FLORIDA ARCHAEOLOGISTS PLUNGE INTO THE PAST

PART of Florida divers, left to right, John Deitzel, Joe Foy, Mike Stallings, and Marianne Creech talk with archaeologist Michael Faught, far left, after a dive on an inundated chalk quarry. The site, in a drowned river channel four miles offshore in the Gulf of Mexico, was discovered after diver Ron Childers led archaeologists to a nearby underwater spring and quarry site. Childers has located at least three other spring sites in the area. (Photo by Bob Vickerby)

Underwater archaeology has a long history in the state of Florida, and is playing an increasingly important role in early human studies. Although terrestrial Paleoindian sites have been found in Florida, the inundated sites are unique in their preservation of organic materials, including bone, wood, and even insects. This preservation is largely attributable to the unique prology of the area.

Limestone formations which underlie much of the state create a direct link between sea level and the vast inland Floridan Aquifer. This groundwater reservoir is controlled by sea level. When sea level is high during an interglacial, as is the case today, water levels also rise. Conversely, when much of the world's sea water was locked in ice during a period of glacial activity such as the late Pleistocene, water levels in interior Florida lowered. Inundation of low-lying sites by rising water levels at the end of the Pleistocene and early Holocene created an oxygen-free environment which prevented bacterial decomposition. This, combined with the neutralization of tannin acids from the soil by limestone dissolved in the water, has led to the exceptional preservation of organic material found in many of Florida's submerged sites.

Paleoenviromental research suggests that the late Pleistocene climate of Florida was considerably different than that which presently exists. Analysis of pollen from early levels indicates that 14,500 years ago much of the state was considerably drier than today. Although later conditions fluctuated somewhat, the modern vegetational assembly of today did not develop until approximately 5,000 years ago. The late Pleistocene aridity was accentuated by the accompanying lowering of water tables throughout the state.

As water tables dropped, river channels became the focus of large game activity. Narrow rivers, such as the Santa Fe or Assila in north Florida, were probably reduced to oasis-like spring-fed watering holes around which humans and animals clustered during periods of seasonal drought. Broader rivers such as the Oklawaha continued to flow, but at a much lower water level than that of today. Such a situation was probably ideal for a big-game hunting economy, as hunters downstream could use the banks of these Pleistocene rivers in pursuit of their water-starved prey. The kill and habitation sites which formed on these dry riverbeds were later covered by seasonal flood sediments. As water levels in interior Florida rose following the end of the Pleistocene, early human sites were preserved intact in many river systems. Many of the tools recovered from Florida Paleoindian sites bear a strong resemblance to those found at sites further west. Carved ivory foreshafts, similar to those found at western Clovis sites, were collected in the 1930s from the Santa Fe River by Clarence Simpson, probably the first of a unique group of Florida avocational archaeologists. Simpson made his collections from a boat with the aid of a glass-bottom bucket and a cane pole complete with tongs. Since Simpson's time, a growing number of inundated early human sites have been discovered within the state's waterways. Unfortunately, many tools recovered at these sites so far have been found out of context, redeposited by active stream currents. Paleoindian sites have been located in the Assila, Oklawaha, Santa Fe, Steinhardt, Suwannee, Wekiva, St. Mark's, Waccassa, Withlacoochee, and Econolina Rivers. A survey of the Assila River basin alone revealed the existence of 33 Paleoindian sites. The quality and location of sites are often consistent within a particular river system. Along the Oklawaha, for instance, sites are frequently found eroding from the banks of the river. Assila River sites, on the other hand, are most commonly situated in the middle of the river channel. These differences in site locations are understandable when the various river systems are viewed as they existed during the time of site formation.

The Florida Bureau of Archaeological Research is presently engaged in an ongoing process of locating and evaluating these underwater sites. The most intensive research has been carried out within the Assila (Continued on page 5)

AT HOME IN THE PLEISTOCENE?

News of two remarkably early radiocarbon dates has come blowing out of the high Sierra Nevada mountains in California like a trumpet blast--a mammoth trumpet, of course--announcing a new series of debates on the antiquity of mankind in North America. In May, 1985, the mother-daughter firm of Peak and Associates, Inc. from Sacramento found a small, lanceolate-shaped, stemmed projectile point in association with carbon dated at 11,720±145 years B.P. This marks the first time a public's imagination has been caught by the August, 1986 discovery of a fire pit whose charcoal dates to 9750±180 years B.P.--a date less ancient yet more exciting because the fire pit was embedded in a 20 cm thick clay surface that could have been the floor of a building. A corroboration date was also obtained on charcoal found at a level 15 cm above the 9,750 age material; it came in at 9630±125 yr B.P.

If the surface is what remains of a permanent structure, then our understanding of late-Pleistocene (Continued on page 3)

"It is a floor, or is it merely a surface?"

Paleoindian culture may have to be modified. Paleoindians are currently thought to have been big game hunters who followed an essentially nomadic way of life.

