



**ABSTRACTS OF THE 16TH BIENNIAL CONFERENCE
OF THE SOCIETY OF AFRICANIST ARCHAEOLOGISTS,
TUCSON, ARIZONA, MAY 18-22, 2002**

**Allott, Lucy (University of the
Witwatersrand). Charcoal Analysis at
Sibudu Cave.**

Charcoal results from Middle Stone Age levels at Sibudu cave will be presented. To identify variations in the charcoal assemblage through time a selection of levels spanning the witness trench (deepest section of excavation) has been chosen for analysis. The data will be examined to illustrate whether this variation can be attributed to environmental and vegetative change. The modern environment is characterized by a high annual rainfall (c. 1,000 mm/annum) and hot, humid conditions. This section of the river lies in a coastal bushveld-grassland which consists of a variety of vegetation types. The Sibudu vegetation is best described as a remnant forest patch influenced by its close proximity to the perennial river. It is hypothesized that the vegetation around the cave may have changed considerably through the Middle Stone Age. At present the site is ca 12 km from the coast, but it has been calculated that during the penultimate glacial the sea could have been as much as 100 m below its current level. The Sibudu cave area would thus have been subject to environmental influences unlike those in the area today, which may have permitted a different vegetation pattern to flourish. The primary concern of this project is to identify these changes and reconstruct the environment using results from the charcoal analysis in conjunction with other palaeoenvironmental data.

**Amayze, Awoke (Southern Nations,
Nationality, and Peoples Region Bureau
of Culture, Information and Tourism,
Awassa, Ethiopia), M. Behrend (Univer-
sity of Florida), Steven A. Brandt (Uni-
versity of Florida), Getachew Senishaw
(Ethiopian National Museum), H. Clift
(University of Capetown), J. Ellison
(California State University, Long
Beach), and K. Weedman (University of
Florida). Toward an understanding of**

**Stone Artifact Variability: An Ethno-
archaeological and Archaeological
Perspective from Konso, Ethiopia.**

This paper reviews the results of recent (2001) ethnoarchaeological, archaeological, and ethnographic studies of the flaked stone-tool using Konso hideworkers of southern Ethiopia. The goal of the project is to explore a number of hypotheses put forward by archaeologists to explain the meaning of artifact variability in the African Stone Age. The Konso hideworkers are some of the last people in the world to make flaked stone tools (scrapers) on a regular basis and are even more unusual in that women are responsible for all aspects of scraper manufacturing, use and discard. The "Census" team identified and obtained demographic data on hide workers from all Konso villages, while the "Life Cycle" teams followed individual hide workers from procurement of raw materials through manufacturing and use of hide products, including clothing, to discard. The "Archaeology" team excavated a recently abandoned compound occupied by hide workers for at least one hundred years and over three generations, while the "Ethnographic/Ethnohistoric" team interviewed past and present hide workers and other members of the community for data on the internal socio-economic and political dynamics affecting the lives of hide workers and their material culture. The "Documentation" team digitally filmed all aspects of research, providing a visual analytical record as well as documenting a way of life for future Konso generations and the professional and general public. We conclude by discussing the significance of our project toward understanding stone artifact variability in the African Stone Age.

**Anfinset, Nils (University of Bergen,
Norway; hmina@bmu.uib.no). The
Near East and Northeast Africa in the
4 millennium BC: Connections and
impulses.**

Often these two regions tend to be viewed as separate, and researchers are not able to see the

discoveries in a wider inter-regional setting often due to political and national reasons. This paper will discuss implications of the connections between the Near East and northeast Africa on the basis of major developments in the regions such as metal and the use of secondary products, and their relation to nomadism. The paper will especially emphasize the elements that points in direction of impulses and connection between the two regions with reference to societies on the fringes of the pre-urban and pre-dynastic areas.

Binneman, Johan (Albany Museum, South Africa; J.Binneman@ru.ac.za). Bones of Contention: Discovery and Controversy of the Kouga Mummy.

The paper discusses the discovery and controversy of the mummified remains of a 2000 year old San hunter-gatherer at a rock shelter in the Kouga Mountains, Eastern Cape Province, South Africa. The body was buried in the traditional flexed position against the back wall of the shelter. The grave hollow was marked by a large flat slab of stone with yellow San paintings on it. The body was covered by a large quantity of leaves of a medicinal plant, *Boophane disticha* (a poisonous bulb). After long negotiations with local communities, the body was removed in toto and transported to the Albany Museum for further study. A period of two years was allowed for study, whereafter negotiations with local communities will determine the final destiny of the remains.

Blench, R. M. (Research Fellow, Overseas Development Institute; r.blench@odi.org.uk). Reconstructing African music history: methods and results.

Both African musical instruments and musical structures form continent-wide patterns, although there have been few attempts to link to these to reconstructions of prehistory. A large database of information on present-day societies and a new appreciation of linguistic evolution makes it possible to correlate these with other sources of prehistory. The paper examines two examples in detail: the history of the arched harp, typical of Uganda and the Nile region, and the polyphonic wind ensembles found from Burkina Faso to Mozambique. It builds

on ethnographic results to show how models of music history may be linked to linguistic groupings and archaeological cultures.

Bollong, Charles A. (University of Arizona). Patterns in Prehistory: Large-Scale GIS Analysis of an LSA Cave Assemblage.

Detection of behaviorally driven spatial patterning in assemblages continues to be a point of interest in many archaeological studies. What is not often considered however, is the degree to which observed distribution patterns are affected by non-cultural phenomena or how these might be identified in the archaeological record. The present study examines a series of data derived from a high-resolution surface collection of an LSA cave assemblage in Zimbabwe. Utilizing Geographical Information Systems analysis, the data are examined graphically and statistically with an eye towards resolving whether natural phenomena or human behavior are the primary agents at work. Special categories of data are examined as "independent checks" of human versus nature arguments.

Bousman, Britt (Southwest Texas State University; bousman@swt.edu), Garth Sampson (Southern Methodist University), Lia Tsesmeli (Southern Methodist University), Linda Hodges (Southwest Texas State University), and Ryan Khashanipour (Southwest Texas State University). The Zeekoe Valley GIS Project.

Between 1979-1982 an archaeological survey of approximately 5 km in the Zeekoe Valley in South Africa recorded over 16,000 sites and over 19,000 components on these sites. Survey data were recorded on aerial photographs, 1:50,000 topographic maps, and handwritten index cards. In the late 1990's the South African government produced electronic maps of the valley, and this allowed the conversion of the Zeekoe Valley Survey data to electronic format. Several steps are involved, namely the conversion of site records to an electronic data base, cross checking each site on index cards, maps, and aerial photo-

graphs, scanning the aerial photographs, merging the aerial photographs to the electronic maps, plotting the site locations and creating a electronic data base of locations, then merging the site location and site information data bases. This effort will allow the Zeekoe Valley team to conduct further analyses of the geographic locations of Stone Age settlements, especially in relation to environmental factors such as water sources. It will also help to preserve the Zeekoe Valley archaeological record by scanning the original aerial photographs and by tabulating file card data electronically. Finally, it will provide access to the entire dataset by the archaeological community. To attain this final goal, the team will make the whole dataset available on CD-ROMs to other researchers so they can conduct their own independent analyses.

Brandt, Steven A. (University of Florida). The Role of International Aid Organizations in the Management and Mismanagement of Africa's Cultural Heritage.

This paper considers the role that such agencies as the World Bank, African Development Bank, USAID, European Union, Japan Bank for International Cooperation, Japan International Cooperation Agency, Swedish International Development Agency and others have or have not played in the past, present and future management of Africa's Cultural Heritage.

Braun, D. R. (Rutgers University), S. Arnow (Rutgers University), J. Ferraro (UCLA), J. C. Tactikos (Rutgers University), and John W. K. Harris (Rutgers University). Refits and Reduction Sequences: New Insights into Oldowan Technology.

Understanding the dynamics of stone tool manufacture in Oldowan assemblages of Africa is a primary interest of Stone Age archaeologists. Here we report on experimental and comparative archaeological evidence that elucidates patterns of artifact manufacture and reduction in the Early Stone Age of Africa. Replicative experimental data is used to improve upon previous models of reduction sequences in the Oldowan. Our new criteria are then tested

against refitted artifact sets from the Koobi Fora Formation in northern Kenya. The analysis suggests that previous reduction sequence models are inadequate in explicating observed technological patterns in the Oldowan. We provide a new methodology for determining stage of reduction in Oldowan assemblages.

Breunig, Peter and Katharina Neumann (Johann Wolfgang Goethe-Universität Frankfurt). Continuity or Discontinuity? The 1st Millennium BC Crisis in the Prehistory of Semi-arid West Africa.

The 1st millennium BC was a period of fundamental change in the prehistory of semi-arid West Africa. Based on detailed archaeological case studies from Burkina Faso and Nigeria, we claim a discontinuity between the Late Stone Age and the Iron Age. Our model suggests that the transition from highly mobile hunter-gatherers to fully sedentary food producers occurred in two stages. Probably due to increasing aridity in the Sahel, Late Stone Age communities came into a crisis in the 1st millennium BC. Higher mobility was one response to the challenge of environmental change. On the other hand, ecological instability also favoured Iron Age innovations, such as new settlement patterns, agricultural specialization, iron technology and social stratification.

Cain, Chester R. (University of the Witwatersrand; 107cain@cosmos.wits.ac.za). The analysis and significance of a worked bone object from Sibudu Cave.

The current excavation of Middle Stone Age layers from Sibudu Cave is producing important information about the behavior and economy of early anatomical humans in southern Africa. One contribution was the discovery in August 2001 of a bone fragment with distinct and regular notches along an edge. I report on the context of this object and the method of manufacture. I also briefly discuss other such objects found in southern Africa to show the significance of this specimen to discussions about the origins of culturally modern humans in Africa.

Carriere, Claudia (University of South Carolina; ClaudiaCarriere@aol.com). Terra Cotta Cigars - Late Stone Age stone objects from the Kintampo Complex in West Africa.

The most diagnostic artifact of the Kintampo complex (West Africa LSA 3000-4000 bp) is the Terra Cotta Cigar, an enigmatic object, known almost exclusively from Kintampo contexts, for which no known purpose has been determined. This presentation analyzes the construction and use-wear patterns on a collection of Terra Cotta Cigars from the Birimi Site in Northern Ghana in order to provide a description of these objects and to explore their possible function as utilitarian items.

Casey, Joanna (University of South Carolina) and Alicia L. Hawkins (University of Toronto). Macrolithic and Microlithic Stone Tools from the Birimi Site: A Case for the MSA in Northern Ghana.

In several earlier publications and presentations we have distinguished between two components at the Birimi Site in Northern Ghana: a Kintampo component and a Middle Stone Age (MSA) component. The MSA material is found in situ well below the Kintampo component, but the largest part of our analyzed assemblage comes from surface context. Other researchers have recovered Mode 3 type material in Later Stone Age contexts, and have understandably questioned our assignment of surface material to the MSA. In this poster we present technological data on the surface materials from Birimi, and consider whether color and patination can be used as criteria to separate the MSA from Kintampo lithics at Birimi.

Childs, S. Terry (National Park Service; Terry_Childs@nps.gov). Metal Objects: Technology, Function, and Identity.

Iron and copper objects play an active role in the formation of identity in African societies. Identity formation is based on how and by whom an object is made, whom it is made for, the intended

function(s) of an object, and the actual function(s) of an object. Iron and copper objects may inform about the identity of their users within a society, as well as provide clues about ethnic identity. The primary examples used in this paper are throwing knives from central and western Africa and iron and copper objects from central Africa.

Clark, Mary and Harold Hietala (Southern Methodist University). Complexity at the Periphery: A Spatial Analytic Approach to Understanding Settlement Organization Represented by Nucleated Site Clusters, Inland Niger Delta, Mali.

This paper explores complexity at the Jenne-jeno Settlement Complex (Inland Niger Delta, Mali) using spatial analytic techniques on data gathered from Jenne-jeno's satellite sites. Excavation of visible surface features at these 'peripheral' sites uncovered data to support previous claims of inter-site occupational specialization in pyrotechnological activities. Radiocarbon results, however, suggest that workshops were not used simultaneously. These data suggest greater population movement than previously believed, within the settlement complex during Jenne-jeno's occupation and subsequent abandonment. Spatial analysis, with temporal control, allows for a refined understanding of the role of satellite sites in the socio-economic organization of the larger urban community.

Cochrane, Grant (University of the Witwatersrand; 107gwcc@cosmos.wits.ac.za). Stone Tool Analysis from Sibudu.

The aim of this paper is to describe the MSA lithic cultural sequence from Sibudu Cave. This has been derived from a classification of all of the stone artefacts from 2 squares, B5 and B6. These two squares have been excavated to a deeper level than the remainder of the site. The sequence has been divided into 8 analytical units, and trends in each of these units will be described in turn. The most notable change through time comes in the representation of raw materials. The two lowest units were domi-

nated by quartz and quartzite artefacts, while the overlying units were dominated by hornfels and dolerite artefacts. While there is evidence that a number of different flaking methods contributed to the assemblage, they all appear to have been used throughout most of the sequence. Retouched tools appear in fairly low numbers, and mostly consist of unifacial points and scrapers.

Cornelissen, Els (Africa-Museum, Tervuren, Belgium) and D. Muya wa Bitanko Kamwanga (National Museum of Lubumbashi, Democratic Republic of Congo) The National Museum of Lubumbashi (R.D.C.): An encounter.

The National Museum of Lubumbashi (Democratic Republic of Congo) was founded in 1937 and subsequently integrated in 1970 in the Institut des Musée Nationaux du Congo, at the time a joint venture with the Royal Museum for Central Africa in Belgium. The Lubumbashi museum contains rich archaeological and ethnographic collections which are on public display. A museum is an instrument in cultural heritage management in Africa, but as elsewhere this goes far beyond storage facilities, protection and exhibits. We propose an overview of the historical background of the institute as a Museum and of the present project to explain how we address the issue of the present-day task of the museum as a cultural and social meeting place in continuous interaction with the community of Lubumbashi.

