MAMMOTH TRUMPET

Volume 5, Number 3
July, 1989

Center for the Study of the First Americans
495 College Ave., Orono, Maine 04473

University of Maine
ISSN 8755-6898

SUMMIT '89

Who were the First Americans? Where did they come from? When and by what route did they arrive?

Researchers from around the globe convened May 24–28, 1989, at the University of Maine, Orono, to address these and other intriguing issues concerning the earliest peopling of the New World at the First World Summit Conference on the Peopling of the Americas. Hosted by the Center for the Study of the First Americans, Summit '89 was the first forum to approach the question of the peopling of the Americas from a global perspective. Approximately 300 people attended the conference, which was produced with major financial support from the National Geographic Society, National Park Service, and Wenner-Gren Foundation, as well as private contributions. Plans to publish the proceedings are presently underway.

University of Maine President Dale Lick and Center Director Robson Bonnichsen welcomed participants to the official opening of Summit '89 Wednesday evening at the recently completed Maine Center for the Performing Arts.

Jean Auel, author of the popular Earth's Children saga, keynoted the events. Speaking on the "Public and Prehistory," Auel addressed the archaeologists in the audience, urging them to make prehistory more readily accessible to the general public. Citing inadequate public education, the ever-increasing loss of archaeological sites through construction and looting, and archaeological texts and reports made incomprehensible by jargon, Auel stressed the need to involve and interest the average individual if we are to preserve our archaeological heritage.

The evening ended with a salute to Auel by Marilyn and Harrison Roper on a "mammoth trumpet."

Four days of formal conference proceedings began early Thursday morning with discussions on archaeological theory and methodological advances. Thursday afternoon's sessions concentrated on the peopling of the Americas from an Asian perspective, as researchers from China, the Soviet Union, Korea, and Japan examined the relationships between Old and New World technologies. Friday's presentations covered early human evidence from North America, while Saturday's focused on projects in Latin America. The conference concluded with Sunday's public trust symposium.

Presentations given during the conference exhibited considerable diversity, ranging from the early peopling of Japan (Takaru Akazawa: "Pleistocene Peoples of Japan and the Peopling of the Americas") to a description of a new technique enabling researchers to identify blood residues adhering to artifactual materials (David Hyland: "An Application of Nitrocellulose Membrane for the Identification of Blood Residues on Artifactual Material"; see **Mammoth Trumpet** 4(3)).

Summit '89 participants await the opening session of the conference. The five-day event provided conference-goers with many opportunities to meet and discuss the information being presented, as well as to share ideas and experiences.

Old issues were reexamined; Dr. James Adovasio ("Meadowcroft Rockshelter Radiocarbon Chronology: 1975–1989"), in a dynamic presentation, (hopefully) laid to rest the diehard assertions that the 14,000–14,500 year old dates from Meadowcroft Rockshelter are the result of coal contamination. And Dr. Tom Dillehay ("Pleistocene Peoples of Monte Verde, Chile") convinced even the most skeptical among the audience that Monte Verde is indeed a 13,000 yrs B.P. peat-preserved settlement, complete with hand-hewn wooden planks, sharpened stakes, wood, bone, and stone implements, and preserved mastodon meat (see **Mammoth Trumpet** 1(1); 2(2)).

Occasional notes of humor were sparked throughout the conference proceedings. Following his talk on the early bifacial technology of Siberia, Soviet scientist Dr. Nikolay Drozdov ("The Projectile Point Tradition of the Late Paleolithic of Northern Asia and Its Coming to Northern America: 1989") presented Dr. Robson Bonnichsen with a new Center logo. Expressing the concern he and his colleagues had felt on observing the downtrodden posture of the new American immigrants as they

(Continued on page 5)

INSIDE . . .

RED OCHRE USE ON THE PLAINS DURING THE PALEOINDIAN PERIOD

by Donna C. Roper, Commonwealth Cultural Resources Group, Jackson, Michigan

*Editor's note: **Mammoth Trumpet** 5(2) featured three unusual Paleoindian sites: the Anzick and Richey-Roberts Clovis caches and the Ontario Crowfield site. Sites such as these contain clues, not only to the material cultures of the early New World inhabitants, but to the beliefs and lifeways of these people as well. The presence of red ochre, or hematite, at archaeological sites also provides us with glimpses into the non-material past. Although a common element at many Paleoindian sites, few comprehensive studies exist on this subject. In the following article, Dr. Donna Roper examines the temporal and spatial distribution of ochre at Plains Paleoindian sites.*

Hematite, particularly in its earthy form known as ochre, is the second most common mineral found in North American pre-ceramic archaeological sites, exceeded only by the siliceous minerals used for fashioning chipped tools. Ochre is most common in mortuary context, at times achieving such prominence that it lends its name to an archaeological complex (the Red Paint complex of Maine and the Red Ochre complex of Illinois are two examples). There probably is no part of North America (indeed, of the world) in which ochre was not used at some time during prehistory. Examination of its use through time at archaeological sites in a given area, however, may reveal discontinuities in the contexts in which it was used and perhaps even in its use at all. These discontinuities may reflect social and cultural changes, and perhaps were produced by changing circumstances of life. This, I suggest, was the case on the Plains in the late Pleistocene and early Holocene.

Although the Plains are outside the core area of hematite use in North America, as defined by Moorehead, ochre was used throughout the prehistoric period and into the historic period. Some provocative associations are re-

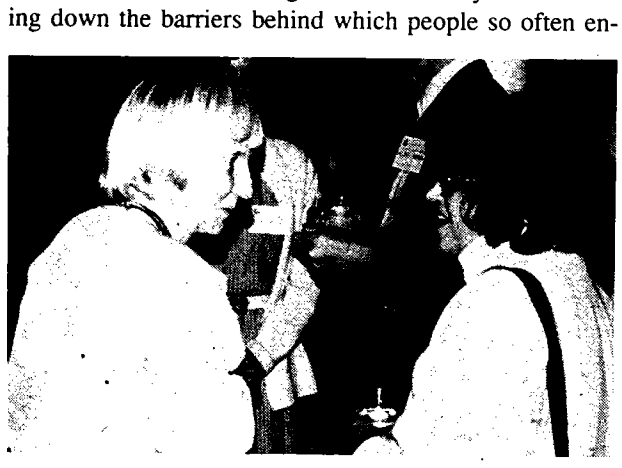
(Continued on page 6)

STONES SPEAK IN MANY TONGUES

As we at the Center for the Study of the First Americans wind down from the excitement of Summit '89, I am pleased to announce the conference exceeded our wildest expectations. Cards and congratulatory notes continue to pour in. In many ways, Summit '89 was a first: the first conference to offer an international artifact exhibit; the first to address the challenges of archaeological conservation and the direction of future research; and the first to approach the question of the peopling of the Americas from a global perspective.

Far more important than an international perspective on archaeology, however, Summit '89 also afforded participants a unique opportunity to meet one-on-one. Although given the option of staying in nearby hotels, the majority of conference-goers chose instead to experience dormitory living. Situated in the quiet Maine countryside, the small town of Orono offered few of the diversions which typically accompany large conferences. In contrast to the usual round of bars, shops, and other forms of readily accessible entertainment, the dormitory residents were left to devise entertainment of their own making.

Oddly enough, far from being a disadvantage, the somewhat unusual housing acted as a catalyst for breaking down the barriers behind which people so often entrench themselves. Drawn together by communal living, Summit '89 participants quickly transformed the halls and lobbies of Knox Hall into an international melting pot.



Joanne Turner (left) and Niede Guidon share a relaxed moment after the opening day's presentations.

Oftentimes, dormitory residents could still be found deep in conservation at 2:00 or even 3:00 o'clock in the morning. Several impromptu slide shows, not only of artifacts but of homelands and families, were presented on the walls of Knox Hall following the formal presentations of the day. Undoubtedly, one of the highlights of the conference was an informal flint knapping session lasting well into the wee hours of the morning. There, Dr. Dennis Stanford of the Smithsonian Institution and Dr. Nikolay Drozdov, Institute of History, Philology and Philosophy of the USSR Academy of Sciences, replicated ancient stone tools from their respective countries. As a crowd of spectators watched in fascination, Stanford and Drozdov then began exchanging techniques, each teaching the other—an exchange made all the more remarkable by the fact that Drozdov speaks no English, and Stanford no Russian!

Conference-goers find time for some casual conversation before dinner. ***(All Summit '89 photos by Roy Gallant, except as otherwise noted.)***

Other barriers were bridged as well as the language gap. Scholars who had never met previously face-to-face had an opportunity to discuss their ideas and papers in person, rather than in print. New friendships were formed, future plans were shared, and in some cases, new research projects were initiated. In a field all too frequently characterized by competition, Summit '89 provided a refreshing change whereby ideas were exchanged rather than hoarded, and cooperation replaced conflict.

The aura of goodwill initiated in the dormitory spilled over into the formal proceedings. While it is surprising that in a hall which seats 1600, true speaker-audience rapport could exist, the atmosphere of empathy which surrounded the presenters was unmistakable. Participants rushed into the halls during conference breaks to congratulate presenters or eagerly discuss ideas which had been raised during the proceedings.

The success of Summit '89 was a tribute to the many hours of hard work put in by those individuals working behind-the-scenes, both before and during the conference. From the chef who had to learn how to cook buffalo meat to the projectionist who fashioned complex electrical circuitry overnight to the countless hours donated by Maine Archaeological Society volunteers—all contributed incredible energy and creativity. Although those who had a hand in this process are too numerous to mention here, our group of translators deserves a special thanks.

