SAS Nominations Open

Nominations for officers of the Society for Archaeological Sciences for 1989/90 are open. Please submit the names of candidates for the offices of Vice-President/President-elect and Assistant Secretary-Treasurer/Treasurer Elect on or before 1 March 1989. The Nominating Committee will nominate at least one individual for the position of Assistant Secretary-Treasurer/Treasurer Elect and at least two, no more than three, candidates for the office of Vice-President/President-elect. Society By-Laws indicate that any individual receiving a minimum of ten (10) nominations from the membership by 1 March will automatically be placed on the ballot along with the candidates suggested by the Nominating Committee. Nominees must be willing to serve. Nominations should be sent to the Chair of the Nominating Committee, T. Douglas Price, Department of Anthropology, University of Wisconsin, Madison, Wisconsin 53706. Other members of the Committee are Prudence Rice, Department of Anthropology, University of Florida, Gainesville FL, 32611, and Jeff Eighmy, Department of Anthropology, Colorado State University, Ft. Collins, CO 80526.

SAA Distinguished Service Award

Nominations are requested for the Distinguished Service Award to be given by the Society for American Archaeology in 1990. This award is intended to recognize individuals who have provided extraordinary service to the Society and the field. Previous winners include Carl Chapman, Charles McCombsey III, Gordon Willey, Albert Spaulding, Jesse Jennings, Hannah Marie Wormington, James Griffin, Emil Haury, Waldo Wedel, William Ritchie, and Richard and Natalie Woodbury. Nominations should contain a two-page statement of the service, activities, and qualifications of the nominee as well as a curriculum vitae. Letters of recommendation from at least two individuals other than the primary nominator should be provided in the nomination package. The deadline for nominations is March 15, 1989. The award, a framed, inscribed citation, will be presented at the 1990 Annual Meeting of the Society for American Archaeology. Complete nomination packages (three letters, two-page statement, and curriculum vitae) should be sent to T. Douglas Price, Chair, SAA Distinguished Service Award Committee, Department of Anthropology, University of Wisconsin, Madison WI 53706.

Graduate Program Directory Updated

Rip Rapp has released the Sixth Edition of the Directory of Graduate Programs in Archaeological Geology and Geoarchaeology. This guide to programs is updated each Fall, and is available free to any student or faculty advisor who requests a copy from: George (Rip) Rapp, Archaeometry Laboratory, Research Laboratory Building, University of Minnesota, Duluth, MN 55812-2496.

RADIOCARBON Is Moving

Editor Austin Long and Managing Editor Renee Kra have announced that the editorial offices of RADIOCARBON have moved to the University of Arizona. As of January 1, 1989, the new address will be: RADIOCARBON, Department of Geosciences, University of Arizona, Tucson, AZ 85721.

Publishing Opportunity

In 1982 Linda Ellis published a very useful compendium entitled "Laboratory Techniques in Archaeology: A Guide to the Literature, 1920-1980" (Garland Publishing Inc, New York & London). Several years ago, with the intention of updating and expanding the scope of the Ellis bibliography, 3755 entries, I wrote letters to many archaeologists and physical scientists world-wide to gather lists of publications, references, titles of PhD theses, etc. I am afraid I bit off more than I could chew, and today am the owner of a vast stack of titles and references which need to be organized into a bibliography on the subject of the physical sciences and archaeology. Unfortunately, I have no time for this project and no students and/or grants that could be applied.

If there is anyone out there who is interested, I would be happy to make these materials available to them. It looks to me as though the final tally might be over 10,000 entries. Ownership of a good PC is imperative. Please contact: Gar Harbottle, Chemistry Department, Building 555, Brookhaven National Laboratory, Upton, N.Y. 11973.
EDWARD SMITH DEEVEY, JR.
1914-1988

Edward S. Deevy, Jr., Graduate Research Professor in the Department of Natural Sciences, Florida Museum of Natural History, passed away in Gainesville on November 29, 1988. He was 73 years of age. An eminent paleocologist of international renown, Deevy's accomplishments transcended those of narrow disciplinary categories, and he held appointments in four academic departments at the University of Florida—zoology, geology, botany, and Latin American studies. He was a Renaissance scholar who made a mark on many fields, among them archaeology.

