ancient landscape.

Parkington, John

"Going Sideways"—500m² of Late Holocene Hunter-Gatherer Campsite

We have excavated some 500m² of continuous space across several late Holocene campsites partly buried below aeolian sand north of the Verlorenvlei in the western Cape. Radiocarbon dates show that at least three visits to the area are involved, but a large part of the excavated area (some 300 m²) appears to relate to a single brief visit about 680 years ago. Several different kinds of hearths, cooking pits and ashy spreads allow us to examine the spatial layout of materials. Dumps and stone tool-making areas are clearly demarcated by concentrations of shellfish and small quartz chips respectively. The quartz chips are especially concentrated, forming a series of small patches 12 m across and clearly associated with particular small hearths.

One of our particular goals in digging this "site" is to reconstruct patterns of sharing or other interaction between social units. Refitting of materials is obviously one way of generating maps of circumstantial associations between hearths or between hearths and dump zones. We are fortunate that in our excavations we have several kinds of materials that can be (and have been) refitted. Ceramic sherds, pieces of ostrich eggshell, quartzite anvils and bones can be refitted and show contrasting patterns of association, probably reflecting dispersal patterns, the interference of scavenging animals as well as some behavioural interactions during camp occupation. We are also attempting to refit animal carcasses so that the dispersal of individual game species can be mapped across the site. Here again we are fortunate in having animals of a range of sizes - tortoises, dassies, steenbok, seals and eland for example - that may be compared with one another. The expectation, generated from ethnographic work, that the larger the food package the more widely it is dispersed through a camp, is well met.

Another objective of our mapping project has been to detect any impact on shellfish stocks from continuous cropping of intertidal species. On the assumption, again derived from ethnographic work, that the deserted camp reflects the distribution of debris in the final day or two of occupation, we have looked at the variability in limpet sizes across the site. The largest mean limpet sizes are in squares located in the dumpzone and presumably reflect the earliest collecting days. Near the domestic hearths are small dumps that are presumed to be the final collecting days' shells that never reached the dump. In these small satellite dumps the mean sizes of both species of limpets exploited are small.

Currently, we are working with a computerised listing of the square by square contents of the site to see if the structure of site use can be brought out more clearly. Maps of recent Kalahari camps give some pointers as to what to expect in different areas in terms of diversity and kind of debris. We have concluded that the patterns of distribution relate more to the final

dispersal of items rather than the initial introduction and the sharing of items. Our estimates of the timing and duration of camp occupation lead us to suggest about a month's visit in the winter months, somewhere between May and September.

Comparing such a highly resolved visit with the superimposed palimpsests partly recovered from vertical excavations in rockshelters, is not easy. There are, nevertheless, some fascinating differences and similarities between the dunefield 'site' and levels roughly contemporary elsewhere near the Verlorenvlei. With only a very small domestic stock component, the site would most likely have been occupied by hunter-gatherers whose main objective may have been to intercept and kill an eland in the nearby dune system. Stone artefacts seem to be essentially the remains of a gearing-up exercise wherein equipment was updated for the hunt. The subsequent month of occupation was partly, but not wholly, based on meat provided by the eland killed.

Phillipson, David

Pottery and Prehistory in the Southern African Iron Age

The ubiquity and elaboration of pottery on later prehistoric sites in sub-equatorial Africa has almost inevitably led to the prominent place which it occupies in many archaeological publications on this topic. As researchers have become increasingly aware of the shortcomings of previous paradigms there has developed a wide divergence of opinions on the extent to which, and the manner in which, pottery can be used to elucidate African prehistory. Conviction and dogmatism have often featured more prominently in the expression of these opinions than have logical databased arguments. This paper examines some of the models that have been proposed and the paradigms on which they have been based, with a view to evaluating current syntheses of the Iron Age in subequatorial Africa.

Robbins, L. H., Murphy, M. L., and Stewart, K. M.