(Continued on page 3)
SYSTEMATIZING OUR NEW REFERENCES AND RESOURCES ANNOUNCEMENTS

In order to better serve our membership, we are improving our method of finding and citing items in our "New References and Resources" section of the Trumpet. Starting with this issue we are dividing the material into subsections: Articles, Books, Reports/ Journals/Databases, and Curriculum Materials.

With the next issue, we will begin surveying major professional journals for articles on the peopling of the Americas and related topics. As in the past, we will also report on items which have been sent to us for our library. Although most of these library donations are Center-related topics, a few are on more peripheral subjects.

We do not do book reviews in the Trumpet. We feel that enough journals and newsletters perform that service already. However, we will occasionally announce a new reference if it appears to be unusually well-done, if it is not in English, or if its subject is not apparent from the title.

If you are a professional, we urge you to send us reprints of your research articles and reports. If any of our members are aware of new information—for example, an article published in a journal which isn't covered by the Trumpet review system—please let us know about it.

HAVE YOU SENT YOUR CONTRIBUTION YET?

Center members will recently have received a request for donations to fund our operations. We have focused this year on developing the clearinghouse function of the Center—making resources accessible to scholars and laypersons alike. If you haven't sent your check yet, please do so right away. If you wish to earmark your contribution for the endowment, just let us know. Otherwise, funds from this current drive are to be used for operations. We still need to raise over $250,000 for the endowment as well as funding for several special projects. The Center's functions are unique: discovering and communicating the earliest human heritage of the Americas. We are building for the future—organizing and interpreting information about our ancestors for new generations. Please help us.

THE FIRST AMERICANS: THE EXPEDITION

CSEM Director Dr. Robson Bonnichsen will lead an Earthwatch expedition to the Beaverhead Mountains in Montana this summer to search for evidence of early human occupation. The expedition will camp in a mountain valley at an altitude of 6,800 feet as they excavate sites dating to at least 11,000 years old. Dr. Bonnichsen has conducted research in the area for several years, seeking traces of the first Americans.

Earthwatch teams of up to 15 people will be formed on a first-come—first-served basis. Three-week sessions will take place June 27–July 11, July 13–27, and August 10–24. The cost, not including travel, is $990. For more information on this or other Earthwatch expeditions, contact Shereen Lane at Earthwatch, 680 Mt. Alburn St., Waterbury, CT 06702; Phone 617/926-8200.

ATTENTION LOCAL ARCHAEOLOGICAL GROUPS

Are you an officer of a local or state archaeological society? The Center needs to know who you are. We are attempting to contact the major societies all over North America in order to establish and improve communication.

If you haven't heard from us yet, let us hear from you. We need your name, your group's name, and a phone number where we can reach you when you can be reached.

We hope to contact you by phone to conduct a very short survey and to get acquainted.

GRADUATE RESEARCH FELLOWSHIPS IN QUATERNARY STUDIES PROGRAM

Two graduate research fellowships are available in the Institute for Quaternary Studies at the University of Maine. The fellowships are available to qualified applicants to the Institute's MS graduate program and can be used for research in archaeology, glacial geology, paleoecology, and paleoclimatology. The stipend includes tuition and living expenses. For further information and application materials please write to: Institute for Quaternary Studies, 304 Boardman Hall, University of Maine, Orono, Maine 04469.

KUDOS

Former Center staff person, Stephen P. Nawrocki, has been selected as one of 1986's Outstanding Young Men of America. The OYMA program is designed to honor and encourage exceptional young men who have distinguished themselves as a result of their dedication, responsibility, and a drive for excellence.

Steve worked at the Center while an Honors student earning a BA in anthropology at the University of Maine in 1985. He organized and maintained our fledgling library, contributed to the Mammoth Trumpet, and helped out in many other ways. He is currently working toward a doctorate in physical anthropology at SUNY Binghamton. Congratulations, Steve.

DO YOU GET IT?

As you may have noticed, we have new mailing labels for the Mammoth Trumpet. To help you keep track of your expiration date, we have included a code on the first line of the label. The letter is a code for your membership level and the 2-digit number is the volume and issue number of the last issue of your subscription. Thus, a 34 means your membership will expire with volume 3, number 4. A 41 means it expires after volume 4, no. 1, etc. The exception to this is the number 94, which means it is a lifetime membership and will not expire. We hope this helps you when it comes time to renew your membership. If you have any questions or comments, please let us know. We will, however, continue to notify you when it is time to renew.
AT HOME IN THE PLEISTOCENE?

(Continued from page 1)

"I've played the devil's advocate with that floor," says Art Peak, senior member of Peak and Associates. Is it a floor, or is it merely a surface? "That of course is going to be the question that will be asked. I find it very difficult to imagine people would transport that much soil unless it was for a specific purpose. You can live on the sand: the later people certainly did, without manufacturing any kind of surface. This is intention. It might be better to call it a surface: I've vacillated between floor and surface. I just know it's there, and it's not natural."

But floor or surface, the clay feature has still been assigned one of the two oldest dates for human habitation in the Sierra Nevada. The site on which it was found is called Gabbett Meadow CA-ALP-192, and is located in a narrow valley approximately 6000 feet above sea level in the Sierras. It is a beautiful place, with steep granite bedrock slopes enclosing white fir, lodgepole pine, and huckleberry oak, but also a rather inaccessible one: the steep trail from the parking area is 6½ miles long, so that all equipment and supplies, as well as many of the 32-member crew, had to be lifted in by helicopter. Quite large, the entire site extends about 10,000 m² and the older component by about 2600 m².