Curtis, Matthew (University of Florida). Ancient Village Communities and the Origins of Complex Societies in the Northern Horn: The Case of the Ona Culture in the Greater Asmara Area, Eritrea.

Until recently archaeological research on complex societies in the northern Horn was characterized by an urban-centric perspective that focused upon monumental architecture and elite occupation, while largely ignoring the roles of rural settlements and urban hinterlands in the development of complex society. Regional archaeological research conducted between 1998 and 2001 in Eritrea shows that

during the early to mid-first millennium BC the greater Asmara area was home to densely settled agropastoralist communities who lived in large villages built of stone. This paper presents findings that demonstrate the central roles played by these ancient village communities in the development of complex society in the northern Horn.

Dale, Darla (dddale@artsci.wustl.edu), Fiona Marshall and Tom Pilgram (Washington University-St. Louis). Delayed-return hunter-gatherers in Africa? Historic perspectives from the Okiek and archaeological perspectives from the Kansyore.

In this paper we contribute to the understanding of hunter-gatherer socio-economic variation in East Africa through ethnoarchaeological data on the Okiek and archaeological data on the Kansyore. Our research suggests that Okiek social organization would not be easy to detect archaeologically. Data on items cached in empty houses, however, suggest a pattern of accumulation of pots and other cooking technology. The quantity reflects the amount of time spent at different houses focusing on honey versus hunting, and the delayed-return status of the Okiek. We use this model to investigate the possibility that Kansyore sites, near Lake Victoria (7000-2000 bp), were created by delayed-return hunter-gatherers. Ceramic densities at Ugunja 2 and the level of investment in technology and place are more consistent with delayed-return than immediate-return groups. Large quantities of fish bone and the location of the site near rapids offering potentially abundant and predictable resources support this interpretation. We conclude that further work is needed on methods of detection of low-latitude, delayed-return hunter gatherers, but agree with Woodburn (1980) that they were probably more common in the past than historically.

David, Nicholas (University of Calgary; ndavid@ucalgary.ca) and Gerhard Müller-Kosack (Johann Wolfgang Goethe-Universität Frankfurt). Aliquid novi: stone-built strongholds of northern Cameroon.

Eleven "strongholds" built of local granites and related rocks, all but one previously unknown, are located around a small drainage basin in the Mandara Mountains of Cameroon. They include the most remarkable indigenous stone-built structures in sub-Saharan Africa outside the Horn and the southern African Zimbabwe complex. An accretionary process whereby sites grew laterally by the addition of adjacent rubble-filled platforms underlies their construction, which is also characterized by terraces and staircases, and distinctive dry stone walling and architectural features. Their recognition by the Mafa inhabitants of the region as members of a *Diy-gid-biy* category of sites is thus generally confirmed by field archaeological evidence. We can infer that the sites were potent elements in the production of space by the communities responsible for their construction, and that they predate the Mafa-ization of this region that occurred some three centuries ago, but, until we have carried out excavations in Fall 2002, can do little more than speculate – and invite others' views – on their functions and cultural affiliation.

DeCorse, Christopher R. (Syracuse University; CRDecors@maxwell.syr.edu). Coastal subsistence, technology and change: The archaeology of coastal Ghana in the second millennium AD.

This paper surveys archaeological data from West Africa, particularly focusing on change and transformation in coastal Ghana during the second millennium AD. Survey and excavation of archaeological sites dating between AD 500 and 1700 reveal a pattern of comparatively small settlements focusing on lagoonal resources. Iron and metal technology is represented, but is limited compared to some areas of the hinterland. A small quartz tool industry continues until the second millennium AD. This pattern is radically modified in the centuries post dating the European arrival on the West African coast in the

late fifteenth century. Research from both the coast and hinterland will be used to illustrate the impact of coastal Ghana's inclusion in the Atlantic world and the way in which this impact is represented archaeologically.

Deme, Alioune Abu (Rice University; abu@owl.net.rice.edu). New archaeological research on social complexity and regional organization in the Middle Senegal Valley: Preliminary results from Walaldé (Senegal).

In 1990-1993, a multi-stage research project was undertaken in the Middle Senegal Valley by Rice University and IFAN-CH. Anta Diop with the goal of illuminating the history of human occupation, with emphasis on the context of emergence as well as the evolution of two regional polities (Takrur and Silla). The regional approach used revealed the existence of five occupation phases; with the first phase indicating an early occupation from the beginning of the first millennium A.D. In 1999-2000, continuing the multi-stage research framework of the earlier project, excavations were undertaken at one of the largest Phase I sites (Walaldé) to further clarify regional organization, social complexity, and processes of early settlement in the Middle Senegal Valley. Preliminary results indicate an occupation as early as 800 BC, an early iron metallurgy, unexpectedly early copper and new burial practices that may be indicative of a complex social organization and emerging specialization.

Denbow, James (University of Texas; denbow@telocity.com) and Duncan Miller (University of Cape Town). The cultural context of early bronze use and manufacture (?) at Bosutswe in eastern Botswana.

The site of Bosutswe on the eastern edge of the Kalahari Desert has one of the longest Iron Age sequences in southern Africa. While the initial occupation began as a simple Zhizo phase cattle post, by 900 CE the sites inhabitant's controlled extensive herds of domesticated animals and presided over trade networks that reached from the Okavango Delta to the Indian Ocean. Trade included luxury items such as glass beads and cowry shells, as well as more mun-

dane goods such as pottery and game meat. Excavations in the summer of 2001 provide more information on the later occupations of the site that coincide with the Mapungubwe, Great Zimbabwe, and Khami periods. At this time, bronze jewelry was introduced and there are indications in the form of bronze prills and a tin-lead ingot that tin-alloy manufacture was carried out at the site.

Dibble, Loretta and John W. K. Harris (Rutgers University). Holocene Landscapes at Koobi Fora, Kenya: Using remote sensing to model past environments and resources.

Evidence exists for significant changes in human subsistence strategies mid-Holocene (9000 BP to 4000 BP) in the Koobi Fora region alongside Lake Turkana, Kenya. Holocene human subsistence strategy and settlement practices for the Lake Turkana region in Northwest Kenya have been modeled postulating a linear change from hunter-gatherer, to fishing, and finally to pastoralist strategies and each of these subsistence strategies has been linked to the utilization of a discreet set of resources and hypothetical land-use practices (Barthelme 1982, 1985). This poster reports on efforts to model two critical subsistence resources, water and vegetation, for a particular time period (9,000 to 6,000 BP). A combination of techniques such as identifying trace hydrological features on the modern landscape and the creation of vegetation predictive model will be utilized. IKONOS high spatial resolution and Landsat-7 high spectral resolution satellite imagery is integral to this project and provides the base data for the archaeological and vegetation predictive modeling.

Eklblom, Anneli (University of Uppsala; Anneli.Eklblom@arkeologi.uu.se). Changing landscapes; 2000 years of change of the Chibuene locality, southern Mozambique.

The PhD programme "Changing landscapes; 2000 years of change of the Chibuene locality, southern Mozambique" aims to write an environmental history of the locality Chibuene, based on the archaeological material, historic records, oral traditions and paleoecological data. The presentation will focus on

the preliminary results of the pollen investigation presently carried out. It will position itself in the present day ecological debate of the southern African coastal vegetation and portray the landscape of Chibuene as one managed and maintained by people through time.

Esterhuysen, A. B. (University of the Witwatersrand; 107abe@cosmos.wits.ac.za). Setswamadi - the one from whom the blood flows: the archaeology of an 1854 siege site, Makapan Valley South Africa.

The Makapan Valley and its caves act as an important mnemonic for the historic events occurring from the seventeenth to the nineteenth century. Various polities have interacted with and moved over this landscape; remembering it both as a place to settle and take refuge, and writing themselves into the landscape by leaving material traces of their existence. The Makapan Valley was at the frontier of human interaction within the time frame of what is described as Historical Archaeology. Oral traditions extending back to the mid-17th century plot the origins, migration and fission of dominant lineages (chiefly houses) and record increasing intensity of interaction both among indigenous peoples and with trading centres along the east coast. The Cave of Gwasa (Historic Cave) was a site of repeated refuge from the conflicts emanating from these linked processes of interaction and conflict, and constitutes a unique record of this opaque period of South African history. Many other archaeological sites are dotted around the region but the level of preservation is poor. The Cave of Gwasa stands in stark contrast to this broader pattern. The highly alkaline deposits have allowed for the exceptional preservation of plant, animal and human material, in addition to a wide range of other artefacts, offering unique insights into the socio-economic and political life of this period.

The Cave of Gwasa was also known as Makapansgat after Chief Makapan (Setswamadi) and his several thousand of members of the Kekana chiefdom took refuge in the cave in 1854, following an attack on a party of trekboers. The subsequent siege of the cave which lasted a month and which ended in the death and surrender of its occupants and

their dispersal among boer farms has been accorded iconic status in Afrikaner public history, and became a central prop of the ideology of Apartheid. An elaborate mythology was constructed portraying the boers as a chosen people depicting Africans in general as treacherous and uncivilised, and producing a rationale and imperative for the separation of 'races'. Ironically (but conveniently), this obscured one of the central and enduring realities of South Africa's past, namely interaction and interdependence. This paper will present the archaeology of the siege site against the background of Afrikaner patriotism, growing Ndebele Nationalism and the Heritage Industry.

Palaeoecology and Archaeology of the Coastal Dunes of the Western Cape, South Africa - I. Sequences of Paleosols on Ancient Dunes as Stratigraphical Markers and Palaeoenvironmental Indicators. Peter Felix-Hennigen (Justus-Liebig-University, Giessen, Germany; Peter.Felix-H@agrar.uni-giessen.de), Timothy J. Prindiville (Universität Tübingen; tim.prindiville@uni-tuebingen.de) and Nicholas J. Conard (Universität Tübingen).

Multiple calcretes dating to the Pleistocene as well as ancient dunes with paleosol development dating to the Late Pleistocene and Holocene are exposed in the interdunal deflation bays at Geelbek. The mobile dune fields, residing within a densely vegetated dune landscape in the Western Cape, South Africa, open windows into the palaeoclimate and landscape history of the region. Stone Age artifacts are associated with all former land surfaces, which appear to have been occupied under more favorable and humid conditions than today. While the exposed calcretes reflect complex cycles of soil formation, erosion and karstification under different climates, the paleosols of the overlying ancient dunes reflect formation under different climates and time-spans. The unique characteristics of these soil horizons make them useful as stratigraphic marker horizons.

Fenn, Thomas R. (University of Arizona). The Copper Metallurgy of the Western Sahel: A Reassessment of the Evidence in Light of New Data from Senegal.

Re-evaluation of some of the published evidence, combined with new data generated at the University of Arizona, provides a new perspective on the development and spread of copper metals and metallurgy in the Western Sahel (Mauritania and Senegal). The new data comprise Electron Probe Microanalysis (EPMA) data for copper artifacts from the Middle Senegal River Valley, spanning the period from the mid-1st millennium cal B. C. E. (Walaldé) to the 14th century C.E. (Sincu Bara). Statistical analyses of these data reveal several different chemical patterns which are presumed to indicate changing sources of copper ore through this period. The earliest materials (Walaldé) are chemically and statistically very similar to published data from "Protohistoric" Mauritanian specimens (Akjoujt, Lemdena, etc.). The later material (Sincu Bara *et al.*) demonstrates a different statistical and chemical pattern suggesting different ore sources were being exploited by this time, or that metals from North Africa had been introduced into the region.

Fleisher, Jeff and Adria LaViolette (University of Virginia). Qualifying Village Complexity in Northern Pemba, Tanzania.

Archaeologists doing research on the Swahili coast have imagined the role of villagers within stonetown polities as politically and economically dependent agricultural producers, despite the complete absence of villages from research designs until recently. Based on research in one coastal polity that includes Chwaka, a stonetown in northern Pemba, and nearby contemporary villages, we can now begin to build an understanding of village complexity spanning the 8th to 10th centuries AD. This paper explores production, dietary, and prestige-goods data from town and countryside. We argue that each of these data classes reveals different differences between town and village, suggesting that villages were neither dependent upon, nor independent from, the control of Chwaka, but rather in a complex political economy not predicted by previous theorizing. This

research is a first step in illuminating the content of urban/rural relations, and the rural complexity that has been ignored in the study of Swahili society.

Fowler, Kent D. (University of Alberta; kent.fowler@ualberta.ca). Spatial Models of Early Iron Age Settlement Organization: A Ceramic Perspective from Southern Africa.

Defining the internal organization of Early Iron Age (EIA) settlements and households is a major methodological problem in sub-Saharan Africa. In southern Africa, a model known as the Central Cattle Pattern (CCP) proposes there are discernable "domestic" and "public" areas of settlements, but little attention has focused on distinguishing the nature and organization of households and their relationships to other activity areas. This study utilizes ceramic data from the EIA site of Ndongondwane in South Africa to identify the nature of activities that occurred in different areas of the settlement and their degree of fit with domestic-public hypotheses of the CCP. While the spatial layout of activities areas are structurally similar to the CCP, the actual activities that took place in different spatial settings are unlike later periods. It is argued that this "lack of fit" is one important key to understanding exceptions and contradictions in socio-spatial relations arising out of historical change during the Southern African Iron Age.

Gabler, Sigrid (Montclair, NJ, USA) and David J. Killick (University of Arizona). An evaluation of the context of iron working specialists and their products, and the intensity of the craft production at the early iron working site of Ampasina, Madagascar.

At one of the earliest documented sites of iron working in Madagascar, iron slag, bloom, and other debris are being analyzed in order to address questions of origins and organization. This paper will describe the fieldwork at Ampasina (circa 1000 AD), and surrounding sites, and summarize the analytical findings from thin-section analyses. Together these data are being used to compare the early iron working technology at Ampasina with both later time periods and also with similar sites on mainland Africa,

and also to assess a number of indices of craft specialization, including the social context of production and the intensity of production, as they articulated with each other in the past and to what extent they impacted political processes.

