NEW DATE FOR OLD CROW CARIBOU FLESHER

Caribou tibia fleshers from Old Crow. (Photo courtesy of Robert Bonnickson)

Thirty-eight samples of bones from various Old Crow localities have recently been dated (in some cases re-dated) by accelerator mass spectrometry. The results may help to put Old Crow into a more solid chronological framework, but they have provided a few surprises as well.

Of the 38 samples, four were antler, one was from a tusk, and the remainder were of bone collars. The dating was performed at the Simon Fraser University facility in the Tandem Laboratory at McMaster University in Hamilton, Ontario.

Four specimens were undoubtedly artifacts, including a caribou-tibia fleshers, two caribou antler wedges, and a caribou antler blinder. Previously dated to 27,000 yr B.P., the caribou fleshers yielded a new date of only 1350 ± 150 yr B.P. The other three artifacts yielded similar late prehistoric dates.

The other 34 samples were mainly from mammoth bone—flakes, cores, and specimens with greenbone fractures. These specimens are interpreted by some to represent the result of human modification. Old Crow has mammoth material dating back to more than 1 million yrs B.P., but the flaked and broken mammoth bone specimens dated here range from 25-45,000 yrs B.P. Older mammoth bones do not show similar breakage patterns, according to Richard Morlan, project archaeologist.

Seven of the specimens were found in situ beneath glacial Lake Old Crow clays and on or above an erosional feature called Disconformity A. Dates on these specimens span the period from 40 to 25,000 yrs ago. This suite of dates, Morlan comments, closely parallels the dates on the redeposited mammoth bones that may have been altered by people.

The dating is funded in part by grants from the National Science and Engineering Research Council of Canada to Simon Fraser University’s Dr. Erle Nelson, John Southon, and John Vogel in collaboration with Richard Morlan from the National Museum of Man.

—M. Sorg

COMING OF AGE IN CALIFORNIA

Perhaps the most controversial topic in the field of archaeology is the question of when humans first crossed the Bering Strait and migrated into the New World. Archaeological sites with reported dates of more than ten thousand years have long been the subject of heated debate. This past November marked the 21st anniversary of one such site, made famous not only by its proposed age of 200,000 years but also by the distinction of being the only dig in the Americas directed by the late paleontologist Louis S. B. Leakey.

The Calico site is located 7 km northeast of Yermo, California, on the southeastern flank of the Calico Mountains in the central portion of the Mojave Desert. Classified by its excavators as a quarry and habitation site, it lies in a Pleistocene alluvial fan built from water-borne silts and stones that originated from a canyon to the west. The fan overlooks the basin of ancient Lake Manix, which dried up between 15,000 and 18,000 years ago and existed while the site was active. A fault opened up several millennia ago and cut off the flow of debris to the fan.

Archaeological survey of the Manix Basin was first begun in 1954 under the direction of Ruth Dee Simpson, then of the Southwest Museum in Los Angeles and now the director of the Calico site. In 1958, Simpson had found enough surface materials to show scientists in Europe. While there, she met Dr. Louis Leakey, who asked her to search for the material underground and in situ—in its original stratigraphic context. In a commercial bulldozer cut Simpson and her crew later identified Lake Manix lithics in what they believed were original

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The Calico site, looking northeast. Large roof (center) covers Master Pit #1. To right is covered trench leading back to Master Pit #2, also covered. "T" trench is visible behind (above) Master Pit #1. At far right are rows of unmodified siliceous rocks removed during excavation.

UPDATA ON MONTE VERDE

After seven field seasons, Tom Dillehay, archaeologist from the University of Kentucky, has finished excavating Monte Verde, one of the most rewarding Pleistocene sites in all of South America. Located in cool, wet, forested country west of the Andes in south-central Chile, Monte Verde did not start off looking rewarding, its beautiful name notwithstanding. For the first two field seasons, Dillehay had doubts about whether it was an archaeological site at all.

But by the time Mammoth Trumpet reported on Monte Verde in its first issue in winter, 1984, a de-
TWO NEW BOOKS

The Center for the Study of Early Man is proud to announce the upcoming publication of two new, eagerly anticipated volumes. Both books, from the Symposia series of the Peopling of the Americas program, are valuable contributions to the field.

New Evidence for the Pleistocene Peopling of the Americas, edited by Alan L. Bryan, presents 23 papers, some in Spanish and Portuguese with English abstracts. It offers a comprehensive review of ongoing research, with an emphasis on South America. Alan L. Bryan is Professor in the Department of Anthropology at the University of Alberta in Edmonton. He and his wife, Dr. Ruth Gruhn, have made numerous trips through South America and have pioneered the excavation and interpretation of several early rockshelter sites in Brazil.

