



**ABSTRACTS OF THE  
13TH BIENNIAL  
MEETING OF SAFA,  
POZNAN**

**Noemie Arazi, "Archaeological reconnaissance around Bentia and Ansongo, Mali"**

In January-February 1996, I carried out a preliminary survey in northeastern Mali in the environs of Bentia and Ansongo (ca. 100 km south of Gao). Historical accounts place the Bentia area as the cradle of the later Songhay Empire, making this zone particularly promising. In the two survey areas (covering a total of 40 km<sup>2</sup>). I was able to record 32 sites dating from the Later Stone Age through the time of the Empire of Songhay. The largest settlement recorded (Bilimbiri Bero) measured 85 ha. in the expanse, containing numerous surface features (including granary foundations and tumuli) as well as surface artifacts including vast amounts of glass and terracotta beads.

**Johan Binneman, "Early Iron Age farming communities in the great Kei River Valley, Eastern Cape, South Africa"**

An archaeological research program was recently initiated to investigate the settlement of Early Iron Age farming communities in the Eastern Cape Province of South Africa. This paper reports on preliminary results from excavations at Kulubele, an early farming settlement in the Great Kei River valley. Radiocarbon dates of A.D. 790-799 were obtained for the site. The ceramic finds are typologically similar to those associated with the Msuluzi phase in Kwa-Zulu-Natal and northern Transkei. Iron slag and tuyere fragments were abundant and indicate that iron-working took place at the settlement. Other cultural materials retrieved from the site include flat iron artifacts and beads, shell and ostrich eggshell beads, marine shell ornaments, stone artifacts, bone points and fragments of broken figurines. Evidence of above ground structures were found in the form of reed/stick-impressed daga and a small portion of a daga floor. The faunal remains comprised mainly sheep.

**Laura C. Bishop and T.W. Plummer, "Listening to the animals: reconstructing hominid behavior using faunal habitat preferences"**

Faunal remains from archaeological sites have been used in a variety of ways to make inferences about the ecology and behavior of the hominids that formed these sites. Here we examine artiodactyl fauna from Bed I, Olduvai Gorge, Tanzania using a method which reconstructs the habitat preferences of extinct ungulates from their locomotor anatomy. Ecomorphology, the relationship between ecology and morphology, is investigated in the antelope and pig remains which form the largest part of the faunal assemblages from artifact occurrences at Olduvai. This enables us to establish the ecological preferences of these animals - their autoecology - and use this information to reconstruct the habitats available to Olduvai hominids.

We will use results of ecomorphological studies of artiodactyl postcrania to discuss which, if any, modern habitats and ecosystems provide the most appropriate analogues for Plio-Pleistocene palaeoenvironments at Olduvai. Evidence for Olduvai palaeohabitats will be discussed in relation to the different hominid species and artifact assemblages in order to examine whether here are recurrent patterns of correlation between these variables at Bed I sites.

**Claire Bourges, "From pots to sherds: ceramic ethnoarchaeology and historical process at Grea, North Cameroon"**

Wandala, a small Sudanic state, encompassed the Mora plains north Cameroon, and rose due to pressures put upon the populations of the northern Mandara mountains and surrounding plains by the state of Borno. The Wandala state originated in the early centuries of this millenium, and is thought to have been highly centralized at its zenith in the eighteenth century. To prove this thesis a rural Wandala village was examined, Grea, to gain an understanding of historical relationships between rural populations and the state. Oral traditions indicate that rural populations have maintained distinct social cultural characteristics. An inventory of

modern ceramics at Grea demonstrate that pots are not randomly chosen; they express socio-cultural factors, and at a fine grain level socio-cultural factors specifically related to the women of the village. Analyses of archaeological ceramics attempt to discover fine-grained changes in a long spanning tradition and to tie these to historical events known from written documents, oral histories, and archaeology. There are many factors involved in site deposition and influencing what we recover as archaeologists, yet the results of analyses demonstrate that minor changes through time are detectable and at least partially interpretable.

**Steven A. Brandt, "Inter-ethnic variability in flaked stone tool use among the contemporary hide workers of Southern Ethiopia".**

Recent ethnoarchaeological research among the hide workers of southern Ethiopia indicate inter-ethnic variability in (1) gender of hide workers; (2) range of lithic raw materials and methods of procurement; (3) techniques of core reduction and scraper manufacture; (4) style and number of new, used and discarded scraper "types"; (5) methods of hafting scrapers into different kinds of wooden handles; (6) location of hide working; and (7) discard patterns. The significance of this variability for providing valuable new data on a wide range of archaeological issues will be discussed.

**Reid A. Bryson and Robert U. Bryson, "Site specific high resolution archaeoclimatic modelling for Africa".**

Climatic information for archaeological interpretation must be site-specific and of high-resolution, because the societies of interest tend to be local or regional, and durations of a few centuries or a millenium are normally the case. For the specific needs of archaeology a new type of climatic modeling has been developed in the past decade. This we call Archaeoclimatic Modeling.

Archaeoclimatic Modeling has a different theoretical basis than the usual climatic modeling done on main-frame computers. It starts with the heat budget of the earth, with volcanic modulation

of the incoming radiation treated explicitly, and ice cover of the surface modeled. Using macrophysical relations from the literature of atmospheric dynamics, the locations of the major systems such as the jet stream and the intertropical convergence are then calculated for each sector of the hemispheres at 200 year intervals back to 14,000 B.P. and then 500 years intervals to 40,000 B.P. Synoptic climatology then provides the link to the climate of a particular site. Assuming that the physics of the atmosphere is invariant with time, at least through the Late Pleistocene and Holocene, the local climate may be calculated for average monthly values over each 200 years.

Models have now been compiled for approximately 200 sites. Not all have been tested against field data, but those which have been tested indicate that, while far from perfect, the models appear to identify the major climatic events experienced at each site. Examples include the rainfall history of the Sahel (Bryson 1992), the peak flood of the Nile at Aswan, and the drought in Mesopotamia starting before 4100 B.P. The modeled Nile flood history, shown in the attached figure, may be compared with the results of Hassan (1985). Two particular events of global extent show up locally as the low flood episodes labeled First and Second Dark Ages in the figure. Smaller events are not as clear, but the results are deemed satisfactory for the developmental stage of the model. The basic modeling effect was to calculate the monthly rainfall on the headwaters of the Blue and White Nile tributaries, and this depends on the monsoon, i.e. the position of the ITC. The droughts in Mesopotamia and the Mediterranean coast of Africa are demonstrably related to the latitude of the jetstream in the vicinity (Bryson and Bryson in press). In general one can say that the Tigris and Euphrates will be low when the Nile is high, but not invariably. Models for some other African locales will also be presented. These represent only hypotheses until tested against field evidence.

Bryson, R.A.