Deevy was born December 3, 1914, in Albany, New York. He was educated at Yale University, receiving the Ph.D. degree in Zoology in 1938. He taught at Yale from 1946 to 1968, then served as Killam Professor of Biology at Dalhousie University in Nova Scotia from 1968 to 1971. In 1971 he moved to Gainesville to join the University of Florida and what was then called the Florida State Museum.

During his long and distinguished career he held office in numerous national and international organizations, including the presidencies of the Ecological Society of America and the American Society of Limnology and Oceanography. He was NSF Program Director for Environmental Biology, and he served as editor or editorial board member of seven journals. His research was supported by numerous NSF grants as well as Fulbright and Guggenheim awards, and he was selected as Eminent Ecologist in 1982 by the Ecological Society of America. He was elected to the National Academy of Sciences in 1981.

Deevy published his first scientific article in 1937 [1] (on pollen analysis and climatic interpretation) and in the succeeding half century produced more than 100 publications. Much of his work is considered by ecologists to be innovative and truly pioneering. For example, in 1947 he published a now-classic article [2] borrowing actuarial procedures for applying life tables to animal populations in order to quantify fluctuations over time; in so doing he set forth some of the questions to be addressed in population ecology for several decades. Besides pollen studies and biogeography, his scholarly writings span topics as diverse as the chemistry of lake waters, stable isotope geochemistry, theoretical systems ecology, tropical limnology, sea level change, taxonomy, and extinction of moas.

Deevy's contributions to archaeology reflect his commitment to studying ecology as a series of long-term dynamic processes operating within a historical context. One of his early fields of interest was dating techniques. In 1957 he received a grant from the Rockefeller Foundation to establish the Geochronometric Laboratory at Yale University, and he served as its director from 1951 to 1962. He also served on the editorial board of Radiocarbon (1959-1971), and published numerous articles on radiocarbon dating and its relation to pollen sequences and lake sediment stratigraphies. Another related area of research and publication is Pleistocene chronology. Deevy found the first Pleistocene-age pollen deposits in the New World and established the standard pollen stratigraphy for eastern North America.

His interest in the long-term aspects of ecological change led him to the unique research perspective identified in the title of a 1969 article, [3] "coaxing history to conduct experiments." Since ecological, geological, and archaeological researchers cannot manipulate variables in past settings to conduct active scientific experiments, then they must learn to select diverse sites for study so that the variables themselves have already effectively been manipulated: i.e., the experiments are "coaxed" out of history. Such was the research perspective that inspired an historical ecology project in the tropical lakes area of northern Guatemala, a combined archaeological and ecological study that attempted to correlate the effects of Maya settlement locations and densities with environmental changes over a period of 4000 years.[4]

The astonishing depth and breadth of his knowledge, his unerring ability to recall the most obscure citations, his stature in so many fields—all of these might have conspired to make Ed Deevy not a little intimidating to the many students and colleagues who worked with him. Yet that was never the case, for what all of us will remember is how humane Ed was—gentle and soft-spoken—and his wonderful wit. How many evenings in the field were enlivened by his marvelous anecdotes and endless supply of limericks, all delivered with that reflective pulling at his pipe, that twinkle in his eye, and that shy grin. For those of us who were privileged to work with him, Ed Deevy was mentor, father-figure, wise man. He will be sorely missed.