Russian translator Dr. Rex Pyles's duties began unexpectedly four days before the conference opening with a frantic call at 7:00 a.m. Disconcerted personnel at Boston's Logan Airport had been trying for some hours to communicate about confused ticket arrangements with a Soviet passenger who spoke no English. Although the passenger, Dr. Nikolay Drozdov, had been able to convey to the officials his destination, there the matter rested. Happily, Pyles, a foreign language professor at the University of Maine, was able to intercede, facilitating the transition of Drozdov on the last leg of his long journey. Even though officially contracted to serve only as interpreter during the plenary sessions, Pyles quickly became a close friend and constant companion of Drozdov's, greatly enhancing his stay in our country.

Similar bonds of friendship formed between Korean translator Dr. Ken Ahn, University of Maine Professor of Public Administration, and Dr. Yung-jo Lee, Chungbuk National University, Korea, particularly after finding that they had grown up only 20 miles apart. Interestingly enough, Ahn never actually translated at Lee's presentation. Impressed by Lee's grasp of English, Ahn instead convinced Lee to present the paper himself, rehearsing and working with him throughout the conference.

One of the most difficult translating jobs went to Spanish interpreter Carmen Ferrero. Ferrero, a graduate teaching assistant from Spain, translated not one, but three papers! Recruited at the last moment to assist in the proceedings, Ferrero had access only to the abstracts prior to the arrival of the participants. Unlike what many observers believe, translating is a far more complex task than the simple repetition of words, and Ferrero spent many hours working patiently with the presenters on timing, language, and organization.

Looking back, the success of Summit '89 was all the more remarkable in that it occurred on the eve of considerable global turmoil. Proving, perhaps, that real learning knows no political bounds, representatives from China, Korea, the Soviet Union, and South America made the incredible effort to attend the conference. In the years to come, what may be remembered best about Summit '89 are not the scientific insights which were revealed during the proceedings, but the barriers which were broken down and the friendships that were formed outside the auditorium.

—Editor

(Photo: Joanne Turner)

(Photo: Joanne Turner)

An impromptu flint knapping session at the dormitory where conference participants were staying facilitated an international exchange of techniques and ideas. Left, Chen Chun and Richard Morlan examine lithic materials while right, Nikolay Drozdov shows Dennis Stanford his flaking technique.

MAMMOTH TRUMPET

The **Mammoth Trumpet** (ISSN 8755-6898) is published quarterly by the Center for the Study of the First Americans, University of Maine, 495 College Ave., Orono, ME 04473. Second Class postage paid at Orono, ME 04473.

POSTMASTER: Send address changes to: **Mammoth Trumpet**, 495 College Ave., Orono, ME 04473.

Copyright © 1988 Center for the Study of the First Americans. Permission is hereby given to any non-profit or educational organization or institution to reproduce without cost any materials from the **Mammoth Trumpet** so long as they are then distributed at no more than actual cost. The Center further requests that notification of reproduction of materials under these conditions be sent to the Center.

Robson Bonnichsen	Director and General Editor
Karen L. Tummire	Editor, **Mammoth Trumpet**
Jim I. Mead	Editor, **Current Research in the Pleistocene**
Patricia W. Leathers	Business Manager, Circulation and Distribution
Judith Cooper	Publications Manager, Production and Marketing
Louise R. Bennett	Secretary

The Center for the Study of the First Americans is a non-profit organization. Subscription to the **Mammoth Trumpet** is by membership in the Center. Membership: Regular and Institutional $12, worldwide, Contributing $25, Sustaining $50, Patron $100, Lifetime $1500.

FROM THE END OF THE EARTH

The Center for the Study of the First Americans recently enjoyed the privilege of hosting Fullbright Scholar Hugo Nami during his four month's stay in this country. Nami, who hails from Buenos Aires, Argentina, is presently a doctoral candidate at Buenos Aires University. A specialist in lithic analyses and the replication of stone tools, Nami visited the United States to expand the bibliography for his dissertation, which will focus on a comparison of Patagonian and North American Paleoindian stone tool technologies. His presence in this country is evidence of the growing communication between archaeologists in North and South America, which Nami says, ". . . is becoming freer all the time."

Nami has worked on excavations in both Chile and Argentina, concentrating chiefly on the region of southern Patagonia since 1979. In 1985, Dr. Mateo Martinic of the Instituto de la Patagonia (Magallanes University), Punta Arenas, Chile, invited Nami to excavate the Cueva del Medio, a cave located in the Ultima Esperanza Province of Chilean Patagonia. The cave is approximately 135 km north of the famous Fell and Pali Aike Caves, discovered in the 1930s by Junius Bird of the National Museum of Natural History. For many years, these were the only two known stratified sites in southern Chile where Paleoindian artifacts had been found.

Nami began work at the Cueva del Medio in 1986. Cueva del Medio is a large cave, approximately 90 m long, 40 m wide, and 6 m high. It is located about one kilometer from the well-known Mylodon Cave, a site which contained extensive Mylodon (sloth) and Hippidium (horse) remains. When Nami arrived at Cueva del Medio, he was disappointed to find that the surface of the cave had been defaced by pothunters. Ever since the discovery of Mylodon Cave in 1893, and the subsequent

Hugo Nami

"Mylodon rush"—an event somewhat analagous to the California gold rush—the region has attracted the attention of scientists and scavengers alike.

Shortly after Nami and his team began excavating Cueva del Media, the group made its first discovery: a fishtail projectile point. "It was a surprise for us because this kind of projectile point had never been found in the Ultima Esperanza region," Nami says. The rare fishtail points have been found in only a few locations in all of southern South America. In fact, in the last seven or eight years, this type of point has been recovered in stratigraphic context from only four new sites in southern South America: Cueva del Medio in Chile, and Cerro La China, Cerro La China 3, and Cerro El Sombrero in the province of Buenos Aires in Argentina. Radiocarbon dating has shown that all of these points are about 10,000 years old. Nami's team also found bone fragments, including those from horse and sloth, associated with the fishtail point.

Nami continued work with two more excavations in 1987. Four strata were discovered beneath the surface layer. They were, from upper to lower level: a layer of cobbles and pebbles; a level containing a tool assemblage known as Bird III; a nearly sterile zone; and finally, a level containing a Bird I assemblage, the level at which the team found the first fishtail point. The layer of cobbles and pebbles was of special benefit to the archaeologists, because it had served as a deterrent to pothunters and the zones beneath it had not been disturbed. The Cueva del Medio findings are exciting because, unlike Mylodon Cave, they exhibit clear evidence of early human occupation.

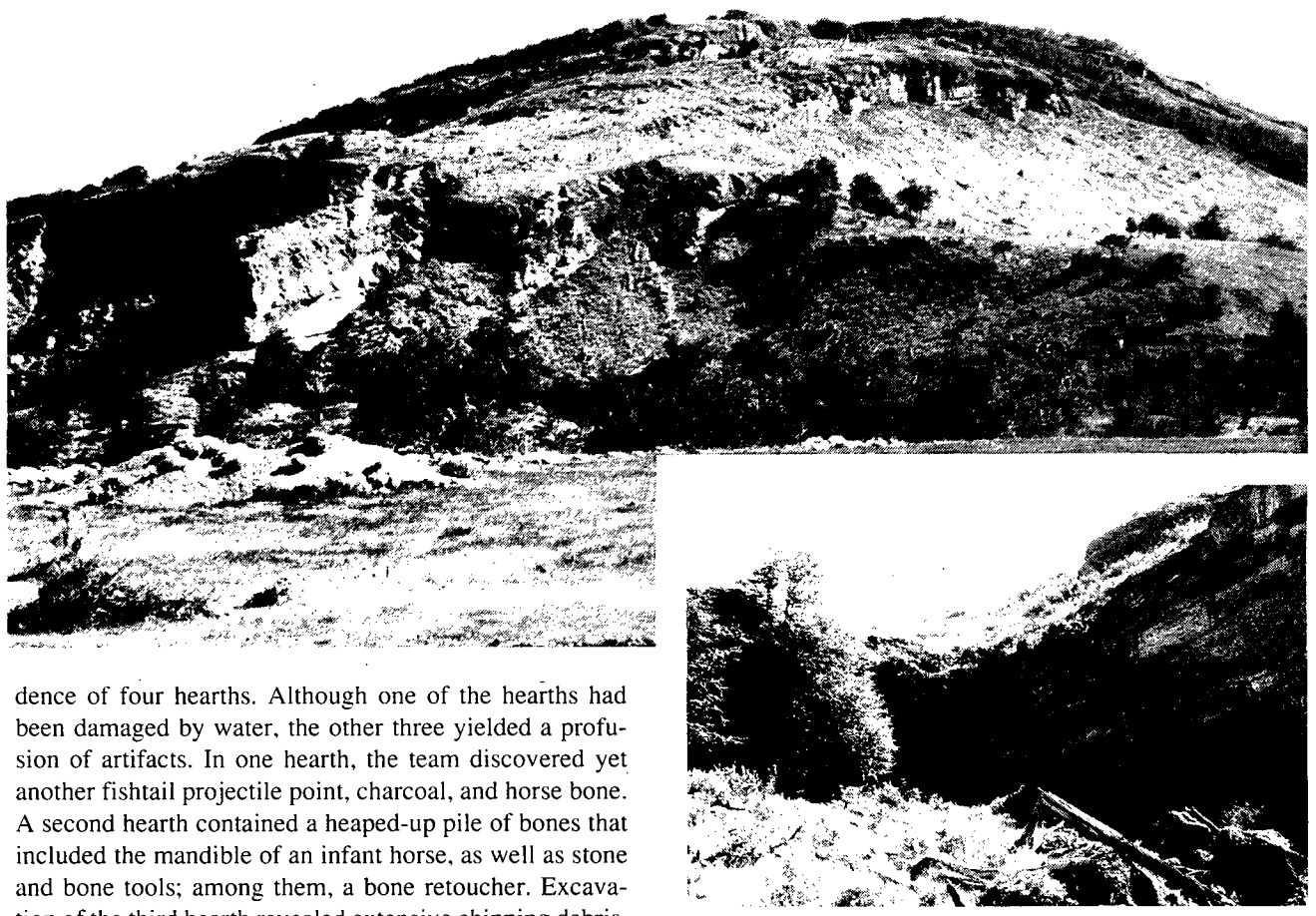
Nami's terminology at Cueva del Medio follows that devised by Junius Bird, who outlined a five-period culture sequence from his work at Pali Aike and Fell Caves. The earliest of these, Bird Period I (or Magellan I), is characterized by fishtail projectile points (basally flared stemmed points), unifacial side and end scrapers, and bone tools in association with extinct mammals.