The excavators encountered the compacted clay surface at about 213 cm below ground surface, exceptionally deep for a Sierran site. The clay was probably imported into the site from Highland Creek, which runs through the meadow, a tributary to the Stanislaus River. The clay surface is well defined for a 3 x 4 m area, then disappears. No rim and no post holes are discernible, possibly because the area has a 10,000-year heating from erosion and Sierran winters that drop a preposterous forty feet of snow per season. These, along with acid soil which precludes preservation, most likely account for the absence of faunal remains as well; however, new information circulated by Owen Davis, obtained by analyzing the pollen samples and radiocarbon dates from the Meadow and Oakley sites, suggest that the climate may have been a bit warmer in Paleozoinid times.

The fire pit is constructed into the clay surface itself, and was filled with the 9750 ± 180-year-old charcoal. To the north side of the fire pit a linear cobbles and rock feature extends about 2.5 m, larger rock below, smaller rock on top, in most places collapsed. "It has the appearance of a wall; that is a little uncertain at this time. But it extends northwest, the geometorphologist says the rock is too large to have flowed as outwash materials."

In addition to geomorphologist Scott Stine (Berkeley), the Peak's team includes mineralogist Dr. Philip Lydon (California State, Chico) and ethnographer Mary Peters; paleoynology is by Dr. Donald Sullivan (Denver), obidian hydration by Rob Jackson, trace element sourcing analysis by Dr. Richard Hughes. (The obsidian appears to have come from elsewhere.) Also, in California, unlike elsewhere, it has become general practice, according to Peak, to retain a Native American, descended from the most likely group to have used or inhabited the territory, to act as observer and liaison between the archaeologists and the tribe. The Gabbett Meadow observer is from the Washoe tribe, though Peak doubts that group's habitation can be traced back further than about 2,000 years with any certainty.

The project is being funded by Northern California Power Agencies, an amalgamation of northern California cities banded together to develop energy; Gabbett Meadow is in an impoundment for the North Fork Stanislaus Hydro Project. Litigation prevented anyone from going into the field from 1981, when the project began, until May, 1985, but the patience and generosity of NCPCA paid off, Peak observes, because the group is now getting a great deal of publicity for their prestigious role in excavating several of the most ancient human-sites on the continent.

Looking north at excavation of Gabbett Meadow site. Dark area in center is the fire hearth in the compacted clay "floor" surface; rock feature is visible to the left, at a depth of 220 cm. (Photo courtesy of Peak and Associates, Inc.)

Plan view of excavated area at Gabbett Meadow site at a depth of 210 cm. Asterisk indicates source of charcoal sample C-14 dated to 9750 ± 180 yr B.P. Diagonal stripes show extent of compacted clay "floor", irregular ovals are rocks. (Map from Peak and Associates, Inc.)

Plan view of excavated area at Gabbett Meadow site at a depth of 210 cm. Asterisk indicates source of charcoal sample C-14 dated to 9750 ± 180 yr B.P. Diagonal stripes show extent of compacted clay "floor", irregular ovals are rocks. (Map from Peak and Associates, Inc.)

Peak and Associates have excavated several other sites in Gabbett Meadow and surrounding areas. In particular, Cal-S342, about 20 miles downstream from Gabbett Meadow and about 1650 m lower in elevation, yielded the 11,720 date (done on free-floating carbon) which was mentioned earlier. This site is deep with deposits in datable materials extending downward over 2 m. Eighteen radiocarbon dates span a time from 11,720 to 6240 ± 210 years ago. The earliest dated level produced a small lanceolate-shaped point and some debitage. Throughout the dated levels nearby 400 points were recovered which Peak has separated into 13 somewhat similar types. Peak would like to draw attention to the apparently long chronological sequence (as much as 5,000 years) of this group of point types. She comments that the types represented are comparable to others previously found in the Great Basin. Now that they have been found in the Sierras, she and others feel an overall umbrella term such as "western stemmed series" could be applied, recognizing the great geographic extent.

Ann Peak is 56 years old. A housewife with four children who was forced to find a career after a divorce, she returned to school and added an M.A. from Cal State to the B.A. in anthropology she already possessed. She started working in 1972, and formed Peak and Associates in 1975 with her daughter Melinda Peak (currently doing adjunct graduate work in history) and Roberterry. All three are archaeologists. The firm does everything from small-gas-well monitoring to major projects like Gabbett Meadow. Work on the latter is completed, however more excavation is planned down stream. Meanwhile analysis of the Gabbett Meadow materials is proceeding.

Pollen and charcoal samples still being analyzed have the potential to produce still further surprises concerning Gabbett Meadow.

—M. Doltani

GLOSSARY

Marl A mixture of clay, sand, and limestone in varying proportions, that is soft and crumbly and usually contains shell fragments.

Matrix The rock or earthy material in which a fossil or artifact is found.