The "Aquatic Civilization of Middle Africa" Surfaces in Southern Africa: Barbed Bone "Harpoons" and Fish from the Western Kalahari Desert, Botswana

The distribution of barbed bone points has long fascinated archaeologists in Africa. The widespread distribution of bone "harpoon" sites contributed to the concept of an aquatic civilization of middle Africa. The southernmost bone harpoon site in this complex was the famous site of Ishango in Zaire.

Research conducted in 1991 at the Tsodilo Hills White Paintings rock-shelter in Botswana has uncovered barbed bone harpoons located approximately 1,500 miles to the southwest of their previously known distribution. These are the first bone harpoon finds in southern Africa. Most of the artifacts were found in dense LSA occupation levels radiocarbon dated to between approximately 4,000 to 5,000 years ago. These levels were rich in fish bones as well as the bones of other animals. Additional bone harpoon fragments were found in earlier levels.

Fish bones were found in almost every 10-cm level from the surface to a depth of over 4 m. A radiocarbon date of approximately 20,000 years BP was obtained from 320–330 cm. Our data suggests that the White Paintings shelter contains one of the most continuous records of the use of freshwater fish known.

Robertshaw, Peter

Ceramic Variation in the Later Iron Age of Western Uganda

This paper reports the preliminary results of the analysis of variation among numerous later Iron Age pottery assemblages derived from both excavated and surface contexts in Bunyoro Kitara. A large number of variables were examined using a variety of computerized techniques, notably factor analysis and cluster analyses. The results have interesting implications for our understanding of chronology, settlement patterns, and the signalling of

ethnic/political identities in the region from the eleventh to the nineteenth century A.D.

Robertson, John H.

Multiple Origins of the Early Iron Age in South Central Africa

Two models are used to explain the introduction of the Early Iron Age in south central Africa. The uniformity model claims language and material culture are uniform over the whole of the area because of a large movement of people into the area approximately 2,000 years ago. The multiformity model claims there is a great deal of diversity in material culture in this area, which indicates only minor movements of peoples into the area. The autochthonous people added Iron Age traits to their existing Stone Age subsistence 2,000 years ago. Archaeological evidence is presented in support of the multiformity model.

Sahnouni, Mohamed

A New Look at the Lower Paleolithic Site in Ain Hanech, Algeria

The Ain Hanech site in Northeast Algeria was discovered by the French paleontologist C. Arambourg in 1947. It has yielded a Lower Pleistocene fauna associated with Oldowan artifacts (Mode I technology) and is one of the earliest archeological sites in North Africa.

New research has been carried out regarding stone artifacts recovered from previous excavations, and new field survey has been undertaken. Stone artifact analysis reveals the technological features of this early stone industry and its similarity to the Oldowan of East Africa (e.g., Lower and Middle Bed II at Olduvai Gorge). Field reconnaissance has indicated that there is great potential for further research at the Ain Hanech site and that it will be possible to answer important questions which remain unresolved regarding the age, technology, and behavioural implications of this early occupation site in North Africa.

Schick, Kathy and Nicholas Toth

Stone Technology and Land-Use in the Early Stone Age: A Case Study

This study focuses upon patterns of raw material use and site location by early stone age hominids at Olduvai Gorge in Tanzania, and examines Oldowan, Developed Oldowan, and Acheulean assemblages in Beds I and II (c. 1.7–1.2 m.y.a.) with regard to these factors. The location of Early Stone Age sites and the nature of their artifacts are examined with respect to raw material sources in prehistoric times. Observed patterns are addressed in light of recent experimental archaeological investigations. Of special interest in this study are the nature, function, and behavioral significance of the battered artifact classes called “spheroids” and “subspheroids” in the early stone age. Finally, the overall patterning of these prehistoric archaeological sites is addressed in an evolutionary context.