The Bird I level at Cueva del Medio produced evidence of four hearths. Although one of the hearths had been damaged by water, the other three yielded a profusion of artifacts. In one hearth, the team discovered yet another fishtail projectile point, charcoal, and horse bone. A second hearth contained a heaped-up pile of bones that included the mandible of an infant horse, as well as stone and bone tools; among them, a bone retoucher. Excavation of the third hearth revealed extensive chipping debris, especially debris produced by bifacial thinning. Four radiocarbon samples taken from the hearths produced dates of 10,550±120 yrs B.P., 10,310±70 yrs B.P., 12,390±180 yrs B.P., and 9,595±115 yrs B.P.

The findings of the Bird I level are significant because they demonstrate a clear Paleoindian context, linking humans with extinct fauna. In addition to horse and sloth, the site has also yielded remains of a paleolama.

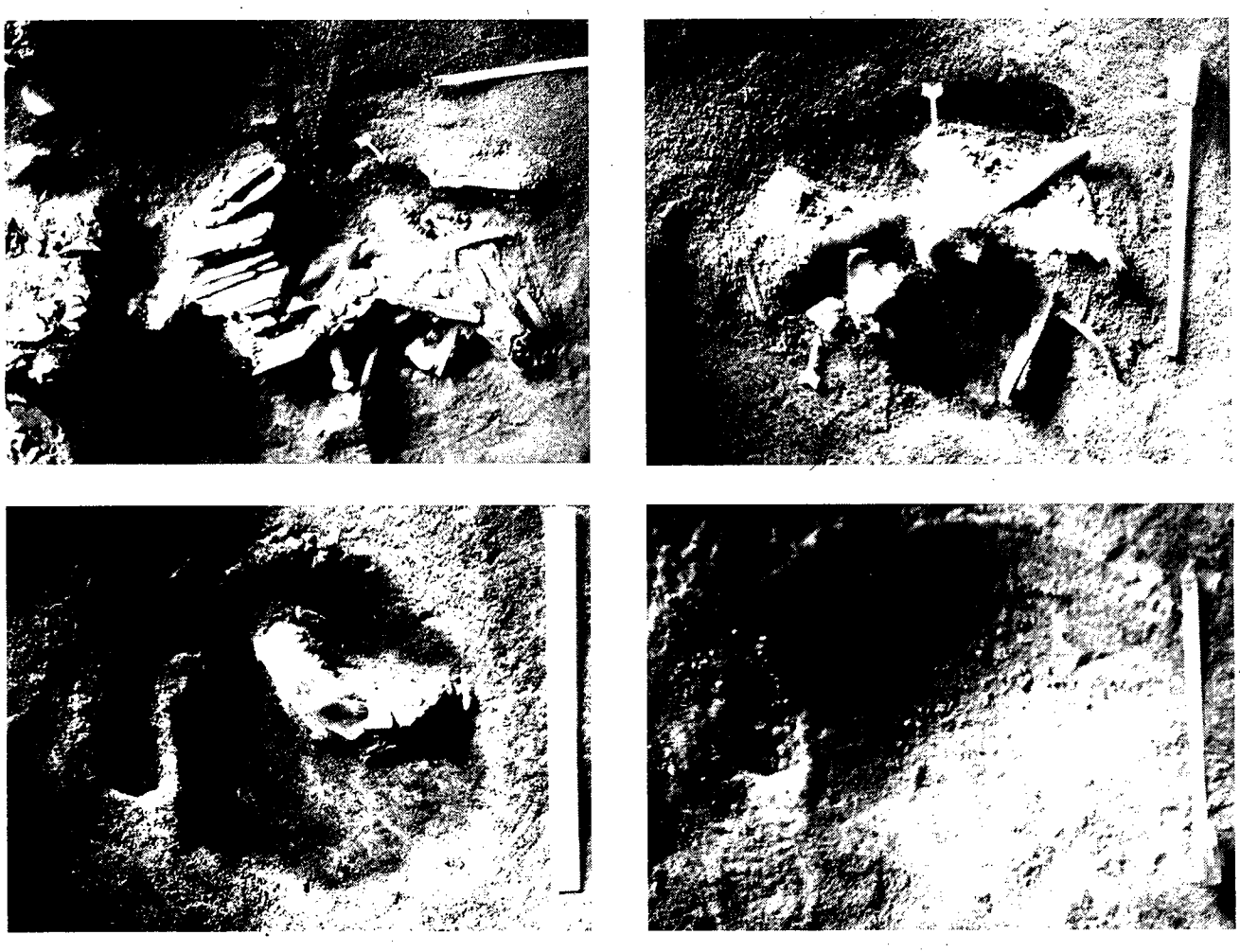
The Bird III occupation level produced triangular projectile points, also associated with extinct sloth and horse. Nami has not yet radiocarbon dated this level of Cueva del Medio, however, the association of a Bird III occupation with extinct fauna is unusual as these assemblages typically date between 8,000–6,000 years ago. Although he has not yet completely ruled out the possibility that the association between stone tools and fauna is an artificial one, resulting from not yet understood cave formation processes, "I don't have any doubts about the associations between the Bird III period stone tools, and the extinct fauna—Mylodon and horse especially," Nami says. Interestingly enough, late dates have also been obtained on some of the sloth material from Mylodon Cave,

(Continued on page 8)



(Photos: Hugo Nami)

Hidden in the southern tip of the Andes Mountains, Cueva del Medio (top and inset) has slowly yielded its ancient secrets to Hugo Nami as he has worked there for the last few years. Fishtail projectile points (above right) have been found in association with remains of extinct animals such as horse and paleolama. The four photos below show the excavation of an infant horse skeleton from Cueva del Medio.



A Salute to Dick Reinhart

For three months every summer, you can find Dick Reinhart at the Mammoth Meadow excavation site in southwestern Montana. All day long he answers team members' questions, inspects the likely-looking pieces of rock they hand him, and pronounces judgment: "What you have here is a beautiful end scraper," he may say to the hopeful worker, or perhaps it's a biface, or a blank, or a uniface. Or, sometimes he holds the piece up so the light can catch its curves and planes, and says, with only the slightest twinkle in his eye, "What you have here is a beautiful . . . piece . . . of debitage."

A lot of what he does on a dig, Reinhart adds, is not so different from what he did at IBM: "People management."

Since 1980, Reinhart has worked closely with the Center for the Study of the First Americans on digs in Maine, Nevada, and Montana. Along the way, he has trained eighteen teams of Earthwatch volunteers. In addition to his work as site foreman, Reinhart has contributed to the Center during every stage of its development, bringing to bear not only his knowledge of archaeology, but his years of experience as an electrical engineer and manager at IBM.

Reinhart has had a life-long interest in archaeology. Born on a farm in north-central Ohio in 1922, he grew up in a region rich with the artifacts of the Wyandot Indians. "I became very interested in where [the artifacts] came from," Reinhart says, "who made them, and what were they like. That started it off."

Only one thing interested Reinhart more than archaeology: "My greatest desire, always, was to become an electrical engineer, and that I did." After a successful career at IBM, he retired early, went back to school, and in 1982 earned his Master's degree in archaeology from the University of New York at Albany.

Asked if he has found archaeology and engineering to have anything in common, Reinhart replies that precision is required in both kinds of work. "Math comes in very handy. Laying out a section for a dig requires surveying and math." In addition, both engineering and archaeology require background study in geology.

A lot of what he does on a dig, Reinhart adds, is not so different from what he did at IBM: "People management. Encouraging, giving them pats on the back, and instruction."

Although it is always exciting for Reinhart when a team member finds an artifact, a few recent finds stand out in his memory: a bone awl found in the summer of 1988, a shaft straightener, and "any artifact that we can associate with a similar artifact that has been dated in another site. This helps us keep track of how far back we are going."

Naturally, finding hearths is extremely important, not just because they can provide radiocarbon dates, but for Reinhart because they also provide a feeling about the people who once used them, thousands of years ago. A hearth "gives you a closeness to the people who were there," he muses. "They were sitting around this hearth, cooking food, or maybe working."

Another find that Reinhart particularly enjoys is any sort of decorative artifact. "We did find a drilled elk's tooth, which is an extremely personal item that somebody wore, and somebody had made, maybe for his best girlfriend. These sorts of things give you a really close feeling to the people who were there."

Finally, there are the stone tools themselves. "Once in a while, you run into a stone artifact that is made of a particularly beautiful material, and with that one you can sense the pride of the person who made it. After working with artifacts for a while, you soon realize that the makers were artists. More than just making tools to live by, they made them nice. They had a lot of pride in their work."

