

Paleoanthropology Society's Eighth Annual Meeting

The Paleoanthropology Society held its eighth annual meeting in Columbus, Ohio, April 27 to 28, 1999, during the two days preceding the meeting of the American Association of Physical Anthropology. As usual, there was only a plenary session, with 39 talks scheduled over the two days. Abstracts for these talks were published in the April 1999 issue of the *Journal of Human Evolution* (vol. 36, no. 4). The topics ranged widely, from early australopiths to late Neanderthals, covering human paleontology, Paleolithic archaeology, taphonomy, biochronology, and paleoenvironments. Not all of the presentations can be summarized here, so I will concentrate on points not covered in the abstracts.

Three groups of researchers reported on new studies at Olduvai Gorge, where a long-term project is currently directed by Robert Blumenschine (Rutgers) and Fidelis Masao (Open University of Tanzania). Nikolaas van der Merwe (Harvard) and colleagues examined stable isotope ratios in fossil fauna in order to assess paleoenvironments. They reported that modern C³ plants vary greatly in their $\delta^{13}\text{C}$ content, while C⁴ plants generally are less variable. However, different grazers may prefer plants that emphasize alternative enzyme composition and height, so that alcelaphines eat NADP plants and show $\delta^{13}\text{C}$ ca. -11.5 , while zebras, which prefer NAD plants, appear more negative at -13 . Specimens of *Paranthropus boisei* in Olduvai Beds I and II have $\delta^{13}\text{C}$ levels comparable to that of pigs, suggesting that they probably ate neither grass nor meat, but that perhaps tubers were an option.

Complementary research by Tom Plummer (University of California at Los Angeles) and others on Bed I material collected by Mary Leakey examined $\delta^{13}\text{C}$ from soil carbonates and mammalian tooth enamel, as well as

the ecomorphology and community structure of bovids and some suids. Both sources of $\delta^{13}\text{C}$ indicated that Bed I sites were intermediate between expected values for "pure" C³ or C⁴ plants, suggesting that both open and closed habitats were present. Previous work interpreted alcelaphine and antelope bovids as indicators of strongly open environments, but ecomorphological analysis revealed greater diversity in the adaptations of these groups. Olduvai Bed I assemblages suggest greatest similarity to moister west-central African environments. Similar studies at Kanjera South indicate more open habitats that were analogous to those of the modern Serengeti, with more zebra but fewer suids than were present at Olduvai.

At Olorgesailie, Richard Potts (Smithsonian Institution) and colleagues found that Member 7 deposits yielded several large concentrations of bone and stone but almost no "background" scatter, suggesting that sites there were not natural but of human origin. Perhaps the primates (both *Homo* and *Theropithecus*) were attracted to a local resource such as water. By comparison, there was far greater scatter in Member 1, probably indicating natural origin.

Erik Trinkaus (Washington University) was scheduled to give a paper on paleopathology of Dolni Věstonice Pavlovian skeletons but, under pressure from colleagues, he agreed to give an informal talk on the new Portuguese find, which had just hit the news. The Lagar Velho 1 child skeleton was associated with a typical Gravettian burial and dated to about 24,500 BP. The combination of anatomically modern tooth size and proportions, chin structure, and morphology of the radius and pubic ramus with the claimed Neanderthal-like inclination of the mandibular symphysis and tibial plateau and, especially, tibial robusticity suggests to Trinkaus that this four-year-

old was a hybrid between Neanderthals and modern humans. The late date, younger by 3,000 to 4,000 years than any dated Neanderthal, was taken to imply a lengthy period of such hybridization. Members of the audience questioned both the meaning of tibial robusticity and the likelihood that individuals beyond the first few hybrid generations would continue to preserve such clearly diagnostic character states without showing intermediate conditions. The description of this specimen has now been formally published,¹ accompanied by a commentary that questions the interpretation provided.²

Gilliane Monnier (University of Pennsylvania) evaluated the reality of the distinction between Lower and Middle Paleolithic phases in Europe by seeking evidence of increased "modernization" of selected lithic components across the putative boundary between these intervals. Her study was carried out on a series of reasonably well-dated stratified site units ranging in age from 400 to 50 Ka. So far, this work has been restricted to France and Britain, but the database will be expanded to include other regions. The frequencies of both bifaces and "choppers" varied randomly rather than decreasing through time as would be predicted from theory. The frequency of Levallois technology did increase after 300 Ka, but not systematically. There were always some assemblages with a low frequency of artifacts, but the occurrence of samples with higher frequency was restricted to later intervals. Thus, the range of variation increased through time. A series of tests for greater "standardization" of flake shape in a limited subset of collections failed to demonstrate any consistent pattern. Monnier's interim conclusion was that there is no clear evidence of a significant break in lithic technology across the Lower-

Middle Paleolithic transition in western Europe.