Garcea, Elena (Universita' di Cassino, Italy; egarcea@libero.it). A Pastoral Sequence at Uan Telocat (Tadrart Acacus, Libyan Sahara).

Uan Telocat is a rockshelter in wadi Imha, in the central part of the Tadrart Acacus mountain range of the Libyan Sahara. The site yielded an upper layer with a thick accumulation of leaves and shrubs in very good state of preservation. They were dated to 4675 ± 75 years BP (Gx18101). This layer contained little lithic debitage with no retouched tools and a few potsherds. The lower layers represented the Middle Pastoral occupation, which was the most consistent in the stratigraphic sequence. They were dated between 5320 ± 75 (Bo-186) and 5900 ± 80 years BP (Bo-187). They contained several combustion structures. Charcoal was abundant not only in the combustion structures, but also throughout the archaeological deposit. The deposit included a lithic industry on a macroflake and pottery of the typical alternately pivoting stamp and return techniques. The lowermost layer was excavated at a later time and the artefactual material included pottery made with a particular rocker technique, which was different than those used in the Middle Pastoral. This pottery can be tentatively dated to the Early Pastoral.

Gifford-Gonzalez, Diane (University of California, Santa Cruz jdianegg@cats.ucsc.edu). Pastoralists without Village Farmers or States: the Early Saharan Pattern.

Accumulating evidence indicates economies using domestic animals but not domestic morphology grains emerged in the Sahara-Sahel by at least 6500 bp and were maintained for nearly five millennia. Moreover, Central Saharan evidence suggests cattle were the earliest domestic ungulate, several centuries before domestic caprines of Southwest Asia origin appear. Concurrently, networks of social communication, typical of pastoralists emerged without

complementary village-based fanning nor the "impetus" early states typical of Southwest Asia. New zooarchaeological data from Adrar Bous, Niger, show correspondences with other sites in the T6n&6 basin, and in the Fezzan. The slow acknowledgement of the Saharan pattern is evaluated.

Gronenborn, Detlef (Johann Wolfgang Goethe-Universität Frankfurt; gronenborn@em.uni-frankfurt.de) and Karsten Brunk (University of Bayreuth). *Climate and Politics in the Late Iron Age and Historic Chad Basin.*

Climatic changes in the Chad Basin are documented by a variety of different sources: geographic evidence e.g. from lake level changes, palaeobotanical evidence from pollen records and macroremains, textual evidence from written and cartographic sources, and also oral tradition. If combined, a generally coarse but for some periods also very detailed picture of the climatic development over the past 1000 years evolves. As elsewhere in the geographic Sudan the general trend goes towards increased desiccation, this trend being pronounced by periodical severe draughts. If this data is compared with historically and archaeologically documented political events, a correlation appears between climatic changes such as draughts or periods of increased desiccation and migrations and/or political expansion towards southerly, more rainfed areas: The question then emerges, to what extent was the political history in the Chad Basin influenced by climatic change?

Guèye, Ndeye Sokhna (CODESRIA, Dakar, Senegal; ndeye.gueve@codesria.sn). *Les datations du site de Thiehel: evaluation des implications sur la question du peuplement de la moyenne vallée du fleuve Senegal.*

Faisant un état des lieux des recherches archéologiques effectuées dans l'espace Senegambien dans son ouvrage intitulé (villages de l'Ancien Tekrour) (1985), B. Chavane qualifiait Thiehel -de site trop recent. Il interpreta le materiel

qu'il a mis au jour dans ce site comme un mobilier Sereer, population qui y aurait vequ entre le XVI^e et le XIX^e siècles. Cependant, les nouvelles fouilles et datations que j'ai effectuées sur ce meme site donnent une ancienneté du peuplement qui remonterait a environ 410 BC. Ces datations, et en utilisant la sequence ceramique de la moyenne vallée du fleuve Senegal établié par S. K. McIntosh, permettent de reinterpreter la question du peuplement dans cette region au nord du Senegal.

Håland, Randi (Bergen Museum, University of Bergen; randi.haland@bmu.uib.no). *Caste and Craft Specialization among Iron Workers in South-West Ethiopia.*

Ironmaking involves at least two quite distinct technological tasks: smelting of iron and forging of iron. From comparative ethnographic literature it seems to be a general pattern that these two tasks are performed by the same occupational specialists. We shall here present material from SW Ethiopia which shows that smelting and forging are associated with two quite distinct occupational identities. The differentiation is part of a general caste-like division of labour which is expressed in a wide range of symbolic forms. Smelting and forging are hierarchically ranked and so are the identities of the specialists which are associated with the two tasks. Documentation of such an apparently unique form is an important ethnographic task in its own right. We shall thus give a fairly detailed presentation of events relating to ironsmelting and the occupational specialists performing it. Furthermore we shall attempt an analysis of different processes which underlie the emergence of this peculiar form.

Hall, Simon (University of Cape Town; simon@beattie.uct.ac.za) and Shawn Hattingh (University of Cape Town). *Death as Birth: Symbols in the Ceramic Death Assemblage from the K2 Burials, Limpopo Valley.*

Excavations at K2 from 1935 have recovered over 100 burials. Many of these are referred to as 'pot burials' because of the rich assemblages of associated ceramics. While some of the excavations

were crude, the relationship between individual burials and their associated ceramics is reliable and amenable to analysis. In this paper we tack back and forth between the ethnography and the K2 burials in order to develop ideas about the cosmological intent expressed in the burials. This will focus on ceramic shape, mode of placement and position of vessel relative to specific parts of the body. We make some comparisons with the so called 'beast burials' at K2 and the elite burials from Mapungubwe. Overall our discussion attempts to develop some specific ideas within the general African concerns about the continuity of fertility and death as (re)birth.

Harris, John W. K. (Rutgers University), D. R. Braun (Rutgers University), J. T. McCoy (Rutgers University), Briana L. Pobiner (Rutgers University), Michael J. Rogers (Southern Connecticut State University), and S. M. Cachel (Rutgers University). Oldowan Hominid Behavior: Recent Landscape Archaeology Research at Koobi Fora, Kenya.

The initial round of archaeological research in the Plio-Pleistocene deposits of the Koobi Fora Formation in the 1970s led by Isaac and Harris was aimed at determining land use, ranging patterns, and foraging strategies of Oldowan hominids on a landscape scale. Over the past 5 years, the National Museums of Kenya and Rutgers University have collaborated to reestablish this research agenda. New archaeological traces found in the Upper Burgi (2.2-1.9 Ma), KBS (1.9-1.65 Ma), and Okote (1.65-1.4 Ma) Members of the Koobi Fora Formation enhance our understanding of hominid behavior within the Lake Turkana basin. Our most recent field season yielded evidence of the oldest hominid-modified bones reported from the Koobi Fora Formation to date, as well as new archaeological sites in the KBS member. The results of this new survey complements recent finds of Late Pliocene hominid modified bone from the Middle Awash, Ethiopia and demonstrates that the history of human carnivory extends back beyond two million years. We compare the contextual and archaeological evidence of these new finds with those previously reported from the Koobi Fora Formation, as well as contemporaneous archaeological traces from elsewhere in the Lake Turkana basin

(Shungura and Nachukui Formations). These behavioral traces provide the opportunity to reconstruct Oldowan hominid behavioral evolution in the Lake Turkana region against a background of environmental change induced by climatic fluctuations, volcanism, and tectonic activity.

Hauser, Mark and Christopher R. DeCorse (Syracuse University). Low fired earthenwares in the African diaspora: prospects and problems.

Local earthenware associated with enslaved African populations in the Americas, variously called "Colono-Ware", "Afro-Caribbean Ware", "Yabbas" and "Criollo ware," has received considerable attention from researchers. What unifies this disparate group of ceramics is not methods of manufacture, designs and decoration, or even form and function but, rather the association or potential association with African diaspora populations. The ceramics incorporate some skills and techniques possibly brought by African potters to the Americas, as well as skills introduced by European artisans and local adaptations in form, function, and manufacture. Analogies linking African ceramic traditions to American industries have, at times been employed uncritically and have relied on over generalized characteristics to infer overly specific meanings. With particular reference to low fired earthenwares from Jamaica, this paper examines the historical and cultural context of these ceramics and the methodological and theoretical problems faced in their interpretation.

Hawkins, Alicia L. (University of Toronto; ahawkins@chass.utoronto.ca), Jennifer R. Smith (Harvard University), Robert Giegengack (University of Pennsylvania), Henry P. Schwarcz (McMaster University), Maxine R. Kleindienst (University of Toronto), and Marcia F. Wiseman (University of Toronto). Middle Stone Age Adaptations and Environments in Kharga Oasis, Western Desert Egypt.

New research in the Escarpment zone of Kharga Oasis provides important chronological and

environmental data on the Middle Stone Age occupations of this region. U-series determinations and stable-isotope data have been obtained on spring deposits associated with several Middle Stone Age occurrences. Aggregates are small and differ from many in the Western Desert because they may not be mixed. Thus, these provide important comparative data for understanding material from surface contexts at Dakhleh and elsewhere. On this basis we can begin to address questions such as the continuity of occupation in the Western Desert through times of varying water availability.

Haynes, Gary A. (University of Nevada; gahaynes@unr.edu) and Janis Klimowicz (University of Nevada). A slow goodbye to the small village sites in Hwange National Park, Zimbabwe.

Hwange National Park is a large protected area with few roads. Foot surveys have found about two dozen small village sites from the last 1000 radiocarbon years. At least seven are stonewalling sites ("zimbabwes") dating between A.D. 1780 and 1863. About 2,000 people may have inhabited this region prior to its establishment as a game reserve in AD 1927. Wild animals such as elephants and buffalo in sizeable numbers are damaging the sites, along with wind- and water-caused erosion. The next threat to the archeological record in the Park may be land-hunger among Zimbabwe's rural poor.

Henshilwood, Christopher (SUNY Stony Brook) and Francesco d'Errico (University of Bordeaux). Archaeological Evidence for Early Symbolism, Language and Emergence of Identity.

Excavation of the ca. 75 kyr Middle Stone Age deposits at Blombos Cave, southern Cape has yielded artefacts not previously associated with this period notably a range of bone tools and decorated ochre pigment and engraved bone. Additionally, early evidence for fishing, excellent organic preservation and coherent spatial organisation make this an exceptional site for studying early human behaviour. Further excavation and analysis of materials from Blombos Cave is likely to significantly expand our understanding of the human behavioural dimension of the debate over the origins of modern humans.

Herries, Andy (University of Liverpool, UK; andyh@liv.ac.uk) and Alf. G. Latham (University of Liverpool, UK). Preliminary Results of Archaeomagnetic Work to Determine Climatic Change in the Middle Stone Age Sequence of Sibudu Cave, Free State, South Africa.

Archaeomagnetism, which once related to the dating of archaeological sites by looking at variations in the earth's magnetic field must now be expanded to cover the whole variety of magnetic methodologies that are increasingly applied to archaeological circumstances. This paper focuses on research into the application of these methodologies to the Middle Stone Age site of Sibudu Cave. Environmental magnetic analysis was used to try and obtain an environmental proxy curve for the site, while methods of palaeomagnetism and mineral magnetism were used to identify hearths within the stratigraphic sequence and in a number of cases their temperature of heating.

Herries, Andy (University of Liverpool, UK; andyh@liv.ac.uk), Alf G. Latham (University of Liverpool, UK), and Lyn Wadley (University of the Witwatersrand). Magnetic Susceptibility of Cave Sediments from Rose Cottage Cave: Evidence of Climatic Change in South Africa during the Holocene and Late Pleistocene.

At Rose Cottage Cave in the Free State of South Africa a magnetic susceptibility record has been recovered that is interpreted as a true environmental proxy identifying a temperature dependent curve for the LSA (Holocene) and MSA (Late Pleistocene) periods. The curve identifies a number of specific events at the site including the Last Glacial Maximum and at least two early Holocene cool periods. In a number of instances climatic change correlates with changes in tool typology, suggesting that in some cases environmental factors may be influencing tool type and therefore classified industry.

Hildebrand, Elisabeth Anne (Washington University-St. Louis; eahildeb@artsci.wustl.edu), P. Wilkin and S. Demissew. Motives and opportunities for taming spontaneous yams: an ethnoarchaeological study in southwest Ethiopia.

Some present-day Sheko horticulturalists of southwest Ethiopia transplant yams (*Dioscorea cayenensis* complex) from fallow grain fields or uncultivated contexts to home gardens. This practice is a source for analogies regarding prehistoric decisions about initial cultivation of vegetatively propagated plants. The prevalence of such transplanting varies strongly across the study area, and is examined in relation to differences in local ecology, settlement, economy, use of wild resources, and apiculture. Where transplanting is done, farmers whose gender and domestic situations provide the greatest opportunity and motive to encounter and harvest spontaneous yams are the most likely to transplant them to domestic contexts.

Huffman, Thomas N. (University of Witwatersrand). Ethnographic models and Iron Age burial practices.

For Eastern Bantu people with the Central Cattle Pattern, ancestor spirits played a positive role in daily life. The roles depended on the position of the ancestors when they were alive: family heads, for example, looked after their family, while chiefs looked after their former chiefdom. Because of this principle, only people with a family could become ancestors. With this positive attitude towards ancestors, the proper place to bury people was in the settlement. In precolonial times, the location and mode of burial depended on age, status, gender and cause of death. Important men should be buried in the cattle kraal. Sometimes senior women or the whole family of a chief could also be buried there. Generally, people buried in the kraal lay on their right hand side, the side associated with seniority. Married women with children were buried in their household area, behind the main house. The bodies of both adult men and women should be oriented east/west with the head pointing west. West is the direction of death, and even today, people in some rural areas will not sleep in that direction: they must point east, the direction of

the living. The Kgwase site near Palapye (Denbow 1986) provides a good example of this orientation during the Middle Iron Age.