Debaser Waste flakes from the production or reharvesting of stone tools.

Calcereous A substance of, like, or containing calcium, calcium carbonate, or lime and often forming hard, impervious layers.

Blowout An area where sand or soil has been eroded away by wind.

• Understanding Stone Tools: A Cognitive Approach by David E. Young and Robin Deadmarch
  $ 27.00
• Archaeological Settlements in Context by John Stuven and William R. Fain, editors
  $ 19.00
• Environments and Extinctions: Man in Late Glacial North America by Jim I. Head and David J. Meltzer, editors
  $ 22.00
• New Evidence for the Pleistocene Peopling of the Americas by Alan L. Bryan, editor
  $ 32.00

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MAMMOTH TRUMPET
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In 1983 and 1984, Vance Haynes returned after an absence of twenty years to Blackwater Draw, one of the most famous sites in North American archaeology. Blackwater Draw is doubly significant. First, it is the type-site for the Clovis culture, named after the nearby city of Clovis, New Mexico: that is, evidence for the existence of Clovis as a distinct cultural type was first discovered there. Second, it provided a large part of the evidence from which geologists E.H. Selact and Glen L. Evans constructed the entire Paleoindian cultural sequence for the Southern High Plains, from Clovis to Folsom to Agate Basin and onward to the Archaic period. Yet Haynes, member of the Department of Anthropology and Geosciences of the University of Missouri, still a primary expert in the geology of Blackwater Draw, and eminent figure in early North American prehistoric studies generally, was convinced that the site held the potential to yield much more information. And the work of the last several years seems to bear his conviction out.

This is all the more remarkable because the location has been studied off and on for well over fifty years. With its rather poetic name, like something out of a Southwestern ballad, Blackwater Draw sits close to the eastern border of New Mexico. The first surface finds were made as far back as 1929, when a surfaced projectile point along with some mammoth bone. E.B. Hovard and John Cotter worked at the site from 1931-37, and mammoths were soon uncovered with Paleoindian artifacts in association.

Unfortunately, the blowouts that exposed the bones and artifacts also exposed the layer of gravel that lay beneath them to the eyes of gravel miners who subsequently began to quarry it for highway construction. Cannon Air Force Base is close by, and there was always a great demand for gravel for the runways. Haynes makes a grim estimate of how much evidence about prehistory was gravel-mined into oblivion in those first decades. "It makes you sick," he says resignedly, "when you think of what that pile is today and what it could have been if it had received proper protection from the beginning. . . . We would have had a national monument there that could have been invested for probably a century."

All was not lost, however, because of a businesswoman named Sam Sanders. He operated the gravel pit using modern techniques, making a slurry out of it by pumping in water, then sucking out the mixture of mud, water, and gravel with a big pump. To get to the gravel, he would strip off the overlying layers of sand and earth, erasing the kind of stratigraphic evidence that has been the topic of Haynes' work. And yet, "you have to give him credit," because he made some effort to salvage bones and artifacts. Haynes insists, "He knew that these bones were of interest to people; so when he did hit something that looked as if it were important enough . . . he would hold up and call everybody to let them remove it." Thus, five mammoths were recovered in 1962.

Indeed, Sam Sanders may have been too generous for his own good. Not knowing how to discriminate from the massive number of bones that he had, he sent them all to the Museum of New Mexico. Eventually the gravel operation folded up and the property was purchased by the state. "Of course by then that whole north wall section was mined out." The land came under the jurisdiction of Eastern New Mexico University (ENMU). Under the direction of George Agogino, work was conducted on a sporadic basis, including visits by Haynes in the late 1960s and 70s. By the 1980s, the big question became: what, if anything, is left?

Answering this question requires a sketch of the place where most of the digging has been done. To the south lies Blackwater Draw itself. To the north lies what in Paleoindian times was a spring-fed depression, with an outlet that used to run into the Draw. Bison and mammoths came to drink there and were hunted by several Paleoindian cultures in succession. Slowly, the outlet was plugged up by windblown material, making a closed basin out of the pond; yet the basin didn't overflow because the output of the spring dwindled over a few thousand years. When the spring finally disappeared, so did the pond, and the depression is now filled with a basal sand, overlain by diatomaceous earth (made of the skeletons of diatoms from the ancient pond), in turn overlain by silt and other deposits. According to Haynes, "The stratigraphy is just fantastic. It's complex, but it's the sort of situation where, because of the complexity, you learn so much more." Moreover, the diatomaceous earth, flowing from the depression through the outlet and downward some unknown distance into the Draw, forms a Folsom bone bed—a bone bed so rich that in many places there is more bone than matrix—in association with Folsom points and knives. "I had always wondered about what would be in that outlet, the old outlet leading down into Blackwater Draw. When Jim Hester and I were working there in 1962, Sanders had made some prospecting pits down in that Draw, for gravel. And in one of those prospecting pits we noticed two layers of bone that looked as if they were from Paleoindian times stratigraphically. There was also a second, closely related place that drew Haynes back to the site after two decades: "When I worked out there with Jim Hester in '62 we were very impressed by what we called the south wall, the southern wall of the gravel pit that Sanders had made. In fact, that was the area that Jim Hester and I had mapped."