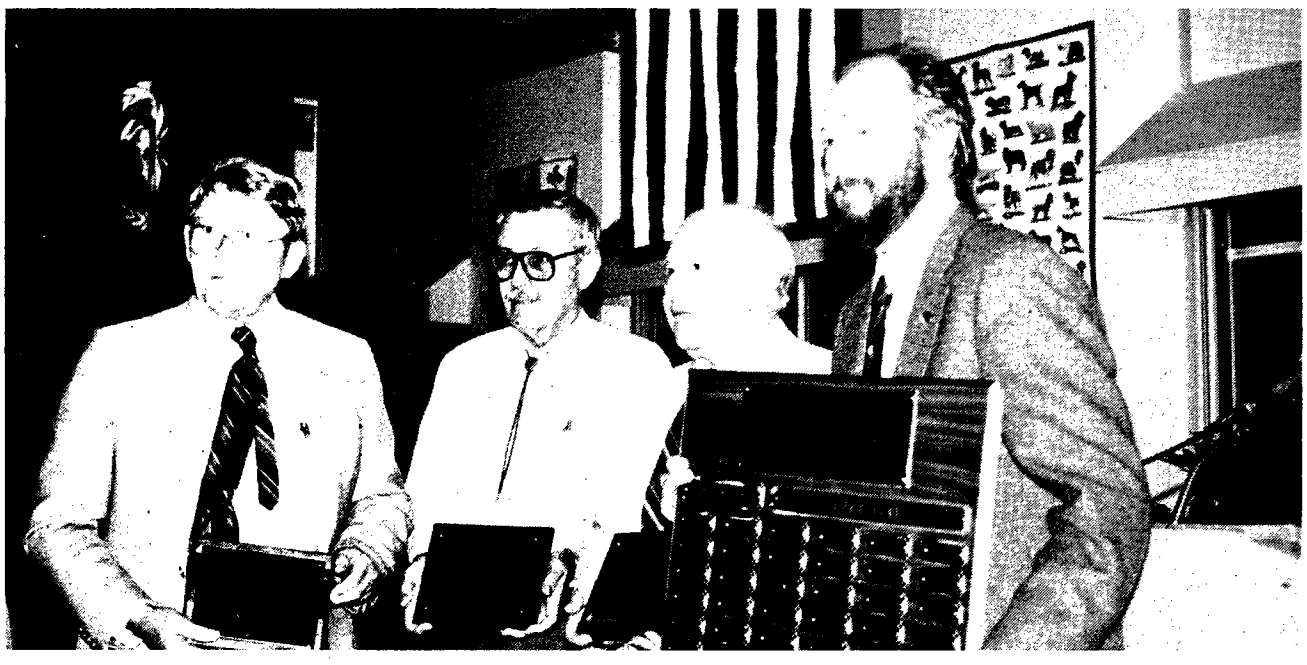
Of the things that can go wrong on a dig, Reinhart claims the weather is the most common source of problems. "One period at Munsungun Lake, we had 11 days of rain out of 13 on the site—we really returned to the Pluvial!" Then there was the day in Montana when "I woke up at about six o'clock. I couldn't figure out what was wrong with my tent—It was sitting very funny. I touched the side wall and I heard the snow slide off. This was on the eleventh day of July."

Another potential source of trouble is the food. "You can come in tired and dirty at the end of the day, but if there's a good hot meal, that satisfies the inner person." If the food is poor, "It's probably as demoralizing as anything that can go wrong."

Aside from these two possible problems, Reinhart says he can't think of anything else on the various sites he has worked on that really went wrong. "Either that or I was very good at covering up," he says cheerfully.

Reinhart believes that a major task of all archaeologists is to teach people the importance of the archaeological record and to educate people "not to destroy their own heritage. What happened way back," says Reinhart, "is part of us."

—Nancy Allison



Although much of the work of Summit '89 was focused on the future, the Awards Banquet recognized several individuals who have done much to lay the foundations upon which that future will stand. Above, Center Director Robson Bonnichsen (far right) holds the permanent Honor Roll plaque inscribed with the names of those honored by its award. The first nominees to the Honor Roll are Dr. Norman Wright (far left), Edward Lehner (award accepted by Vance Haynes, left), Richard Reinhart (right), and Dr. Luther S. Cressman (not present). Below, Marie Wormington accepts the National Geographic Society's Burr Prize from Danielle Beauchamp (left). Lower right, Center Research Associate John Tomenchuk presents George and Helen Cremer with the first Wormington Award for their dedication to the preservation of archaeological resources on and around their Montana ranch.

SEVEN HONORED AT AWARDS BANQUET

A series of awards were inaugurated at a special conference banquet held on Friday, May 26. During the course of the evening, Dr. H. Marie Wormington was honored for 50 years of commitment to the field of archaeology, while newly created awards were conferred upon six other individuals who have given freely of their time, effort, and devotion to the study of the peopling of the Americas.

Following opening remarks by Master of Ceremonies Dr. Charles Schweger of the University of Edmonton, Dr. John Tomenchuk, Center for the Study of the First Americans, initiated the proceedings, welcoming Dr. Wormington, Curator Emeritas of the Denver Museum of Natural History, to the podium. "For many of us here, America's earliest prehistory is synonymous with the name of H. Marie Wormington," Tomenchuk said. "The inspiration she has provided during her illustrious career transcends the narrow bounds of academia." Tomenchuk then announced the establishment of the H. Marie Wormington award, to be given annually through the Center for the Study of the First Americans "In recognition of outstanding contribution to early American prehistory by individuals in the areas of preservation, public education, and research." Dr. Stephen Williams of the Harvard Peabody Museum continued the ceremonies, presenting Dr. Wormington with an award from Radcliffe-Harvard University. Ms. Danielle Beauchamp of the National Geographic Society then took the stand, conferring to Dr. Wormington the Society's Franklin L. Burr Prize in the amount of $5,000. The Burr Prize was established in the 1930s under the will of Mary Burr of Washington, D.C., as a memorial to her father; the income to be used for recognition of meritorious field research. Visibly moved, the audience rose to a standing ovation as Dr. Wormington left the podium.

Following these presentations, Dr. Tomenchuk announced the first recipients of the H. Marie Wormington Award: George and Helen Cremer, of Melville, Montana. "Few individuals, professional or otherwise," remarked Tomenchuk, "are as dedicated to the preservation of the earliest archaeological record or as effective in educating the public about the need for archaeological site protection."

Over many years, the Cremers have supported archaeological study on their land, lent equipment to Rob Bonnichsen's dig in southwestern Montana, and hosted field schools from the University of Maine and the University of Alberta. In addition, for the past eleven years, the Cremers have hosted an annual weekend gathering, known locally as the "Cremer Event." There, archaeologists and local citizens, alike, come together for archaeological lectures and demonstrations, discussions, a barbecue, and western entertainment. The Cremers received an ornamental plaque and lifetime membership in the Center. Their names will also be inscribed on a larger plaque kept at the Center.

Another award presented for the first time was the Honor Roll, which will be conferred annually to deserving citizens in recognition of meritorious contributions to early American prehistory. Each person named to the Honor Roll will receive a plaque inscribed with his or her name; in addition, the names of all Honor Roll nominees will be inscribed on a larger Center plaque. This year there were four recipients.

Edward F. Lehner, long-time owner of the famed Lehner Clovis site, was honored for the many years of support he and his wife, Lynn, have given to archaeologists interested in the site; located on the Lehners' 160-acre ranch in Hereford, Arizona. On March 26, 1988, Ed and Lynn Lehner donated the Lehner Clovis site (6.2 acres) to the U.S. Bureau of Land Management to ensure the site's permanent protection.

(Continued on next page)

SUMMIT '89

(Continued from page 1)

plodded across Beringia into the New World (as Drozdov claimed, is the depiction on the Center logo). Drozdov handed Bonnichsen a drawing of a smiling Soviet cowboy riding a bucking mammoth. The presentation was received with cheers from the audience.

Not surprisingly, many of the papers presented at Summit '89 revolved around the question of an American pre-Clovis occupation. Opinions were varied and agreements few, as participants came down on both sides of the pre-Clovis argument. Conventional wisdom has long held that humans did not arrive in the New World until shortly before 11,000 yrs B.P., the earliest undisputed date. Making their way across the late Pleistocene land bridge which connected Siberia with North America, these early immigrants eventually moved through western Canada via the frigid wastelands of the 1200-mile-long Ice-Free Corridor. Funneled into what is today the northwestern part of the continental United States, Clovis or proto-Clovis peoples spread rapidly throughout North and South America, reaching the Straits of Magellan about 10,000 years ago.

Opponents of this theory argue that, while mathematically possible, such rapid population expansion and movement is unlikely; that there is little resemblance between the Clovis culture and supposedly ancestral Asian technologies; and that Clovis was only one of several complexes which existed in the Americas by 11,000 years ago.

Although several of the papers given at the conference found little to support the pre-Clovis hypothesis, other researchers reported tantalizing traces of possible earlier occupations, challenging traditional assumptions. Dr. Donald Wyckoff ("The Burnham Site and

Pleistocene Human Occupation of the Southern Plains of the United States;" see **Mammoth Trumpet** 5(1)) reported findings from the Burnham Site, Oklahoma. One of the most recent of the pre-Clovis candidates, the site contains several small flakes and tool fragments, seemingly in association with a 20,000-year-old extinct bison. Evidence of an older occupation has also been found in the northern Yukon Territory at the Bluefish Caves site (Richard Morlan: "The Peopling of the Americas as Seen from Northern Yukon Territory"), where researchers have discovered 14,000-year-old stone tools, as well as possible human-flaked mammoth bone dating back to 24,000 yrs B.P.