1992 A Macrophysical model of the Holocene Inter-tropical convergence and jetstream positions and rainfall for the Sahara region. *Meteor. and Atmos. Phy.* 47: 247-258.

Bryson, R.A. and R.U. Bryson

1996 High resolution simulations of regional Holocene climate: North Africa and the Near East. *Proceedings: NATO Advanced Study workshop on the climate and culture change in Mesopotamia during the Bronze Age, Antalya, Turkey, Sept. 1994.*

Hassan, F.

1985 Holocene lakes and prehistoric settlements of the Western Faiyum, Egypt. *Journal of Archaeological Research* 13: 483-501.

**Krzysztof Cialowicz, "Secondary burial in Predynastic Egypt".**

**G. Connah, "The carved roulette in Western Uganda: pretty patterns or group signatures?"**

**Els Cornelissen and Phillippe Lavachery, "Natural and cultural spatial patterning in Late Holocene assemblages of Shum Laka rock shelter (Cameroon)."**

**Maria das Dores Cruz and Ann B. Stahl, "Men and women in a market economy: gender and production in West Central Ghana c. 1700-1995".**

Archaeological analyses of gender and production often assume an isomorphism between ethnographic and archaeological patterns of production. Yet historical anthropological literature demonstrates that productive relations may change considerably when small-scale societies are incorporated into a market economy. In this paper we are concerned to examine how an ethnographic model of men's and women's roles in the contemporary market economy compares to past patterns of gendered production. Our case study is set in the Banda area of west central Ghana. Using a direct historical approach, we draw on archival, oral historical and archaeological insights (sources?) to

examine how production changes in response to historically documented shifts in the regional and sub-continental political economy in the period from roughly 1700 to the present.

**Michele Delneuf, "New archaeological data on human way of life in the forest-savannah ecotone (limits) of Central Cameroon during the last three millenia".**

The subsistence of prehistoric peoples in the African rainforest have been a subject of interrogation, and even controversy, these ten last years. The richness of the debate corresponds to the expansion of fieldwork in such ecosystems in Zaire, Gabon, Congo and south Cameroon in particular (e.g. Eggert 1993, after the first hypothesis of de Maret 1986). The expansion of this fieldwork, organized from large surveys with excavations, has covered the last three millenia, with a particular interest in the Neolithic, Iron Age and the transition between the two. The registration of complementary types of data, such as material elements, but specially organic macro remains in sites, located in the margin of Intertropical Rainforest and its immediate border with the savanna, brings us important but geographically dispersed indications.

It is proposed to take stock of the organic and faunal remains discovered in the Neolithic and early Iron Age sites of this ecosystem (with an upper limit at 600 B.P.) corresponding with important migrations in several regions, such as Cameroon and the Congo. Then we shall check the data which allow us to understand the response of human occupation during this time, in connection to the information delivered by corresponding palaeoenvironmental studies.

To bring new items to this subject, we propose to expose the recent preliminary results of systematic samples of anthracological (charcoal) remains and seeds from about a dozen sites located in Central Cameroon (11°E, 5°N) in Tikar country, dated from 2500 B.P. to the 19th Century A.D. This region covers the northeast border of semideciduous African rainforest, with included savannas. The identification of plants and trees used in those sites,

and ethno-botanical analysis of their uses by two kinds of populations, sedentary farmers (the Tikar group, Bantu speakers) and semi-nomadic and small Pygmy groups, should open new ways of interpretation. They concern the place of agricultural, vegetational, arboricultural and collected practices that we can recognize in prehistoric and protohistoric cultures. This must also include palaeoenvironmental studies, and together will contribute to the explanation of cultural evolution in this very special environment. Other information will be added, concerning the relations between these recently discovered sites and those of the suburb of Yaounde (Obobogo, Okolo, Ndindan) and southward, with contemporary contexts in Gabon, coastal Congo and perhaps central Zaire.

**Pierre de Maret, "Plus ca change: plus c'est la meme chose?"  
Political archaeology of the Luba".**

**Manuel Dominguez-Rodrigo,  
"Central place' models revisited  
and reassessed: a study of  
carnivore competition in riparian  
and open habitats of modern  
savannas".**

"Central place" models proposed to explain Plio-Pleistocene hominid behavior and the formation of early East African archaeological sites are based on the assumption that the riparian habitats in which most of them occur were places of low inter-specific competition. Competition is expressed here in terms of carnivore and hominid interactions. In this paper, a study of carnivore interaction in open and closed habitats is presented. The results indicate that riparian woodland shows the lowest degree of competition in savanna ecosystems. This suggests therefore that the palaeoecological settings of early sites could have provided hominids with enough safety to process carcasses and behave as shown in "central-place" foraging models.

**M. Dominguez-Rodrigo, L. Alcalá, D. Soria, L. Luque and B. Perez,  
"Preliminary research at Peninj:  
hominid adaptation to a dry and  
open Plio-Pleistocene savanna  
environment".**

In this work, the preliminary results of a research project currently in process in Peninj, west of Lake Natron (Tanzania) are presented. The analysis of faunal remains indicate an open environment, in contrast to Olduvai. Analyses of bone modifications (namely tooth marks) also suggest that the area was a highly competitive setting. This data can be used as a background for testing hominid behaviors (e.g. hunting and scavenging strategies). Archaeological site distribution is discussed in the light of their palaeoecological context and it is suggested that early Acheulean sites may be ecologically related to open habitats.

**Rodolfo Fattovich, "The  
archaeological heritage of Eritrea  
and Tigray (Ethiopia): an  
evaluation".**

Eritrea and Tigray (northern Ethiopia) have a very rich and largely unknown archaeological heritage, which reflects the long and very complicated history of these regions. In this paper, a global evaluation of this heritage is suggested, as well as a possible strategy of most urgent interventions. In particular Aksum (Tigray) and Adulis (Eritrea) and examined as possible areas for the organization of archaeological parks.

**Rodolfo Fattovich and K. Bard, "The  
I.U.O./B.U. excavation at Bieta  
Giyoris (Aksum) in Tigray (Northern  
Ethiopia)".**

The excavations conducted at Bieta Giyorgis (Aksum) in Tigray (northern Ethiopia) by the I.U.O. and B.U. have revealed a complete sequence of cultural development of Aksum from the late 1st millennium B.C. to the late 1st millennium A.D. Macrobotanical evidence is providing information about the subsistence economy of the kingdom.

Palynological data provides information about the vegetal landscape as well. Finally, C14 dates suggest a firmer chronology of the kingdom from proto-Aksumite to Early and Middle Aksumite times.