"So, with that in the back of my mind, with the significance of what that site could have been, and with the possibility that there could be still more down that outlet, Dennis Stanford and I decided that we ought to test that idea." Meanwhile, faunal material from the 1960s that had been salvaged but never examined was still waiting in jackets in a warehouse. So Stanford and Haynes tried to obtain a grant to go back, and simultaneously to have Jeff Snyder, a paleontologist interested in looking at all the Clovis material, unpack the faunal remains.

Thus in 1983, Stanford, funded by the National Geographic Society, brought a crew which joined in Blackwater Draw with George Agogino's group of (Continued on page 8)
FLORIDA ARCHAEOLOGISTS PLUNGE INTO THE PAST

(Continued from page 1)

River basin, notably at the Page-Ladson site. Page-Ladson is a stratified multi-component site which has yielded deposits indicative of human activity ranging in age from 12,000-4,500 years before present. Dr. James Dunbar, an archaeological field supervisor for the Florida Bureau of Archaeological Research, is one of three specialists who coordinate and oversee underwater excavations in the state today. He and David Webb of the Florida State Museum are carrying out archaeological and paleontological research at Page-Ladson.

Several criteria were considered in choosing the Page-Ladson site for intensive testing. While the more recent horizons of Archaic age and younger are river-deposited, the older, deeper layers are intact—buried by sediments from seasonal flooding prior to inundation. The intact horizons consist of at least three early cultural levels. Excavations at the lowest level revealed delitage flakes and remains of extinct horse and camel within layers of peat and marl. The lowest stratum containing Bolon side-notched projectile points was dated at 10,000-8,700 years old. Impact fractures present on many of the projectile points recovered from this site support the assumption that hunting provided an important part of the Paleolithic subsistence base. This level is topped by a sterile zone, followed by a horizon which Dunbar has dubbed the “Antler Flaker Zone.” Artifactual evidence recovered from this stratum includes stone fragments, flaked stone cores, and antler pressure flakes. Although the radiocarbon dates from this layer are still out, it is estimated that the Antler Flaker Zone is approximately 9,500-9,000 years old.

Dunbar is leading the work now underway at Pinney Island, a site situated on a sandy ridge that borders the Okkawa River in a tight oxbow. Although in the early stages of investigation, this site promises to be a valuable contribution to Florida Paleoindian studies. The Pinney Island site was discovered recently by members of the Paleontological and Archaeological Research Team of Florida (PART), a diving group formed for the support of underwater archaeology, and now a subchapter of the Florida Anthropological Society. While diving in the Okkawa River, PART members recovered side-notched Greenbrier and Bolon projectile points and a variety of unifacial tool types 20 feet below the river’s surface. Further investigation by PART revealed the artifacts were eroding from the bank of the river.

Their river down- and side-cutting exposed several stratigraphic horizons in the eroding bank. The lowest level, the river bed, is primarily a calcareous mud, consisting largely of turtle shell intermixed with the stones of early Pleistocene megaflora. Moving up the stratigraphic column, the marl layer is topped by a zone of sterile black mud, followed by a horizon of grey clay. This clay layer yielded the intact jaw of an extinct giant armadillo, the only example found to date in Florida. The grey clay unit grades gradually into a layer of lighter grey sand, the upper portion of which contains evidence of human activity. PART members discovered stone flakes, human skeletal remains, and a variety of bone tools, including deer ulna pressure flake and antler points, eroding from this deposit.

Following the report of this discovery to the Florida Bureau of Archaeological Research, Dunbar conducted a test excavation to obtain further information on the site. This excavation indicated that the human occupation zone at Pinney Island extends approximately 6 to 12 inches below the water surface and 1 to 2 inches above. In addition to bone tools, denticle knives, scrapers with graver spars, spoke-shafts, and more Greenbrier points typical of Late Paleoindian assemblages were recovered from the test area. The human skeletal remains are currently being C-14 dated and Dunbar estimates this strata will probably be found to be 10,000-9,500 years old. Preservation of the human skeletal remains and bone tools emphasize the necessity for further work at Pinney Island.

Along with research concerning intact riverine deposits, other types of inundated sites are also being investigated. Limestone-bedded sinkholes have yielded further evidence of early humans, while soft-sediment filled sinkholes frequently contain later materials in the 5,000 to 6,000 year old range. An increasing amount of research is also being conducted offshore. Although largely inconclusive thus far, several sites which could possibly date back to Paleoindian times have been discovered one to three miles offshore in the Gulf of Mexico.

Much of the knowledge concerning in-place deposits of Florida’s inundated sites has been contributed by sport divers. The impetus behind the current interest in Florida underwater archaeology can be directly ascribed to the efforts of these divers. PART of Florida is based in Palatka, Fl.. Its members presently include divers Romona Bailey, Vic Carter, Don and Marianne Creech, John Delzell, Joy Foy, Tony Di-carlo, Bruce Hamlen, Paul Horton, Mitch Holbrook, Andy May, Walon and Terri Rose, Chris Runk, Mike and Darlene Stallings, and Mike Warren.