Schmidt, Peter

Constructs of the Bin, or, Becoming the Has-Bin

Speculations surrounding the dispersal of the Bin or proto-Bantu peoples from the zone between the Cross River and the Cameroon grasslands have been tied to the presence of a distinctive “Neolithic” industry found in Cameroon and other sites further to the southeast in West Central Africa. This paper argues that some of the evidence used to support this construct does not fit with the idea of early agricultural communities. Moreover, recent research in the grasslands of northwestern Cameroon indicates that early populations of the western grasslands lack material markers for a “Neolithic” adaptation. However, the ceramic evidence also points to clear affinities with the first millennium b.c. communities in the Yaounde region, where sites such as Obobogo and Nkometou are found. These results suggest that the claims for a distinctive material index for the Bin dispersal have not been substantiated for the 2000–1000 b.c. era. However, other affinities between grasslands and eastern sites may, possibly, suggest either a slightly later dispersal or widely similar cultural traits

among both highland and lowland populations of the first millennium b.c.

Schoenbrun, David L.

Recognizing Frontiers in Economic Specialization: Bananas, Cattle and Historical Linguistics in Africa's Great Lakes Region, 800–1500

Using the notion of frontier, scholars have generated innovative hypotheses about social and economic change in African history (Lamar and Thompson 1977, Hall 1987, Denbow 1984, Kopytoff 1987). Using comparative linguistic evidence, I seek to develop a model for charting the elaboration of pastoralism and intensive banana farming in Later Iron Age Great Lakes eastern Africa. Word reconstructions for cattle colors, horn shapes, banana varieties and generics, situated within a genetic classification of Great Lakes Bantu, show distinctive patterns in the location and timing of their innovation. The data fall into two categories. Some of these words were coined within a protolanguage group, through internal innovation or contact with a non-Bantu-speaking group, and were then inherited by daughter languages. Other terms were innovated in areal contexts, through contacts and transfers between various Great Lakes Bantu proto-languages, and then passed on to descendent speech communities. Linguistic concepts might be useful in elucidating, respectively, centers and peripheries of innovation. Employing the linguistic concepts of the proto-language and areal (lexical) forms, we can elucidate, respectively, centers and peripheries of innovation. The boundaries between areas of specialization formed a frontier shifting across time and space. Recognizing this process by studying these two types of historical linguistic data can yield insight on the historical development of specializations in food production. The implications for archaeology and social history in the region will be raised.

Sikes, Nancy E., and Ambrose, Stanley H.

Modeling Early Hominid Home Range Sizes

The area over which early hominids normally traveled in pursuit of routine activities may be correlated with body size, weight, and diet. Estimates of hominid range size can be calculated based on formulae derived from home range size areas for primates, carnivores, omnivores, and herbivores of different sizes, and hominid posterior and anterior dentition size ratios. The incisor index may be the most realistic predictor of hominid home range size. Using these formulae, the home range of early hominids fall between those of omnivores and carnivores. Home ranges for *Homo* are larger than for robust australopithecines, comparable to chimpanzees versus gorillas with high versus low quality diets, respectively. Modern savanna hunter-gatherers are not appropriate analogs because they now occupy more marginal habitats than early hominids and thus have larger home range areas. These formulae can be evaluated by determining the probable minimum foraging ranges by maximum distances between sites and lithic sources. This is illustrated with data from Olduvai Gorge Beds I and II.

Silsbee, Joan

The Dhow Economy as a Factor in Immigration from Arabia and the Guyto the Swahili Coast

As early as the ninth century A.D., merchants from the Persian Gulf resided not only on the Swahili coast but in ports as distant as China. Immigration from the Gulf and Arabia to Mombasa—recorded in the Dhow Registers, Old Port, during the fifteen sailing seasons before the long distance dhow passenger trade effectively ended around 1972—may reflect traditional settlement patterns. Due to Islamic laws, a dhow crew is paid on a share system, so that each passenger increases the sailors' income: on some trips the people may be more profitable than the cargo. These same laws severely restrict the transport of women. There are three unusual aspects of the dhow passenger trade: 1) Even the smallest ocean

going ships (25 to 100 tons) may carry a large number of passengers, as many as 136—as well as a crew of 17—on an 82-ton dhow; 2) Except for a few seasons such as the two following the Zanzibar Revolution in 1964, approximately twice as many passengers arrived (up to 660) as departed (a low of 25) in most years; and 3) Almost all of the travelers (about 99 percent) were male. The annual immigration of a few hundred men who would marry locally would account, over time, for much of the Islamic influence in this African society.