Prudence M. Rice, Department of Anthropology, University of Florida

Mark Brenner, Department of Natural Sciences, Florida Museum of Natural History, University of Florida
Research Report

Obsidian and Basaltic Glass Dating Require Significant Revision of High Temperature Rate Development Methods

Christopher M. Stevenson, John K. Bates, Teofilo A. Abrajano, and Barry E. Scheetz

Over a decade ago Friedman and Long (1978) published the results of their accelerated hydration rate experiments. In this analysis, rates of glass hydration for twelve obsidians were developed in a high temperature vapor environment that did not exceed 250°C. Five years ago, Michels, et al. (1983) published their methodology for the development of glass hydration rates under conditions of elevated temperature and pressure in a hydrothermal solution. Using this approach freshly fractured obsidian or basaltic glass is hydrated in 500 ml of distilled deionized water at temperatures of 150°C to 250°C for durations of up to 6 days in a pressure reactor. The induced rims are used to calculate the activation energy and preexponential. The rates developed at elevated temperature are extrapolated to ambient conditions for archaeological sites using the Arrhenius equation.

Recent independent replications of the experimental design (Stevenson et al. 1988; Tremaine and Frederickson 1988) and studies of glass-water interaction (Bates et al. 1987, 1988) have produced results that are contrary to those reported by Michels et al. (1983). These reports show that obsidian hydration rims developed at 225°C may not be measurable using standard optical procedures (Michels and Bebrich, 1971; Ericson, 1971 and 1981a), or may not even be present. It has been documented by these researchers that the hydrothermal reaction of obsidians at elevated temperatures in distilled deionized water results in the loss of diffusion front definition, and the dissolution of the hydration rim by the aqueous media (Table 1, Table 2, Figure 1).

In response to these replications of the experimental design, one of the authors (Stevenson et al. 1988) added powdered silica to the reaction solution in order to suppress or prevent surface dissolution of the obsidian during the reaction process and reduced the maximum reaction temperature to 150°C. These changes resulted in the development of readily identifiable, low birefringent rims, that can be used to develop hydration rate constants.

Table 1: Replication of the Induced Hydration Rate Experiment Conducted in Distilled Water

<table>
<thead>
<tr>
<th>Temp. (°C)</th>
<th>Duration</th>
<th>Government(1)</th>
<th>Government(2)</th>
<th>Obsidian Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>200°C</td>
<td>0.5 day</td>
<td>1.78 0.04</td>
<td>2.34 0.06</td>
<td>2.13 0.07</td>
</tr>
<tr>
<td>200°C</td>
<td>1.0 day</td>
<td>2.36 0.03</td>
<td>3.24 0.06</td>
<td>2.34 0.04</td>
</tr>
<tr>
<td>200°C</td>
<td>2.0 day</td>
<td>5.44 0.09</td>
<td>4.65 0.10</td>
<td>3.73 0.04</td>
</tr>
<tr>
<td>200°C</td>
<td>4.0 day</td>
<td>3.44 0.04</td>
<td>6.64 0.06</td>
<td>5.18 0.04</td>
</tr>
<tr>
<td>200°C</td>
<td>6.0 day</td>
<td>NP NP</td>
<td>8.52 0.05</td>
<td>NP NP</td>
</tr>
<tr>
<td>150°C</td>
<td>4.0 day</td>
<td>1.82 0.04</td>
<td>1.80 0.05</td>
<td>1.86 0.05</td>
</tr>
<tr>
<td>175°C</td>
<td>4.0 day</td>
<td>4.08 0.06</td>
<td>3.26 0.07</td>
<td>3.26 0.05</td>
</tr>
<tr>
<td>225°C</td>
<td>4.0 day</td>
<td>NP NP</td>
<td>10.71 0.10</td>
<td>NP NP</td>
</tr>
<tr>
<td>250°C</td>
<td>4.0 day</td>
<td>NP NP</td>
<td>18.02 0.09</td>
<td>NP NP</td>
</tr>
</tbody>
</table>

(1) measurements by Stevenson; (2) measurement by Michels (1983, 1984) NP=no hydration present

Table 2: Replication of the Induced Hydration Rate Experiment Conducted in Distilled Water