New Evidence of the second major volume Bryan has edited on the early peopling of the Americas.

Environments and Extinctions: Man in Late Glacial North America, edited by Jim I. Mead and David J. Meltzer presents new conceptual frameworks for reconstructing and interpreting late Quaternary cultural and environmental remains. It concludes with a transcription of a roundtable discussion and debate which took place at the SAA symposium from which the book emerged. The volume contains a wealth of primary source data, tables, site maps, and figures.

Jim I. Mead is Assistant Professor in the Department of Geology at Northern Arizona University and a Scholar-in-Residence at the Museum of Northern Arizona. His research interests are late Quaternary paleoenvironmental reconstructions of arid North America, with an emphasis on vertebrate paleontology.

David J. Meltzer is Assistant Professor in the Department of Anthropology at Southern Methodist University. His research emphasizes paleoenvironmental reconstruction and evolutionary theory, especially human adaptations during the Late Pleistocene in North America.

See page 6 for complete tables of contents and ordering information.

KEEPING THE TRUMPET ON KEY

As each new issue of the Mammoth Trumpet is prepared and published, we continue our efforts to fine-tune its purpose and its policies. In our role as "bridge," we attempt to report on a wide range of research and ideas. Our goal is entirely free of controversy, but our intention is to cut through the polemical masks and expose the ideas themselves — rather than promote any particular viewpoint.

We continue to need your support and communication. Keep us informed about new research, new publications, and new opinions. Our policy is not to accept advertisements; however, we will report receiving new references and resources that we feel are of general interest. If you strongly agree or disagree with material that appears in the MT, let us know. The closer we are to keeping a finger on the pulse of research, the greater the service we are able to provide.

Are You Having Trouble Receiving Your Trumpet?

Some of our members have reported difficulty receiving their MT. The newspaper is sent third class. This means that, if you move, it will not be forwarded by the post office; so, let us know about any change of address. If you have been having difficulty, let us (and your local Postmaster) know. If you wish to receive your MT first class, simply send us an extra $1.00.

CORRECTIONS AND BRIEF COMMENTS

Conferences - 12th International Radiocarbon Conference. Richard Gillespie of the University of Arizona brings us to the attention that all accelerators used for AMS are tandem, and tandem mass spectrometry is a separate field which does not necessarily involve accelerators at all.

Early Holocene Burial at Wilson-Leonard Site - Al B. Wesolowsky is presently at Boston University; at the time of the "Leandertahl" work, he was with the University of Texas at San Antonio.

Arroyo Seco - The avocational archaeologists who discovered the Arroyo Seco Locality are Alfredo Monas, Alba Elspinio, and Julio Mortola. Members of the multi-disciplinary team that began the excavations in 1979 include geologist Francisco Filadelfo, paleontologist Edwardo Tonni, physical anthropologist Alberto Marcel- linio, archaeologist Monica Salenne, and the Radiocarbon Lab of La Plata Museum. One brief correction is an incorrectly labeled Macrascinna as a camel; even though it resembles the camel, it is not one.
ARCHAEOLOGY IN ARGENTINA

Gustavo Pollitis (CONICET-Museo de la Plata) represents the younger generation of an Argentine archaeological tradition that reaches back to the late nineteenth century, developing out of the pioneering work of three major scholars, Francisco Moreno, Juan B. Ambrosetti and, especially, Florentino Ameghino. Since joining the faculty in 1969, Pollitis has become a prominent local group of amateur archaeologists and began making surface collections. His first interest in early human prehistory came from reading the only book on archaeology then available to him—Ameghino’s La antigüedad del hombre en el Plata (Antiquity of Man in El Plata).

The title hints at the hypothesis that brought Ameghino, and with him Argentine archaeology, to international prominence. He made bold claims for human antiquity in South America, based on his discoveries of human artifacts associated with extinct Pleistocene megamammals. Mainly because of the existence of these possible Pleistocene human artifacts, the title of the book suggests the possibility of human habitation in South America dating back to the Pleistocene.

Museo de la Plata (Photo courtesy of Gustavo Pollitis)

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Fistfall projectile points found by Nora Flegenheimer at the Cerro de la Vaca in the Parana Pampas region. A radiocarbon date of 10,720 years ago was obtained from the level in which the points were found. (Photo courtesy Gustavo Pollitis)

A large percentage of Argentinean archaeologists believe in a pre-Clovis occupation of South America. "Because we have well-defined archaeological contexts, not only in Argentina but also in other South American countries, which are older than Clovis, we believe that the first hunter-gatherers arrived in South America before the Clovis people." This is a common statement throughout South America, but it is also a controversial one, as some researchers believe that the Clovis people were the first to arrive in the Americas.