The greatest body of evidence supporting a pre-Clovis occupation came, however, during Saturday's Latin American presentations. On that day, participants from Mexico to Argentina consistently reported sites in the 11,000 yrs B.P. range—or even older!

Undoubtedly, the most controversial presentation of the proceedings was given by Dr. Nide Guidon on her work at the site of Pedra Furada ("Deep in South American Past: Pedra Furada and Brazilian Prehistory;" see **Mammoth Trumpet** 5(1)). A rockshelter located in a remote region of northeastern Brazil, Pedra Furada has yielded possible 45,000-year-old hearths and associated stone tools.

Skeptics of the site contend that the quartzite "tools" are instead the result of rock fall, the "hearths" forest fires. Proponents point out that not only was the charcoal at the site concentrated within small, roughly circular areas, but that the tools have been found far beyond the periphery of where geofacts falling from the surrounding cliffs would normally occur.

Even discounting the very early sites which are claimed for Latin America, however, the plethora of dates which equal or exceed Clovis in age would seem to cast considerable doubt on the "Clovis is earliest" argument. What is also significant about the South American material is the great variety of complexes which characterize these sites. Opponents of the "Clovis is earliest" theory argue that the very diversity of these assemblages, which bear little resemblance either to one another or to Clovis, indicate considerable developmental time.

(Photo: Harrison Roper)

(Photo: Marilyn Roper)

Above left, Takeru Akazawa and Jean Auel chat after the Buffalo Banquet, with Rob Bonnichsen and George Frison in the background; above right, Tom Lynch and Tom Dillehay at the artifact exhibit; below, (from left) Ruthann Knudson, Leslie Hart, Mort Turner, and Nikolay Drozdov take a break before afternoon sessons begin; and far left, Awards Banquet emcee Charlie Schweger at the podium.

Sunday, attention turned to the public trust, as a stellar panel of presenters explored paleoenvironmental/paleoclimatic concerns, the legal environment of archaeological resource management, and issues of public education, prioritization and funding, and the direction of future archaeological research.

Dr. Ruthann Knudson, organizer of Sunday's symposium, opened the proceedings, stressing the *ethical* considerations which underlie the concept of a public trust. "We all," said Knudson, "have a right to information about our heritage," emphasizing that archaeologists are not the owners of archaeological resources, but merely the stewards. Knudson noted that Paleoindian sites, in particular, "hold irreplaceable information about our species' adaptation to . . . [the] New World." "We, as archaeologists," Knudson said later, "have the *privelege* of presenting archaeology to the public."

Many of the papers given at the symposium reiterated the ethical convictions expressed by Knudson. "Don't promise more than you can deliver," cautioned Dr. Stephen Williams. Speaking on "Seeking Private Funding for American Origins," Williams observed that ". . . giving is a very personal act . . . don't ever betray that donor's trust."

Symposium participants stressed the importance of public involvement in all aspects of archaeological resource management. John Fowler ("The Legal Structure for the Protection of Archaeological Resources in the United States and Canada"), Deputy Executive Director and General Counsel of the Advisory Council on Historic Preservation, noted that one of the most effective means for the long-term preservation of private archaeological resources ". . . comes from consensual agreements between private individuals and the United States government."

Ways of getting the public involved were also discussed. Dr. Judith Bense ("Public-Private Partnerships") pointed out that before the private sector will support archaeology, financially or otherwise, they must have a vested interest in it. Stressing the need to "market" archaeology, Bense observed that, "The concept of selling archaeology to the public sector works. It works because we have something to sell . . . Archaeology produces tangible products."

"The perspective, experience, and enthusiasm of the symposium participants," commented Knudson, "are clear indicators of the appropriateness and need for enhancing this public trust ethic."

The quantity and quality of research presented at Summit '89 leaves little doubt that we are entering a new phase in Paleoindian studies. New goals and priorities were identified, new methodological and technological evidence presented, and recent research discussed by professionals from around the world.

And the pre-Clovis issue? The generally favorable response to the conference presentations suggests that pre-Clovis research is undergoing a transition to a more accepting atmosphere. Although participants concurred that additional work is needed, there are indications that researchers are slowly moving towards a new consensus on the question of a pre-Clovis occupation. "Be patient," exhorted Dr. Tom Dillehay.

Abstracts of the conference proceedings are available from the Center for the Study of the First Americans (see order form).

AWARDS

(Continued from previous page)

Dr. Luther S. Cressman, Professor Emeritus of the University of Oregon, was honored for his long career in the study of the early peopling of the northern Great Basin. In addition to numerous excavations and research, Dr. Cressman also traveled and lectured extensively to public audiences about his work. He was instrumental in the designation of Fort Rock Cave as a State Historic Monument, and having it placed on the National Register of Historic Places.

The third recipient of the award, Richard S. Reinhart, was honored for his nine years of participation in Center-sponsored research projects in Maine, Nevada, and Montana. "Drawing upon his past engineering and administrative experience," Tomenchuk noted, "Dick has served in various capacities, such as logistics coordinator, excavator, archaeological surveyor, excavation foreman, and carpenter." He has also been instrumental in fund-raising for the Center, and "has served as a sounding board and councillor to the Center's Director, Dr. Robson Bonnichsen."

Finally, physician Dr. Norman Wright was honored for his many years of work as an avocational archaeologist. "Dr. Wright has been credited with influencing two generations of Ohio archaeologists by tirelessly seeking out everyone in Coshocton County with fluted points in their collections," said Tomenchuk. Reading from the letter of nomination, Dr. Tomenchuk added, "Dr. Wright is personally responsible for discovering 178 fluted points and thousands of other artifacts from a variety of prehistoric cultures." Dr. Wright has given a large part of his

collection to the Johnson-Humrickhouse Memorial Museum in Coshocton, Ohio.

"Public support," emphasized Tomenchuk, "is vital for the protection and preservation of archaeological sites." It is hoped that awards such as these will serve to develop the sense of community and cooperation between professionals and the public, which is so essential to archaeology.

RED OCHRE USE ON THE PLAINS

(Continued from page 1)

vealed by a comparative study of the contexts of ochre use in the region. At no time on the Plains was ochre so intensely used as it was during the Paleoindian period. Ochre is present in Clovis, Folsom, and Plano tradition sites, and occurs in distinct and well-defined contexts in these sites. Never does it appear in a kill site attributable to any Paleoindian complex (it was found at a few sites best known as kill sites, such as Olson-Chubbuck, but a careful reading of the report will invariably show that its provenience is within a camping area associated with the kill). While absent at kill sites, however, ochre is present in many habitation, cache, and mortuary sites.

A number of Clovis and Folsom habitation sites provide important data on ochre use during this earliest period of North American prehistory. At several sites in Wyoming and Colorado, notably at Sheaman (Clovis), Agate Basin, Hanson, and Cattle Guard (all three of which are Folsom), ochre impregnated the soil of living floors. Bone on the Sheaman site floor also was ochre covered. Chunks of ochre were found at Lindenmeier (Folsom), Agate Basin, and Cattle Guard; at Lindenmeier, ochre also coated grinding stones. This aggregate of sites is not large, but the cited cases account for essentially all the extensively excavated, well preserved (i.e., not deflated or redeposited), and comprehensively reported Clovis and Folsom sites on the Plains.

Ochre has also been reported from several habitation sites of the Plano tradition, occurring as lumps in all cases. The sites include the Levi site in Texas, the Trail Draw site in the Black Hills of South Dakota, the Jurgens site in Colorado, the Red Smoke site in Nebraska, and Bottleneck Cave in the Big Horn Mountains of Wyoming. Ochre may have adhered to grinding stone surfaces in several instances.

In addition to the habitation site records of ochre, this mineral is found in abundance in most recorded Plains Paleoindian cache and mortuary sites. Its appearance in some quantity at the Anzick site (Clovis age) in Montana is well known. Ochre was apparently also present at the similar, although less well known, Simon site in Idaho. I find it fascinating to note that ochre was not present in the Drake Cache in Colorado (recently reported in *Current Research in the Pleistocene*) because, while ochre was lacking, the stone from which the cache items were manufactured is Alibates agatized dolomite—a raw material with bands of a bright red (ochre-like) color!

Caches of Plano tradition artifacts are not reported (is this already an indication of changing ritual?), but several mortuary sites are, and red ochre is prominent at these sites. Perhaps the two best-known Plano tradition mortuary sites are the Gordon Creek burial in Colorado and the Browns Valley site in western Minnesota. Ochre was liberally sprinkled in the burial pits and on the bones at both sites. Ochre was not sprinkled over the burials at the Horn Shelter in Texas, but a large block of the material and a grinding slab were within an otherwise largely utilitarian tool kit found with one of the burials.

Overall, ochre use seems somewhat more limited in Plano tradition sites than in the earlier sites. This may be attributable to a lack of recorded habitation floors or possible house structures in Plano tradition sites (perhaps this too is no accident, but instead reflects a changing settlement system). On the other hand, not all excavated, well-preserved, and reported Plano mortuary sites contained ochre.

Whatever the case for the Plano tradition, however, ochre had largely disappeared from habitation context and decreased in mortuary context by Archaic times. When ochre appears at all in an Archaic habitation site, that site usually is in the eastern portion of the Plains, and is more closely related to Midwest/Prairie Peninsula Archaic complexes (such as Logan Creek) than to Plains Archaic complexes (ochre is lacking from McKean sites, for example). Ochre appears, however, in some Plains Archaic mortuary complexes, most prominently in the Oxbow and Pelican Lake burials of the Canadian Plains. In these, and particularly in Oxbow complex burial sites, ochre is used in large quantities. It is not prominent at contemporaneous habitation sites.