<table>
<thead>
<tr>
<th>Temp. (°C)</th>
<th>Duration</th>
<th>Napa (1)</th>
<th>Napa (2)</th>
<th>Obsidian Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>200°C</td>
<td>1 day</td>
<td>2.77 0.13</td>
<td>2.66 0.06</td>
<td>2.36 0.04</td>
</tr>
<tr>
<td>200°C</td>
<td>2 day</td>
<td>3.12 0.07</td>
<td>3.80 0.05</td>
<td>2.52 0.08</td>
</tr>
<tr>
<td>200°C</td>
<td>4 day</td>
<td>4.68 0.01</td>
<td>5.33 0.10</td>
<td>3.74 0.03</td>
</tr>
<tr>
<td>200°C</td>
<td>6 day</td>
<td>5.11 0.06</td>
<td>6.62 0.13</td>
<td>3.85 0.17</td>
</tr>
<tr>
<td>150°C</td>
<td>4 day</td>
<td>1.59 0.12</td>
<td>1.51 0.07</td>
<td>1.34 0.04</td>
</tr>
<tr>
<td>175°C</td>
<td>4 day</td>
<td>2.94 0.10</td>
<td>2.86 0.14</td>
<td>2.26 0.02</td>
</tr>
<tr>
<td>225°C</td>
<td>4 day</td>
<td>6.20 0.14</td>
<td>8.76 0.07</td>
<td>3.80 0.56</td>
</tr>
<tr>
<td>250°C</td>
<td>4 day</td>
<td>DH</td>
<td>14.37 0.07</td>
<td>DH</td>
</tr>
</tbody>
</table>

(1) Tremaine and Frederickson (1988); (2) Michels (1982, 1986) DH=diffuse and unmeasurable hydration
Recent accelerated hydration runs by Abrajano et al. (1986) and Bates et al. (1987) on a simulated nuclear waste glass (SRL 131) and an alkaline basaltic glass have shown that the rate of hydration in vapor, under the condition reported, can be significantly less than that observed for samples exposed to aqueous solutions (Figure 2). This observation, where the extent of reaction (vapor vs. hydrothermal solution) is reversed compared to obsidian, highlights the importance of identifying the rate limiting process, e.g., water diffusion, ion exchange, or etching of the glass surface that governs the hydration layer growth. The relative importance of each process can change with glass composition or with reaction conditions, and the interplay between processes will control the thickness of the observed hydrated layer. These data suggest that care must be taken in choosing the experimental method used to accelerate glass reaction, and that current experimental methods used by archaeologists to estimate hydration rates for archaeological sites are probably not the best methods that could be used to determine the ages of occupation. This observation is supported in the archaeological community (Ericson, 1981b), who initially called into question the use of rates developed at elevated temperatures. In the vast majority of settings obsidian debitage is deposited in soil horizons saturated with water vapor. It would appear that a high temperature vapor environment, as initially simulated by Friedman and Long (1976), and more recently extended by Bates et al. (1981), under certain circumstances, may be the best accelerated reaction method to simulate long-term natural conditions. Research along those experimental designs must pay specific attention to experimental details and must address the initial work of Ericson (1983) that suggests no difference between a vapor/liquid and saturated vapor experiments which is in opposition to work replicated by Bates (1987).

![Figure 1: Layer Thickness of Vapor and Hydrothermally Reacted Obsidian (200°C), from Bates et al. (1988). open squares = Hydrothermal disk; open triangles = hydrothermal chip; closed circles = vapor disk](image1)

![Figure 2: Thickness of hydration layer on SRL 131 glass as a function of the square root of time. Open circles represent liquid hydrated samples with bar indicating observed range of rim thickness. Other symbols represent vapor hydrated glass. All hydrated samples run at 202°C (After Bates et al. 1987).](image2)

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Meeting Announcement

Sixth International Conference on Archaeozoology (ICAZ)

The Sixth International Conference on Archaeozoology will be held May 21 to May 25, 1990, at the Smithsonian Institution in Washington D.C. The central theme of the conference will be the "nature and implications of man/animal interactions over time." A number of sessions are planned for the conference, including: Biological Mechanisms Behind Osteological Distinctions; Bone as a Secondary Product; Reading Patterns in Faunal Assemblages; Man/Animal Relationships in Marginal or Closed Environments; Hunters, Past and Present; Understanding Maritime Adaptations; Domestication: Process and Implications; Man/Animal Relationships in Emerging Complex Societies; Animal Utilization in Historic Periods; and Future Directions in Domestication.