Stewart, Kathlyn

Patterns of Fish Exploitation near Lake Victoria, Kenya

Excavations at the Gogo Falls site, near Lake Victoria, Kenya have yielded a rich vertebrate fauna, including over 20,000 fish remains. The fish form a consistent presence throughout the Oltome and overlying Elmenteitan cultural levels, indicating a more diversified subsistence base than was previously thought. Over 70 percent of the fish from the Oltome and Elmenteitan levels consist of 1 taxon—*Barbus*, a seasonally migrating fish that modern fishers catch in large numbers in spawning runs. The Gogo Falls fish therefore probably represent fish caught primarily at the beginning of the rainy season, during spawning migrations. In contrast, fish from the Oltome levels at nearby Lake Victoria shell midden sites represent a variety of taxa other than *Barbus*, probably caught on a year-round basis. The Gogo Falls fish and the Lake Victoria shell midden fish therefore probably represent two patterns of exploitation: one a seasonal pattern of single taxon exploitation, and the other a pattern of year-round diverse exploitation.

Stewart, Kearsley

From Urewe to Rouletting: Towards an Analysis of Style

The transition from the Early Iron Age to the Later Iron Age, between 800 and 1200 in the Great Lakes area of eastern Africa, is a critical period in African history. The archaeological record reveals a sharp and enigmatic break in pottery style from the

Urewe tradition to a rouletting technique. Current explanations of this transition are unsatisfactory because they overemphasize diffusion and migration models (Desmedt 1991). I suggest that recent advances in interpretive archeological theories of the meanings of stylistic change (Miller 1985, Hodder 1991) offer the possibility of constructing other explanatory hypotheses. This report will analyze decorative style in order to confirm or deny earlier explanations and to develop a new approach to the analysis of the shift from Urewe to rouletting. The implications for regional archaeological research will also be addressed.

Sutton, J. E. G.

The Mid-Iron-Age "Revolution" in the Interlacustrine Region

The EIA of the interlacustrine region is fairly well documented, especially in Burundi, Rwanda and Buhaya, from two thousand years ago (and, some would argue from radiocarbon readings, considerably earlier). The transition from EIA to later IA (a broadly recognised but poorly defined category) is not well understood. However, by the eleventh century distinct cultural and economic developments are manifest in the grassier regions of western Uganda (especially Bwera and further north), large parts of which show little sign of EIA settlement previously. These developments and their datings are best documented at Ntusi, a large and concentrated site with considerable agricultural potential and activity as well as access to good pastures. Here cattle were being herded and exploited on a substantial scale, and there arises the question of how they were combined with (grain?) cultivation in this community's economy, as well as of the control and exchange of cattle and of the wealth and power which may thus have been generated. The role of other exchangeable commodities, notably salt and iron, and their production within this community's economy, as well as in their rouletted decoration, contrasts with that of EIA. This change is obvious in the early second millennium not only at Ntusi but also at lesser sites in the district, as well as at the celebrated earthworks,

including Bigo only 20 km from Ntusi. The functional relationship of these two contrasting but culturally related sites has been—and will continue to be—a subject of discussion. The evolution of such systems of earthwork enclosures, at Bigo itself and at other sites to the north too, raises its own set of questions, not only on whether they were primarily military or designed to protect herds of cattle, but also on the enhanced value of and competition for the latter, and not least on the command of labour for constructing and maintaining such works.

Thiry, Geneviève

Metallurgy in the Light of Comparative Linguistics: "Iron" in the Bantu Homeland Region

The origin of iron metallurgy in sub-Saharan Africa is addressed more effectively in regional terms than in continental terms. The adoption of a new technology requires corollary adoption of a specialized lexicon that comes in addition to a preexisting vocabulary. Yet, lexical creation does not appear ex nihilo. Utilizing cultural and technological lexicons, the "words and things" approach (Vansina 1991) of comparative linguistics, which reconstructs words, their history, and probable origin, can be seen as complementary to archaeology when tangible material evidence is lacking. Such a comparative research has been realized in homogenous linguistic subgroups (e.g., Bantu). Starting from Bantu and extending comparison beyond the Benue-Congo subfamilies boundaries, we hope to trace back the individual history of the items related to borrowing. The area of concern is South-Eastern Nigeria where one of the most ancient smelting sites has been excavated, and where different linguistic subfamilies (Bantoid, Cross-River, Plateau, Jukunoid, etc.) are represented.