**Victor Fernandez, A. Jimeno and M. Menendez, "Spanish archaeology in Africa: 1900-1975".**

Since 1902, when the first survey was made in the Western Sahara, until the independence of this territory in 1975, Spanish scholars and missionaries discovered and published a great number of archaeological sites in the African colonies (Western Sahara, Equatorial Guinea and the Protectorate of Northern Morocco). The most important contributions were those of M. Almagro on Neolithic and rock art sites of the Sahara (1946), Father Martin on the Iron Age of Bioko (1965) and especially M. Tarradell on the Neolithic caves and Roman cities of northern Morocco (1959), from the Tetouan Museum and Archaeological Service. In spite of this, after independence, Spanish institutional contributions to African archaeology have been very scarce.

**Elena A.A. Garcea, "Site surveys in the Libyan Sahara".**

New archaeological investigations in southwestern Fezzan (Libya) included the excavation of the major anthropic deposits, as well as site surveys in different parts of the region. The field research covered the Tadrart Acacus range and the Amsak Settafet plateau. Systemic surveys were carried out along the palaeocourses of the wadis and at the outlets of the former water courses, in the Erg Uan Kasa and the Edeyen of Murzak.

A high concentration of sites were located and mapped; the archaeological materials were documented and partly collected. Some sondages were also excavated, when an archaeological deposit was identified. Human occupations date from Acheulean, Mousterian, Aterian and prepastoral and pastoral Holocene phases, until the last hyper-arid Saharan sequence. Several radiocarbon dates were obtained and pedological, archaeozoological and palaeobotanical analyses were made.

**Francis Geus, "Recent discoveries in Sai island (Sudan)."**

**Olivier Gosselain, "Let there be roll! Spatial distribution and linguistical evidence in present day Africa".**

**Detlef Gronenborn, "Iarde Mayabe - From herdsmen to kings on the southern fringes of Lake Chad".**

The paper examines man's adaptation to a continuously changing environment from the initial settlement after the receding waters of Lake Chad up to the beginning of this century. Apart from those adaptive strategies the development of political authority is equally examined. Earliest settlers seem to have led a semi-nomadic way of life with permanent base camps and temporary stations. With further deissication villages developed which finally evolved into towns with hierarchically structured society. The data was collected during four excavations of extensive settlement mounds and is supplemented by the collection of oral history.

**Manuel Gutierrez, "Recherches récentes sur la bande côtière au Sud de Benguela (Angola)".**

Les recherches archéologiques sur la bande côtière au sud de l'Angola sont déjà anciennes. Dans les années 1960s, Clark avait prospecté la région et signalé l'existence d'industries lithiques du paléolithique inférieur (E.S.A.), ainsi que des "niveaux d'occupation" de la même période. Des recherches géologiques ont aussi eut lieu dans cette région et du matériel lithique anthropique fut signalé.

Depuis 1976, date de la création du Musée National d'Archéologie de Benguela, les équipes de recherches archéologiques du Musée ont abondamment prospecté la région, constitué une importante collection de matériel archéologique et inventorié de nombreux sites.

Nos recherches conjointes ont permis de confirmer la richesse archéologiques de la région de Fundo, près de Baia-Farta, et de faire des choix pour connaître la stratigraphie et éventuellement les dates

de la présence humaine ancienne de la région. Ainsi notre intérêt s'est porté sur le site de Dungo IV où nous travaillons actuellement à la recherche de l'industrie lithique en place, dans leur contexte original. De ce fait nous avons comencé la fouille d'une grande surface (100 m<sup>2</sup>) où nous cherchons à connaître la position réelle des pièces lithiques dans leur relation avec l'ensemble.

Les premiers resultats, présence de nombreux éclats de taille, des pièces lithiques unifaciales et bifaciales, montrent l'importance du site ainsi que la pertinence de la méthode de fouille utilisée. Par ailleurs méthode et potentialités des sites permettent d'envisager aussi une fonction pédalogue de nos travaux dans cette zone archéologique du sud de l'Angola.

**Randi Haaland, "The ways of women: from sedentism to food production in the Middle Nile region, Sudan".**

A sedentary way of life emerged along the Nile in Central Sudan during the ninth millenium b.p. The material indicates that a broad spectrum of resources were utilized, however, with an emphasis on aquatic species and to some extent plants such as sorghum. Sorghum was later cultivated and domesticated in this general area. Women's roles in instigating the processes leading to sedentism and the positive effects seem from a female point of view (as regards pregnancies and child rearing) are discussed. The paper will focus on the technological changes and innovations which were important preconditions for the transition to food production to take place. With reference to comparative ethnographic material the interdependence between technological innovations, division of labor and gender identity will be discussed.

**Simon Hall, "The pre- and post-colonial status of Tswana speaking women: a case study from the Transvaal".**

From the 17th century, heightened political and economic competition between Tswana-speakers brought about several responses. One was a shift from dispersed settlements to large aggregated

towns. This trend continued in the 19th century in the face of growing colonial penetration. Within this historical context, the status of women changed in a world increasingly dominated by men. I use some spatial and ceramic indicators to make some general inferences about the status of precolonial women. I then examine how and why this status was continually downgraded in the growing cash economy of the 19th century colonial world. From spatial and ceramic evidence, I discuss how the control of female labor and the appropriation of their production was underwritten and signified through the manipulation of indigenous symbolic boundaries, and the construction of new ones using European material culture.

**J.W.K. Harris and S. Semaw, "How long did the Oldowan last? Inferences from the earliest artifacts from the Late Pliocene deposits of Gona, Ethiopia".**

The Oldowan Industry seems to have lasted almost 1 million years with little (or no) technological changes. The Gona surface and excavated stone artifacts, based on a combination of palaeomagnetic and isotopic dates, now have a secure minimum age of 2.55 mya. For this early age, the knapping skills of the tool-makers show remarkable control and precise understanding of the properties of stone fracture mechanics similar to other Early Pleistocene assemblages dated between 1.9-1.5 mya (for example, Koobi Fora and Olduvai Gorge). Abrupt technological change leading to the manufacture of stone artifacts with a preconceived final shape comes only during the Acheulean ca. 1.6-1.5 mya.

**Tom N. Huffman, "Gender and the central cattle pattern".**

**Leon Jacobson, T. Huffman and W.A. van der Westhuizen, "Provenance studies in the Iron Age of South Africa".**

This paper will discuss theoretical and methodological issues relating to the provenance study

of Iron Age pottery from Mapungubwe and related sites as evidence for precolonial trade and exchange systems.

### **Leon Jacobson and W.A. van der Westhuizen, "XRF analysis of pottery from Northern Botswana".**

First results from an XRF analysis of pottery from archaeological sites in Northern Botswana stretching from Tautswe to Tsodilo are presented.