In addition to these regular sessions, a special panel discussion is planned on "Approaches to Faunal Analysis: Past, Present, and Future." This discussion will be devoted to "a general consideration of the role of faunal remains in the study of biological and cultural questions in different global contexts," including "the strength and weakness of different approaches to faunal remains, and the value of communication between faunal analysts from different traditions in archaeozoology."

A series of workshops will also be held throughout the meeting, including Experimental Taphonomy, Computerization of Archaeological Data, Preparation of Comparative Collections, SEM Examination of Bones, Stable Isotopes in Archaeozoology, and The Use of Incremental Structures in the Determination of Age and Seasonality. In addition, there will be a special day-long workshop on May 20th on Curation of Archaeozoological Collections.

Preregistration fees (before late 1988) are US $125 ($60 for students). Some financial assistance may be available to early registrants. For further information on the meetings and local arrangements, contact:

The International Council for Archaeozoology
c/o Department of Anthropology
National Museum of Natural History
Smithsonian Institution
Washington D.C. 20560
Book Review


Reviewed by David W. Frayer, University of Kansas

This monograph reviews a portion of the research accomplished by Fred Wendorf and Romuald Schmid in the Wadi Kubbaniya of Southern Egypt. Divided into five chapters plus an appendix, the bulk of the work concerns a reconstruction of the geomorphology of the Wadi Kubbaniya, a discussion of the Middle and Late Paleolithic sites, and a review of the sedimentology of the region. Despite the title, less than half of the monograph is devoted to a description and analysis of the human skeleton which was found in 1982 eroding out of the sediments near the mouth of the wadi.

For most subscribers of this newsletter, I suspect the analysis of the skeletal remains (done by Angel and Kelley) would be of little interest. The approach is mainly descriptive and utilizes no new techniques nor any innovative twists in skeletal analysis. Even for those working with human skeletal material the description is not particularly informative. Although the inclusion of morphological details and some standard measurements of the skull and postcranial skeleton will be useful for compiling data on anatomically modern Homo sapiens from Africa, the description of the human remains is incomplete and lacks systematic comparison to other North (or East) African Late Pleistocene specimens. Ironically, the relationship of the Wadi Kubbaniya skeleton to other North African specimens is better presented by Wendorf and Schmid in the concluding chapter than by the physical anthropologists. There is also little discussion of dental size or specifics of wear and no radiographic analysis of the skeletal elements. The absence of X-ray analysis is surprising since, besides the "reduced" stature of the individual which Angel and Kelley speculate may be due to adolescent stress, there is an indication of a healed distal ulna fracture and other signs of traumatic injury and stress in the skeletal remains. Presentation of X-ray information would have been useful in providing more details of these skeletal pathologies and in checking for signs of arrested growth in the metaphyses of long bones. In many ways, this final contribution of J. Lawrence Angel is not a fitting conclusion to his long, distinguished career in human osteology and forensics.

Regardless of the shortcomings of the skeletal analysis, the remaining chapters on the geological setting, archaeological sites and sedimentological research give a detailed, comprehensive review of the Wadi Kubbaniya. Besides providing a background of site formation processes, a major focus of the geological research was concerned with tracing the sequence of dune and fluvial deposits and how these relate to local environmental factors and fluctuations in the Nile. Geological maps, cross-section profiles, results of geochemical/sedimentological analyses and a series of absolute dates fully document the sedimentary sequence at Wadi Kubbaniya.