In these groups, some recurrent and probably cognate items for "iron" are taken as an example of the practical application of the method.

Togola, Tereba

Archaeological Investigation on Iron Age Sites in the Mema, Mali

The region of Mema, Mali, is a plain with deep alluvial deposits, dense networks of dry watercourses, and systems of levees. These geomorphological features undoubtedly indicate that the Mema once formed a floodplain with surficial false deltaic hydrology. The first systematic archaeological study has demonstrated that a millennium ago, permanent occupation was intensive in the Mema floodplain. This intense occupation, clearly associated with a period of climatic amelioration, extends back in time to the LSA. During the survey, 137 archaeological sites (29 LSA sites, and 108 IA sites) were identified, recorded by size, surface materials and features, and location on different geomorphological features. The density and size of IA mounds in the Mema rival those in the Inland Niger Delta and suggest a broadly similar pattern of occupation. Radiocarbon dates from the excavations at Akumbu, and a preliminary typology of both the excavation and surface pottery permitted the determination of a broad chronology of the IA sites' occupation. Slag heaps associated with smelting furnaces found during the survey and exotic goods uncovered at the excavations indicate that local iron production and long distance trade played an important role in the economy of Mema.

Vivian, Brian C.

Sacred to Secular: Transformations in Akan Funerary Beliefs

The funeral arts and ceremonies of the Akan people are ubiquitous with the definition of Akan culture. Historical observations and early anthropological accounts tell of the sacred Asensie features, where terracotta figurines were placed as part of the funeral rites. Unfortunately most studies have focused on the terracotta figurines at the expense of their context. Few Asensies have been properly excavated, and little is known of the structure and development of these ceremonial features. The recent excavation of four Asensies provides insight into a shifting paradigm in

Akan funerary culture. This paper will detail and interpret the results of these recent investigations.

Volman, Thomas

Uses of Red Ocher in the Stone Age

Red ocher from stone age contexts generally is discussed in terms of its actual, symbolic, decorative, or artistic importance. After about 35,000 B.P. there is overwhelming evidence from throughout the Old World that pieces of ocher or powdered ocher, or both, were included in human graves and employed as pigments. But was ocher (1) used only for nontechnical purposes and (2) does the presence of ocher in older sites reflect new forms of symbolic or culturally defined behavior? These questions are addressed through a selective overview of archaeological and ethnographic observations.

Wallsmith, Debbie

Middle Stone Age Research in the Seacow Valley, South Africa

Recently, geneticists have hypothesized that *Homo sapiens sapiens* originated in Africa between 200,000 and 100,000 years ago. This, along with new data from sites such as Klasies River Mouth, has spurred a renewed interest in the Middle Stone Age. Once viewed as static and monotonous, the MSA is now being examined for clues to early modern human behaviour. While traditional research in South Africa has focused primarily on subsistence and related problems, data from the Seacow Valley may provide the opportunity to expand our knowledge of human behaviour during the MSA. Diachronic changes noted in the lithic assemblages from Driekoppen Rockshelter may produce the marker(s) needed to chronologically order over 600 surface sites in the valley and, thereby, allow development of spatial organization model(s).

Whitley, S. David

Cation-Ratio Dating of Rock Engravings from Southern Africa

Cation-ratio dating of the rock varnish coatings that develop within rock engravings was conducted on a number of motifs from Bushman's Fountain (Klipfontein) in the northern Cape Province, southern Africa. Although the cation-ratio values for the motifs have not yet been calibrated against a numerical time scale, the uncalibrated values nonetheless provide a relative chronological sequence for the site. The results fail to support existing models of chronological differentiation between so-called styles of engravings in this region of southern Africa.