Gustavo Pollitis

Quaternary studies. The people who are studying Buenos Aires have a lot of history, philosophy, Classical archaeology, and Classical history." In the beginning, they were more interested in ethnology, Archaeology, and physical anthropology. But that has changed in the last two decades, as the university faculty at Buenos Aires shifted towards the kind of archaeological interdisciplinary focus that exists now at La Plata.

Archaeology as an academic career began in Argentina in the 1960s. People got their Licenciatura (licentiate) degree in anthropology in an undergraduate program lasting six years (there are no Masters degrees). The only two institutions granting the Ph.D. in the discipline are Buenos Aires and La Plata, whose Faculty of Natural Sciences is actually housed in the same building as the Museo de la Plata, as befits its natural-sciences orientation. It grants a Ph.D. in natural science, oriented to anthropology, while Buenos Aires grants a Ph.D. in philosophy from the College of Philosophy and Literature, oriented to anthropology. In addition to two or three paleontologists, the La Plata faculty counts five or six archaeologists interested in the Paleolithic Period including Augusto Carvacho, Estela MazzaFrancomme, Andrea Austrera, Monica Salamone, Nora Flegenheimer, and Laura Miotti.

There are fewer sources of funding in Argentina than in the United States, but there are also fewer places thus, not so many applicants competing for the money. CONICET provides most of it; so do the universities, two or three governmental institutions, and a few international sources: National Geographic is supporting research in Tierra del Fuego led by Jorge Campana and the Iztacazuf, in the Northwest led by Rasonio, and in the Southern Bolivia led by Argentinean archaeologist Douglas. The two professional associations that exist are the new College of Graduates in Anthropology and a sort of non-academic professional union which nevertheless only admits people with a degree in anthropology. But amateurs may join the Argentine Association of Archaeologists, and in fact deliver some papers at the national meetings. Pollitis rather expects some upsurge of interest in anthropology and archaeology with the installation of the new government, which has promoted a revived emphasis on Argentina’s Latin American (over its European) roots. Yet the interest may not originate with the modern Argentinean Indians, who have so far shown little propensity (possibly because they are such a small fraction of the population) to lay claim to supposed ancestral sites, as their counterparts have at times done in North America.

Unlike, say, Peru, which has sprouted a large number of American, Japanese, and French projects, Argentine has very few outsiders working there. Its international cooperation is chiefly with Chile, which shares eighty percent of its border with Argentina and whose archaeologists often excavate in proximity to sites in the Argentinean northwest and in Patagonia.

Gustavo Pollitis has a warm and humanist spirit that travels across the distance of a taped interview, and in himself should represent a force for the improvement of international scientific relations. Funded by CONICET, he has been a visiting scholar for the past two years, both in the Department of Anthropology at the University of Kentucky and the Center for the Study of Early Man. He came to study cross-cultural relationships in the Paleolithic period and to learn about new techniques in microwear analysis and taphonomy, and will return to Argentina in December.
The Calico Site

COMING OF AGE IN CALIFORNIA

Aerial view of Calico site (arrow, lower center) and area shown in photo. (Map: Vicky Hiplesy)

(Continued from page 1)

Pit 1 is now 7 m deep, a fact all the more amazing when one considers that it was dug entirely with den-
table picks, awls, knives, hammers and chisels!

In 1986, upon Leakey’s direction, a second master pit was begun 12 m northwest of the first. This 3 by 4.5 m pit is now 9 m deep, with the artifact-bearing level beginning at 4 m. Between the two pits there is a geological trench for the purpose of constructing an accurate soil profile.

In 1970 a major conference was held that Simp-

son thinks took place, unfortunately, too early in the sit’s history. At that time not enough analytical work had been done on the artifacts or the geology of the site. Most of the hundreds who attended left the meeting decidedly uncommitted as to the site’s validity. Debate then and now centered on two points - whether the lithics are culturally manufactured and the exact date of the fluvial deposits. Simpson believes that the meeting generated a lot of negative feelings towards their project.

By 1970 Master Pit 2 was 5.5 m deep, work then slowed and eventually ceased in both pits due to diminishing funds. During the years the National Geographic Society supported the dig, there were between 25 and 30 paid staffworkers on the site. On the other hand, others volunteered their time. Budinger was put in charge by the Bureau of Land Management, who took over the site in the early 1970’s as an “area of critical environmental concern.”

For many years the Calico site has avidly encour-
gaged public interest and involvement. Every weekend an ongoing training program for volunteers is con-
ducted by veteran crewmembers. A number of new test pits were opened to facilitate this training when work stopped on the master pits. In 1981 one of these pits became Master Pit 3, and now measures 4.5 m by 3 m by 2.2 m. Simpson says they are just beginning to reach the artifact-producing level of this pit.