Both adult men and women usually lay in a fetal, or sleeping position. This was how they slept in their mother's womb, this was how they slept in their house and this was how they sleep in the grave. Furthermore, the house, womb and grave were associated, and death was only temporary for adults because their spirits were brought back a year later to take their place as ancestors. Chiefs, on the other hand, are said to rest, rather than sleep, and so they were buried sitting upright. The best-known precolonial examples of leaders buried this way are the gold burials at Mapungubwe (Fouche 1937).

In contrast to adults, children who did not reach puberty (from about 2 to 13) were buried in front of the household where they had played. Because they cannot be ancestors, their orientation and specific side was not important, but they were also buried in a fetal position. Stillbirths and other short-lived infants were usually buried under the house in some way because of the association between house and womb: they never experienced the world outside the womb, and so they should be buried in the house. Alternatively, they should be buried in a 'cool' situation to counteract the 'hot' circumstances of their death.

Similarly, a person killed in 'hot blood' should be buried in a cool situation to prevent his spirit from seeking revenge. Because ash was produced by fire but is no longer hot, it can symbolize coolness, and the ash midden was an appropriate place to bury people who died in hot circumstances. If people who died away from home, soldiers for example, could not be brought back, then the head - the site of all knowledge and emotion - should be returned. If this was not possible, then a domestic animal, such as a goat, could be buried in their place. This pattern for proxy burials, hot deaths, still births, children and ancestors contrasts markedly with beliefs and patterns in Western Bantu societies. Among Chewa in Zambia and Malawi, for instance, the cemetery should be located outside the settlement, and spirits were not welcomed back. In fact, a year after death, villagers held a special ceremony to make sure the spirit left the village and returned to the cemetery where it should stay. This contrast reinforces the validity of the Central Cattle Pattern and its system of burial among Eastern Bantu.

Jacobs, Zenobia (University of Wales, Aberystwyth; zzj00@aber.ac.uk). Single grain optically stimulated luminescence applied to a dune overlying Middle Stone Age sediments in Blombos Cave, South Africa.

Chronological control for archaeological cave sites is essential, but often challenging. Luminescence dating is one potential method, but sediments in caves may be affected by the in situ disintegration of roof material and the mixing of sediments from under- or overlying stratigraphic layers. These are sources of 'contamination' that can lead to the under- or over-estimation of the luminescence age. Single grain dating can assess the presence of such contamination and can provide independent evidence for stratigraphic integrity. This will be illustrated by the application of single grain dating to a dune sand overlying Middle Stone Age deposits at Blombos Cave, South Africa.

Jacobs, Zenobia (University of Wales, Aberystwyth; zzj00@aber.ac.uk). Single grain optically stimulated luminescence - how are we doing it?

Using the Single Aliquot Regenerative (SAR) protocol, individual growth curves, and hence age estimates, can be constructed for each quartz grain. A recently constructed automated luminescence reader based around a focussed laser allows thousands of single grains to be measured in a relatively routine manner. Each grain can be screened for 'unwanted' properties and rejected from the data set if necessary. Individual grains of quartz vary widely in the brightness of their luminescence signal, with many grains giving little or no light. The construction of 'synthetic' aliquots using individually measured single grains enable us to use more grains for a more representative approach and also helps improve the precision of the final calculated age. Future challenges will be highlighted.

Jesse, Friederike (Forschungsstelle Afrika, Köln, Germany; friederike.jesse@unikoeln.de). Archaeology in the Wadi Hariq, Northern Sudan.

The Wadi Hariq is an extensive valley system, located in the sudanese part of the eastern Sahara. Geoscientific and archaeological field work done by the Cooperative Research Project SFB 389 ACACIA (Arid Climate, Adaptation and Cultural Innovation in Africa) of the University of Cologne revealed the high potential of this region for the study of the connection of climatic and cultural change during the Holocene. A geological profile of about 9 m thickness presents one of the most complete sequences for the Holocene period actually known in the eastern Sahara providing important information for the ecological setting of the archaeological remains. The archaeological work done so far concentrated on sites dating to the second half of the 3rd millennium BC. Here important inter-regional contacts to the north and south of Wadi Hariq could be demonstrated, especially through the analysis of the decoration patterns of the pottery. Further research in autumn 2001 shall fill the gaps still missing to describe a complete history of human settlement in the Wadi Hariq during the Holocene. The poster thus presents the known evidence concerning the archaeology of Wadi Hariq.

Kankpeyeng, Benjamin W. (Syracuse University; bwkankpe@maxwell.syr.edu). The Archaeology of Kpaleworgu: A case study of culture, continuity and change in northern Ghana before 1900.

The paper reports two seasons of archaeological research at Kpaleworgu, northern Ghana. The study located, mapped and excavated the old settlement of Kpaleworgu. The research suggests that the site is linked to the Kantosi, a Mande migrant group in northern Ghana but now dispersed widely among the other ethnolinguistic groups within the region. Their presence is associated with the introduction of Islam in northern Ghana and the introduction of artisanal skills, notably weaving and metalworking and distinctive decorative types on local ceramics. The research also examined acculturation at the site including the syncretic nature of the Islamic practices.

Kelly, Kenneth G. (University of South Carolina) and Neil L. Norman (University of Virginia). Medium Vessels and the Longue Durée.

In recent years, archaeologists investigating Diaspora communities in New World settings have focused increasing attention on locally produced earthenware ceramics and their potential uses. These interpretations are often informed by ethnographic data gleaned from disparate contexts in West and Central African. Due to the historic focus on ritual practices by ethnographers studying this region, these archaeological interpretations often suggest the possibility that these ceramics were used in African-inspired religious ceremonies in New World settings. However, the ethnographic accounts from which these analogies are drawn often focus only tangential attention on the material culture associated with the ritual traditions of the region. We suggest that these analogies could use the support of studies that more specifically address the relationship(s) between locally produced ceramics and African religious life. This paper presents data from one region of West Africa, the area around Ouidah, Bénin, to discuss issues of stylistic and conceptual continuity, and change, in ritual ceramics. Through the critical evaluation of archaeological data from Savi, capital of the Hueda state (ca. 1660-1727), and ethnoarchaeological studies of contemporary Fon ritual settings, we suggest some possibilities interpreting locally manufactured ceramics in the Diaspora.

Kent, Susan (Old Dominion University; skent@odu.edu), Nicolaas Scholt (University of the Free State, South Africa), and Johan Loock (University of the Free State, South Africa). Does Size Matter? South African Middle Stone Age Lithics and Raw Material.

Middle Stone Age hunter-gatherers occupied an open-air site located near the Little Caledon River in the eastern Free State, South Africa. They used local quartzite and cryptocrystallines for tools. The latter occurred as small nodules found along the Little Caledon River. Their use resulted in relatively small tools and debitage that are typically associated

with the Late Stone Age (including bladelets and occasional microblade cores). These smaller lithics are both vertically and horizontally in situ according to a geological study of the site's stratigraphy. These bladelets and other small debitage are located next to the larger, more typical Middle Stone Age quartzite artifacts, showing that the size of objects is not a reliable temporal marker for the Stone Age tool typology. Lithic size depends on the original size of the available raw materials. The question, then, is not the small size of the cryptocrystalline artifacts, but why Middle Stone Age knappers heavily utilized this raw material here when they did not throughout the Middle Stone Age sequence or at other open-air contemporaneous sites, such as Florisbad.

Killick, David J. (University of Arizona; killick@u.arizona.edu), Thomas R. Fenn (University of Arizona), and Alioune Abu Deme (Rice University). The Evidence for Metallurgy at Walaldé, Senegal, and Its Implications for the Origins of Metallurgy in the Western Sahel.

The site of Walaldé in the Middle Senegal River Valley is dated by ten AMS radiocarbon dates to the early to mid-first millennium cal. B.C.E. The material remains recovered in excavations by Alioune Deme include substantial quantities of metallurgical slag, three copper ear-rings (two associated with one burial) and two copper beads. Electron microprobe analysis reveals that the ear-rings have minor element concentrations strikingly similar to copper recovered from the copper mine at Akjoujt, Mauretania, and to copper in sites around Akjoujt that are contemporary with Walaldé. The slags derive from the smelting of iron, not copper, using the laterite ores that are abundant on the north bank of the Senegal River. We discuss the implications of these findings for the debate on the origins of copper and iron metallurgy in the Sahel.

**Koplin, Lynn (University of Virginia).
Insiders Outside the Walls: Finding
Evidence of Material Wealth in the
Earth-and-Thatch Neighborhoods of
the Swahili Stonetown of Gede, Kenya.**

With 30 hectares enclosed by a substantial town wall, numerous stone-built houses and mosques, the 11th- 16th century Swahili stonetown of Gede comprised a large-scale society; yet the majority of its population lived in neighborhoods of earth-and-thatch architecture which have been ignored by previous excavation and interpretation of this important site. Shovel-test survey in 2001 located areas of non-stone structures inside and outside the town wall, and subsequent excavation assessed social differentiation within these neighborhoods. Preliminary results, discussed in this paper, indicate that some inhabitants of these areas had high economic status and access to the same imported luxury goods as the residents of the stone houses, challenging certain notions about Swahili commoners.

**Korkor, Francis (Laboratorium voor
Prehistorie, Belgium;
fills_man@hotmail.com). Inter-Site
Contact and Exchange among
Kintampo Complex Sites in Ashanti-
Ghana.**

Archaeological and anthropological studies undertaken by some scholars recently have shown the importance of understanding the way in which the raw materials for pottery production were used. This can be used to address critical issues like social interaction, exchange and trade networks (Gosselin 1995). In West Africa however, pottery decoration continues to be used as the main stylistic feature to characterize prehistoric cultural complexes. Detailed technical study aimed at understanding the way in which the raw materials for pottery production were used is therefore exceptional (Senasson 1995). As a result, only a few intersite comparisons are possible (Livingstone Smith 2000). My objective here is to undertake a technical study aimed at understanding the way in which the raw materials for pottery production were used at Nkukua Buoho—a Kintampo site in Ghana. Materials from other Kintampo sites, namely; Boyasi and Nkabin, would be analysed in a

similar way. It is hoped that this will help us understand the form or nature of social interactions that took place on the sites and between the sites.

**Kröpelin, Stefan (Collaborative Re-
search Center ACACIA, Heinrich-
Barth-Institut, Köln, Germany). The
recent declaration of “Wadi Howar
National Park” (Eastern Sahara, North-
west Sudan).**

As an outcome of a long-term commitment to protect the natural and cultural heritage of the desert, a National Park centered at the Nile’s once most important tributary from the Sahara has been officially declared in 2001 (“Wadi Howar National Park”). Covering an area of more than 100,000 km, it is one of the largest protected areas on earth. The declaration was the crucial formal step forward to prevent damage from northern Sudan’s extremely rich archaeological sites by future off-road tourism and industrial use that have ravaged other Saharan regions. The venture is supported by relevant NGOs inside and outside Sudan but requires foreign funding for its implementation.

**Kuper, Rudolph (Heinrich-Barth-
Institute, Universität zu Köln, Ger-
many; Fst.afrika@uni-koeln.de). Phar-
aoh’s Far West - Recent Discoveries in
the Libyan Desert.**

Twenty years of prehistoric research in the Eastern Sahara carried out by the University of Cologne in its projects B.O.S. and ACACIA have shown that after the end of late Pleistocene hyperaridity the Libyan Desert witnessed 5000 years of favourable living conditions. From 5000 BC on, the desert re-occupied its territory so that with the rise of the Pharaonic civilization at about 3000 BC it seemed to be void of any regular human activities. During the past two years, however, surprisingly numerous sites featuring hieroglyphic inscriptions as well as large amounts of pottery have been discovered up to 600 km west of the Nile. They not only prove Pharaonic presence in the desert from the 4th Dynasty onwards but also clearly mark a road leading west and southwest into the interior of Africa. How the Egyptians managed to master more than 500 km of waterless

desert by the only then available means of transportation, a train of donkeys, is one of the many questions of ongoing research.

Lawson, Amy (University of Michigan Museum of Anthropology; lawsona@umich.edu). Megaliths and the Emergence of Social Complexity in the Gambia Valley.

For decades West African archaeologists have been intrigued by the stone circle and tumulus monuments which cover the landscape of central Senegal and The Gambia. Excavations at megalithic monuments have shown them to be mortuary sites in which anywhere between one and sixty individuals are buried, some with exotic grave goods. The presence of such monumental architecture, relatively rare in West Africa, has the potential to give a unique perspective on the development of social complexity. However, in order to evaluate societal complexity it is necessary to take a regional approach in which mortuary sites, habitation sites, and activity sites are all studied together. Such a regional approach was first undertaken by the author in the Central Gambian Valley from 1998-2000. This paper will consider the rise of social complexity in The Gambia in light of the results of this research.

Lawson, Amy (University of Michigan Museum of Anthropology; lawsona@umich.edu). The Gambia Valley in the 2nd Millennium AD: From Megaliths to Mande States and Beyond.

Archaeological survey and excavations recently conducted by the author in the Central Gambia Valley have uncovered a wide range of megalith, tumulus, habitation, and iron-working sites spanning the late 1st and 2nd millennium AD. While early settlements may be connected to the enigmatic megalith builders, later settlements were probably incorporated into the Mande polities that lined the Gambia River during the mid-second millennium AD, after the collapse of the Mali empire. The poster will pay particular attention to the social, political and economic changes that occurred over the course of the 2nd millennium AD in the Central Gambia Valley. The settlement patterns characteristic of each occu-

pational phase will be explored. The above analyses are made possible by a newly created regional chronology based on ceramics and radiocarbon dates. This chronology, along with its representative ceramic types, will also be displayed.

Lindahl, Anders (Lund University, Sweden; Anders.Lindahl@geol.lu.se). Exploring Smaller Settlements of the Great Zimbabwe Tradition, Buhera Region, Zimbabwe.