What does the ochre in the Paleoindian sites signify? Why is it so common in sites of that period? Why does it virtually disappear in Archaic sites and why is it restricted to mortuary sites in a portion of the Plains during that period? What does its presence (and absence) in the Archaic period signify?

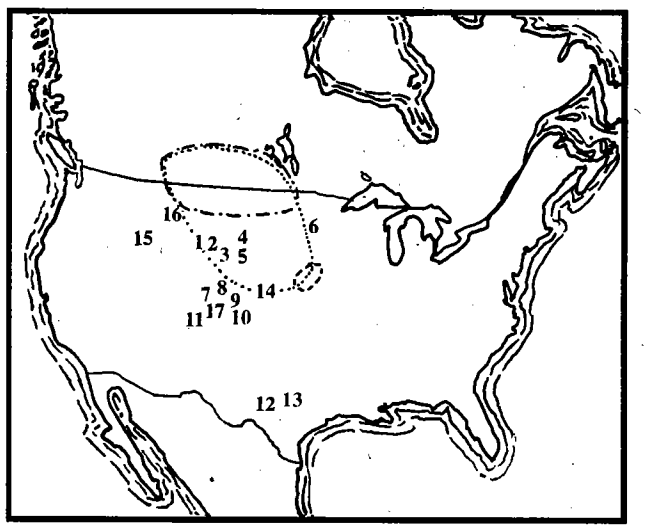
At one level, it may be quite easy to answer the question of why Plains Paleoindians (especially the Clovis and Folsom hunters) used ochre in the manner in which they did. Simply put, ochre was extensively used in virtually identical contexts in the Upper Paleolithic of Europe and northeast Asia. Its use in late Pleistocene North America is a reflection of continuity with the ancestral culture. The Kostenski-Borshevo sites of European Russia contained huge quantities of ochre on house floors; compilations of Upper Paleolithic burial data for Europe have shown that about half of all known burials contained ochre in the burial pit and coating the bones—the Ushki Lake site on Kamchatka contained ochre in a similar context. One of the few known Upper Paleolithic caches, that of Solutrean points at Volgu, Saone-et-Loire, France, is also reported to have contained ochre. To those who accept an Upper Paleolithic ancestry for Clovis and Folsom (and I am one of those), these similarities are gratifying to find, but not, after all, surprising.

> ***"The Paleoindians themselves perhaps could not have told us "why" they used so much ochre."***

The identification of an historical reason for ochre use during the Paleoindian period of course begs the question of how the ochre functioned and what it meant. Certainly the matter can never be fully resolved—the Paleoindians themselves perhaps could not have told us "why" they used so much ochre. We have the advantages ten millennia later, however, of looking at the data in broad outline and of being able to observe relations among ochre use contexts across time and space. When such a study is conducted, the drastically changed role of this single material item is revealed as reflecting the changing circumstances of life in the late Pleistocene and immediate post-Pleistocene periods.

I suggest that ochre functioned in several realms for the late Pleistocene societies in North America and probably also in Europe and northeast Asia. It undoubtedly served a utilitarian purpose. Hide tawing (the preservation of skins and furs by a process similar to tanning to produce leather, but, unlike true tanning, a reversible process), decoration and possibly preservation of wooden or other perishable artifacts, face and body painting or tattooing, and use as a pigment in the production of works of art, are all possible and, in the case of Old World Upper Paleolithic pigment use, documented.

I have little trouble believing that ochre also had an important function in the ideological realm at this time. Several observations on the data are relevant: ochre occurs occasionally on the bones of the large, and once-hunted but now extinct, mammals; ochre appears in human burials and usually is on the bones; ochre appears in caches of tools of types normally associated with hunting, and in these cases was applied directly to the tools. It also is relevant to observe that ochre is red, usually bright red, and, therefore, is the color of blood. Blood, in turn, is a vital substance of life, both for the humans and the animals they hunted.



Map shows red ochre locations mentioned in this article: 1. Hanson, 2. Bottleneck Cave, 3. Sheaman, 4. Trail Draw, 5. Agate Basin, 6. Browns Valley, 7. Gordon Creek, 8. Lindenmeier, 9. Jurgens, 10. Olson-Chubbuck, 11. Cattle Guard, 12. Levi, 13. Horn Shelter, 14. Red Smoke, 15. Simon, 16. Anzick, 17. Drake. Logan Complex, Oxbow Complex, Pelican Lake Complex.

To go beyond these observations is to engage in speculation, of course. Any number of scenarios are possible, and any specific a speculation probably is wide of the mark. I do not, however, think it too fanciful to suggest that the commonalities in context of ochre use by the Paleoindians (particularly those of the Clovis and Folsom complexes) are not coincidental. The Paleoindians, after all, faced sub-arctic conditions. Societies living in such environments must subsist largely on the flesh of large animals. The life of humans, therefore, is sustained by taking the life of animals, and animal life is taken using hunting weapons. Ochre symbolically linked human life, animal life, and weapons during the late Pleistocene.

Several writers on the organization of technology have pointed out that specialization and reliability tend to characterize the weapons systems used by societies living under conditions similar to that which occurred in the late Pleistocene. But specialized, reliable weapons are utterly useless if there is nothing to kill or if the hunter handles them poorly. I suggest, then, that the ideological function of ochre during the late Pleistocene was to symbolize an invocation—a request for spiritual aid—to see that prey was encountered and that its pursuit was successful. That the symbol used in this invocation was one virtually synonymous with life surely was no accident.

Subsistence became much more secure on the Plains in the immediate post-Pleistocene period as the grassland ecosystem developed and matured. Bison became more plentiful, encounter potential was higher, and a generally greater resource diversity meant that alternate prey was available. The invocation symbolized by ochre may have been less necessary and lost its meaning in this period. Ochre was used in mortuary context by some Plains Archaic complexes, such as Oxbow, and this context can be considered to fall within the ideological realm. It may have changed its meaning, however, and perhaps simply represented a carry-over of ritual, with less significance attributed to the symbol.

Ochre never disappeared from Plains assemblages. Never again, however, was it as intensely used as during the late Pleistocene. I have shown that its use in this region was spatially restricted during the Archaic period, and there used almost exclusively in mortuary context. Its use also was sporadic during the Woodland period, during which period it is usually found as a pigment; even in mortuary context it normally was a decorative medium on grave inclusions rather than a burial offering in itself. Much the same is true of Plains Village period ochre use. Thus, while ochre may have been a medium through which symbols were created and stylistic information was conveyed in post-Pleistocene societies, never did this mineral by itself serve the symbolic role it did for the Paleoindians.

SUGGESTED READINGS

On *Red Ochre Use on the Plains During the Paleoindian Period*

Frison, G., and D. Stanford 1982 *The Agate Basin Site*. Academic Press, New York.

Klein, R. 1969 *Man and Culture in the Late Pleistocene: A Case Study*. Chandler Publishing Co., San Francisco.

Roper, D. 1987 Plains Paleoindian Red Ochre Use and Its Possible Significance. *Current Research in the Pleistocene* 4:82-84.

Wilmsen, E., and F. Roberts, Jr. 1978 *Lindenmeier, 1934-1974: Concluding Report on Investigations*. Contributions to Anthropology 24. Smithsonian Institution, Washington, D.C.

Wymer, J. 1982 *The Palaeolithic Age*. St. Martin's Press, New York.

On *From the End of the Earth*

Nami, H. 1987 Cueva del Medio: A Significant Paleoindian Site in Southern South America. *Current Research in the Pleistocene* 4:157-159.

Nami, H., and A. Case 1988 The Raw Material Used by the Paleoindians of the Cueva del Medio, Ultima Esperanza, Chile. *Current Research in the Pleistocene* 5:31-32.

Willey, G. 1971 *An Introduction to American Archaeology*. Volume 2, *South America*. Englewood Cliffs, NJ.

CONFERENCES

Megafauna and Man: Discovery of America's Heartland

During the last glacial advance of the Great Ice Age, human hunting groups entered the heartland of North America. Moving into the High Plains States of the United States and the Prairie Provinces of Canada, these hunters discovered an environment teeming with herds of large Pleistocene fauna which had never been hunted by humans. What was this late Pleistoceene environment like? What evidence do we have for an Ice-Free Corridor? Did these early hunters cause the extinction of the Pleistocene fauna—or was their demise due to rapid environmental change?

A rostrum of internationally reknown scholars will examine clues to these questions at "Megafauna and Man: Discovery of America's Heartland," a unique symposium focusing on the late Pleistocene flora, fauna, and paleoenvironment of the Northern Plains and Black Hills—the southern exit of the Canadian Ice-Free Corridor. The conference will be held September 7 9, 1989, at the Mueller Civic Center, Hot Springs, South Dakota. Organized by Dr. Larry Agenbroad and Dr. Jim Mead of Northern Arizona University, "Megafauna and Man" is co-sponsored by The Mammoth Site of Hot Springs, South Dakota, Inc. and Northern Arizona University.