The more than 11,500 lithics that comprise the Calico assemblage are mostly interpreted to represent flake tools - scrapers, gravers, cutting tools, and den-
tilicates (tiny saws) made from flakes or spalls of stone, as well as a much smaller number of core tools - choppers, picks, anvil stones, and hand axes shaped by removing flakes from a cobble or very large flake until the central “core” is shaped as desired. Simpson notes that their lithics resemble some Chinese artifacts she has seen, yet do not look like those found in Europe.

Simpson lists a number of factors that convince her that the Calico lithics were indeed manufactured by humans and are not just the results of natural pro-
cesses. The lithics are found in distinct concentrations or “clusters” that suggest individual workshop areas. A significant number of the Calico lithics appear to possess characteristics of percussion-made tools.

The Calico lithics are composed mainly of fine-
grain siliceous materials such as chalcedony, jasper, and chert, which lend themselves well to flaking be-
cause they have no natural cleavage planes. There is a great abundance of poorer-grade materials at the site, but very little appears to be worked. Thus the argu-
mint is that these are not a result of the fan having acted as a great “gravel crusher” producing many natural flakes. Random natural forces would not, they suggest, differencially flake one type of stone over another.

Simpson says that many of the Calico specimens show distinct retouch or retouching patterns that are distinguishable from natural edge damage. Clay Singer of UCLA and Cal-State Northridge has analyzed a number of the lithics under a 60 x microscope and has determined that 2-3% of them show use-wear, even though the action of the soil would be expected to destroy most such evidence. Such use-wear suggests to him that Calico was not only a quarry site but also a habitation or campsites.

The question remains as to who made the tools. Simpson thinks it was probably not Homo sapiens sapiens, nor Homo erectus, but possibly an early form of Homo sapiens.

The data of the site over the past twenty years has had a wide scatter, ranging from a few tens of thousands of years to several millions of years. The current proposed age of 200,000 years was arrived at by James Bischoff of the United States Geological Survey, Richard Ku of the University of Southern California, and Roy Schele, a consultant. Their dating method is made possible by the fact that, as material is buried, ground water percolates down and deposits “calcrete” — a calcium carbonate coating containing radioactive uranium — on all the rocks, in-
cluding the artifacts. As the overburden increases in size and depth, however, less water can percolate down and the calcrete coating on the lower rocks begins to disintegrate. During the disintegration process the uranium changes to the isotope thorium. The ratio of uranium to thorium can be converted to a time scale, yielding a date of 200,000 ± 20,000 years before pre-
sent for the lithics in the lowest level of Master Pit 2.

Recently, consulting geologist Dr. Dennis Burke analyzed the stratigraphy of the artifact-bearing levels and surrounding area to more fully understand the geology of the site. He has determined that the site is located in fluvial (stream and slope) deposits, not the alluvial (mud and rock flow) deposits of the fan itself. One hypothesis is that erosion through the fan created a valley and exposed a vein of chalcedony near-
by; it was this “mother lode” of tool-quality material which drew people to inhabit the valley. The valley within the fan was later filled by the fluvial deposits from the Calico Mountains.

What is the significance of the Calico site? Simp-
son relates that, “Our artifacts demonstrate a genuine early lithic tool kit of great diversity and high quality. The fact that it is a percussion flake tool industry shows the extent of man’s craftsmanship. Calico makes apparent the need to reevaluate the archaeological and geological data from previously-known sites.”

“A hundred years from now,” Simpson continues, “the Calico site will be seen as the first of the very, very old sites—a breakthrough and a door into a whole new chapter of American archaeology, establishing that man was here and was an accomplished tool maker in the middle Pleistocene.”

— Stephen P. Nawrocki

“"This is something that doesn’t happen anywhere else."

Ruth DeEtte Simpson has spent practically her en-
tire career as an anthropologist in the southern Cali-

fornia area in which the Calico site is located. In addition to her ongoing activities at Calico, she has been a curator at museums in the area for over three decades, most recently at the San Bernardino County Museum. She continues to work as a volunteer since her retirement in 1983, taking care of the Calico co-

lection housed there.