Description of the archaeological material concentrates on five sites found at the mouth of the wadi. Two are Mousterian scatters devoid of faunal remains and another two are richer, Late Paleolithic camps containing hearths, pits and an abundance of fish bones. Characteristics of the Late Paleolithic sites indicate the area was occupied by groups exploiting fish seasonally trapped in backwater embayments of the Nile. The fifth site is the human burial which was initially thought to be associated with Middle Paleolithic artifacts, but later, when bladelets were found in association with the skeleton, proved to belong in the Late Upper Paleolithic. Although brief, the text gives a good account of the archaeological materials and combined with the geological evidence should provide interesting reading and useful information for those interested in the Middle and Late Paleolithic of North and East Africa.

News of Archaeometallurgy

As part of the Natal Museum's research into precolonial metalworking in Natal/KwaZulu, the Department of Archaeology is compiling an annually updated bibliography: "Precolonial Metalworking in Africa—particularly Southern Africa." The bibliography concentrates on, but is not limited to, Namibia, Zimbabwe, Mozambique and areas further south; it presently has more than 1200 entries. A computer printout will be available by June 1989 at a cost of US$15 from the Department of Archaeology, Natal Museum, Post Bag 9070, Pietermaritzburg 3200, Republic of South Africa, telephone 51404/5.

The dares for the "International Symposium on Archaeometallurgy '89: From Bloom to Knife" have been announced. It will be held September 19-22 1989 at Kielce-Ameliówka, an area of early iron making in the Holy Cross Mountains. Experimental smelting in bloomery furnaces and demonstrations of forging are part of the program. To receive future announcements, write the Secretary of the Organizing Committee, Dr. Elżbieta Nosek, Archaeological Museum of Kraków, Senacka 3 Str, 31-002 Kraków, Poland, telephone 22 71 00.

Another session on materials issues in art and archaeology will be held at the next meeting of the Materials Research Society to be held in San Francisco April 16-20 1989. To receive announcements of this session, write Dr. Pamela B. Vandiver, Conservation Analytical Laboratory, Smithsonian Institution, Washington D.C. 20560.

The proceedings of the previous session on "Materials issues in Art and Archaeology", Edward V. Sayre, Pamela Vandiver, James Druzik, and Christopher Stevenson, eds., Pittsburgh 1988 (ISBN:0-931837-93-6) has been published by the Materials Research Society as Volume 123 in
A new chapter of the Artist-Blacksmith's Association of North America (ABANA) has been formed in Pittsburgh. For information contact John W. Steel, 263 Low Road, Freedom PA 15042, telephone (412) 774-6757

The Center for Canal History and Technology has acquired a number of prewar documentary films on steel making and steel structures from Bethlehem Steel for its film collection. The Center is also involved in recording on 3/4" video the operation of a 1908 steam-powered Grey Mill in rolling wide-flange steel beams before its replacement by more modern equipment. For information contact Lance Metz, Program Director/Historian of the Canal Museum, P.O. Box 877, Easton PA 18044.

The most interesting information to come out of the International Colloquium on Archaeometallurgy held in Bologna in October was Professor Gerhard Sperl's analysis of the lead necklace excavated by Mellaart at Çatal Hüyük as galena, lead ore rather than smelted metal. Confirmation is being attempted, sample size permitting, by Dr. K. Aslihan Yener at the Conservation Analytical Laboratory of the Smithsonian.

If you have any archaeometallurgical news to contribute, please call Martha Goodway at (301) 238-3733, or write her at CAL MSC, Smithsonian Institution, Washington D. C. 20560, FAX (301) 238-3667.
S A A - Phoenix, Arizona - April 27 to May, 1988
A symposium titled "Soils, Landscape Evolution, and Human Occupation" was presented at the 53rd annual meeting of SAA in Phoenix. This was the first annual SAA-sponsored Fryxell Symposium on Interdisciplinary studies in archaeology. A review of the symposium was published in the journal *Geoarchaeology*, 3(4):303.