Paola Villa and Francisco d'Errico (University of Bordeaux) examined the evidence of nonlithic technology (bone or ivory points) in the same interval. They rejected essentially all claimed bone and ivory hafted points prior to the final Middle Paleolithic (Uluzian and Châtelperronian) as natural occurrences. In conclusion, d'Errico reiterated his interpretation of the Châtelperronian as an independent development from the Mousterian rather than an example of acculturation. This view was criticized from the floor by Paul Mellars.

Stanley Ambrose (University of Illinois, Urbana) gave a fill-in talk (no abstract) in which he argued that the development of language was concomitant with that of compound, hafted lithic tools, basing his argument on the analogy of their shared complexity.

Alan Morris (University of Cape Town) and Frederick Grine (State University of New York, Stony Brook) re-examined the Hofmeyr skull, which was found in southeastern South Africa in the 1950s without significant context, but probably is of Late Pleistocene age. This skull has a high, rounded vault but a rather large brow ridge and an "archaic" mid-face; in multivariate analyses, it approaches the skulls of modern South African blacks and whites, but not Khoisan. If it dates to the 40 to 20 Ka range, as Morris preferred, perhaps it preceded the origin of Khoisan morphology. On the other hand, if it were 100 to 80 Kyr old, it might be in some ways "transitional" from late archaic to anatomically modern humans.

Trenton Holliday (Tulane University) reported on his use of multivariate analysis to study limb proportions and resulting body shape in southwest Asian Late Pleistocene humans. Specimens generally termed Neanderthals were closest to Europeans in body shape, while most of the Skhul-Qafzeh group more closely resembled sub-Saharan and, less clearly, North African humans. An African source for the Skhul-Qafzeh group fits with paleogeographic links between associated mammal fauna and Africa steppe taxa as opposed to a preponderance of Eur-

asian cold-adapted taxa in the later, Neanderthal levels.

In contrast, Osbjorn Pearson (George Washington University) found few similarities between Skhul-Qafzeh postcranial fossils and any modern group. He suggested that patterns of stature, activity, and, perhaps, climatic adaptation, rather than historical connections, might explain the differences observed.

P. Nehoroshev and L. Vishnyatsky (Institute of the History of Material Culture, St. Petersburg) discussed several seasons of research at the Middle Paleolithic workshop site of Shlyakh, in the Middle Don region. Oxford Accelerator Mass Spectrometer (AMS) ^{14}C dates of about 46 Ka contrast with Moscow thermoluminescence (TL) estimates of 160 to 175 ± 35 Ka. In addition to a variety of typical Middle Paleolithic forms, the site yielded a few blades that were suggested to presage the local Upper Paleolithic. Although the authors suggested that perhaps other blades had been removed for use, audience members noted that various Middle Paleolithic assemblages contained similar blades.

Marvin Kay (Miami University, Ohio) and Bruce Hardy (University of Arkansas) reported on their respective analyses of organic residues and lithic use-wear in Mousterian assemblages from Crimea. At Staroselie and Kiik-Koba, several points showed evidence of hafting striations and the presence of starch grains and other vegetable matter indicative of hafting mastic. Microscopic fragments of feathers, perhaps from waterfowl or falcon-like birds, suggested the hunting of avian prey with projectiles, a claim not previously made for Neanderthals. At Buran Kaya, an early Szeletian level yielded foliates and small trapezoids showing evidence of hafting and perhaps wood-working.

Gilbert Tostevin (Harvard University) examined aspects of lithic operational sequences and attributes across the "Middle-Upper Paleolithic transition" (60 to 40 Ka) between the Levant and central Europe in order to compare predictions based on models of diffusion versus *in-situ* evolution. He found few examples of continuity in the Levant at, for example, Kebara 6 versus Boker Tachtit 1, or in eastern or central Europe. These negative find-

ings implied a diffusion model. But when Tostevin combined several European assemblages into a "Bohunician behavioral package," he determined a pattern of change from Boker (47 Ka, Israel) through Temnata (45 Ka, Bulgaria), and to Stranská Skála (42 Ka, Central Europe) and Khorolevo (38 Ka, Eastern Europe). A comparable but unrelated pattern suggested that by 38 Ka an "Aurignacian behavioral package" had arrived in Central Europe, as well as France and northern Spain, perhaps also from the Levant. Another talk about European lithic technology, by Zachary Davis (State University of New York, Stony Brook), examined the costs and benefits of lithic reduction and curation patterns based on a model of logistic versus residential mobility in Mt. Carmel Mousterian site units.

Mike Black (Duke University) suggested a trunk torsion hypothesis to explain unique aspects of Neanderthal pubic ramus morphology as part of an adaptation to powerful manual thrusting of stabbing spears while hunting. Thus, males would be expected to show the traits involved to a greater degree than would females if, indeed, male Neanderthals hunted with spears more often than did their female counterparts. The torque generated by turning the body to deliver a thrust would in turn lead to torsion requiring counterforce from the thigh adductor muscles. A change in proportion of parts of the pubis, said to be at the intersection of various muscle forces, would allow an increase in the size of these muscles while resulting in the morphology found in Neanderthals, especially males.