Simpson’s role in the discovery and development of the Calico site cannot be underestimated. It is largely through her efforts that Calico has become a superb example of a community project, a dig exposed to and funded by the public, with an ongoing program that enables anyone to learn firsthand about archaeology, in both the lab and in the field. This consister "is something that doesn’t happen anywhere else."
Tom Dillehay studying use-wear on loliths under the microscope. (Photo by Gustavo Politi)

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Thousands of burned lycopodium spores have been found in or around hearths and brazeros. At present, there are six radiocarbon dates from all strata that help lock this culture in to a 12,700-13,200 year frame. At a site 500 m upstream, these strata above the Pleistocene occupation lie an Archaic occupational level of the type dated at other people's sites to about 6-8000 years. Two and a half meters below the present surface or 1.5 m below the 13,000-year level at Monte Verde is perhaps the greatest puzzle of all, one which Dillehay is extremely cautious and conservative in making any conjectures about, yet which he feels cannot simply be dismissed out of hand.

As far back as 1979, two deep test pits were sunk into the terraces off the creek. (The topography today is almost exactly like that 13,000 years ago.) At the 2.5 meter level, two patches of charcoal specks and chunks were found in a slight depression very similar to the brazeros. Around these are three stones, one of which bore a clear percussion scar, the other two being simply fractured stones with dubious morphology. There was no evidence of a filtering down of artifacts, since the strata above are culturally sterile, nor any evidence of geological disturbance. And the radiocarbon date for the charcoal was 33,000 years.

In 1983, more deep test pits were sunk across the site. Again, stones turned up at this level: there are 17 now, four with clear percussion marks or flaking spots. All are the same type stone, exotic to the area, again unknown, not the same as the lithics found above. And there are three charcoal patches altogether, the third one clay-lined in a fashion quite similar to the 6-8000-year brazeros. For the moment, at least, the explanation is to be skeptical, Dillehay ventures, we might be talking about some cultural continuity here.

Amazing as that would be over 20,000 years, other evidence points tentatively in the same direction, or at least does not contradict it. Dillehay has worked with geologist Mario Pino and wood specialist Juan Diaz (University Austral de Chile) and on the loliths with Michael Collins (geologist, Southwest Museum of Man, Midland, Texas). "I don't want to commit my colleagues to the following, but I have shown the stones from the deeper levels to other early-man specialists, and others are in agreement with me that three or four of those stones have good evidence of human modification, be it flaking or percussion scars . . . And I point out with respect to those other 13 stones the following: they fit a pattern that's seen in the 13,000-year-old material, the possible selection of naturally shaped stones with sharp angles, suitable for cutting, scraping, or whatever else."

But Dillehay is extremely reluctant to make any conclusions about Monte Verde, much less generalizations about the peopling of a whole continent from the findings of a single site. "I think that, personally speaking, I need to see much more information and need to see more cultural patterning. I'm willing, as the investigator at the site, to say that there's human activity 33,000 years ago, as represented by materials at that level. And I think that this 'component' at

be very similar, almost identical, with the modern elephant and camelid (guanaco). This accords with the bones remaining from the site, which are paleocamélid and mastodon.

Along with the skin fragments, analysis has been performed on preserved organic residue discovered in a number of naturally fractured stones, the result of scraping or of cutting. Some of it is actually visible, a brown or white caked material on the stones' edges; more shows up under an electron microscope. The human inhabitants of Monte Verde were scraping down two or three types of hardwoods, whose fibers remain the cracks of the stones, and also the outer covering of junco reed stalks, an edible plant with a high sugar content. There may be some bone residue packed in those fractured stone fissures too, say the biochemists, and perhaps some tree resin and salt.

Five or six medicinal plants were recovered in the vicinity of the salt cache, making it 15 to 20 that botanist Carlos Ramirez (University Austral de Chile)" has identified in all. There's clear evidence that they were going a fair distance to bring in these plant parts, none of them natural to the site, about half of them occurring at the coast. And although it is only an inference that the Pleistocene occupants were actually employing them medicinally, that inference seems nearly unavoidable. Only parts that are medicinal are present, and the seeds and masticated leaves that have shown up are in fact inedible.

The conclusion is also based on ethnographic analogies: local Indians gather lycopodium powder from one of the plants to treat skin ailments. Lycopodium powder also stays dry, even during the wet season, and may have been used as a fire-starter. Montevideo may be simply one of many other components before it, and I'm sure of many others to come, that will go into a pool of information that will remain questionable, unanswerable, until we get more evidence. I think it's going to be an accumulative thing."

Far from being sorry that the excavation is concluded, Dillehay regards Monte Verde as something of an (enjoyable) interruption of projects he is eager to return to in Peru and Chile. But he has by no means washed his hands yet of the undertaking, for he has National Science Foundation funds to analyse the collected data until the end of next year.