Most work on the Great Zimbabwe tradition has focused on Great Zimbabwe itself and its major successor settlements. Smaller, contemporary stone-walled sites, some hundreds of kilometers from Great Zimbabwe, have been only mapped in most cases. Our goal has been to begin to explore both the homesteads within stone-enclosures at smaller GZ-tradition sites, and to seek out homesteads lying outside the small stone enclosures. In this paper I discuss ongoing excavations at two GZ-tradition sites, Kagumbudzi and Muchuchu, and the results of survey including shovel-test pits and phosphate analyses. This initiative has begun to allow smaller stone sites and their outlying components, as well as the interactions between them, to emerge and be included in an understanding of the Great Zimbabwe tradition.

Lindholm, Karl-Johan (Uppsala Universitet; karl-johan.lindholm@arkeologi.uu.se). Trees and History.

This paper is based on ongoing research in the Omaheke and Otjozondjupa regions of Namibia. By discussing how people use trees for engaging in and structuring the world around them, the paper aims to trait the mutuality of environmental and social history. The paper points to the importance of a historical and archaeological practice with a capability of including features that intuitively seem to have natural properties, though these features signify the local historical narratives of many communities. The ecological perspective has a cultural and historical dimension not largely discussed in African debates of cultural heritage management.

Linseele, Veerle (Universität Frankfurt; vlinseele@africamuseum.be) and Wim Van Neer (Royal Museum of Central Africa, Tervuren, Belgium). Evidence for size decrease of cattle during its spread across the Sahara to West Africa.

Several sites of the Gajiganna Culture (1800-800 BC) were excavated in northeastern Nigeria. They are the traces of the pastoralists who colonised the new territories that became available after the retreat of Lake Chad. Cattle bones are dominant among the faunal remains found at the sites. Metric analysis on these bones confirms the assumption that cattle gradually became smaller during its spread from Northeastern to Western Africa, across the Sahara. The correlation with modern cattle breeds however, appears to be less clear.

Magnavita, Carlos (Archäologie und Archäobotanik Afrikas, Universität Frankfurt; Magnavita@em.uni-frankfurt.de). Geomagnetic survey and the early emergence of complex settlementforms in the Lake Chad region.

Archaeological research carried out in the Nigerian part of the central Chad Basin in the last two years has focused on the transition between the Final Stone Age and the Iron Age. This period is characterised by the existence of relatively large settlements with high densities of finds, features and probably large populations. A geomagnetic investigation in the largest of those known sites revealed the elaborated internal spatial organisation of the settlement and the probable occurrence of an earthen rampart. These and other findings give clues for the probable existence of more complex socio-political systems in the first millennium BC Chad Basin as rank societies or chiefdoms.

Magnavita, Carlos (Archäologie und Archäobotanik Afrikas, Universität Frankfurt; Magnavita@em.uni-frankfurt.de). Geomagnetic mapping in African Archaeology: a case study from the Lake Chad area.

Modern geophysical methods for prospecting archaeological sites has been infrequently employed in sub-saharan Africa. Geomagnetic and related techniques are nevertheless an interesting, advantageous, and, in some cases, indispensable instrument for understanding the true nature of archaeological sites. This type of survey allows the mapping of buried features and structures, yielding a valuable contextual representation of the underground. The poster summarises the results of the geomagnetic prospecting and excavations carried out on the Nigerian site of Zilum, a settlement dated to the period of transition between the Final Stone Age and the Early Iron Age (800-300 cal BC).

Magnavita, Sonja (Archäologie und Archäobotanik Afrikas, Universität Frankfurt). Kissi and the Trans-Saharan Trade.

The Iron Age sites of Kissi are located in the northeast of Burkina Faso within the so-called Gurma-region of the eastern Niger Bend. The numerous settlement mounds, cemeteries and stone structures attest a human occupation of the area ranging between the 1st and 12th century AD, with a sensitive population increase around the 5th century. Several excavations at Kissi's cemeteries revealed graves of a stratified society. The grave goods discovered in certain graves indicate the existence of regional, interregional and long distance trade contacts by which distinct objects were obtained. The age of the respective inhumations stretches from the 1st to the 7th centuries AD, thus providing evidence of Trans-Saharan trade already in Roman and Byzantine times.

Magnavita, Sonja (Archäologie und Archäobotanik Afrikas, Universität Frankfurt. The Beads of Kissi: Trade, wealth and treasures.

A concentration of almost 100 Iron Age sites was discovered near the Mare de Kissi in the northern Province Oudalan, Burkina Faso. Most of the sites consists of settlement mounds and stone structures like foundations of storage facilities. Furthermore, seven stone-stelae cemeteries could be identified. Some of the graves excavated in 1996, dated to the 5th -7th centuries AD, were extremely rich in grave goods and indicate the presence of a stratified warrior society. Since then, several other excavations followed in both settlement and funerary areas, showing a human occupation lasting at least between the 1st and 13th centuries AD. While the investigations in the settlement areas only revealed some hundred beads, several thousands were found as grave goods in the cemeteries. Some of them give hints about different kind of trade relations, which range from local production up to long distance trade. As objects of non-African origin have been found in graves dating even between the 1st and 5th centuries AD, trans-Saharan trade in Roman and Byzantine times, probably with a connection to the silk road trade is a reliable explanation. The study of these beads is still in progress, but some of the results, although preliminary, may be presented here.

Marean, Curtis W. (Arizona State University; Curtis.Marean@asu.edu), Peter Nilssen (Iziko-South African Museum, Cape Town, South Africa), Antonieta Jerardino (University of Cape Town), and Deano Stnyder (University of Cape Town). Pinnacle Point at Mossel Bay, South Africa: Recent Field Investigations at a New Hominid and Middle Stone Age Locality.

The Middle Stone Age in South Africa has gained increasing importance in debates over the antiquity of modern human behavior. Resolution of these debates relies on two important advances: improvement in our theoretical approach, and improving the relatively impoverished empirical record in South Africa. We initiated fieldwork at Mossel Bay

on the southern coast of the Cape to address this deficiency. A survey of a 2 x 1 km stretch of cliffs discovered 28 archaeological sites (21 MSA, 15 caves/shelters). Three MSA caves were excavated, all at Pinnacle Point. Two (13A and 13B) yielded rich MSA horizons with outstanding fossil bone preservation and rich lithic assemblages. Cave 13B is particularly rich, yielding worked ochre, a Mossel Bay Industry, and two hominid fossils (described here), and distinct activity patterning. Large (size 3 and 4) bovids dominate the fauna, and unlike other MSA sites, micromammals and small mammals are absent.

Marshall, Fiona (Washington University-St. Louis; fmarshall@artsci.wustl.edu) and Agazi Negash (University of Florida). Early hunters and herders of northern Ethiopia: The fauna from Danei Kawlos and Baati Ataro rockshelters.

The faunas from Danei Kawlos and Baati Ataro are some of the first sizable excavated, dated, and systematically analyzed, from long Holocene sequences in northern Ethiopia. The occupants of both sites relied extensively on small wild animals, especially hyrax in earlier levels. Hare, suid and dik-dik were also eaten. Although the numbers are very small, cattle are present from the lowest cultural stratigraphic units at both Danei Kawlos and Baati Ataro. We present a single direct date for one of the lower cattle specimens.

Mary McDonald (University of Calgary; mcdona@ucalgary.ca). A Puzzle in the Early Holocene sequence for Dakhleh Oasis, South Central Egypt: What the point tells us.

The Epipalaeolithic of Dakhleh Oasis, Egypt, is divided into two subunits, Masara A and C. Masara A localities, campsites of mobile hunter/gatherers, resemble sites widely scattered across the Eastern Sahara c. 95-8000 bp. Masara C sites, however, seem anomalous within the wider setting in both their timing and adaptation. Masara C, dated 89-8500 bp, is semisedentary. While most of the Eastern Sahara at that time was hyperarid, Masara C palaeobotanical evidence suggests Sahelian conditions locally. Re-

cently, a site with similar lithics, including the distinctive "Harif" point, was discovered in SE Kharga Oasis, and similar sites are also recorded in and around Nabta Playa in the Southern Egyptian Desert.

Miller, Duncan (University of Cape Town; dmiller@beattie.uct.ac.za) and N. Desai (University of Cape Town). The Fabrication Technology of Southern African Archaeological Gold.

Gold has been produced in southern Africa for nearly 1000 years. This paper records the study of gold assemblages from the South African sites of Mapungubwe and Thulamela, and from sites in modern Zimbabwe. The gold fabrication technology was indigenous, and derived from that employed in copper working. Sub-spherical gold prills, probably formed by pouring molten gold into water, were punched using a four-sided tapered punch to make solid gold beads without a join. Some of these were decorated by regularly spaced indentations in the outer margins. Other beads were made from wrapped strip or short lengths of wire, which was hammered rather than drawn. Hammered gold sheet was attached to presumably wooden forms using square section tacks cut from tapered rod and hammered in cold, forming a flattened head. The sheets and tack heads were scratch burnished to create a sheen on the exposed surfaces. Gold sheet was also cut into narrow strips for helical wound bangles, which were also made from hammered wire. There was no evidence of soldering or heat treatment other than annealing.

Miller, Duncan (University of Cape Town; dmiller@beattie.uct.ac.za) and David J. Killick (University of Arizona). Late Iron Age Metal Working Technology at Phalaborwa (Northern Lowveld, South Africa).

We report here the results of scientific studies of the metallurgical remains recovered by van der Merwe and colleagues during campaigns of survey and excavation conducted in the Phalaborwa region in 1965, in 1970 and from 1972 to 1974. The Iron Age archaeology of the northern Lowveld of South Africa is notable for the abundance of mining and metal working sites recorded in the region. Two ra-

diocarbon dates of ca. 1000 bp are available for early mines, most of which have now been destroyed. All other radiocarbon dates for the archaeological sequence at Phalaborwa fall in two groups, the first from the 10th to 13th centuries cal AD, the second from the 17th -20th centuries cal AD. Both iron and copper were locally smelted in both periods; tin bronze and brass appeared towards the end of the earlier period. The fabrication technology used in producing the metal artefacts from the Phalaborwa region is described, and compared with contemporary metalworking technology in other parts of southern Africa.

Monroe, J. Cameron (University of California, Los Angeles; Ucmunroe@ucla.edu). The Archaeology of Pre-Colonial Dahomey: Political Legitimacy and the Development of a West African Kingdom.

Current research by the Abomey Plateau Archaeological Project in the Republic of Benin has the goal of understanding the nature of Pre-Colonial Dahomean state legitimacy, and the relationship between the transformation of state power and the Transatlantic Slave Trade during the 18th and 19th Centuries. This research focuses on how changing patterns in the distribution of Dahomean royal palaces reflects the process whereby Dahomean kings effectively extended the political control of the Alladahonou dynasty. This paper will outline recent results from this research, and their implications for our understanding of the processes of state centralization in the context of expanding world systems.

Ndoro, Webber (University of Zimbabwe, Harare; wndoro@hotmail.com). Protective legislation for heritage management in some parts of Africa.

Almost all countries in Africa have enacted protective legislations to safeguard their heritage. Some of the legislation like in Sudan was enacted as far back as 1924 and the most recent being the South African Act 1999. Most of these legislations are very strong in what they are intended to protect. For example sites are clearly defined and the penalties for violation outlined. However, usually the legislation

has a tendency in most countries to alienate the heritage from its owners. Most require that local communities should stop any activities on the protected sites, even those activities which make the site of significant scientific value. For example at the site of Kabiro in Uganda where salt production has gone on for more than 1000 years and still goes on today. It is both an archaeological site as well as a living site. Traditional ceremonies are certainly not encouraged for fear of obstructing and interfering with scientific evidence. This is the case of Domboshava in Zimbabwe and the kayas in Kenya. The paper examines the current pieces of legislations from several countries with a view of finding common elements in the instruments of protection. Apart from examining the modern legal system the traditional and customary systems are also examined. The paper will outline some of the areas where modern protective legislation and customary law are in conflict. Heritage management will be discussed with a view to widen its definition to include the interest of customary law. The paper discusses the problem of applying a plural legal system in protecting of cultural heritage. It will be argued that legal systems in operation in most African countries have limited application and in some cases create situations which led to conflict and damage to sites. Examples will mainly be drawn from Nigeria, Kenya, Zimbabwe, Tanzania, and Uganda.

Nicoll, Kathleen (Chevron Texaco, San Ramon, CA; kathleen.nicoll@pangeatech.com). The Neolithic Wet Phase: Palaeoenvironmental and Cultural Evidence in Egypt and Sudan.

Converging lines of evidence from archaeological, geochemical, paleontological, and geomorphological investigations conducted in Egypt and Sudan indicate significant environmental changes over the past 10,000 years. This part of the modern day Sahara was occasionally wetter, and reflected the changing water balance of the African continent. This paper (or poster if you wish) presents a synthesis of available floral, faunal, and cultural records for the onset of wet conditions in the 10th millennium BP, and the subsequent decline in water availability and human activity after 7000 BP. Compilation of over 558 published radiocarbon dates in Neolithic stratigraphic contexts provides a basis for defining

wet and dry periods, and a foundation for correlating the climate changes to consonant global, oceanic, and atmospheric changes. The main period of enhanced surface water storage from 8100-6000 BP is most likely linked to the intensified Afro-Asian monsoon forced by cyclical astronomical variations.

O'Brien, Helen (Helen.Obrien@pima.edu), Jennifer Heilen and David Stephen (all at Pima Community College). Field Training Programs in Archaeology at Pima Community College.

The Archaeology Centre at Pima Community College has established itself as one of the leading institutions for technical field training in the United States. Three archaeology certificate programs are offered, suitable for undergraduate or postgraduate students, all of which involve extensive hands-on fieldwork and high-tech opportunities. Skills taught in field courses range from basic excavation and hand mapping through advanced GPS and GIS methods. The success of this unique and innovative program is an outgrowth of its curriculum, appeal to a diversity of students, and continuing commitment to using technologically sophisticated equipment for applications in archaeology.

Odede, F. (National Museums of Kenya, Kisumu Museum), Tom Plummer (Queens College, NY), J. Ferraro (UCLA), D. R. Braun (Rutgers University), K. Binetti (Yale University), P. Lane (The British Institute in Eastern Africa, Nairobi, Kenya), and Zachary Otieno (Department of Sites and Monuments, National Museums of Kenya, Nairobi) Current research on the Holocene prehistory of South Nyanza, Kenya.