### **Stefanie Kahlheber, "Preliminary results of archaeobotanical research in the Sahel region of Burkina Faso".**

In the Sahel region of Burkina Faso, macrobotanical remains from several archaeological sites excavated by Dr. Ralf Volgesang, have been investigated. Sites on sand dunes, dated between 3000 and 3500 B.P. contained only few and badly preserved archaeobotanical remains. In contrast, settlement mounds with an age of 1000 to 2000 years furnished great amounts of well preserved botanical remains (charcoal, charred seeds and fruits). An agricultural system based on *Pennisetum* can be reconstructed. Wild plants, especially fruit trees like *Zizyphus*, *Vitex*, *Celtis*, and *Butyrospermum* were also used on a large scale. The presence of seeds and charcoal of several plants with higher precipitation needs and a sudanic distribution e.g. *Butyrospermum paradoxum* indicates that annual rainfall must have been much higher than today.

### **Susan Kent, "Introduction to the Symposium-Gender in African prehistory".**

Although gender is an important organizing principle of culture, it has not been well studied in African archaeology. Gender is defined here as the interaction between females and males. Women and men are viewed as interacting with and reacting to one another, even in those societies with complementary but non-overlapping sexual divisions of labor. Thus, the activities of both men and women are considered important. In some

cases it is necessary to revise basic assumptions concerning the role of each sex in activities that contributed to the archaeological record.

We have come a long way in determining palaeoenvironmental factors on both the macro- and microscopic level and incorporating into archaeology disciplines ranging from botany to geology. Had we spent as much time, money, and effort in studying gender and sociopolitical organization we may have as much knowledge about prehistoric gender relations as we do about ancient environments.

### **Susan Kent, "Invisible gender - invisible foragers: hunter-gatherer prehistory and the Southern African archaeological record".**

Archaeologists who have studied gender in prehistory tend to assume that most cultures have similar gender relations. Therefore, they miss the fascinating diversity that is present in how people organize gender: differentiated or not, stratified or not, hierarchical or not. Even within the amorphous category of highly egalitarian hunter-gatherers, gender relations differ. At times, archaeologists should expect *not* to find spatial, architectural, or material culture differences due to gender, and that is as important to know as it is when to expect them. Using several different data bases, I attempt to examine hunter-gatherer sites with and without evidence of male-female interaction using the southern African archaeological record to determine variability.

### **Mohamed Ould Khattar, "Rapports des populations sahariennes actuelles aux sites archéologiques".**

**Maxine R. Kleindienst, H.P. Schwarcz, K. Nicoll, C.S. Churcher, J. Frizano, R.W. Giegengack and M.F. Wiseman, "Pleistocene geochronology and paleoclimates at Dakhleh Oasis and Kharga Oasis, Western Desert, Egypt based upon uranium-thorium determinations from water-laid tufas".**

Since 1987, the Prehistory Group, Dakhleh Oasis Project, has sampled water-lain tufas from Dakhleh and Kharga Oases, Western Desert, Egypt, for uranium-series determinations, providing new chronometric dating and palaeoclimatic information for late Middle through early Late Pleistocene archaeological units (ESA, MSA). Determinations on float blocks from Dakhleh's gravels, compared with Gardner's "classic" sequence of "wadi tufas" from Refuf Pass, northeastern Kharga (Garner 1932; Caton-Thompson and Garner 1932; Caton-Thompson 1952) gives *terminus* dates for archaeological units defined at Kharga, and for cognate units at Dakhleh. Evidence suggests that Gardner's geological sequence required some revision, but that Caton-Thompson's typological seriation is correct: (1) "Tufa 1", overlying gravels including Acheulian *sensu stricto* (Locus V), is >400 ka; (2) "Tufa 3", Locus IV, overlying silts and gravels including "Lower Levalloisian" (older MSA at Refuf, 2 determinations) is 220 ± 20 ka. These are the first chronometric determinations for the ESA and MSA in the oases.

Caton-Thompson, G.

1952 *Kharga Oasis in Prehistory*. London: Athlone Press.

Caton-Thompson, G. and E.W. Gardner

1932 The prehistoric geography of Kharga Oasis. *Geographical Journal* LXXX (5): 369-406.

Gardner, E.W.

1932 Some problems of the Pleistocene hydrography of Kharga Oasis. *Geological Magazine* LXIX (819): 386-421.

**Maxine Kleindienst and Marcia F. Wiseman, "The Pleistocene archaeology and geoarchaeology at Dakhleh Oasis, Western Desert, Egypt: 19 seasons of exploration".**

Beginning in the first season of work by the Dakhleh Oasis Project in 1977, and intensively after 1986, investigations of the Pleistocene archaeology and geoarchaeology of the Dakhleh Oasis, the largest in the Western Desert of Egypt, have established a sequence beginning with Upper Acheulian (*sensu stricto* probably dating to > 400 kya, and ending with later Late Pleistocene aggregates believed to post-date 30 kya. The evidence for identified archaeological units is summarized in reference to their stratigraphic placements and geomorphologic settings: from oldest to youngest, Upper Acheulian (*sensu stricto*), Balat Unit, "large-sized MSA", "medium-sized MSA", Dakhleh Unit (Aterian), and the Sheikh Mabruk Unit (cf. Kleindienst in press; Kleindienst et.al. in press; Wiseman 1993).

Kleindienst, M.R.

in press Pleistocene archaeology and geoarchaeology: a status report. In C.S. Churcher and A.J. Mills, editors, *Reports from the Survey of Dakhleh Oasis, Western Desert of Egypt 1977-1987*. Oxford: Oxbow Books.

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in press Geomorphological setting and Quaternary geology of the Dakhleh Oasis region: interim report". In C.S. Churcher and A.J. Mills, editors, *Reports from the Survey of Dakhleh Oasis, Western Desert of Egypt 1977-1987*. Oxford: Oxbow Books.

Wiseman, M.F.

1993 The Dakhleh Oasis during the terminal Pleistocene: is anybody home? In R.W. Jamieson et.al., editors, *Culture and Environment*. Proceedings of the 24th annual Chacmool conference. Calgary: University of Calgary Archaeological Association, pp. 283-285.

**Christopher P. Koch, "Neolithic mortuary behavior in the Lake Turkana Basin, Kenya: II Lokerdede".**

Recent research in the Turkana Basin has illuminated a new facet to Neolithic mortuary complexity. II Lokerdede is one of four sites, two of which are excavated, which exhibit this complexity. The four sites are low mound or platform features which are topped by stone pillars. II Lokerdede is a secondary burial mound dug into a natural hilltop. Burials are highly comminuted and mixed. There exists the possibility that primary burials may be located deeper in the mound. Human remains are associated with fragmented Nderit ware, clay figurines and early possible small domestic stock. II Lokerdede is radiocarbon dated to about 4,000 years ago.