The nasal complex and upper respiratory tract were discussed in a series of complementary but conflicting presentations by Jeffrey Laitman (Mount Sinai School of Medicine) and colleagues, Stephen Churchill (Duke University) and colleagues, and Robert Franciscus (University of Iowa). The first and last of these studies argued from somewhat different data for a reasonably strong morphological distinction between Neanderthals and modern humans in this region. Churchill experimentally examined fluid-flow dynamics.

Paul Mellars (University of Cambridge) reviewed the Châtelperronian

industry and compared the two current views of its origin: by acculturation through late Mousterian contact with early Aurignacians or independent development of Upper Paleolithic-like elements. Mellars suggested that the Aurignacian may have dispersed from the Levant via the Mediterranean coast of Europe into northern Spain and perhaps separately along the Danube valley into France, reaching the former by 42? Ka and the latter by ca. 39 Ka (converted from 36,000 BP ¹⁴C). Mellars dated the earliest Châtelperronian to an age slightly younger than the Aurignacian and supported the acculturation hypothesis (or a modified "pillow-talk" version). F. d'Errico argued from the audience for independent development, continuing published disagreement between these two workers; similar comments had appeared previously.³

P. Vishnayatsky reviewed the status of the pre-Aurignacian and Amudian industries in light of their supposed role as precursors of the Upper Paleolithic. Although these assemblages at Yabrud and Tabun are characterized by a predominance of blade tools such as burins and endscrapers, with a strong reduction to absence of Lower-Middle Paleolithic types, there are no true prismatic cores. Neither the pre-Aurignacian nor Amudian are Upper Paleolithic industries or their precursors. They are probably locally derived from the Yabrudian and may represent an "intra-Yabrudian" episode of blade production analogous to the Howiesons Poort and Seclinian.

Sally McBrearty (University of Connecticut) and colleagues gave an update on their research in the Kapthurin Formation of the Baringo Basin-Tugen Hills sequence, Kenya. On the basis of new argon-argon analyses, the upper (K4) horizon dates to 280 Ka and the Grey Tuff in unit K3 just above the human fossils dates to about 500 Ka, while the K2 tuff below the fossils dates to about 550 Ka. A large collection of mainly broken-up faunal elements derives from the K3 unit. Artifacts are relatively rare but mainly of mode 1 character, perhaps compa-

rable to those from the Middle Awash and Olgorgesailie. The two hominin mandibles differ in size, with BK 8518 having larger teeth (especially P3 and M3) and a more robust corpus than does BK 67. The ulna, BK 66, is also large, suggesting a stature of approximately 175 cm (5' 9"), and shows archaic features comparable to those of the Klasies ulna. No definitive taxonomic identification is yet feasible.

Jeffrey McKee (Ohio State University) reported on continuing analyses of the age of African Plio-Pleistocene site units using faunal seriation. Unit ages were adjusted based on the presence of species that contradicted their preliminary placement, such as taxa usually occurring in younger or older assemblages. Ages were derived from East African dated assemblages with comparable faunal lists. The age of ca. 3.5 to 3 Ma for Sterkfontein Member 2 was questioned as it resulted in many taxa occurring earlier than in any other locality (but see reference four).

Kaye Reed (Institute of Human Origins/Arizona State University), Matt Sponheimer, and Julia Lee-Thorp (University of Cape Town) presented an integrated analysis of ecomorphological and stable isotopic data to estimate the paleoenvironment of Makapansgat bovids, which I consider to have been one of the highlights of the meeting. In most cases, there was good agreement between environmental proxies derived from the two complementary approaches but morphology was better at detecting special types of grazers, while isotope data were better at discerning when morphological mixed feeders were focusing only on leaves. It was suggested that there is something distinctive about the Makapansgat habitat, as it supported many more browsing animals than any modern community.

Following the paper session, John Yellen called to order the Business Meeting of the Paleoanthropology Society. He reported that there is currently about \$15,000 in the Society's bank account, based on receipts from membership fees. Some of the funds had been awarded as travel grants to

students and overseas colleagues whose abstracts were accepted. As a result of such a large balance, however, it has become necessary for the Society to formally incorporate as a 501C3 tax-exempt organization, with a constitution and at least three officers: a president, secretary, and treasurer.

John Yellen was immediately nominated to serve as president and elected by acclamation. His request for volunteers to serve as secretary and treasurer elicited instant quiet. I eventually volunteered to serve as secretary, hoping for another candidate to whom I could defer, but my offer was accepted. After further silence, Alison Brooks was nominated and elected (in absentia) for the post of treasurer in order to keep control of the funds within the family.

Next year's meeting will be in Philadelphia on April 3-4, preceding the annual meeting of the Society for American Archaeology. More information about next year's meeting, about the Society and its organization, and selected news items can be found at www.paleoanthro.org, a website set up by Shannon McFerron (Bishop Museum, Hawaii).

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