World Archaeological Congress 4

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Symposium: THE WORLD AT 100,000 BP

Abstract Package

Convenor:
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The aim of this session is to develop a comparative picture of the archaeological record of the evolution of human behavior during the Middle Paleolithic and Middle Stone Age (MP/MSA) in Africa and Eurasia. The temporal scope of the symposium is thus broadly defined as the period during which "Mode 3" industries were made, from the end of the Acheulean to the beginning of the Later Stone Age of subSaharan Africa (LSA) and Upper Paleolithic (UP) of North Africa and Eurasia. The thematic scope of the symposium includes adaptations to glacial and interglacial environments at low and high latitudes and the evolution of aspects of modern human behavior.

Modern human behavior is characterized in the archaeological record by sophisticated bone and stone technologies, "effective" faunal and other resource exploitation strategies, larger home ranges, enhanced planning depth, art, ornaments, symbolism, complex social formations and expanded systems of exchange and reciprocity. The advent of the Later Stone Age (LSA) in Africa and the Upper Paleolithic (UP) of western Eurasia is widely considered to mark the transition from "archaic" to modern human behavior, 40-20,000 years ago. However, elements of modern human behavior patterns undoubtedly emerged at different times over the last 200,000 years and may have been perfected during the MP/MSA. To what extent were people in

Africa and Eurasia behaving like modern humans 200, 100, 50 and 30 thousand years ago?

The beginning of the Middle Stone Age and Middle Paleolithic may coincide with the origin of anatomically modern humans in Africa over 200,000 years ago. Genetic and fossil evidence suggest anatomically modern Africans dispersed to Eurasia several times by different routes, beginning ~100,000 years ago. Some innovations may have occurred earlier in Africa than elsewhere. However, the origin and dispersal of behavioral and technological innovations may be decoupled. In other words, the diffusion of innovations does not necessarily imply the diffusion of populations. Moreover, chronological resolution is currently too poor and dating techniques too ambiguous to evaluate the hypothesis of an African origin for these innovations.

Detailed case studies discussing particular sites and regions, and/or comparisons of aspects of the environment and archaeological record between regions in the period between the end of the Acheulean and the early last glacial period (marine isotope stages 7 through 3) are welcome.

Problems and Prospects for Accurate Chronometric Dating of the Middle Stone Age in the Kenya Rift Valley

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The transition to "modern" human behavior is marked by the Middle Stone Age (MSA) Later Stone Age (LSA) transition in Subsaharan Africa and the Middle to Upper Paleolithic (MP/UP) transition in northern Africa and Eurasia. After this transition, ground bone tools and perforated ornaments become common and resource exploitation and land use patterns begin to resemble those of recent hunter-gatherers. This transition apparently occurred near the limits of the radiocarbon dating technique, around or earlier than 40,000 BP. Calibration of Late Pleistocene radiocarbon dates with high precision U-series dating demonstrates radiocarbon dates are ~3-4,000 years too young by around 40,000 BP. This deviation reflects weakening of the earth's magnetic field during the Laschamp geomagnetic reversal event. The MP/UP transition in the Levant is dated 46,000 BP, before the Laschamp event, and in Europe to 43-40,000 BP, within the Laschamp event. In eastern Africa, the MSA/LSA transition apparently occurred around 50,000 BP, based on obsidian hydration dates at Enkapune Ya Muto Rockshelter. The Rift Valley contains many MSA and early LSA sites with interstratified tephra that can be dated by SCLF 40Ar/39Ar dating, and can help test the hypothesis of an East African origin for modern human behavior.

THE MIDDLE STONE AGE OF ETHIOPIA AND THE HORN: NEW DATA FROM THE MIDDLE AWASH

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Four seasons of fieldwork on Middle Stone Age occurrences on the west bank of the Awash River in the northern Ethiopian Rift were conducted as part of the Middle Awash Project, under the overall direction of B. Asfaw, Y. Beyene, J.D. Clark, T.D.

White, and G. WoldeGabriel. In the 'Aduma' area the sequence begins with an early MSA with large blades and bifacial pick-like implements with square bases, in a valley fill of high energy, finely stratified, crossbedded silts and fine sands. This is followed by several horizons of MSA in fine silts, characterized by small points, reduced numbers of blades, discoidal and Levallois cores, and other types. Associations of artifacts and fauna with horizons of still-occluded shells of lacustrine mollusks suggests ephemeral beach or shoreline locations in a rapidly aggrading floodplain. The latest MSA horizon contains diminutive points, Levallois cores, bladelets and perforators. It is located along a tributary valleyway on the floodplain after a period of soil formation. Three partial hominid crania from the middle or upper horizons have been described by Y. HaileSelassie. Dating and environmental contexts of these finds will be discussed in terms of what is known about the MSA of the Horn, as well as of its intermediate position between the Near East and sub-Saharan Africa.

GERMANY AT AROUND 100,000 B.P.

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For several decades scholars have been searching for the origins of both anatomically and culturally modern humans. In Germany, both stages of development are placed within the Aurignacian at a date exceeding 40,000 b.p. The preceding Middle Paleolithic in Germany appears to represent a more or less *in situ* development that evolved over the course of the Middle Pleistocene and first half of the Late Pleistocene. Current Middle Paleolithic research shows that this period, while lacking clear indications of artistic expression and long-term occupations with architecture known from the Upper Paleolithic of the region, is characterized by diverse archaeological accumulations. Some geographical settings and time ranges are rich in sites, while others yield little evidence for occupation. As a whole, the period is characterized by a wide range of lithic assemblages and faunal accumulations indicating that cultural patterning was far from static. Given the vast duration and ever-changing environmental settings during the Middle Paleolithic, this should come as no surprise. In this paper we focus our attention on the subsistence and settlement data from the Middle Paleolithic, while trying to account for the behavioral patterns documented in the archaeological record of the region.