Willett, Frank and Torsney, Bernard

Composition and Style: A Statistical Analysis of the Benin "Bronze" Heads

In 1981 Willett suggested that "analysis of as many (Benin) heads as possible in conjunction with stylistic analysis could provide a check on—zinc and lead—in the analysis of 63 heads and 4 Udo figures to test the correspondence between statistical clustering and Dark's typological classification based on style.

Willoughby, Pamela R.

The Middle Stone Age of the Northern Songwe River, Southwestern Tanzania

This paper reports on a 1990 survey of the Northern Songwe River (Lake Rukwa drainage) in Southwestern Tanzania. Thirty-three sites belonging to the MSA, LSA or Iron Age were discovered or relocated along an axis about 50 km in length from the main highway at Nanyala north to Galula village, all in Mbeya Region. This is the first survey here since McBrearty, Wynn and Waane visited in 1976. About 17 of these 33 sites have MSA components, reinforcing McBrearty's idea that the Lake Rukwa basin was an important region of settlement at this time. Surface collections were taken from all sites, and test pits dug at two of them. This paper presents preliminary results of this

survey, and the beginnings of a culture-historical framework for this region.

Wotzka, H.-P.

The 'Equator Co-Tradition': 25 Centuries of Human Occupation in the Inner Zaire Basin and Its Potential Significance for the Problem of the Bantu Expansion

A long-term river reconnaissance project in the heart of the Central African rainforest has produced an archaeological sequence from B.C. 500 to the present day. Richly decorated ceramics from pit deposits covering this period bear witness to continuous stylistic change within a series of regional trajectories originating from a single 'ancestral' tradition. Distributional analysis reveals successive stages of human penetration of the interior, moving upstream on the major eastern tributaries of the Zaire river. The search for the area of genesis of the earliest ceramic style, which may tentatively be linked to the first Bantu origins of the pottery in question, labelled Imbonga Group, might open up promising lines for an historical synthesis of linguistic hypotheses concerning the Bantu expansion on the one hand, and archaeological data on the other.

Wotzka, H.-P.

Archaeological Investigations in the Sudan and Sahel Zones of Burfuna Faso, 1989-91: Preliminary Results

In 1988 an interdisciplinary research project entitled Culture Change and Language History in West African Savanna Environments was established at Frankfurt University. Comprising cultural anthropology, geography, linguistics, botany, and archaeology, the project aims at an understanding of past and present relationships between human activity and the natural environment. The archaeological programme is focused on the introduction of 'neolithic' economies within the habitat under study. During the dry seasons of 1989-90 and 1990-91 two three-month field seasons were conducted in the south-eastern corner of Tapoa Province, Burkina Faso. Surface collections and test excavations at selected sites, particularly at a well-stratified

rock-shelter site near the village of Maadaga, allow us to lay the foundations of a first chronological sequence for this part of the Sudan savanna zone. In October 1991, reconnaissance work was carried out at Djibo, Dori, Gorom-Gorom, and Oursi in the Sahel zone of Burkina Faso. Rich archaeological remains, mainly collected from small settlement mounds and from dune-top sites, include microlithic inventories on quartz and quartzite, polished stone axes, various types of pottery, grinding stones, and iron slags. Three-month joint field seasons by Frankfurt and Ouagadougou universities are scheduled for 1992, 1993, and 1994.

Zedeno, Nieves M., James Burton and Fred Wendorf

Ceramic Manufacture and Use in Neolithic Settlements of the Eastern Sahara, Egypt

The Neolithic of the Eastern Sahara of Egypt was characterized by repeated seasonal occupations of the playa basins that developed during wet climatic episodes. The area supported three occupational phases of varied duration and degree of organizational complexity from 9800 BP to ca. 5000 BP, when much of the desert was abandoned due to increasing aridity. Ceramics, although rare, have been found in almost every Early Neolithic settlement, increasing in frequency and diversity through time. This research report presents preliminary results of clay sourcing and technological and compositional (ICP spectroscopy) analysis of ceramics recovered from Early, Middle, and Late Neolithic sites in the Eastern Sahara of Egypt, and provides information on the locus of manufacture.

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