Scheduled speakers and presentations include:

The Siberian Perspective
- Irena Dubrovo (Paleontological Institute, Moscow)

Quaternary Geologic/Geomorphic/Paleoecological Setting
- Jim Mead (Northern Arizona University, Flagstaff) "A Wisconsin Glacial Biotic Community at the Mammoth Site, Black Hills, South Dakota"
- Robert Laury (Southern Methodist University, Dallas) "Terraces, Collapse Events and Late Quaternary History of Fall River, South Dakota"

Fauna
- Gary Haynes (University of Nevada, Reno) "The Animals That Walked Like Mountains: Life and Death of Heartland Mammoths"
- Larry Agenbroad (Northern Arizona University, Flagstaff) "The Mammoth Population of the Hot Springs Site; and Associated Megafauna"
- Nicholas Czaplewski (University of Oklahoma, Norman) "Microfauna from the Hot Springs Mammoth Site"

Collapse of the Ecosystem
- Dale Guthrie (University of Alaska, Fairbanks) "Collapse of an Ecosystem: Perspectives from a Mammoth-steppe"
- Russ Graham (Illinois State Museum, Springfield) "Individual Reorganization of Mammalian Communities During the Late Pleistocene"

The Canadian Ice-Free Corridor
- Jim Burns (Provincial Museum of Alberta, Edmonton) "Paleontological Perspectives on the Ice-Free Corridor"
- Carole Mandryke (University of Alberta, Edmonton) "Could Man Survive the Ice-Free Corridor?"
- Norm Catto (University of Alberta, Edmonton) "Geology of the Postulated Ice-Free Corridor" Peopling of the New World
- Adrien Hannus (Augustana College, Sioux Falls) "The Lange/Ferguson Site: A Case for Mammoth Bone Butchering Tools"
- George Frison (University of Wyoming, Laramie) "Clovis-Folsom-Goshen Relationships in the Northern High Plains"

Extinction
- Paul Martin (University of Arizona, Tuscon) "Megafaunal Holocaust: What or Who Ruined our Ice-Age Eden?"
- Tom Stafford, University of Colorado, Boulder) "Geochronology of Late Pleistocene Megafaunal Extinctions"

The Modern Environment
- Ron Weedon (Chadron State College, Chadron) "The Modern Black Hills Environment"

Discussion
- B. Miles Gilbert (Sedona, Arizona)

Symposium sessions are open to the general public; registration is required. Due to limited seating, early registration is recommended. Registration cost, which includes reception, lunches, coffee breaks, dinner, and publication of the symposium volume, is $80 for nonmembers; $70 for Mammoth Site of Hot Springs, SD, Inc. members and students. For further information, write to: The Mammoth Site, Megafauna and Man, P.O. Box 606, Hot Springs, SD 57747; or contact Mr. Joe Muller at 605/745-6017.

Lubbock Lake State and National Landmark— 50 Years of Discovery

A week-long series of events recognizing a half-century of discovery, exploration, and community involvement at the Lubbock Lake Landmark will be held in Lubbock, Texas, October 1–8, 1989. The celebration will place regional past lifeways into a world perspective to enhance appreciation of the heritage provided by the Lubbock Lake Landmark.

From October 2–4, thirty-nine scholars representing eleven countries will contribute to an international symposium. The symposium will focus on the integration of the geological and biological sciences in archaeology as a driving force behind the current era of Quaternary research, both at the Landmark and around the world.

Beginning October 1, the Lubbock Lake Landmark 50th Anniversary Celebration will also offer a free special public lecture series on early humans around the world. Famed African researcher Dr. Mary Leakey will open the series, speaking on her work at Olduvai Gorge. On October 2, Dr. Johan Kamminga (Australian National University, Canberra) will deliver a talk on early humans in Australia. On October 3, Dr. Tom Dillehay (University of Kentucky, Lexington) introduces a South American perspective to the series, presenting his research on the spectacular 13,000 year old Chilean site of Monte Verde. Following a Lubbock Lake Landmark pre-dedication banquet October 4, Dr. Joe Ben Wheat (University of Colorado Museum, Boulder) will conclude the series with a presentation on the early Lubbock Lake excavations.

Other activies during the week include:

October 5 Dedication of the new public and research facilities of Lubbock Lake Landmark, and guided tours of the walking trails. A reunion follows that evening for those individuals who have worked on the Lubbock Lake Landmark project sometime during the past 18 years. If you are one of those dedicated individuals, be sure to put this on your calendar!

October 6 A day set aside especially for school children in the region, classes from Armarillo to El Paso, grades 1–12, will visit Lubbock Lake Landmark for flint knapping, basketry, and pottery demonstrations, and guided tours of Texas' newest state park.

October 6–8 Regional field trips to other Late Quaternary archaeological, geological, and paleontological localities. Public tours of Lubbock Lake Landmark will also be available.

The conference is organized by Dr. Eileen Johnson of Texas Tech University, Lubbock. Sponsors include: the Texas Committee for the Humanities, the South Plains Friends of the Humanities, the West Texas Museum Association, the Museum of Texas Tech University, the Lubbock Tourist and Convention Bureau, the International Center for Study of Arid and Semi-Arid Land, John and Ryla Lott, the Lubbock Independent School District, the Lubbock Library, and the City of Lubbock, Texas. All activities are open to the public.

For further information or registration, contact: Dr. Eileen Johnson, Lubbock Lake Landmark Director, Texas Tech University, The Museum, Box 4499, Lubbock, TX 79409; tel. 806/742-2442.

UPCOMING CONFERENCES

August 6-10, 1989 Global Change: American Institute of Biological Sciences Annual Mtg, University of Toronto
Contact: Louise Salmon, Meetings Manager, AIBS, 730 11th St., NW, Washington, DC 20001

September 8-10, 1989 Megafauna and Man: Discovery in the American Heartland, Community Building, Hot Springs, South Dakota
Theme: The paleoenvironment of the "Ice-Free Corridor" region through the Late Pleistocene, culminating with the arrival of humans.
Contact: Larry Agenbroad, Dept of Geology, NAU, Flagstaff, AZ 80811

September 17-22, 1989 American Society for Photogrammetry and Remote Sensing/American Congress on Surveying and Mapping, Fall Convention, Cleveland, OH
Contact: Don Hemenway, Director of Communications, ASPRS, 210 Little Falls Street, Falls Church, VA 22046 Tel.703-534-6617

October 1-8, 1989 Lubbock Lake Landmark: 50 Years of Discovery, Lubbock, Texas
The week-long series of public events will include a symposium focusing on the integration f the geological and biological biological sciences as a driving force behind the current era of Quaternary research.
Contact: Eileen Johnson, Museum of Texas Tech U, Lubock, TX 79409 Tel. 806/742-2481

October 12-14, 1989 2nd Interdisciplinary Conference on Natural Resource Modeling and Analysis, Tallahassee, FL
Contact: M. Mesterson-Gibbons, Department of Mathematics, Florida State University, Tallahassee, FL 32306-3027 Tel. 904-644-2580

October 13-15, 1989 Midwest Archaeological Conference, Iowa City, IA
Contact: William Green, Office of the State Archaeologist, Eastlawn, University of Iowa, Iowa City, IA 52242 Tel. 319-335-2389

October 18-21, 1989 47th Plains Anthropological Conference, Sioux Falls, South Dakota
Contact: Dr. L. Andrien Hannus or R. Peter Winham, Co-Conference Chairs, Archaeology Lab, 2032 So. Grange Ave., Sioux Falls, SD 57105 Tel. 605-336-5493

November 2-3, 1989 Diseases and Demographics of Pre-Columbian Peoples of America, Washington, DC
Contact: Thomas Harney, Public Information Officer, National Museum of Natural History, Smithsonian Institution, 10th & Constitutional Ave., NW, Washington, DC 20560 Tel. 202-357-2458

November 6-9, 1989 Geological Society of America, Annual Meeting, St. Louis, MO
Contact: GSA, 3300 Penrose Place, Boulder, CO 80301 Tel. 303-447-8851

November 8-11, 1989 Southeastern Archaeological Conference, Harbour Island Hotel, Tampa, Florida
Abstracts for symposia and papers due August 31, 1989.
Contact: Nancy White, Dept of Anth, U of South Florida, Tampa, FL 33620 Tel. 813/974-2209 or 974-3231

November 9-12, 1989 22nd Annual Chacmool Conference, University of Calgary, Calgary, Alberta, Canada
Topic: "The Archaeology of Gender". Discussions will focus on recognition of gender roles and their identificationin the archaeological record; theroetical approaches; and the sociology of archaeology.
Contact: Dept of Arch, Univ of Calgary, Calgary, Alberta T2N 1N4

November 11-15, 1989 40th Annual Meeting of the American Society of Human Genetics, Baltimore, Maryland
Contact: Ms Peggy Gardiner, ASHG Administrative Office, 9650 Rockville Pike, Bethesda, MD 20814

November 15-19, 1989 American Antrhopological Association, Annual Meeting, Washington, D.C.
Contact: AAA, 1703 New Hampshire Ave NW, Washington, D.C.

December 27-30, 1989 American Society of Zoologists Joint Annual Meeting, Boston, MA
Contact: Mary Adams-Wiley, Executive Officer, American Society of Zoologists, 104 Sirius Circle, Thousand Oaks, CA 91360 Tel.. 805-492-3585

December 27-30, 1989 Archaeological Institute of America, Annual Meeting, Boston, MA
Contact: Joan Bowen, Director, AIA, 675 Commonwealth Ave., Boston, MA 02215 Tel. 617-353-9361

April 4-6, 1990 Climate Change on the Great Plains, Lincoln, Nebraska
Contact: Ken Dewey, Center for Great Plains Studies, 1213 Oldfather Hall, University of Nebraska, Lincoln, NE 68588-0314

April 16-20, 1990 Materials Research Society Spring Meeting: Material Issues in Art and Archaeology, San Francisco, CA
Contact: Pamela Vandiver, Research Physical Scientist, Smithsonian Institute Conservation Analytical Lab, Museum Support Center, Washington, DC 20560 Tel 301-238-3700

May 21-25, 1990 International Council for Archaeozoology, 6th International Conference, Smithsonian Institution, Washington, D.C.
Special session: "Approaches to Faunal Analysis: Past, Present, and Future;" also regular sessions; one- and two-day workshops.
Contact: ICAZ, Dept of Anth, MMNH, Smithsonian Institution, Washington, D.C. 20560

June 4-6, 1990 First Joint Meeting CANQUA/AMQUA, Waterloo, Ontario, Canada
Contact: Alan V. Morgan, General Chairman, Waterloo 1990, Quaternary Sciences Institute, Department of Earth Sciences, University of Waterloo, Waterloo, Ontario Canada N2L 3G1 Tel 519-885-1211(X-3231)

MAMMOTH BRIEFS

A New Mammoth from Utah

Ongoing study of a Utah mammoth skeleton and associated dung boluses may lead to a rethinking of the ecological and dietary parameters generally ascribed to this animal. The mammoth was discovered last August at Huntington Reservoir, Utah, during a dam reconstruction project. Excavations led by Dr. David D. Gillette, Utah State Paleontologist, and Dr. David B. Madsen, State Archaeologist, resulted in the recovery of a single *Mammuthus columbi* specimen.