MIDDLE PALAEOLITHIC OCCUPATIONS AT WADI SODMEIN CAVE - EASTERN DESERT (EGYPT)

Philip VAN PEER, Pierre M. VERMEERSCH, Jean MOEYERSONS , Wim VAN NEER and Norbert MERCIER

Sodmein Cave is located in the western cliff cut through the Gebel Umm Hamad limestone by wadi Sodmein, 35 km to the northwest of the modern town of Quseir on the Red Sea coast. The first excavations at the site were undertaken in 1993. After three field campaigns the general stratigraphic sequence and the position of archaeological levels comprised within, is established. Five levels belong to the Middle Palaeolithic, the lowermost of these now being TL-dated at 115 + 6 ka. These levels are interpreted as the result of repeated short-term visits during which lithic tools were introduced in the cave. Alternatively, local core reduction sometimes took place. The resulting low-density scatters as well as the effect of postdepositional displacement, prevent the clear distinction of occupation floors separated by culturally sterile layers. With each of the MP levels, except for the upper one, fireplaces are associated. In the lowermost level the hearth, with a diameter of several meters, was re-used several times. It contains abundant faunal remains, some burned, among which several large mammal species are identified. In terms of cultural affiliation, the Middle Palaeolithic sequence of Sodmein Cave is integrated in the Nubian Complex of Northeast Africa, which spread from the Nile Valley into adjacent territories during the Last Interglacial.

EMERGENCE OF THE MODERN MIND

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Palaeolithic studies have the challenge of investigating the evolution of human cognition. Changes in life history parameters were set in train with the emergence of stone tool technologies and obligate ground dwelling. Such changes appear to have been punctuated rather than gradual. Near modern brain capacities were reached by 0.5 million years. Since then there has been selection for the re-organisation of the brain. This may have increased the importance of the prefrontal area and thereby enhanced the human capacity for use of symbols including language. The culmination of this evolutionary trajectory was emergence of anatomically modern people, some 250 000 years ago. Such people would have had modern cognition. An archaeological marker for this level of cognition is reflected in distinct regional industries. From this

it is inferred that modern-type linguistic groupings were present. Other markers for modern cognition are the symbolic investment in artefact production and products for use in reciprocal exchanges and the use of pigments like ochre as colour coded symbols. The archaeological and palaeontological record in most if not all regions has gaps and as a result resolution is not the same for all periods. The emergence of the modern mind would correlate with a speciation event and this event set the neural basis for individuall expressed behaviour. In sub-Saharan Africa early modern humans are associated with the Middle Stone Age and the record of behaviour at archaeological sites shows the presence of modern cognition from at least the beginning of the Late Pleistocene.

The Stone Age Archaeology and Paleoecology of the Geelbek Dunes, Western Cape, South Africa

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Located on the southern shore of Langebaan Lagoon on the Western Cape, the calcareous-rich aeolian sand deposits and multiple calcrete horizons of the Geelbek Dunes have preserved lithic artifacts and faunal remains of Late Pleistocene and Holocene age. In 1998 a team of archaeologists from the University of Tübingen in cooperation with South African scholars mapped the ca. 4 km^2 large dune system and plotted the location of over 100 deflation bays. Five of these bays were subsequently investigated in more detail. Over 2,500 surface finds were piece-plotted in using a total station, and several hundred square meters were excavated to examine the subsurface distribution of lithic artifacts and faunal remains. Intact Late and Middle Stone Age lithic concentrations were often associated with abundant faunal remains. One important goal of the research project is to document the distribution of archaeological materials over large portions of the dune field in the hopes of gaining new insights into the subsistence and settlement systems of Middle and Late Stone Age inhabitants of the region. The age of these archaeological accumulations is currently being assessed using TL, U/Th and 14C measurements, and interdisciplinary geological and paleoenvironmental research is underway to establish the chronological and ecological context of Stone Age occupations at Geelbek. This paper will summarize the results of the research conducted thus far at Geelbek and will present a research strategy for continued work in this dune system.

RECENT FINDS FROM BLOMBOS CAVE, AND THEIR IMPLICATIONS FOR OUR UNDERSTANDING OF THE AFRICAN MIDDLE STONE AGE

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Blombos Cave is a small cave site on the southern Cape coast of South Africa, about 300 km east of Cape Town. It is yielding remarkably well-preserved Middle Stone Age remains, enabling us to study diet and environment, in addition to tool technology, at c. 100 000 BP. The top metre or so of the MSA sequence contains lithic assemblages of Still Bay type, characterised by finely flaked bifacial foliate points. This is underlain by another industry of which we have as yet only a small sample, but is probably MSA 2. We do not yet know what, if anything, lies below; excavation is ongoing and we have yet to ascertain how deep bedrock is. The Still Bay levels also contain a bone artefact industry, including awls and formal, standardised bone points. Both the Still Bay and the putative MSA 2 levels contain drilled ochre. Food remains include terrestrial mammals and reptiles, shellfish and fish bones. Large fish have not previously been reported from MSA sites. The species composition of the fish, plus aspects of the breakage patterns of the bones, give us confidence that these specimens were caught for food, rather than being scavenged as wash-ups. Seven human teeth have been identified to date; these are similar to those recovered from other MSA sites such as Klasies River Mouth and Die Kelders. The presence of a bone artefact industry, the standardised drilling of ochre, presumably for ritual purposes, and the catching of fish all point to more sophisticated behaviour at this time that has generally been realised. This evidence, together with studies such as that by Milo of butchery patterns at Klasies River Mouth, point to greater similarities than differences between the behaviour of Middle and Later Stone Age people in South Africa.

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