The Holocene witnessed profound but poorly elucidated socioeconomic changes, including the origins of pastoralism and agriculture. Here we report on the initial investigation of Holocene occurrences at Wadh Lang'o and on the Homa Peninsula. Test excavations at Wadh Lang'o documented a succes-

sion of archeological levels, from oldest to youngest Kansyore, Elementeitan, Early, Middle and Late Iron Age. Test excavations on the Homa Peninsula have yielded in situ LSA, Kansyore and Early Iron Age materials. Abundant fauna, lithics, pottery and charcoal were recovered from most levels and the Elementeitan horizon at Wadh Lang'o yielded a human burial. Continued research at these sites will refine our understanding of the chronology and nature of Holocene socioeconomic change.

Ogundiran, Akin (Florida International University; ogundira@fin.edu). An Archaeological Tale of Two Houses.- Domestic Architecture and Social Formation in Yorubaland, ca. 1550-1750.

The study of Yoruba indigenous architecture has been largely based on ethnographic observations, focusing on the formal "object-oriented" properties and the affecting qualities of domestic house forms. This paper uses archaeological evidence, for the first time, to examine the sociocultural ideals and contexts that shaped the form, composition, and layout of Yoruba domestic architecture ca. 1550-1750. The archaeological evidence is based on the excavations of two architectural structures in Ilare district, SW Nigeria. The structures are each of courtyard and long-house architectural forms. The study is inspired by a 1976 paper by John Vlach, titled "Affecting Architecture of the Yoruba" (*African Arts* 10,1:48-53,99), in which the author argues, on the basis of his ethnographic observations, that a long-house is a formative stage in the development of courtyard architecture. In other words, that there is an evolutionary or devolutionary relationship between a long-house and a courtyard structure. He goes on to suggest that whereas a long-house is the characteristic domestic house structure associated with nonurban Yoruba settlements, the courtyard architecture is the hallmark of the urban settlements. The association of courtyard architecture with township or urban settlement is said to have resulted from the sociopolitical transformation that entails the reorganization of disparate and scattered single family house units of village settlements (long-houses) into multi-family or extended family residential units (courtyard structures) in the urban center. On the basis of the test excavations in flare district, the paper will attempt to answer the following questions: (1) What is the struc-

ture of the spatial organization in the Yoruba domestic architecture? (2) What are the relationships between artifactual remains and house forms? (3) What are the relationships between the scale, size, and form of house structures on one hand and the scale of sociopolitical formation on the other? (4) What information does the organization of domestic space in Yorubaland convey about gender relations and social hierarchy?

Ohinata, Fumiko (University of Cape Town; fumiko.ohinata@hotmail.com). Classification, archaeological identity and social interaction in the later farming community archaeology of Swaziland.

Different approaches to ceramic analysis reveal the details of Later farming communities of Swaziland at several levels. Ceramic typology, tied to an absolute chronology, has produced the first sequence for Swaziland, where no previous knowledge existed. Some of the stylistic groups are not simply abstractions in space and time but are also historically linked to late 19th/20th C. identities. Additionally, certain finds provided opportunities to explore the way in which ceramics were a medium of social action at a community level. This case study from Swaziland further contributes to issues concerning the equivalence of archaeological material culture and ethnographic identities.

Okoro, John Ako (University of Ghana, Accra; akookoro@yahoo.com). Archaeological impressions on the present status and future needs of the Salaga Slave Market.

By the late 19th century, Salaga was a leading slave market in West Africa with two extensive markets. The principal market was surrounded by shades under which goods including human beings were sold. The small market was held in the open. Today, both markets have little to show. The slave market is now occupied by two houses, a lorry and fuel station, and kiosks. In 2001 and January 2002, the slave market was investigated. The results show serious damage to the archaeological record. Efforts beyond that of the District Assembly are needed to salvage the slave market heritage of Salaga.

**Onjala, Isaya O. (University of Alberta, Canada; ionjala@ualberta.ca).
Archaeological Regions and the
Under-utilized Resources in Kenya.**

In the 1960s and 1970s, Kenya was a focal point for palaeo-anthropological research. Various traditions and terms were defined using materials from different sites across the country. This followed extensive surveys, site location and material retrieval through excavation and surface collection from sites that have not been worked due to a variety of reasons. These include time, accidental discovery in the course of other research and hostility of the environment. These pioneer works were impressive but were not taken up by researchers that entered the scene in the late 1980s. Many sites have not been revisited leading to loss of information as materials have been destroyed or removed from their primary context. Others remain un-analyzed and will soon become useless unless more work is done. In this poster I show that archaeological research / activity in Kenya in the past three decades has concentrated in particular areas of the country, mainly the Rift Valley, leaving out other areas such as the Lake Victoria basin and the North East. I put forward a call to the researchers to explore the less researched areas and to consider investigating some of the sites last visited in the 1960s. I also draw the attention of the researchers to the excellent archaeological collection stored at the National Museums of Kenya in Nairobi and to the presence of ethnographic materials / communities for those interested in related ethno-archaeological problems. Lastly, I raise some recent issues that have emerged that can only be resolved through further investigation.

**Ouzman, Sven (National Museum, South Africa; rockart@nasmus.co.za).
Archaeology and Identity in post-
colonial southern Africa.**

KhoeKhoen (Khoi) and San (Bushman) identity and heritage was for many years denied, subverted or ignored. In post-colonial, post-Apartheid southern Africa 'KhoeSan' identity is now experiencing a revival. People previously classified as 'coloured' or 'non-white' are now reclaiming and constructing an indigenous KhoeSan identity. Archaeology plays a major role in this process of identity formation by

offering options that have an undeniable authenticity and rootedness to these KhoiSan individuals and communities. Archaeologists and similar social researchers often find themselves in the uncomfortable position of knowing more about aspects of KhoeSan culture than the KhoeSan. More complexly, co-operative and contextually equivalent ventures between 'us' and 'them' promises to show the way to a more socially responsible social science more actively engaged in the present, but drawing power from the past. Organisations such as the National Khoisan Consultative Conference; South African San Institute and Working Group of Indigenous Minorities in Southern Africa represent genuine empowerment of the KhoeSan cause. Serious issues such as research ethics, indigenous intellectual property rights, human remains and the role of heritage in contemporary society are at the forefront of the revival of KhoeSan nationalism.

**Pelzer, Christoph (University of Frankfurt, Germany; c.pelzer@em.uni-frankfurt.de).
Sedentary and Nomad
Peoples in North-Eastern Burkina
Faso: An Historical Archaeology of
Change in the Oudalan.**

According to the archaeological record, the Late Iron Age in the Oudalan, the north-eastern province of Burkina Faso, came to an end by the 14th/15th century AD. Before, it had been an area inhabited by sedentary farmers with small livestock. Then something changed: people did not live in the same places long enough anymore to leave behind settlement mounds as they did before. In the 19th century AD, when it was first described in written sources, the region was dominated by cattle-herding nomadic peoples. What had led to these completely different economic and settlement patterns? The paper traces the basic outlines of major historical changes in the area.

Petit, Lucas (Johann Wolfgang Goethe-Universität Frankfurt; petit@em.uni-frankfurt.de) and Maya Hallier (Johann Wolfgang Goethe-Universität Frankfurt). Tragedy in the Dunes: The end of an Iron Age residence in northern Burkina Faso.

During the, last two years excavations have been carried out at the site of Oursi hu-beero in northern Burkina Faso. It reveals the burnt remains of a large, two-storied house, consisting of at least 14 rooms. The mudbrick debris has sealed off the building for the last 1000 years, protecting the undisturbed floors and the extraordinary architecture. This paper will describe the daily life of the inhabitants which ended tragically somewhere in the 10th/11th century AD.

Pfeiffer, Susan (University of Toronto; pfeiffer@chass.utoronto.ca). Juvenile mortality and morbidity among Holocene foragers of Southern Africa.

The archaeological visibility of foragers in southern-most Africa increases throughout the Holocene. Does this represent an actual increase in human numbers? Selection and adaptation among hunter-gatherers can be studied, in part, through the palaeodemography and palaeopathology of human remains, especially those of juveniles. This paper focuses on 85 juvenile skeletons from archaeological sites beyond the Cape Fold mountains, either dated to >2000 BP or from field contexts suggestive of that pre-pastoralist time period. Ages at death were determined from dental formation, and, in a minority of cases, from long bone lengths correlated to Khoisan dental ages. About half of the immature skeletons died at an age of less than one year. This is consistent with demographic expectation. It reflects the excellent preservation of the material, and suggests that there is very little collection bias. The mid-childhood mortality peak, at around six years, is later and less pronounced than that seen in large samples from horticultural societies. It may reflect prolonged breast feeding. Ethnography of foragers, suggests that most causes of childhood death may have been from acute causes. Consistent with this expectation the Holocene bones demonstrate no cases of healed

trauma and few chronic conditions. Porotic hyperostosis and enamel hypoplasia are very rare, while cribra orbitalia is usually slight and is seen on one third of the crania. However, one instance of multiple growth arrest lines and one case of serious metabolic disease are reminders that stressors did exist, and that solicitous care may have prolonged the lives of fragile children. Research sponsored, in part, by Social Sciences and Humanities Research Council of Canada.

Pfeiffer, Susan (University of Toronto; pfeiffer@chass.utoronto.ca) and J. Stock. Upper limb morphology and the division of labor among southern African Holocene Foragers.

Abstract not included per request of senior author.

Phillipson, David W. (Museum of Archaeology and Anthropology, University of Cambridge; dwp1000@cus.cam.ac.uk). An Ivory Throne of the Fourth Century AD from Aksum, Ethiopia.

Numerous fragments of finely carved ivory were recovered at Aksum from the "Tomb of the Brick Arches", now securely dated to the fourth century AD. Much of this material is best interpreted as coming from an elaborate jointed chair or throne. The paper will consider the place of ivory and ivory-working in the Aksumite economy as well as the broader significance of the throne, both in Ethiopia and in the ancient world more generally.

Pikirayi, Innocent (University of Zimbabwe; innocentpikirayi@hotmail.com). Production, consumption and aesthetics: Khami pottery in the Pitt Rivers Museum, Oxford.

The pottery described in this paper all comes from the monuments of Khami in south-western Zimbabwe. Khami is the second largest group of stone-built monuments of the Zimbabwe Culture (1280-

1900), built after the decline of Great Zimbabwe in the 15th century. The material was brought to the Pitt Rivers Museum, Oxford, in 1906 by Henry Balfour, the museum's first curator. The ceramics represent some of the well-preserved specimens ever to come from an archaeological site in Zimbabwe. Their complex decoration motif, context of recovery, and subsequent archaeological research by Keith Robinson and others clearly attest to the existence of an assemblage closely connected with the ruling elite who lived there.

Plug, Ina (South Africa; plugc@mweb.co.za). Resource exploitation: animal use during the Middle Stone Age at Sibudu Cave, South Africa.

Sibudu Cave in South Africa is one of the very few Middle Stone Age (MSA) sites with good bone preservation. Preliminary work on the fauna has shown that a large variety of species are represented throughout the deposits. Domestic animal remains occur in the uppermost levels and in a pit associated with the Iron Age. The rest of the assemblage consists of wild animal remains, all associated with the MSA. The assemblage includes marine vertebrates such as fish and turtles and invertebrates such as molluscs and crustaceans, as well as some freshwater species. The mammalian remains include a wide spectrum of carnivores and bovids, while equids, suids rodents and very large mammals are also represented. The sample includes a few species that became extinct at the beginning of the Holocene e.g. *Equus capensis*, *Megalotragus priscus* and *Pelorovis antiquus*. The sample is remarkable in that many of the species are large animals and mostly of adult age. Juveniles and very old animals are poorly represented. This suggest deliberate hunting rather than scavenging and targeting of "best returns" animals suggestive of modern human hunter gatherer behavior.

The absence/presence of marine animals could reflect the relative position(s) of the shoreline during the Late Pleistocene. The mammalian fauna also suggests a more open savanna environment than is the case today. However, there is evidence that such an environment existed in the Sibudu area in more recent times as well, and that the changes to the bush and shrub environment of the present can be attrib-

uted to a combination of small climate fluctuations combined with human farming and population increases over the last 1500 years.

Plummer, Tom (Queens College, NY), J. Ferraro (UCLA), D. R. Braun (Rutgers University), P. Ditchfield (University of Bristol, UK), L. Bishop (John Moores University, UK), S. Hounsell (University of Liverpool), J. Hicks (Denver Museum of Nature and Science), and D. Maina (University of Nairobi). Late Pliocene Oldowan hominin activities and paleoecology at Kanjera South, Kenya.

Excavations in c. 2.2 Ma sediments at Kanjera South have recovered rich concentrations of Oldowan artifacts and fossils. Preliminary analysis has identified hominin marrow and meat processing and carnivore damage to bone. Stable isotopic chemistry of paleosol carbonates and high equid frequencies provide the first strong indication of Oldowan site formation in a relatively open habitat. A high proportion of small, immature antelopes is suggestive of hunting, while the remains of larger mammals may have been scavenged. Hominin transport and curation of artifacts beyond what has been found at other late Pliocene Oldowan sites is suggested by lithic analysis.

Pobiner, Briana L. (Rutgers University) and Robert J. Blumenshine (Rutgers University). Patterns of Bone Damage and Destruction by Larger African Felids and Hyenids: Implications for Zooarchaeological Analyses.

Many zooarchaeological analyses are conducted under the assumption that all larger carnivorans create a homogeneous 'carnivore' taphonomic pattern. However, previous studies of carnivoran taphonomic traces have challenged this assumption. Data presented here demonstrate that larger African felids and hyenids inflict varying degrees of gross damage and destruction to ungulate prey carcasses of different sizes. We note a basic scaling in gross bone damage and destruction with in-

creasing prey carcass size and predator bone-eating capabilities. We argue that recognizing these consumer taxon/carcass size specific patterns is a constructive step towards elucidating the taphonomic history of zooarchaeological assemblages.