—Michael Doltani
NEW REFERENCES AND RESOURCES

Debert: A Paleo-Indian Site in Central Nova Scotia, by Dr. George F. MacDonald. Long out-of-print and unavailable, the Debert Site Report has been reprinted as a facsimile of the 1968 edition, with a new cover, foreword, and comprehensive index. The report is illustrated with many photographs and line drawings of artifacts recovered in archaeological excavations. Pensimmon Press, 118 Tillingham Place, Buffalo, N.Y. 14216. 209 pp. including 31 B&W plates, 16 Tables and 26 Figures. ISBN 0-9615462-0-4, $13.95 plus $1.25 postage and handling.

Out of Asia: Peopling the Americas and the Pacific, edited by Robert Kirk, and Emőke Stathmeh. Published by the Journal of Pacific History, distributed by the Department of Anthropology, McMaster University, Hamilton, Ontario, L8S 4J7, Canada. Contact Dr. S. Saunders (416) 525-9140 ex. 3903. $18.50 plus $2.50 postage, American; $26.00 plus $2.50 postage, Canadian.

Selected sections:

The East Asian Tertiary/Quaternary Newsletter, compiled and published by the Centre of Asian Studies, University of Hong Kong, Robert Orr Whyte. This newsletter contains short original contributions, news items regarding research in progress or planned, reviews of books, abstracts of current literature, travel by scientists, requests for information, etc. Geographical scope: within the area bounded by 75 to 15°E longitude and 20 to 50°N latitude, but extending to adjacent regions when data are relevant to the core area. Topical scope includes geology, oceanography, palaeoclimatology, palaeobotany, paleo- zoology, and palaeoanthropology. Geographical time scale: from early to mid-Tertiary up to the emergence of humans, but reaching back to earlier periods when considered relevant.

The closing date for receipt of material in the Centre for Newsletter no. 4, W.N. 1987, will be the end of March, 1986. All scientists within and outside Asia are asked to provide (without regular reminders from the Centre) a statement of current activities, travel, publications and any other information likely to be of interest to their colleagues. The price for the Newsletter is $5.00 U.S.


Contributions in Quaternary Vertebrate Paleontology: A Volume in Memorial to John Guilday, edited by Hugh H. Genoways and Mary R. Dawson. This is an assembly of articles by the friends and colleagues of the late John E. Guilday in recognition of his contribution to the study of North American Quaternary fauna. There are 31 articles in addition to an obituary and complete bibliography for John E. Guilday. This book contains 538 and is heavily illustrated. Only 1200 copies have been printed, and it will not be reprinted. It may be ordered for $56.00 plus $2.00 shipping and handling from Publications Secretary, Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, PA 15213.

Pollen Records of Late-Quaternary North American Sediments, edited by Vaughan M. Bryant, Jr. and Richard G. Holloway. Late Quaternary fossil pollen records from all regions of North America are summarized and explained. The 15 chapters representing the work of 18 different individuals provide access to paleoenvironmental records for each major area of North America. The final chapter contains a bibliogra-
What is a Catastrophe?

The Extinction Conference held this past March as part of the Southwestern Rocky Mountain Section A.A.S. meetings, provided a bit of an update on extinctions research since the recent book published by Martin and Klein, (see Mammoth Trumpet 13:3). With about one hundred in the audience, the three researchers of the Pleistocene extinction reviewed and updated their research and exchanged ideas.

A major outcome of the conference was the increased awareness that the Pleistocene extinction can be used as a model to provide very useful information about other larger and earlier extinction events. Because the Pleistocene extinction was generally limited to certain classes of larger land mammals, its record has been previously neglected by many. However, this record can be dated more precisely than with other radioactive isotopes, and can be connected to the blastrographical data allowing the study of whole communities. Fossil records of earlier events are sometimes more spotty and difficult to date without a larger error margin.

One of the questions the Pleistocene record may be able to answer is "what is a catastrophe?" The picture which emerges is that these extinctions which signal the end of the Ice Age may have occurred within about 1000 years, affecting a large number of organisms within particular animal groups. Although not in many forms of life (e.g. net invertebrates, marine animals, or plants) were affected, the drastic changes within this short time range and the impacts on the ecology of related communities qualifies as an ecological catastrophe.

Clearly, contemporary understanding of the causes of such disasters can yield important lessons for coping with current and future environmental change. Still, more research is needed to elucidate the complex relationship between human populations and such events.

Information contributed by Paul Martin, University of Arizona, Tucson.

UPCOMING...