In the mid 1960s, divers from around the state observed artifact concentrations in several rivers in northern Florida. These divers include Don Serbousek, John Coxrill, Ben Walter, Paul Lien, Hub Chasen, Wayne Gristz, Jim Knight, Dennis Ross, Jack "Gator"man Simpson, Alvin Hendrix, Bill Webster, Ellis Moore, Jari Malvin, and Richard Ohmes. While it had been previously assumed by the archaeological community that such accumulations were the result of redeposition, the divers were persistent in bringing intact site concentrations to the attention of professionals. One of the eventual outcomes of this effort was the initiation of the Auxilla River Project in the early 1980s.

At about the same time, Roger Aleson, Bill Mathen, and Bob Gingerich, another group of Daytana divers, found fragmentary bone remains in the Wacissa River. Upon examination, the divers found that many of the fragments could be pieced together to form a single skull. The tip of a broken projectile point was stuck in one fragment.

With the aid and support of sport divers and the general Florida poplaciont, intact early human sites are being reported in ever increasing numbers. As James Dunbar comments, “I think it’s going to be one of the most significant archaeological issues of the 20th century. It’s been sitting here for 12,000 years and is just waiting to be unlocked.”

-Suggested Readings-

On Underwater Sites


NEW REFERENCES AND RESOURCES

*New materials received by the Center Library.

ARTICLES


BOOKS


*McIntosh, Jane 1986 The Practical Archaeologist: How We Know What We Know About the Past. Facts on File Publications, New York. 192 p. $11.95 (hardbound).


*White, Randall 1986 Dark Caves, Bright Visions: Life in Ice-Age Europe. American Museum of Natural History, New York. Catalog of exhibit at the American Museum of Natural History. $35.00 hardback, $18.95 paper.


REPORTS, JOURNALS, DATA BASES


The following two references are summaries of papers and discussions from the 2nd and 3rd meetings of the Groupe de Travail No. 1: Outillage peu elaborate en et en bois de cervides, a working group of the Commission de Nomenclature sur l’Industrie de l’Os Prehistorique, international in membership and centered in France. Founded in 1960 by H. Camps-Fabrer. Order from C.E.D.A., 22a, rue de la Garde, 69390 Viroinval, Belgium.


*Archaeozooica D. Pierre Duco, editor. Editions La Peinte Sauvage, Grenoble. This is a new journal first published on the 5th ICAZ, Bordeaux, France, August 1986; Entitled Mélanges, it contains several papers on the status of zooarchaeology world-wide. The next issues (1987-1988) will publish the papers of the 5th ICAZ in topical and geographic groupings. Order from Editions La Peinte Sauvage, B.P. 141, 38002 Grenoble Cedex, France. For information from the editor, write: Dr. Pierre Duco, Laboratoire d’Archeologie, 07460 St. Andre de Cruzières, France.

*ASVNET/ESAFAET: Archaeological Society of Virginia and Eastern States: Archaeological Federation. Combined efforts have produced "The First Archaeological network directed toward the amateur archaeologist". It will provide a single source for data/locataion of archaeological meetings and conferences all over the U.S., list new books and monographs, short articles on new discoveries, sites reports, museums and displays, field schools, state and local society activities, and more. ASVNET/ESAFAET will go on-line January 1, 1987, and is free to callers. Computer phone number is 703-354-2827; use CompuServ communications settings, but password is needed. For more information write or call WM. Jack Harincky, 703-256-1304, P.O. Box 4190, Arlington, VA 22204.

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ENCES

Wet Sites Conference

The International Conference on Wet Site Archaeology was held December 13-14, 1986 at the University of Florida in Gainesville. Twenty participants discussed problems and possible solutions.

World Archaeological Congress

The World Archaeological Congress met September 1-7, 1986 in Southampton and London, England. Eighteen Academic sessions were held, including two special interest groups focused on Mammoth Trumpet readers.

Pleistocene Perspective was organized by Arthur Agnusino, Michael Day, and Robert Foley, and included sessions entitled "Homind Dispersal Patterns - Peopling of the New Continents" chaired by Brian O.K. Reeves; "Adaptations to Rising Temperatures" at 15,000 B.P. "Cultural Debris" and "Early Holocene Adaptations.

Communal Land Mammal Hunting and Butchering was organized by Leslie Davis, Nanna Nocny-agard, and Brian Reeves. Seven meetings discussed procurement and processing of Pleistocene animals, including mammoths, bisons, antelopes, cervids, and sea mammals.

Plans are currently being made to publish the proceedings of the Congress. The trumpet will list it in New References and Resources when it is available.

Archaeological Geology Division of the GSA

Most of the Archaeological Geology Division activities were focused on the annual meeting of the Geological Society of America, held in San Antonio, Texas, October 11-13, 1986. At the meetings, John Gifford, the GSA Division Chair, organized the Division symposium entitled Surveying and Paleomagmatic Sites, in which 10 papers were presented. In addition, 13 oral papers and five poster papers were presented at the general session.