Pradines, Stéphane (Institut Français d'Archéologie Orientale, Egypt; spradines@ifao.egnet.net). Dating a Kenyan medieval site by the imported ceramics: An old method more efficient than radiocarbon.

This communication has for objective to present our last discoveries on the Kenyan site of Gedi. The Swahili city of Gedi has been occupied since the middle of 11th century until the beginning of 17th century. The quantity and the quality of the imported ceramics on the site allow the establishment of a precise chronology and show all the commercial links with the countries around the Indian Ocean. The dating by the imported ceramics is, of course, more precise than the so-called scientific methods, like the radiocarbon. Moreover, the study of the imported ceramics, from China, India, Iran, Oman, Yemen or Egypt, offers the possibility to establish a chrono-typology of the regional Swahili ceramics. (Translated by the author).

T. J. Prindiville, N. J. Conard and P. Felix-Hennigen. Palaeoecology and archaeology of the coastal dunes of the Western Cape, South Africa. II. Spatial archaeology and taphonomic processes.

For decades, cave and rock shelter sites, which provide disproportionately high densities of well preserved artifacts and faunal remains, have been a major focus in Stone Age archaeology. However, these sites are not representative of the location of all prehistoric activities, but are rather a reflection of geological phenomena. In contrast, four years of archaeological fieldwork in the Geelbek Dunes have focused on open-air localities with ephemeral surface finds which allow for the study of spatial patterning at Stone Age sites at scales not achievable in caves and rock shelters. These open-air sites offer

behavioral information at the cost of context and it is for this reason that the integration of spatial archaeology, taphonomic studies and social science is essential to contextualize specific archaeological and non-archaeological occurrences as well as regional pedogenic events. Here we describe and illustrate our methods, results and their contribution to the research of the prehistory of the Western Cape, South Africa.

Pwiti, Gilbert (University of Zimbabwe; panaf@samara.co.zw). Pots, People and Ethnic Identity: Studies of ceramic style of the prehistoric Later Farming Communities of Zimbabwe.

Over the years, archaeologists have tried to understand the relationship between material culture style and such domains as cultural or ethnic identity, gender and social status. It has been generally agreed in these studies that style is independent of function and as such, it is concerned with the participation of artifacts in information exchange. Style is also agreed to represent symbols in action where it is possible to read meaning within a given culture system. In Zimbabwean archaeology, studies of style have until recently been largely concerned with ceramic style of the prehistoric farming communities of the period conventionally known as the Iron Age. Ceramic style has been used to define traditions, phases and facies, on the understating that variations in such style through space and time are significant and an important marker of cultural/ethnic identity and a signifier of culture transformation. More recently, it has been proposed that we can more or less directly trace historical continuity in ethnic identity from Later Farming Community ceramic units and contemporary Shona groups in Zimbabwe using ceramic style. The basis for this proposal and its validity have however not been clearly demonstrated. In this paper, I examine this proposal and argue that while it may be valid, the definition of ethnicity and investigation of such concerns in archaeology needs to be situated within a broader framework which should take into account different classes of material culture as well as other cultural practices. Ceramic style is only a part of a variety of ways expressing cultural or ethnic identity.

Reid, Andrew (Institute of Archaeology, University College, London). The Role of Outlying Habitation amongst Complex Societies on the Margins of the Kalahari.

Archaeological research on the complex societies of the margins of the Kalahari, as elsewhere, has tended to focus on larger settlements, due to their greater visibility and the greater returns from their excavation. However, consideration of conditions and survival strategies on the margins of the Kalahari makes it essential to rethink the role of smaller habitation to the success of the entire polity. Small-scale settlements spread economic activity across the landscape. This would have been essential in ensuring the best use of limited resources of water, pasture and suitable arable land, and in monitoring the availability of resources.

A consideration of long-term settlement in East-Central Botswana suggests how significant these strategies may have been. The earliest evidence for large-scale societies appears after AD 900 with sites of the Toutswe tradition, which proliferated and observed a marked hierarchy. Recent research has revealed even smaller Toutswe settlements, not recognised by previous research strategies, which would most likely have been short-term livestock enclosures. Subsequently, from the 14th to 17th centuries settlement was light and decentralised. In the 18th and 19th centuries this pattern changed with the growing dominance and permanence of Tswana-speaking communities. These societies concentrated population into huge centres, but allowed dispersal to far flung agricultural lands and cattle-posts at crucial times of the year and at times of great stress and invasion. Although different societies practised a variety of strategies through time on the margins of the Kalahari, collectively the evidence indicates the significance of a dispersed community for survival strategies. Consideration of these outlying settlements clearly adds to our understanding of the working of the community as a whole.

Robbins, Lawrence H. (Michigan State University; Larry.Robbins@sse.msu.edu). Mongongo Nut Exploitation at the Tsodilo Hills, Botswana.

Later Stone Age peoples are believed to have made extensive use of wild plant foods, yet there are comparatively few archaeological sites where the use of wild plants can be linked to ethnographic information. In the Kalahari, one of the most detailed ethnographic studies available centers on the exploitation of mongongo nuts. Ethnoarchaeological excavations and LSA levels at four rock shelters/caves at Tsodilo all yield evidence of mongongo nut exploitation. This paper discusses the dating and context of these finds. The possibility of MSA exploitation is also discussed.

Rogers, Michael J. (Southern Connecticut State University; rogers@southernct.edu), Briana L. Pobiner (Rutgers University), John W. K. Harris (Rutgers University), and D. R. Braun (Rutgers University). Hominid-modified fossil bone sites from Koobi Fora, Kenya: Discoveries and excavations from 1998-2001.

Over the last several years, the Koobi Fora Field School in Paleoanthropology has been training students in the basics of archaeological field methods by undertaking surveys and excavations of recently-discovered archaeological sites. Two of these sites hold great potential for elucidating the degree and extent of early *Homo erectus* (or *Homo ergaster*) carnivory, since they contain numerous fossil bone fragments that have been modified by hominids. The two sites-FwJj 14 and GaJi 14-are dated to about 1.5-1.6 million years ago, and when combined, they have effectively tripled the number of hominid-modified bones found at Koobi Fora. The modifications observed on the bones include percussion marks, percussion striae, and cut marks, as well as small numbers of tooth marks and trampling/abrasion marks. Strangely, only one artifact has been found in association with the modified bones from both sites. This suggests that hominids were either 1) carrying stone tools away from these sites so they could be used

elsewhere or 2) using tools made from raw materials other than stone. The diversity of fauna taxa and sizes, skeletal elements, and types and locations of modification marks suggests that early *Homo erectus* was adept and opportunistic in incorporating animal resources into their diet.

Rupp, Nicole (Johann Wolfgang Goethe-Universität Frankfurt; n.rupp@em.unifrankfurt.de). Stone Age without Stones.

Former studies have shown that prehistorian inhabitants of Borno, Northeast-Nigeria managed 4000 years ago the lack of one of the most important raw materials needed in Stone Age times -the lack of stones. Around 500 BC the use of rocks decreased but also reveal new aspects which will be pointed out in this paper.

Sättersdal, Tore (University of Bergen). Enduring Places in Changing Society: Rock-art in Manica, Mozambique.

The paper will attempt to discuss the rich and varied rock-art recently uncovered in the Manica province of Mozambique. Through excavations and archaeological survey of the Mt. Vumba region the significance of "special places" through the last 3000 years has been made the focus of study. In the vicinity of the Vumba Mountain several rock-shelters have been found with painted images, which may be attributed to both a San hunter-gatherer population and to early Bantuspeaking societies in the area. The rock-art consists of both delicate anthropomorphic and animal images as well as geometric motifs painted by finger. The archaeological material left at these places, and the many phases of the rich rock-art, points toward intensive use over the last 3000 years at least. Questions of re-use and re-definition of special places will be discussed with reference to current use of these sites by today's Shona-speaking population of Manica.

Sampson, Garth (Southern Methodist University; sampson@mail.smu.edu). Amphibian Remains from LSA Rock Shelters in the Karoo region, South Africa.

Amphibians are a common feature of faunas in rock shelters inhabited by the Karoo Bushmen of central South Africa. Although dominant in some of these bone middens, amphibians have received little attention from local paleontologists and archaeologists. Four shelters in the upper Seacow River valley, occupied between ca. 2000 BC and AD 1870, yielded abundant amphibian remains of both prehistoric and Post-Contact (historical) ages. Changes in species content, amphibian sizes, and spatial scatters through the sequences are displayed and interpreted. The rapid rise in toads over other species after European Contact is enigmatic and open to different interpretations.

Schir, Katia (Universität Basell katia.schaer@balcab.ch), Eric Huysecom (Université de Genève), and Sylvain Ozainne (Université de Genève). Grinding stones as indication ofa socioeconomic change in early Holocene West Africa: The example of Ounjougou, Mali.

Excavations in Ounjougou (Mali) have yielded the fragment of a 8th millennium BC grinding stone. A review of the evidence of querns from comparable sites in West Africa shows that grinding stones used for cereals only appeared with the beginning of Holocene, but were nevertheless quite a common feature in the Sahara between 10,000 and 6000 BP. The presence of querns on a site points to an economic shift from hunting-gathering to an intensive, partly sedentary, exploitation of a chosen environment, including hunting, fishing and cereal gathering - without immediate connection to a future agricultural lifestyle. Ounjougou remains so far the only site with querns in subsaharan West Africa before 5000 BP and seems to be the first example of a "life style" transfer or migration from the Sahara southwards - or vice-versa.

Schiegl, Solveig (Institut für Ur-und Frühgeschichte, Abteilung Altere Urgeschichte und Quartärökologie, Tübingen, Germany; solveig_schiegl@hotmail.com), Philipp Stockhammer, and Lyn Wadley (University of the Witwatersrand). A mineralogical study of the MSA hearths in Sibudu Cave.

Sibudu Shelter was formed within an erosionally weak sandstone-bed of the Natal Group. Large parts of the MSA-strata were apparently well protected from humidity. This is reflected by the excellent stratification of the sediment record and numerous well-preserved plant ash deposits. The latter play an important role in the interpretation of occupation phases and the use of space. Their distribution and function therefore reflect behavioral and social aspects of the anatomical modern humans. (Wadley 1999).

Mineralogical analyses of the ash deposits prove the use of wood fuel. Among other components, plant ash contains variable amounts of phytoliths, which consist of biogenic silica. During plant life phytoliths are formed inter- and intracellularly and frequently their morphology reflect the cell anatomy of the host plant in a specific way. During wood combustion the phytoliths are released into the ash. Phytoliths are stable in many sedimentary milieus over long periods (Piperno 1988). Very good preservation of the phytoliths in the majority of ash deposits in Sibudu Shelter has been established by applying light microscopy to phytolith fractions, which were gained through mineral separation. The good preservational shape of the phytoliths makes them an appropriate tool to clarify the following aspects, which are associated with hearths. (1) The kind of plant resources, which were used as fuel. (2) Identification of plant species from the phytoliths assemblages found in the hearths. Plants, which were used by the site inhabitants must first be analysed by means of charcoal and seed analysis. This information in turn is used to build up a phytolith reference collection from corresponding modern plants, which forms the basis for the identification of specific fossil phytoliths. (3) Differentiation between different phases of usage of a fire place. (4) Lateral and vertical separation of adjacent ash

deposits which is macroscopically hardly attainable. (5) Establishing the intra- and interstratal difference in the degree of alteration of the plant ash in individual hearths reflects important aspects of site formation processes. Applied analytical methods are FT-IR (Fourier transform-infrared spectroscopy) for the mineral identification and transmitted light microscopy for the phytoliths, analysis.

References: Piperno D.R. (1988). *Phytolith Analysis - An Archaeological and Geological Perspective*. London: Academic Press.

Wadley L. (1999). Cultural modernity in the MSA of Southern Africa: What is the evidence? Abstract Package. World Archaeological Congress 4. Symposium: Emergence of Mind. University of Cape Town. 10th-14th January 1999.

Sealy, Judith (University of Cape Town; jcs@Beattie.uct.ac.za). Hunter-gatherers, pastoralists (and farmers?) in the Eastern Cape Province of South Africa: some observations on burials and stable isotope values.

This paper will be a preliminary report on a study of burial styles, stable isotope results and radiocarbon dates for approximately 100 skeletons from the Eastern Cape Province. This area is characterised by substantial variation in burial style, with graves ranging from unmarked graves in rock shelters to those marked by very large stone cairns, usually associated with seated burials. The latter may be graves of Khoi pastoralists. Stable carbon and nitrogen isotope analyses of the skeletons will be discussed, with particular attention to the extent to which it is possible to use them to assess the importance of animal foods in the diet. The chronology of the burial styles will also be investigated, especially in the light of recent attempts to reconstruct the historical process by which features of Khoi society observed in the seventeenth and eighteenth centuries were assembled.

Smith, Benjamin (Rock Art Research Centre, Witwatersrand). Rock Art and Identity: Paintings of San-speakers, Khoekhoe-speakers and Bantu-speakers in Northern South Africa.

This paper examines three rock art traditions from northern South Africa, the first painted by hunter-gatherers, the second by herders and the third by farmers. Each rock art tradition is visually distinct, using different pigments, different methods of application and different manners of depiction. In some shelters all three traditions occur together and here study of overlay sequences allows us to see that there were significant periods of overlaps in the execution of the three traditions. These art traditions allow an unusually clear view of the way in which identity is reflected and negotiated in material culture. Important to the study is the issue of changing identity. Excavations in the region have shown extensive exchange networks between the three groups; I use the art to examine the ways in which this interaction shifted the emic and etic cultural perceptions of each group. I provide evidence of progressive changes in the symbolism of each group showing that there was both a polarisation of differences between each art tradition and at the same time a visual accentuation of shared symbolic ground. These changes betray the complex identity negotiations of the time, whereby individuals and groups were moving between material culture identities, but were struggling to embrace the transformation of worldview that these changes in cultural statement necessitated.