The SAA Fryxell Award was given to David M. Hopkins, for his work in Quaternary studies in Alaska and adjacent Siberia. Dr. Hopkins received his Ph.D. from Harvard University in 1985, after which he has worked for the U.S. Geological Survey in Menlo Park. A description of his work is given in *American Antiquity*, 53(3).

S A A - Atlanta, Georgia - April 5-9, 1989
At least one symposium has been proposed which may be of interest to members of SAS: "Paleoshorelines and Prehistoric Settlement", proposed and organized by Lucy Lewis Johnson (Vassar College). The symposium, if accepted, will include papers by M.A. Winslow, L.L. Johnson, W. Fitzhugh and P. Clark, J. Dunber, E. G. Garrison, W. F. Keegan, J. Donahue and D.R. Watters, E. J. McDougall, M. Moseley, D. Wagner, and J. B. Richardson. All of these papers deal with changes in shorelines and the effects of those changes on prehistoric settlement.

GSA - Denver, Colorado, Oct 31- Nov. 3, 1988
Centennial Celebration
In honor of the 100 year anniversary of the GSA a symposium focusing on "History of the Establishment of a Geologic Framework for Human Evolution" was organized by Leo F. Laporte. Speakers included Donald K. Grayson, William R. Farrand, Michael O Woodburne, G. H. Curtis, R. L. Hay, and C. Vance Haynes. Their papers are being considered for publication in the GSA Special Contribution Series.

The Archaeological Geology Division sponsored two symposia: "New World Geoarchaeology", including reconstructions of Holocene landscapes of Central Great Plains, Southern Plains, Northwestern Plains, and the Southwest (New Mexico, Utah, and Arizona), and "Archaeological Geology: Geophysical, Geochemical, and Geological Studies." The papers covered a wide range of topics, including remote sensing, oxygen-isotope fingerprints of quartzite, the alithermal in the central plains, landscape reconstruction in Greece, age of pans in South Africa, paleosols in Hadar Ethiopia, and water conservation in Pakistan.

At the business meeting of the Archaeological Geology Division, the division award was given to Glenn Evans and Claude Albritten for their contributions to archaeology and geology in deciphering the age and stratigraphy of Paleo Indian sites in the southern and central plains of the United States. Presentation of the award by Vance Holliday and Reid Perring and the acceptance speeches of the recipients will be published in the *GSA Bulletin* in 1989.

A student award was given to Tina Nieme, Department of Geology, Stanford University, for her paper "Late Holocene Landscape Reconstruction of the Submerged Ruins of Thronion, Northern Euboean Gulf Coastal Plain, Central Greece". She will receive a check for the cost of meeting registration and membership dues for the Archaeological Division. Students are encouraged to submit abstracts to GSA. Any student presenting a paper in either of the Archaeological Division-sponsored symposia is eligible to receive the award. Winners are announced at the business meeting, following the presentation of the papers.

Nominations for the Archaeological Geology Division Award are being solicited now. Please forward the names of individuals, who have contributed significantly to archaeological geology, to William R. Farrand, Department of Geology, University of Michigan, Ann Arbor, 48109 (Chair of the Awards Committee). Nominations can be made by mail or phone, only the name is needed, by February 15, 1989.

Nominations for a member of the management board (the 2nd vice-chair) are also being solicited. People interested in becoming involved in the Archaeological Geology Division of the GSA should contact John Gifford (chair of nominations committee), Department of Anthropology, University of Miami P.O. Box 248106, Coral Gables, Florida, 33124. Nominations requested by March 1, 1989. The management board of 1988-89 consists of chair-Pekri Hassan, 1st vice chair-Robert Thorson, 2nd vice chair-Julie Stein, secretary/treasurer-Vance Holliday. These individuals will move up as a new 2nd vice chair is elected.