The site, which is located at an elevation of about 3,000 m, significantly exceeds the altitude of previously recorded mammoth finds. Geological research indicates that the mammoth—an old bull—inhabited an alpine glacial canyon only miles from the toe of Huntington glacier. In contrast to the popular view that all mammoths were ice marginal creatures, Columbian mammoths typically occupied open prairie.

Interestingly enough, recent faunal and dung analyses imply that the somewhat unusual habitat of the Huntington mammoth may not have agreed with the animal. Preliminary analyses suggest that the mammoth was afflicted with severe bone loss, possibly caused by poor nutrition. Clues to this condition may be contained in the preserved dung boluses found at the site.

Mammoth dung samples from other localities typically reveal a grass and sedge content exceeding 90%. Examination of the Huntington boluses indicates that conifer needles formed a large part of the specimen's diet, with the remainder comprised of sedges and grasses; a diet more in keeping with that of a mastodon, than of a mammoth. The bolus analyses suggest the mammoth may have been surviving in a marginal habitat.

FROM THE END OF THE EARTH

(Continued from page 3)

suggesting that this area of Patagonia may have acted as a refugium for Ice Age fauna.

The discoveries at Cueva del Medio have given Nami many opportunities to put his special interest in lithic technology into practice. The abundance of tools and debitage recovered from the cave provides clues about the typology of the stone tools of the Bird I and III periods, particularly the technology of the fishtail and triangular projectile points from central Patagonia. For example, Nami points out that, with few exceptions, the fishtail points in southern Patagonia are not fluted. "Junius Bird made the same observation," Nami says, "but I would like to emphasize this attribute."

In studying the stone tools produced by his excavations, Nami goes beyond simply studying the artifacts in a laboratory. In an attempt to understand exactly how such artifacts were made in ancient times, Nami makes his own stone tools, keeping a careful record of the flint knapping techniques he uses to produce each new tool. In making almost one thousand lithic artifacts, he has replicated projectile points from different periods and regions of South America, including Patagonia, northern Argentina, and southern Chile. While carrying out this research, Nami documents all stages of manufacture in order to compare the different flint knapping technologies used in South America. His ultimate objective is to understand the relationship of lithic technology to the archaeological record. "I think," says Nami, "that experimental archaeology is a good way to explore the archaeological record."

While he was in the United States, Nami looked for a Paleonidian stone tool assemblage to use in his research. As part of his dissertation Nami intends to compare lithic technologies between two Paleoindian sites; one from South America and one from North America. Nami hopes to use a North American assemblage that is contemporaneous with the South American Bird I fishtail technology, probably a Folsom assemblage. He plans to replicate the stone tools, emphasizing the entire manufacturing process from raw material procurement to finished product.

During his stay in Orono, Maine, Nami met with Rob Bonnichsen and other interested individuals for informal flint knapping sessions. "I can see Bonnichsen's skill," Nami says. "He's a master Paleoindian flint knapper." Nami notes that he and Bonnichsen differ slightly "in our holding positions and how we use the arms to do percussion and pressure flaking."

While in the United States, Nami traveled extensively, meeting with fellow archaeologists and flint knapping enthusiasts, including: Dr. Dennis Stanford, Smithsonian Institution; Dr. Errett Callahan, Piltdown Productions, Virginia; and J.B. Sollberger, Dallas, Texas. Present-day flint knappers are rare in South America, and Nami expressed delight at his opportunity to interact and share ideas with other individuals who have similar interests.

Prior to his arrival in the United States, the young South American was slightly apprehensive about his reception in this country, fearing that he would find North Americans cold and distant. Happily, this was not the case, and Nami returned to Argentina saying of his stay in this country, "A good feeling was born."

—Nancy Allison

THE MEDIA COMES TO SUMMIT '89

The First World Summit Conference on the Peopling of the Americas attracted considerable attention from the press. Not only was the conference reported in local Maine papers, it was also featured in a lengthy article in the May 30th edition of *The New York Times* and in a *Science* brief (volume 244).

Representatives from three television production companies were in attendance at the conference as well: Ms. Akiko Carniglia and Mr. Tetsuya Muroyama of NHK television in Japan (the equivalent of PBS); Mr. Simon Campbell-Jones from the BBC2 in Great Britain; and Ms. Anne Stanaway and Mr. Henry Nevison, who are producing an independent documentary for the American Public Broadcasting System (PBS).

The Japanese television crew concentrated on the first Americans' migration through North and South America. Mr. Muroyama explained through his interpreter, Ms. Carniglia, that he and his team came to the Summit conference to obtain new information not so readily available in Japan. "It is much easier," remarks Muroyama, "for [the] Japanese to get archaeological information from China or Siberia."

"We are an Asian people," he continues. "According to the theory that the first Americans came from northeast Asia, we [think about] the ancestors' trip. How did they make the trip?" In structuring the television programs, Muroyama explains that "We will start [with people] from northeast Asia going through Siberia and then coming all the way down to the tip of the continents of America."

The film crew's first project will be a short, preliminary program that will be shown in Japan at the end of June. If this program is approved, the crew will then produce an expanded series similar to PBS's *Odyssey*, which will be seen in 1991 or 1992.

Mr. Simon Campbell-Jones of the British Broadcasting Corporation Channel 2 also attended the conference. Campbell-Jones is hoping to do seven programs on the original Americans "up to the present day, starting from . . . whenever the dates start from!" The first of this series will focus on Summit '89. "It's very much a neglected area, certainly as far as British television is concerned," Mr. Campbell-Jones says. "We have done big series about ancient China and ancient Africa, ancient Europe, and modern America—at least, post-Columbus America." But while the BBC has aired programs about Mayan architecture or Incan ruins, there has been no coverage of North, Central, and South America as a unified whole. "No one has looked at that complexity and variety in terms of a television series."

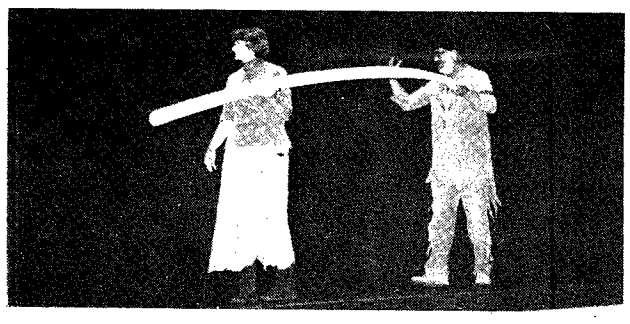
Campbell-Jones adds that, while the BBC2 is similar to the American Public Broadcasting System, it is somewhat more journalistic than PBS. "This series will not be trying to educate the public about what's going on—although that will be a part of it—it's much more of an investigation," he says. Speaking of the controversy surrounding the earliest occupation of the Americas, Campbell-Jones explains "I want to know what it is that [people] find interesting; why do they get so excited about this, that, and the other."

A third television crew, led by Producer/Writer Anne Stanaway and Director Henry Nevison, was also present at the conference. Veterans of a number of award-winning documentaries, Stanaway, head of Sunlight Productions, Ltd. (Lebanon, PA) and Nevison, president of In Vision Communications, Inc. (Philadelphia, PA) are collaborating on an hour-long documentary focusing on early sites in the Americas. With a working title of "The New World—Older Than We Think?", the production will examine early sites in South America, the Yukon, Pennsylvania, and Montana. Intrigued by the early peopling debate, Stanaway hopes to bring several North American experts to the South American sites, so that they may examine the data first-hand.

Stanaway became interested in the early peopling question during a trip to South America about a year ago. While there, she visited a number of early sites, including Pedra Furada and Monte Verde. Struck by the dates from these sites, as well as their visual impact, she began putting together plans for a documentary.

(Photo: Joanne Turner)

"For as long as I can remember," says Stanaway, "I have always been interested in archaeology, but I had never been able to personally identify with anything older than 5,000 years. Not until a 1988 trip to South America to look at early archaeological sites did I begin to understand the scope of the history of modern humans. Seeing sites in Chile, Argentina, Colombia, and Brazil—especially the 50,000 years of human occupation in the stratigraphy of Pedra Furada—has dramatically expanded my perceptions. It is as if my view of human history has gone from small screen TV to Cinemax. The context is larger and clearer, and the questions are too. It is my hope that this documentary will do the same thing for all those who see it."



(Photo: Joanne Turner)

Clockwise from left, Marie Wormington and Wu Xinzhi; Jose Lorenzo examines the avocational artifact exhibit; Anne Stanaway and Fabio Parenti take in the poster exhiit; and Marilyn and Harry Roper play a "mammoth" salute at the opening of the Conference.