December 27-30, 1985 ARCHAEOLOGICAL INSTITUTE OF AMERICA, 9th General Meeting, Sheraton Washington Hotel, Washington, DC.
For details contact the Archaeological Institute of America, P.O. Box 800, Kentmore Station, Brooklyn, MA; 617/353-9511.
For details contact R.M. Grumly, Buffalo Museum of Science, Humboldt Parkway, Buffalo, NY 14211.
April 8-12, 1986 THE LONGEST RECORD: THE HUMAN CAREER IN AFRICA. A CONFERENCE IN HONOR OF J. DESMOND CLARK, Berkeley, CA.
For more information contact Annual Meeting Chair: John W. Harris, Department of Anthropology - JIC, University of Wisconsin, Madison, WI 53706.
April 23-26, 1986 SOCIETY FOR AMERICAN ARCHAEOLOGY 5th Annual Meeting, The Clarion Hotel, New Orleans, LA.
For more information contact Annual Meeting Chair: Robert W. Neuman, Museum of Geosciences, Louisiana State University, Baton Rouge, LA 70803.
May 19-24, 1986 INTERNATIONAL SYMPOSIUM OF ARCHAEOLOGY, Natural Research Centre, Athens, Greece. Topics include: styles, dating of organic materials (e.g. radiocarbon), and dating of inorganic materials (e.g. charcoal and other organic molecules, dendrochronology, amino acid analysis), and dating of organic materials (e.g. thermoluminescence, ESR, fusion track, uranium series, archaeomagnetism). Contact Dr. Yannis Maniatis, Archaeometry Symposium, NR2 Democritos, 153 10 GR Aghia Paraskevi, Athens, Greece.
Contact Dr. J.A. Donaldson, Department of Geology, Carleton University, Ottawa, Ontario, Canada K1S 5B8.
For details contact: AAS Meeting Office, 1111 Vermont Avenue NW, Washington, DC 20005; 202/942-9530.
June 2-4, 1986 NINTH BIENNIAL AMQUA MEETING, University of Illinois, Champagne, IL.
Details to be announced.
July 7-11, 1986 GEOCONGRESS '86, an International Earth Science Congress, Johannesburg, South Africa.
2nd Biennial Congress of the South Africa Society of South Africa. Contact Symposium Secretariat, 8359, CSIR, PO Box 395, Pretoria 0001, Republic of South Africa.
For details contact Dr. C. W. Crook, Department of Geology, Australian National University, PO Box 5, Canberra, A.C.T. 2601.

MAMMOTH TRUMPET PAGE 7

HYRAX

The common ancestry, (Stewart and Wilson, Berkeley) admitting very honestly that biochemistry may also be wrong, or similar lysines (a type of blood protein) are found in the cow and in the langur (an Asian monkey), but this does not mean that they are clearly related.

Furthmore, the molecular biology is not a "panacea," particularly when it deals with only a few biochemical parameters. To try and elucidate the evolutionary history of the mammals, the whole range of data must be taken in account, both anatomical and biochemical. And that is why meetings such as the Emden Congress are so important, putting in contact people who hardly knew of one another before.

Dr. Vera Eisenman, Institute of Paleontology, 8 rue de BuIfon, 75005 Paris, France
NEW REFERENCES AND RESOURCES

(Continued from page 6)

ography of 547 citations of published and unpublished pollen analysis reports from the American Southwest. ISBN 0-931871-01-8; 350 pages; $35.00. Available from the American Association of Stratigraphic Palynologists Foundation, Robert T. Clark, Treasurer, Mobil Research and Development Corp., DRL, PO Box 819047, Dallas, Texas 75381.


Stone Tool Analysis: Essays in Honor of Don E. Crabtree. Edited by Mark G. Plew, James C. Woods, and Max G. Pavesic. This book honors the contributions to archaeology and lithic technology of Don E. Crabtree. The papers presented in the 12 chapters represent the broad influence of his work. Topics include: pressure flaking techniques of Australian Aboriginals; cognition, behavior and material culture; stone tool notching; and stone tool reduction techniques. 320 pages, including numerous illustrations and index, from University of New Mexico Press, Albuquerque, NM.

The Williams Site, Danville County, Virginia, written by Rodney Peck with an introduction by Vance Haynes. This is a collection of the best articles ever published about the Williams Park Paleolithic site. There are 213 pages with many tables, charts, maps, pictures of Paleolithic tools, and one color plate. Send $25.00 plus $2.00 shipping and handling to R.M. Peck, 1539 Quail Drive, Harrisburg, NC 27505.

Animal Bone Archaeology, by Brian Hesse and Paula Wapnish. Published by Taraxacum, Washington, 130 pages, 100 figures, 10 tables, and index. The subject covered in the 8 chapters include: animal categories; assemblage formation; vertebrate skeleton; collection, record keeping and conservation; information available from individual bone fragments; taphonomic category analysis; and assemblage analysis. ISBN 0-9602822-3-8, $18.00.