**K. Kuman and R.J. Clarke, "Artifact industries and hominid associations from Sterkfontein Member 5".**

A new stratigraphy for Member 5, Sterkfontein is suggested which demonstrates that large portions of its southern half are geologically separate to the artifact-bearing deposits. In the southernmost breccia, the StW 53 cranium previously assigned to *Homo habilis* is not associated with *in situ* artifacts and dates most probably to between 2.6 and 2 m.y. Morphological traits of this hominid are discussed which ally it instead to *A. africanus*. The oldest true artifact bearing infill in Member 5 is Oldowan in industry and age (1.7 - 2 m.y.) and has yielded only teeth of *Paranthropus robustus*. The post-Oldowan deposits consist of two areas of breccia separated by a large portion of MSA infill and by a breccia which belongs to a pre-Oldowan infill (i.e. late Member 4 or the StW 53 breccia). In Member 5 East, the post-Oldowan artifacts are clearly Acheulean but portions of the top 15 feet appear to be contaminated with later material entering through solution pockets. In Member 5 West, however, hard cemented breccia provides an uncontaminated sample which has been the focus of new excavations. Here the industry initially appeared similar to Developed Oldowan A in the sense that bifaces were absent from hard breccia.

(Only one handaxe had been excavated in the 1950s from soft sediment). However, this year's enlarged sample yielded a well-made cleaver from solid breccia. The rarity of such a find (n=636) emphasizes the importance of large sample sizes from early sites where activity of idiosyncratic differences can easily obscure accurate industrial identification. Additional hominid associations are also discussed for the Member 5 deposits.

**Oliver Langlois, "A propos des variations culturelles et culturelles intervenues au Diamare (Nord-Cameroon) durant les deux derniers milleneraires".**

**Savino Di Lernia, M. Cremaschi and L. Trombino, "Animal management and pastoralism during the Early and Middle Holocene (9000-4500 B.P.) in the Tadrart Acacus region (Libyan Sahara). The integration of archaeology, ethnoarchaeology and geoarchaeology".**

Pastoral archaeology is one of the most investigated field of research in African archaeology, given the natural features of landscape and the cultural history of human groups. Marginal environments, as the Saharan areas, are also nowadays exploited by means of pastoral economy, which is able to survive in such extremely dry conditions. Climatic changes during the Holocene sharply modified the environment, favoring different strategies of adaptation. The introduction and spread of domesticated cattle are topics widely discussed in the literature, and we shall not come back to this matter again.

This paper will deal with the identification of particular forms of wild animal management (taming of *Ammotragus lervia*?) during the late pre-pastoral period (i.e. 9000-7500 years B.P.), and to the analysis of different kinds of pastoral strategies adopted during Neolithic times, until the emergence of specialized forms of pastoralism (7500-4500 years B.P.). Such an approach has been carried out on many sites, located both on the mountain and lake

areas in the Tadrart Acacus region, with different chronological, cultural and natural features. Particular emphasis has been drawn on site formation processes and settlement pattern. This integration of different approaches of research allows the overcoming of the frequent scant quality of data in the archaeozoological record.

**Savino Di Lernia and Elena A.A. Garcea, "Some remarks on the Saharan terminology. Prepastoral archaeology from the Libyan Sahara and the Middle Nile Valley".**

It's well known that a deep confusion in the terminology used for African prehistory exists, which has become increasingly problematic with the progress of the research. The importance of a solution to this matter has already been felt and discussed (eg. SAfA Conference, Los Angeles, 1992). Also the recent 10th Pan African Congress for Prehistory and Related Studies did not fully succeed in this aim (Zimbabwe 1995 in press).

The need to build a conventional terminology in archaeology is an epistemological duty and a substantial tool for communication among scholars. Most of the terms are derived from European and Near Eastern contexts, as the scientific formation of practically all the researchers originated from those areas. Given this assumption, it does not seem sensible to accept some terms and to reject some others. Moreover, such a contradiction led to the use of the same terms for different contexts (e.g. Neolithic) and different terms for the same contexts (e.g. Early Khartoum and Mesolithic).

In this paper we shall discuss this matter and propose a hypothesis with regards to two specific areas, namely the Tadrart Acacus region (southwestern Libya) and the to-date much better known evidence from the Middle Nile Valley. Particular emphasis will be drawn on the pre-pastoral cultures of these areas, i.e. Early Holocene human groups characterized by an extractive economy. In both areas two archaeological horizons may be distinguished and their features may be defined.

**A. Livingstone-Smith, "Rock'n rolling over Africa: an archaeological perspective".**

**Kevin MacDonald, "The Southern Gourma project (Mali) 1993-96".**

Since 1993, an Anglo-Malian project of reconnaissance and excavation has operated in the environs of Douentza (Gourma, Mali). A cultural sequence stretching from 2000 B.C. to A.D. 1200 has been reconstructed from a series of settlement mounds, tumuli and iron smelting sites.

This paper concentrates on the changing environment and settlement pattern of the region, with particular reference to the people of this zone during the last two millennia B.C. From 2000 B.C. to 1000 B.C. the region was occupied by at least two groups, one fisher-hunter-gatherer, the other pastoral with significant wild grain processing component. From 1000 B.C. there is an indication of increasing social complexity with the appearance of substantial monuments.

**Kevin MacDonald, "A preliminary consideration of Cord-Wrapped Stick and Cord-Wrapped Cord pottery decoration in West Africa and the Sahara".**

**Scott MacEachern, "State formation around the Mandara Mountains (Cameroon): Archaeological and ethnohistorical perspectives".**

Archaeological data indicate that large, nucleated communities existed around the northern Mandara Mountains of Cameroon and Nigeria early in the first millennium A.D. and that these communities were preceded by smaller-scale occupations by iron-using farmers. During the second millennium A.D., the southern Lake Chad basin became a "field of empire" (Reyna 199) for competing Central African polities, and over time indigenous communities differentiated, some becoming the centers of local states themselves. In this paper, I will examine this process of differentiation, using

archaeological and ethnohistorical data derived from Project Maya-Wandala research.

**Andrea Manzo, "Mediterranean imported materials from Ona Enda Abo Zegwe and Ona Nagast Ibieta Giorgiys, Aksum".**

**Anne Mayor, "Rouletted impressions of pottery used in the inland Niger Delta and Dogon area (Mali): technological and social considerations.**

Since 1988, within the framework of the MAESAO (Archéologique & Ethnoarchéologique en Afrique de l'Ouest), we have studied the traditional pottery of different ethnic groups living in the Inland Niger Delta and its eastern margin. We have analyzed ceramics made by the "artisanal classes" linked to Boza-Somono fishermen, Fulani breeders and Sonrai, Bambara, Bobo and Dogon cultivators. Technical, morphological, functional, social and economic studies enabled us to interpret the pottery we discovered during our excavations at Hamallahi and Modjodje (Fulani Empire of Massina, XIXth century). We present here the rouletted impressions and the instruments used, as well as their relations with technology and ethnolinguistic groups.