Sterner, Judy (Alberta College of Art and Design, Calgary, Canada; jsterner@ucalgary.ca). Caste and the 'tamper and concave mould' pot forming technique.

The publication, largely by ethno-archaeologists, of new data on the so-called 'Hausa' technique of pot forming permits a reassessment both of the technique and its relationships to other techniques of pot manufacture and of its distribution across the continent from Mali to the southern Sudan. The technique is practiced almost entirely by casted women, but there are interesting variations from this pattern. I show that these are imperfectly correlated with differences in tool kits, associated

techniques, and the larger economy. Because this technique is almost exclusively African, and the tools may well be preserved archaeologically, the prehistory of this technique is of particular cultural historical interest.

Sutton, John E. G. (British Institute in East Africa and Oxford University) and Jeffrey A. Homburg (SRI Foundation, Tucson, AZ). Testing the ancient Engaruka fields of Tanzania: Ideas and methods from the American Southwest.

The 2,000 hectares of stone-lined and levelled fields at Engaruka, dating ca. AD 1400-1700, on the arid Rift floor in northern Tanzania, have been studied for their irrigation technology - gravity-fed through furrows from escarpment streams - and for signs of environmental change that might account for some water sources now being dry. Sorghum was the principal crop, with soil fertility apparently maintained by manuring from stalled cattle. New research is planned on environmental processes, by measuring erosion and analyzing lake sediments near the Engaruka fields. Equally necessary are tests of soil fertility, cropping intensity, and agricultural sustainability, similar to methods developed in the American Southwest to investigate Classic Period (ca. AD 1150-1450) gridded and terraced fields on elevated fan terraces bordering the Gila valley of Arizona, which superficially resemble those of Engaruka. The climate is similarly arid, but the Gila fields lack formal furrow irrigation, and their stone alignments functioned mainly to impede runoff and assist moisture retention for cultivating drought-adapted crops.

Sydenham-Ndi, Rachael (Simon Fraser University, British Columbia, Canada; xerxes@hominids.com). The Material Culture of Twins in West Africa.

The birth of twins heralds an unusual event in most cultures. Generally they are viewed as a blessing, occasionally as something dangerous, but is rare to find a society that is indifferent to this event. West Africa holds the highest rate of twinning in the world, and this expresses itself in a rich material record. My own experience as a 'Manyi' (mother of twins) in Cameroonian culture made me aware of the signifi-

cance of twins to African peoples. With this record I hope to provide a database for the accurate interpretation of the archaeological record as well as a glimpse into the paradigms of past societies.

Tactikos, J. C. (Rutgers University; tactix@eden.rutgers.edu). Typology, Technological Organization, and the Landscape Perspective.

Considered type assemblages for the Oldowan, lithic assemblages such as those recovered from DK in Olduvai Gorge, Tanzania, are used for comparative analyses, to illustrate technological change over time. These assemblages have never been demonstrated to represent a uniform technological organization at a specific time over a broad, varied landscape. This paper presents a typological description of lithic artifacts recovered from Olduvai Gorge between 1989-2000. The sample represents a synchronous areally broad and diverse landscape. The typological characteristics of this sample, grouped according to specific landscape facets, will be compared to existing parameters of Oldowan typology to determine whether these typological characteristics represent a homogeneous technological organization at a specific time, or whether they describe situation-specific manufacturing techniques.

Tactikos, J. C. (Rutgers University; tactix@eden.rutgers.edu). Experimental Perspectives on Tool- Using Strategies of the Early Oldowan Hominids.

Recent experiments were carried out in Olduvai Gorge, Tanzania, designed to empirically determine the relative utility of various Oldowan tool forms. Using time expenditure as a proxy measure of efficiency, preliminary results are presented which indicate that the relative utility of specific Oldowan tool forms varies according to the task at hand. The resultant utility index will be used to construct predictive models of patterned variability in the landscape distribution of lithic artifacts. This research will ultimately be applied to an understanding of tool use on a landscape, emphasizing the impact of ecological constraints on early hominid technological organization.

Talla, Tanto Richard (University of Buea, Cameroon; trtalla@yahoo.com). Traditional Pottery Technology of the Kaka of Donga Mantung Division of Cameroon: A waning legacy.

This work which is basically ethnographic seeks to understand the traditional techniques of pottery making amongst the Kaka ethnic group, famous potters in the Donga Mantung Division of Cameroon. Particular attention was paid to the procedure of production, the tools and cultural beliefs associated with practice. The results of the research tested against potsherds from an archaeological site, nibajeng depicted modifications in the decorations, types and quality of vessels produced. There were however still some elements of continuity. It was generally observed that over the years this practice has drastically declined with a few potters still active. The paper concluded that the modification of aluminium products which are portable and long lasting.

Thiaw, Ibrahima (Laboratoire de Préhistoire et Protohistoire, IFAN-UCAD, Dakar, Senegal; thiawi@yahoo.com). Archaeological Reconnaissance in Gorée Island (Sénégal): Preliminary results.

A recent six-month archaeological reconnaissance in Gorée revealed the huge potential of the Island for archaeological investigations. A large body of archaeological data was collected via testing, mapping and excavations, yielding comparative material to reevaluate historical sources. Preliminary analysis shows two different assemblages: a pre-eighteenth century assemblage dominated by African manufactures and a post- eighteenth century assemblage where European imports grew considerably without eradicating the African elements. Tests and excavations at different parts in the Island indicate a rather wide access to European trade goods. Post-eighteenth century Gorean society being notably hybrid and open, this may suggest that wealth and power played a much bigger role in social differentiation than race and ethnicity.

Tryon, Christian (University of Connecticut; christian.tryon@uconn.edu) and Sally McBrearty (University of Connecticut). New Middle Stone Age sites from the southern Kapthurin Formation, Baringo, Kenya.

Modern human origins in Africa may be correlated with the onset of the Middle Stone Age (MSA). The Kapthurin Formation, Kenya, preserves sites spanning the Acheulian-MSA transition inter-stratified with layers of the Bedded Tuff member (K4). Previous results suggest a complex local shift to MSA technology beginning >285 ka. 2001 investigation focused on excavations at Koimilot (GnJh-74), which produced two MSA artifact horizons from within K4 that contained a variety of Levallois cores, flakes and retouched tools. Field tephrostratigraphic correlation suggests this is one of the youngest Kapthurin Formation MSA sites, but among the oldest African MSA sites.

Usman, Aribidesi (Arizona State University; ARIBIDESI.USMAN@asu.edu). Military factor in the making of West African regional systems: Example from northern Yorubaland, Nigeria.

In any meaningful discussion of regional studies the most important is to specify conditions under which various sorts of relations are likely to develop as well as the nature of the interaction. Archaeological data for long distance exchange in Igbomina are poorly represented in the artifact collection, while the research has not been able to demonstrate the large-scale mobilization of tribute in the form of staples to have been forward to Old Oyo. Using archaeological and oral-ethnohistorical data from Igbomina it appears that military or security factor, rather than economic, help defined relationship between Old Oyo and its northern periphery. This paper will examine Old Oyo relations with the Igbomina between 15th and 18th century with particular reference to the role of military factor in regional interaction.

Vogelsang, Ralf (Universität zu Köln; R.Vogelsang@uni-koeln.de). No rock art in the Kaokoland?

The distribution of rock art sites in Namibia shows a lack of sites in the eastern and northern parts of the country. This corresponds in the Opuwo district/former Kaokoland to a general absence of archaeological sites and might be a result of missing research activities. Within the framework of the collaborative research centre SFB 389/ACACIA at the University of Cologne archaeological investigations have been conducted in the Kaokoland since 1995. Intensive surveys in the area have changed the picture of site distribution fundamentally. More than 100 archaeological sites have been located up to now. Surprisingly rock art sites are still nearly absent. The site Omungunda. 99/1 is up to now the only known rock shelter with paintings in the research area. In the paper, the paintings and the cultural sequence of the site will be briefly outlined and reasons for the scarcity of rock art sites in the north-western part of Namibia will be discussed.

Wadley, Lyn (University of the Witwatersrand; 107lyw@cosmos.wits.ac.za). Sibudu Cave: the overview.

Sibudu Cave, approximately 12 km from the coast, has a long Middle Stone Age (MSA) sequence occurring directly below Iron Age occupation. It has complex stratigraphy in which many hearths overlap or form palimpsests. Excavation is ongoing, but the research to date is reported here. The upper MSA layers have been dated by radiocarbon, the lower layers by luminescence techniques. The dry deposits have good organic preservation even in the deepest layers excavated and the site promises an excellent environmental record for the area. The seed analysis is complete and it suggests vegetation mosaics that fluctuated between coastal forest and savanna. Some of the seeds at the site are from species that were eaten by birds, not humans. This seed collection provides complementary environmental evidence for the studies of humanly collected firewood and fauna.

Welling, Menno (Syracuse University; mwelling@maxwell.syr.edu). Political Power and the Making of Sacred Landscapes: The Case of the Lower Shire Valley, Malawi.

In a comparative study of the Chisumphi and Mbona cults in Malawi, Schoffeleers outlined a history of these cults within their socio-political contexts. Although his historical analysis has been critiqued, it is evident the territorial cults and their sacred groves are a factor in political strife. This paper will reflect on this issue from an archaeological point of view. It will present new data from the Lower Shire Valley, regarding landmarks mentioned in the Mbona myths and centers of political control. Point of departure is the difficult question of why sacred groves are located where they are.

Williamson, Bonny (University of the Witwatersrand;

107bonny@cosmos.wits.ac.za).

Residues and retouch: Microscopic analysis of stone tools from Sibudu Cave.

Four hundred stone tools from Sibudu were analysed for traces of prehistoric and use-related residues. Tool use strategies were inferred from the positions of the residues relative to the retouch on the tool. It is evident from the position of residues that broken retouched tools were recycled. The frequent presence of ochre on stone tools also shows that the colouring material was an integral part of materials processing in the Middle Stone Age.

Willett, Frank (Hunterian Museum, University of Glasgow, Scotland; fwillett@museum.gla.ac.uk). and Emma Lister. The Art of Ife: A CD-ROM.

We are producing a fully illustrated record of the sculpture in metal, terracotta and stone produced in the mediaeval city of Ife, Nigeria for the use of research scholars, students of archaeology, history and the history of art, for the use of the museums in Ife, which have lost their records and some of their

collections, and for collectors and dealers wishing to avoid stolen pieces. It comprises more than 2000 photographs, a database, several background essays and a bibliography totaling more than a third of a million words. There is an account of all the excavations conducted in Ife, including reports compiled from the field notes of workers now deceased.

Willoughby, Pamela R. (University of Alberta, Canada; Pamela.Willoughby@ualberta.ca). Middle and Later Stone Age prehistory in the Lake Rukwa basin, southwestern Tanzania.

Modern *Homo sapiens* developed in sub-Saharan Africa during the Middle Stone Age (MSA). But there is little sign of change in material culture until the Later Stone Age (LSA) around 30,000 years ago. The absence of transitional sites makes it difficult to test ideas that only the shift from the MSA to the LSA represents the beginnings of behavioral modernity. This paper reports on the analysis of several MSA and LSA sites in the Rukwa Rift Valley of Southwestern Tanzania. There are notable differences between the two, but also signs of continuity, gradual change rather than sudden replacement.

Wilmsen, Edwin N. (University of Texas, Austin; edut@utxvms.cc.utexas.edu). Cultural sequences and long distance contacts in the western sandveld of Botswana.

Seventeen sites in the western sandveld, thirteen of them radiocarbon dated, provide evidence for a cultural sequence from the Middle Stone Age to the end of nineteenth century. These sites are located in all ecological zones of the region. At about the beginning of the current era, pottery and livestock were introduced and pastro-foraging was established. In the seventh century, copper-iron metallurgy was added along with cowpeas; sites have ceramic affinities with slightly earlier sites in the Congo. Shortly thereafter, grain agriculture is attested associated with ceramics common in the Victoria Falls area. Glass beads and cowrie shells link these sites to the Indian Ocean trade; ceramic motifs and petrographic analysis confirm links to the eastern hardveld.

Wright, David (University of Illinois at Chicago; dwright2@uic.edu). Filling in the Gaps: The Pastoral Neolithic of Tsavo.

Following Bower *et al.*'s (1977) seminal paper that first described the "Pastoral Neolithic," Africanist archaeologists invested great energy and resources in understanding the spread of pastoralism into East Africa. However, in the 1990s the pace of research had slowed or shifted into other areas. Large gaps in knowledge were left unexplored and only half the story of the early movement of pastoral people through Africa was told. Recently, there has been a resurgence of interest in early pastoralism. An archaeological project undertaken in 2001 in Tsavo National Park discovered three large early pastoral settlements that are filling in gaping holes in understanding the movement and development of early Pastoral Neolithic cultures. This paper will present preliminary research exploring the chronology of settlement of Tsavo, the material characteristics of the inhabitants of the Tsavo sites and how they correlate to established chronologies in the Rift Valley.

Youngblood, Dawn (Southern Methodist University; dyoungbl@mail.smu.edu). Understanding Exchange and Mobility Strategies in Sub-Saharan Africa: A Processual Approach toward Differentiation of Object Mobility Patterns Based on Source Characterization Analysis.

Under what conditions do social groups participate in known forms of exchange and/or mobility? Answering this question has become an increasing theoretical challenge for archaeologists due to the proliferation of characterization studies focused on sourcing various forms of raw material. Despite the vastly increasing number of characterization studies, once the stone, or other material, is sourced, developing an understanding of what the transport means remains problematic. If the stone is some distance from the site, was the material, or the finished tool, traded from one group to another, or did the group directly procure the material themselves? Although the theoretical question is most often geared toward the sourcing of lithic raw materials, pottery, metal objects, glass, and other materials can be characterized as to their mineralogical origin as well. This research addresses the problem using African ethnographic and environmental data sets. A clear pattern revealing how social groups respond to specific measures of resource variability by adopting broadly similar exchange strategies regardless of system-state is demonstrated and discussed.