The November, 1985, issue of National Geographic (Vol. 168, no. 5) will be of special interest to many readers. This issue, with a bibliographic image of the Taung child (the first known hominid skull, discovered in South Africa) on its front cover, offers two interesting and informative articles on the origins of humankind. The accompanying photographs and drawings well illustrate the various stages of human evolution.

The International Council on Archaeozoology was formed in 1974 to promote study of the standards in the study of faunas remains from archaeological sites. Corresponding membership is available to anyone interested in archaeozoological or related research by writing the General Secretary: Dr. A.T. Clausen, Biologisch-Archaeologisch Instituut, Poststraat 6, 9712 ER Groningen, The Netherlands. The ICAZ is having its Fifth International Conference this coming August (see Upcoming Conferences, this issue). Their last conference in London (1982) attracted more than 230 researchers from all over the world. Proceedings of that conference are currently being published in four volumes by British Archaeological Reports (Oxford) under the title Animals and Archaeology. Volumes constituting proceedings from the previous three conferences are subtitled Hunters and their prey, Shell middens, Fishes, and Birds, and Early Herders and their Flocks (BAR S103, S183, and S202 respectively) are already available. Information contributed by Richard H. Meadow, ICAZ Executive Committee Member, Zooarchaeology Laboratory, Peabody Museum, Harvard University).

GLOSSARY

Theriological - pertaining to the study of theria, the subclass of mammals whose young have their early development in the uterus, including marsupials and placental.

Perissodactyla - the mammalian order which comprises the odd-toed hoofed quadrupeds: tapias, rhinoceroses and all horses.

Lycopodium powder - the spores of the plant Lycopodium clavatum, commonly known as club moss or wolf toes. The resinosus spores cling to the skin and repel moisture. The powder is also highly flammable and is used in fireworks and as "flashpowder" on the stage. L. catharticum, native to the Andes, is reputed to have been used, when fresh, as a cathartic. The plant is also used to dye wool blue in conjunction with Brazil wood.

Bone collagen - the protein component of bones which surrounds the inorganic, mineral, matrix or framework.

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MAMMOTH BRIEFS

A liaison committee has been formed between the Geology-Archaeology Division of the Geological Society of America and the Society for American Archaeology. Final appointments to this committee were made at the recent OSA meeting in Orlando. There will be several purposes to this committee which in general will act on matters of mutual concern to the two organizations. First, they will consider how the SAA and the GSA can work together to improve federal-level funding for projects which integrate geology and archaeology. Second, they will seek to educate the profession on the usefulness and desirability of integrating these two disciplines in research projects. Third, they will discuss the education of students in a way which promotes the links between the fields. The committee members are Harold W. Born (Institute for Quaternary Studies, University of Maine at Orono) from the GSA and Jonathan Davis (Social Sciences Center, Desert Research Institute, Reno, NV) from SAA.

Glynne Isaac, eminent paleoanthropologist and professor of anthropology at Harvard University, passed away on October 5, 1985 at the age of 47. He became ill while on a trip to Beijing, China, for the National Academy of Sciences, and died unexpectedly while en route to the United States for treatment. Isaac had gone to Harvard in 1983 after having spent 17 years at the University of California-Berkeley. Born in Cape Town, South Africa, he received his doctorate from Cambridge in 1969. He is best known for his research on key hominid fossil sites in East Africa (Koobi Fora, Lake Turkana, and Lake Natron). He has been a world leader in paleoanthropology whose shoes will be difficult, if not impossible, to fill. A memorial service was held on November 4 at Harvard.

Jean M. Axell, author of best-selling novels about the Neanderthal-early Cro-Magnon phase of human evolution, has just published the third book in the Earth's Children series, The Mammoth Hunters. Mrs. Axell, a charter member of the Center for the Study of Early Man, recently visited the Center and spoke at the University of Maine about her research. While she was here, she was interviewed at length, the Mammoth Trumpet. This interview focuses on the need for communication between scientists and the lay public concerning human prehistory, and the need on the part of us all to understand our own cultural and biological heritage. Her work will be featured in the next issue of the MT.

(Photos courtesy of Crown Publishing Company)

SUGGESTED READINGS

Major Journals On Argentine Anthropology and Archaeology

Relaciones de la Sociedad Argentina de Antropología, published by Instituto de Antropología, 25 de mayo No. 217, 1er piso, 1002 Buenos Aires, Argentina.

RECS, published by the Instituto de Antropología, 25 de mayo No. 217, 1er piso, 1002 Buenos Aires, Argentina.

SAA, published by Museo Arqueológico Municipal "Dámaso Acea", 7400 Chasab, Argentina.

On Calico


Friends of Calico Newsletter. For information, write to Friends of Calico Early Man Site, 204 Orange Tone Lane, Redlands, CA 92373.