**Julio Mercader and M. Garcia-Heras, "Prehistoric pots versus modern pots. An ethnoarchaeometric approach to pottery making in the Ituri forest of NE Zaire".**

**Julio Mercader and R. Marti, "Taphonomy of rockshelters in the Ituri rainforest".**

**Julio Mercader and R. Marti, "Archaeology in the Ituri rain forest, Zaire: a preliminary report".**

Very little archaeological research has been done in the NE quarter of Zaire, despite recognition that this area was the Pleistocene refugia and may be key to testing the hypothesis that humans never existed in Central African rain forest independently of domesticated plants and animals. During two six-month field seasons in 1993 and 1995, over 50 archaeological sites were discovered in the Ituri Forest, Zaire with varying degree of excavations conducted at ten of these sites. The goal of the research is to address the following nine specific problems: (1) the initial colonization of the Ituri Forest, (2) the inception of ceramics in the archaeological record, (3) the arrival of iron technology (4) the extinction of stone tool traditions, (5) the intermediate phases, (7) microlithism, (6) physical anthropology of prehistoric human remains, (8) variations in local ecosystems, and (9) taphonomic integrity of archaeological deposits.

**Sarah Milliken and Carlo Peretto, "Early hominids and their environment in Italy: a review of the evidence".**

In comparison with other parts of Europe, Italy has a rich archaeological record for the Early and Middle Pleistocene which is characterized by sites with spectacular living floors where large quantities of stone artifacts and animal bones are found in association. The first inhabitants favored open and composite environments, often in fluvio-lacustrine basins which attracted herds of herbivores and their predators. This paper presents a critical review of the evidence, addressing such themes as the chronology of the first human occupation of Italy, the reconstruction of the palaeolandscape, the significance of interassemblage variability (handaxe and non-handaxe industries), and whether there is any unambiguous evidence for interaction between humans and animals: are the bone assemblages the result of human hunting or scavenging, or are they natural accumulations?

**Peter Mitchell, "Likoaieng: Research potential of an open air Later Stone Age site in the Lesotho Highlands, Southern Africa".**

As part of ongoing research into late Quaternary hunter-gatherer adaptations in the Lesotho highlands, southern Africa, excavation commenced at the Likoaieng open air site in summer 1995. A fine-grained stratigraphic, minimal post-depositional disturbance and excellent faunal preservation offer the opportunity of investigating how Later Stone Age people organized their use of space at this site, not only in terms of artifact manufacture and use, but also of the preparation, consumption and disposal of food. The site's implications for reconstructing the regional settlement history of the Lesotho highlands, intensification of the use of riverine resources in the late Holocene and landscape change are also considered.

**Abdel Rahman Ali Mohamed, "Rescue archaeology in the Sudan: past-present-future".**

**Katharina Neumann, "Food production in the Sahel: The history of a cultural landscape".**

Food production in the Sahel started around 3000-3500 B.P. From this time, agriculture and pastoralism with cattle and small livestock have deeply altered the Sahelian grasslands and created a cultural landscape. It seems that in the beginning, the effects of agriculture exceeded those of grazing and browsing. With the rise of the Medieval empires, specialized agricultural systems, including park savannas, emerged. The development of the cultural landscape was accompanied by increasing aridity which reached its maximum in the second half of the 20th century.

**Anwar A. Magid Osman, "Some indications of the past human impact on the environment of the southern Red Sea Hills Sudan".**

The Southern Red Hills region in the Sudan has been subject to severe droughts during the last three decades resulting in marked socio-economic deterioration and/or change. Different fields are currently studying the impact of human and/or natural factors on the present environments and the causes for the prevailing conditions. The present paper focuses on the past human impact on the environment and its relation to the present-day one in the same region. Archaeological evidence as well as ethnoarchaeological studies, historical, and classic texts are equally used in this paper.

**Cinzia Perlingieri, "The sequence of Aksumite pottery: evidence from Bieta Ghiorghis, Aksum, Ethiopia".**

This report is an attempt to study the cultural sequence of Ethiopia during the Protoaksumite period until the Late Aksumite one on the basis of the ceramic evidence. All the data collected during the last field seasons at Bieta Ghiorghis made me able to construct a quite complex stratigraphic panel of the evolution of the shapes and other morphological elements that constituted and characterized the Aksumite pottery.

**Alain Person, "Les grands types de sites néolithiques du Sahara meridional en relation avec les donnes du paleoenvironnement".**

**Jacke Phillips, "Excavations at the 'Domestic Area', Aksum, Ethiopia, 1995".**

Large scale excavations, supervised for the BIEA Aksum Archaeological Research Project by Mr. Andrew Reynolds, in an area immediately north of ancient Aksum revealed traces of pre-Aksumite settlement. Later, perhaps in the fourth/fifth century A.D. was erected an elite structure similar to that at Dungur. This was apparently short-lived,

being replaced in the sixth century by a complex of buildings somewhat lower in the socio-economic system. Archaeobotanical research was initiated here by Ms. Sheila Boardman and is yielding important results.

### **Jacke Phillips, "Punt in Egypt".**

Our knowledge of the land of Punt is limited only to the records surviving from various sources in ancient Egypt; even our name for the country is taken from the Egyptian term "Pwnt". The location of Punt has never been identified with certainty (although its general area and probably boundaries have been proposed), and no archaeological remains have ever been identified, even tentatively, as Puntite. Whilst our most important source of information is the Deir el-Bahri temple near Thebes with its wealth of relief scenes depicting the voyage to Punt under Queen Hatshepsut, other depictions and texts offer further details. Some are sadly neglected by Egyptologists, and thus have had little impact on research in other disciplines.

Some unique scenes and badly preserved texts, not well recorded or incompletely published, throw further light on the discussion and offer alternate interpretations of generally accepted Puntite characteristics. Some revisions and reconsiderations are suggested on the basis of these records that may help further define our understanding of Punt and its people.

### **David W. Phillipson, "Aksum".**

The paper provides an overview of results from the first three seasons of the BIEA Aksum archaeological research project, which have been regularly reported in *Nyame Akuma*.

### **Jean Polet and Laurence Garenne Marot, "Biases in the deciphering of West African Medieval sites: Tumulus or habitation sites?: The case study of Sintiou Bara (Middle Senegal Valley)."**

### **Merrick Posnansky, "Cultural conservation in East and West Africa: learning from experience".**

African museums and antiquities services suffered in what the World Bank termed the lost decade of the 1980s. Wars and major civil disturbances in more than 20 countries since 1976 disrupted conservation and in many cases led to the total collapse of pre-existing services. New conservation and research have to be designed which reflect not only successful, but often unrealistic, western models but which also recognize past African models which were never effectively tested. The education component of conservation is essential if new policies are to be implemented and public support harnessed for that will have to be largely low cost enterprises. Suggestions are made based on the history of African museums, antiquities services and university research over the past half century.