The Division adopted a new policy of interest to students. Beginning in 1987, the Division will pay the registration fee for up to three GSA student members giving papers on either the Division symposium, the Division general session, or the Division poster session. The tentative title of the Division symposium for the 1987 annual meeting to be held in Portland, Oregon is "Archaeological Geology of Humans and Civilization."

Prior to the meetings in San Antonio there was a Division-sponsored activity entitled "Archaeological Geology of Classic Paleoindian Sites on the Southern High Plains, Texas and New Mexico," organized by Vance Holliday. A total of about 25 participants participated in the 2-day tour which focused on the archaeology, geology, and history of investigations at the Lubbock Lake, Plainview, and Clovis (Blackwater Draw Locality 1) sites. A number of past and current investigators at all three sites were involved in the trip and included Eileen Johnson and Vance Holliday (Lubbock Lake), Roberta Speer (Plainview) and Vance Haynes, Dennis Stanford, and George Agogino (Clovis). In addition, a particularly enjoyable aspect of visiting these famous localities was the presence and active participation of Glen Evans and Grayson Meade, who worked at all three sites, as well as a number of others in the region, for E.H. Sellards and the Texas Memorial Museum from the late 1930s into the 1950s. These gentlemen pioneered regional, interdisciplinary Paleoindian studies on the Southern High Plains, one of the first such ventures in North America.

A 129-page guidebook was published for the field trip. Copies are available for $8.00 from the Department of Geology, Texas A&M University, College Station, Texas 77843.

Supported by Vance T. Holliday, Department of Geography, University of Wisconsin, Madison, Wisconsin 53706.

for excavating and preserving wet sites throughout the world.

We sites constitute a unique opportunity to recover and examine organic materials preserved undisturbed in oxygen-free, water-saturated environments. Destruction of wet sites through exploitation of related natural resources (water, pet), land for development) threaten their fragile material components. New tools and procedures must be developed to find and excavate these sites before they are lost. Specialized conservation, involving long-term commitments of money and adequate housing facilities are necessary to maintain artifacts for study. These artifacts provide rare opportunities to examine environment, diet, technologies, and artistic expressions in wood, bone, and other perishable substances.

A field trip was taken to the Windover site near Titusville, where 8000-year-old human skeletal remains within the cranial, have been recovered from a peat stratum.

UPCOMING

March 5-8, 1987 SOCIETY OF ETHNOBIOLOGISTS, 10th Annual Conference, Florida State Museum, University of Florida.

Contact: Elizabeth S. Wing, Florida State Museum, Gainesville, FL 32611; 904/392-1271.

March 13-14, 1987 ALASKA ANTHROPOLOGICAL ASSOCIATION, 34th Annual Conference, Sheraton Anchorage Hotel, Anchorage, Alaska.

Program Chair: Jim Payne, Alaska Pacific University, Department of Anthropology, 4th University Drive, Anchorage, AK 99508; 190/564-8216.

April 6-8, 1987 NORTHWEST ANTHROPOLOGICAL CONGRESS, Salmon Lodge, Glacier, Oregon.

Contact: Richard Ross, Department of Anthropology, Oregon State University, Corvallis, Oregon 97331.

April 23-25, 1987 CENTRAL STATES ANTHROPOLOGICAL SOCIETY, 63rd Annual Meeting, Salvation Inn, Columbus, Ohio.

Contact: James Hamill, Department of Sociology and Anthropology, Miami University, Oxford, OH 45056.

SOCIETY FOR CALIFORNIA ARCHAEOLOGY, Annual Meeting, Fresno, California.

For further information contact Meeting Chair Greg Greenway, Forest Archaeologist, Sierra National Forest, 1130 O Street, Fresno, California 93721; 209/487-3653, or Program Chair Scott Carper, Park Archaeologist, Yosemite Res. Co., P.O. Box 700, El Portal, California 95326; 209/372-0642. Send abstracts to Program Chair by Feb. 1, 1987. For reservation information call 209/488-1000.

April 22-26, 1987 CANADIAN ARCHAEOLOGICAL ASSOCIATION, 20th Annual Conference, Edmonton, Alberta, Canada.

Abstracts of papers due January 7. Contact M.C. Wilson, Program Chair, Department of Geology and Geophysics, University of Calgary, Calgary, AB T2N 1N4, Canada, or Lesley A. Nicsloth, Conference Coordinator, Department of Archaeology, University of Calgary, Calgary, AB T2N 1N4, Canada.


Contact: Andrew L. Christenson, Center for Archaeological Investigations, Southern Illinois University Carbondale, IL 62901; 618/536-5329.

May 6-10, 1987 SOCIETY FOR AMERICAN ARCHAEOLOGY, 52nd Annual Meeting, Royal York Hotel, Toronto, Ontario, Canada.

Program Chair: Timothy Kaiser, University of Toronto.

May 25-27, 1987 GEOLOGICAL ASSOCIATION OF CANADA - MINERALOGICAL ASSOCIATION OF CANADA Annual Meeting, Saskatoon, Saskatchewan, Canada.

Contact W.O. Kupch, Department of Geological Sciences, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.