### **Andrzej Prinke, "Azp-Fox release 1.8. A computer database management system on archaeological sites".**

### **Gerard Quechon, "Permanences et changements dans le Néolithique Saharien: transformations et innovations en préhistoire africaine".**

### **Lawrence H. Robbins, "Evidence of intensive specularite mining at the Tsodilo Hills, Botswana".**

This paper summarized 1995/1996 fieldwork results. There is now evidence for a large number of specularite mines where miners created caves by using fire-setting techniques. Radiocarbon dates reveal that much of the mining was done within a 250 year period. Historical evidence from South Africa indicates that specularite was highly valued for cosmetic purposes. The Tsodilo Hills were especially significant in terms of being one of the only sources of specularite in a vast area. The possible significance of the mines will be discussed in the broader archaeological context of the area.

### **Tore Saetersdal, "Symbols of cultural identity among the Maconde: an archaeological perspective".**

The paper builds on observations done during ethnoarchaeological fieldwork in Southern Tanzania in 1993. I will discuss the differences in material cultural expression, such as decorations on bodies and pots, which is observed between the Maconde groups in Tanzania and Mozambique. The Mozambiquan Macondes are well known carvers and famous for their creative art. However, their symbols of cultural identity which are found on bodies, pots and wooden, ritual objects, are ruled by strict tradition and passed on through generations, not open to individual creativity. The Tanzanian Macondes do not carve and have long since abandoned the use of scarification. They hardly decorate their pots.

The two groups are presently living on both sites of the river Rovuma which form the border between the two countries, but regard themselves as belonging to the same group. The case of the Maconde shows how trival identity may be a confusing concept, and how significant difference with respect to culture and material expressions may exist within a population. An attempt will be made to contribute to the archaeological discussion of style and decoration as well as point to the importance of context. Symbols may remain unchanged, but meaning, content and context of use may change rapidly as societies undergo cultural change.

### **Peter Schmidt, "Reading gender in the ancient iron technology of East Africa".**

African archaeology and anthropology are replete with representations that women were ritually excluded from iron smelting activities in Africa. According to these constructions, ritual exclusions often took the form of taboos that imposed certain prohibitions aimed at women. The taboo against menstruating women, for example, took a variety of forms in different cultures-ranging from no contact with the smelting furnace to no contact with iron ore or other products used in smelting. Another complex of taboos prohibited

women from approaching the furnace, regardless of their menstrual state.

From these various prohibitions and other related rituals has arisen the idea that in most African iron smelting cultures men dominated this productive sphere and women were marginalized. I argue in this paper that this is an incomplete paradigm-arising out of the insufficient anthropological study of African cultures that smelt iron. This skewed formulation, that places men at the apex of ritual and production, is contradicted by several cases that provide important windows into the ritual role of women in iron smelting and the material fingerprints left by that participation.

I examine several ethnographic examples in which menstruation figures prominently in the ritual cycle and in which women play an important role in the ritual processes that constitute the smelting furnace as a reproductive female. These ritual events are tied to specific material features that leave distinct archaeological signatures. The final step is to use these ethnographic models to discriminate among ancient ritual features in iron smelting furnaces and to more successfully discern and integrate the role of females in ancient iron smelting activities a process that heretofore has been hidden and misrepresented.

### **Alinah K. Segobye, "Daughters of cattle': the significance of herding in the growth of complex societies in Southern Africa between the 10th and the 15th centuries A.D."**

This study will examine the role of herding especially cattle in the growth of complex societies in Southern Africa from the 10th century A.D. Interpretations of the significance of cattle in the region's prehistoric economies have often come to the conclusion that cattle were an important resource in the emergence of ranking or hierarchical structures within these farming societies. In addition, since cattle have been associated with male power, it is implicit in the literature that women were subordinated to male authority and their role as reproductive labor value within the exchange systems, formal and informal, of resources, including cattle. This idea of the subordination of women rests on the interpretation of women's contribution to the economy

as primarily based on their treatment as social capital, in other words, they were significant as daughters and mothers who could reproduce and bear male children as heirs to wealth and authority.

Using research material from the Toustwe type sites in Botswana, this thesis will be examined to assess whether, in light of recent research both in the Mapungubwe and Great Zimbabwe area, we can interpret the role of women in these early farming economies in this region from the one perspective of male power and the control of cattle wealth.

**Erhard Shulz, "Holocene vegetation history of the Sahara. The predominance of climate or of man".**

Holocene pollen diagrams from the northern and southern fringe of the Sahara are compared to illustrate the interaction of climatic and anthropogenic influences in vegetation development. In southern Tunisia the laminated sediments of two sebkhas evidenced the general persistence of semidesert/steppe vegetation cover from the Middle Holocene on. This indicates the long history of a semiarid climate with only minor fluctuations as well as the continuous interference of man. The situation at the southern fringe of the Sahara differs from the north by the direct contact of sudanian and saharan vegetation during the early and middle Holocene. The continuous human impact as documented by the regular presence of fire, or cattle herders from 4500 B.P. on and of metal production dating back to 3000 B.P. gave rise to the development of the Sahel savanna system. This all lead to the conclusion of a very early and strong interference of man in shaping the landscapes on northern and southern part of the present Sahara.

**Paul Sinclair and J. Johnsson, "Modelling human responses and contributions to environmental change in Africa: The case of Zimbabwe and Mozambique".**

Results are given of a Responses and Contributions to Environmental change in Africa work-

shop on palaeoclimatic modelling held in Uppsala in November 1995. Palaeoclimatic change was modelled in selected areas of Zimbabwe and Mozambique using the method of R. Bryson. Estimates of temperature, precipitation and vapour pressure with 200 years averages over the last 14,000 years and 500 averages over the last 40,000 years are provided. The results are briefly related to ongoing work on analysing time series data on archaeological site distributions on the Zimbabwe Plateau using Geographical Information Systems.

**Michael Tarabulski, "Reliving the past: Alonso Pond and the 1930 Logan African expedition" + video.**

Between 1925 and 1930 archaeologist Alonzo W. Pond conducted a series of excavations in north-eastern Algeria for the Logan Museum of Anthropology, Beloit College, Beloit, Wisconsin. In 1985 the film maker helped convene a symposium about these expeditions and brought together survivors of the 1930 expedition and archaeologists. Interviews with these individuals and interspersed with original film shot in Algeria between 1925 and 1930.

**Ayele Tarekegn, "Aksumite mortuary practices: the 1994-1995 excavations at the 'Gudit Stelae field': Aksum, Ethiopia".**

Aksumite Ethiopian civilization flourished in the final seven centuries A.D. Burial archaeology constitutes a crucial source of information about this civilization. Almost all the archaeology that has been done on sites of Aksumite civilization has emphasized the elite class whether in life or death. Such biases in research attention have inevitably created a lopsided picture in the subject. This paper will attempt to show the development of Aksumite burial traditions, the patterns and variability in these traditions and the ramifications of these on the development of Aksumite society and civilization. It will also provide a preliminary account of the 1994-1995 excavations which I directed at the 'Gudit Stelae Field', located on the western outskirts of Aksum town. It will be argued that, according to available evidence, the site was a pre-Christian Aksumite middle-class cemetery dating to about the third century A.D.

**Ursula Thanheiser, "Electrostatic extraction of archaeological plant remains".**

**Alfred Tsheboeng, "Community interaction in Masande Hill Area: Eastern Botswana".**

In this paper we present the architectural setting of the masonry architecture of Majande Hill area. Based only on the architectural similarities, Majande has been thought to represent an extension of the Khami phase of the Great Zimbabwe Tradition into eastern Botswana. A consideration of oral and archaeological data from Majande Hill area shows that this area was a crossroads of ideas and cultures. Unfortunately the fame of Great Zimbabwe has led to a presentation of models which are related to theories of migration and imperialistic expansion at the expense of an attempt to understand the interactions and contact between the cultures and the traditions found in the Limpopo-Shashe basin. New archaeological evidence illustrates that the masonry architecture at Majande was integrated into a hitherto dhaka and wood architectural tradition only in the late seventeenth century A.D. The proposition presented in this paper explains the presence of Great Zimbabwe tradition architecture at Majande in terms of the arrival of migrating Khami communities following the decline of that town as an important economic and political power. It is thought that Khami was abandoned in A.D. 1650, a date that is nearly contemporaneous with the start of masonry architecture of Khami type at Majande. Thus at Majande we are looking at an architecture type that has its origins at Khami and by extension a confluence of two traditions, the Oori and Great Zimbabwe.

**Donatella Usai, "Early Aksumite lithic workshop: evidence from Bieta Georhis, Aksum, Ethiopia".**

Early Aksumite lithic tradition shows a great specialization on scraper production. This has been particularly evident at Ona Nagast II, a site located on the top of Beta Georhis (Axum) investigated in May 1995 by the I.U.O. and Boston University joint mission, directed by Prof. K. Bard and R. Fattovich.

A small excavation in an area of a huge workshop yielded almost 800 pieces of debitage and tools. Some interesting results about the technological parameters were collected. The economic significance of this production has been also investigated.

**Brian Vivian, "Social space and architectural design in Asante".**

The various studies which have focused on Asante architecture have unquestioningly accepted the historic documentation of houses and villages as accurate representations of Asante architectural forms. Little concern has been placed on how such architectural forms may have developed, or how these same constructions may inform on social change. In this paper, data from recent excavations in the Ashanti region is introduced, and issues surrounding architectural forms in Asante are reviewed. Conclusions will reevaluate the development of Asante house forms as physical representations of changing social structure.

**Ralf Volgesang, "Preliminary results of archaeological and archaeobotanical research in the Sahel region of Burkina Faso".**

Two main site-categories were investigated: (1) microlithic stone assemblages with rocker-stamped pottery in the sands of consolidated dunes, dated around 3000 yrs. b.p. Besides small quantities of charcoal, archaeobotanical remains were completely absent or very badly preserved. Although bones are rare, there are indications of domesticated cattle. (2) settlement mounds with iron artifacts and roulette-decorated pottery, dated between 2000 and 1000 yrs. b.p. Great amounts of well preserved botanical remains (charcoal, charred seeds, and fruits) were found. They suggest a system of agriculture combined with the utilisation of wild plant resources for more than 1000 years.

**Karl P. Wendt, "Surface handling and tempering: chronological aspects of technological data in the development of ceramics in Northeast Nigeria".**

The differentiation of pottery into chronological phases is normally done by form and decoration, whilst the use of technological data from ceramics is traditionally restricted to functional analysis. This paper presents an example from the Lake Chad basin region, where technological elements like surface handling (polishing, slip, matt impression, roulette) and tempering provide a useful method to classify phases of ceramic development.

**Kit Wesler, "Chronological sequences in Nigerian ceramics".**

**Pamela R. Willoughby, "Middle and Later Stone Age prehistory of Southwestern Tanzania".**

Genetic and fossil evidence suggest that anatomically modern humans developed in sub-Saharan Africa during the Middle Stone Age (MSA). Since their appearance in Europe is associated with the Middle/Upper Palaeolithic transition, it is assumed that symbolically based language and culture only developed after 30,000 B.P. (in Africa, the Later Stone Age or LSA). It is difficult to measure of MSA/LSA transition, as few sites have occupations dating to this period. Those that do show a gradual transition rather than abrupt technological change. This paper describes new evidence obtained during 1995 test excavations of two rockshelters located near the Songwe River, Rukwa Rift Valley, southwestern Tanzania. The sites show an archaeological sequence spanning the Iron Age and LSA, and possibly the late MSA. This sequence provides a base for correlating open-air sites discovered in 1990, and may also help to explain the nature of technological or behavioral changes across the MSA/LSA boundary.

**James Woodhouse, "Bouata furnace: an early 1st millennium A.D. smelting site (Gourma, Mali)".**

In January 1996, the site of Bouata Furnace was test excavated as part of the Southern Gourma Project. The site consists of two iron smelting furnace fields (North and South) space 200 m apart, each possessing the remains of at least 15 furnace bases. Two furnace bases were excavated at Bouata South, with charcoal from within the most intact furnace's slag dating to cal. A.D. 240-610. This 1 m diameter low shaft furnace retained 70 cm of standing walls, with four radially placed tuyeres entering the furnace horizontal to the ancient ground surface. Additionally, four 20 cm diameter openings (stoking holes?) entering the furnace at a 45° angle, were found interspaced between the tuyeres. Further excavations are planned for the winter.

**Barbara Zach, "Archaeobotanical investigations of settlement mounds in the Chad Basin, NE Nigeria".**

Together with Dr. D. Gronenborn, settlement mounds situated in the Chad basin (NE Nigeria) were excavated. They provide excellent archaeobotanical evidence for the crop repertoire for a time span of 3000 years. The results of two of the investigated mounds give an idea of two different patterns of plant use. In Kursakata, one of the oldest domesticated *Pennisetum* of West Africa was found together with collected wild grasses. In contrast to this economy based on agriculture, at the site of Mege only collected wild grasses are present, whereas domesticates appear just in the youngest layers.

**Renata Walicka Zeh, "Petrography and ceramic typology: sponge spicule temper and the Kobadi tradition (Mali)".**

The Kobai ceramic tradition, first outlined by Mauny in 1967, is known from second millenium B.C. contexts through much of the Middle Niger. Characterized by simple rims and globular vessel forms, with decoration based on spatula, comb and cord derived motifs, the Kobadi tradition is also technologically distinctive. At variance to other contemporary ceramic facies, with which petrographic comparisions are made, Kobai vessels are shown to be extremely high in sponge spicule content. Possible reasons for this phenomenon are examined.