July 31-August 9, 1987 12TH CONGRESS, INCQA, Ottawa, Ontario, Canada.

Contact Dr. Alan V. Morgan, Department of Earth Sciences, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1.

September 1-7, 1987 UNION INTERNATIONALE DES SCIENCES PREHISTORIQUES ET PROTOHISTORIQUES, XIX Congres, Mons, West Germany.

For details contact Dr. K. Wedemann, Generaldirektor des Römisch-Germanischen Zentralmuseums, Ernst-Leidig-Platz 2, D-4500 Mainz, Federal Republic of Germany.
OF THE PAST

(Continued from page 4)

students from EMMU. Haynes joined them, prepared to do geological studies funded by the National Science Foundation. To begin with, Haynes wanted to test the outlet with a coring operation to get an overall look at its general stratigraphy. "Now, coring is kind of a hazardous way of looking at stratigraphy, because you're looking at just that little subsegment of it; but for a first shot, it is the least destructive way to go."

Coring is an engineering testing technique. In Haynes' explanation, "They have a truck with a hollow auger. Down through the center of the auger they hydraulically force a meter-long tube into the ground like a biscuit cutter, so that they take out solid core segments. As long as you're in sediments that aren't cemented or full of gravel, this produces good cores about 6 cm in diameter for depths up to 9 m. The punch moves about a meter at a time; the hydraulic ram forces the core out of the tube into a cardboard tray. Several lines of almost seventy core holes were laid out across the outlet channel for about a half mile

Looking east into excavation trench at Blackwater Draw Area #2. Note the stratigraphy on the far wall of the trench. (Photos courtesy of C. Vance Haynes)

or so to the south of the site. "And in an amazing number of those holes, we encountered bone: in some cases bone so dense that the core actually went through two layers. In other places it would go into chipboard fragments." The other job in 1983 was to clear up the south wall, "so we could plot the stratigraphy and collect pollen samples, and at the same time look at the archaeology there and the faunal situation."

Consequently, when they returned to the site in 1984, Stanford sank three test pits, of 30 to 40 m² each, one along the south wall and two down the outlet, to the basis of what they had learned in 1983. Then, on the walls of the test pits, Haynes mapped sedimentary strata so detailed that the geologist in him cannot help rising up to speak of them in glowing terms. For the strata on the test pit walls, although of course similar to those in the exploratory cores, can be seen in a much more vivid way. Haynes was able to separate them into six major divisions, A-G, and into as many as twenty microdivisions each. He has obtained from these a 12,000-year-old date on pre-Clovis organic material "that had been kicked around by the spring water."

The ever-recurring possibility of human evidence in the pre-Clovis level raises its head here: "If there was ever a place where the prospects for pre-Clovis are maximum it's Blackwater Draw... We have a number of places where there's faunal material from 20,000 years ago; we have several 15,000-year dates associated with good faunal localities; no evidence of man. As a matter of fact, not a great deal of archaeological material of any sort has been found at Blackwater Draw since 1983. A Folsom point was discovered in pit two, south of the south wall; Archaeo-period artifacts were discovered associated with bison in the overlying sand."

But the hunt is still on: last summer, Anthony Boldurian then of Eastern New Mexico University, tested an area on the west side of the gravel pit, an area that in the past has produced a lot of Folsom material on the surface, and came upon some buried material that is indeed still in situ. Saunders, in his analysis of the bones previously excavated, discovered a mammoth task that obviously had been cut, then snapped: the Paleoindian people who hunted mammoth and bison at Blackwater Draw were clearly procuring ivory—why for what purpose we know not, but perhaps Haynes would not be at all surprised to uncover some ivory points like those that have come out of certain spring-fed rivers in Florida. Haynes and Stanford have done no more excavating since the 1983-84 fieldwork. "We're trying to put that work together in such a way that it can be published and at the same time that we have data for future work." And there remains, Haynes believes, an indefinite amount yet to be done. "It's an area where you would probably be as complete a study as has ever been found. There's Clovis there, there's Folsom, there's Agate Basin, there's material like Plainsview, Cody Complex, and Plains Archaic—in stratigraphic context. Associated with these are fauna very clearly showing changes with time, particularly in bison... And it contains material that is good for all kinds of paleoecological study. It is, by the way, the first Paleoindian site in the New World where there was a deliberate interdisciplinary program: in other words, the work that was started by Howard not only involved archaeologists but some of the top geologists and paleontologists. So it was an integrated, interdisciplinary project—in the 1930s. Haynes goes so far as to speculate that there is a half-century's work left in the outlet to match the half-century's work that has been accomplished in the gravel pit— not to mention other items of interest such as a mound southeast of the site, beyond even the outlet drain. Haynes wanted to see that it looked like a spring mound, Haynes and Stanford tested it and got a lot of bone; but because it is highly cemented, the bottom of it has not yet been reached. In both figurative and literal senses, the same is true of much else at Blackwater Draw."

M. Dolanz

Editor's note: This article is the first in a series. The archaeological and paleontological findings at Blackwater Draw will be reviewed in future issues of the Trumpet.

ADDRESS CORRECTIONS REQUESTED