Norm Lasca and Jack Donahue, editors of the *Archaeological Geology Division's* contribution to the *Decade in North America Geology*, announced that the volume will be ready for publication by the first of the year. The volume will contain 33 articles concerning archaeological geology of Canada, Mexico, and the United States.
GSA - St. Louis - November 6 - November 9, 1989
Next year the GSA will be held in St. Louis, with the theme “Frontiers in Geoscience”. The Archaeological Geology Division will be organizing a symposium, an awards presentation, and a field trip.

The symposium for the 1989 GSA is being organized by Robert Thorson; the topic is now being decided. For more information contact him at Department of Geology and Geophysics U-45, University of Connecticut, Storrs, CT, 06268.

A pre-meeting field trip is planned for Nov. 5, 1989, “Archaeological Geology and Geomorphology in the Central Mississippi-Lower Illinois Valley Region, Illinois and Missouri”, organized by Edwin Hajic, Russell W. Graham, and Michael D. Wiant. The group will visit the Modoc Rock Shelter, Barnhart mastodon sites, Cahokia Mounds Mississippian ceremonial center, and the Koster site (among other places). The focus of the trip will be to examine contextual relations between late Quaternary geology, interpreted paleoenvironments, and the extensive archaeological record in the American Bottom, central Mississippi Valley, and lower Illinois Valley. The trip will begin early Sunday morning and will cost an estimated $40. For further information write to Edwin R. Hajic, Dept. of Geology, University of Illinois, Urbana, Illinois, 61801.

GSA meeting in 1990 will be in Dallas, Texas. Ideas for field trips associated with this meeting are now being solicited by Julie Stein, Department of Anthropology, University of Washington, Seattle, WA, 98195.

GSA meeting in 1991 will be in San Diego, California. Ideas for field trips associated with this meeting are now being solicited. Contact either Vance Hollday, Dept. of Geography, University of Wisconsin, Madison, WI, 53706, or Reid Ferring, Institute of Applied Sciences, Box 13078, North Texas State University, Denton, Texas 76203, if you have suggestions.

New publications in Geoarchaeology

Archaeostratigraphic Classification and Terminology Workshop

Bailey, Geoff and John Parkington, (editors)

Bousman, C. Britt, Michael B. Collins, and Timothy K. Perttula

Bruins, Hendrik J
1986 Desert environment and agriculture in the Central Negev and Kadesh-Barnea during historical times. Midbar Foundation, P.O. Box 78, Nijkerk, the Netherlands.

Johnson, Eileen (editor)

Nash, D.T. and M. D. Petragila (editors)

McKinnon, Neil A. and G.S.L. Stuart (editors)

Ruddiman, W.F. and H.E. Wright, Jr (editors)

Schiffer, Michael B.

Geoarchaeology: An International Journal (editor Jack Donahue, Department of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260) is now beginning volume 4. Subscriptions to the journal are $52.00 for members of SAS.

Julie K. Stein, Department of Anthropology, University of Washington, Seattle, WA 98195
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Faculty Positions Available

Washington State University is seeking a 1-year assistant professor in archaeology, with primary research specialty in geoarchaeology required.

This is a replacement position for Dr. Fekri Hassan, who has taken a 2-year leave of absence to serve as Advisor for Archaeological Affairs to the Minister of Culture in Cairo, Egypt.

The Institute for Quaternary Studies of the University of Maine invites nominations and applications for a new tenure-line, academic-year faculty position at the Assistant or Associate Professor level in Quaternary Studies. We are particularly interested in candidates who will complement our established groups in archeology, paleoecology, glaciology, and glacial geology. Examples of complementary fields are: geoarchaeology, geomorphology, paleoclimatology, stable isotopes, geochemistry, and vertebrate paleontology.

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Please send applications along with a resume and names of three references to:

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Meetings Calendar

New listings are marked by a *. The Meetings Calendar editor receives additional information for many of the listed meetings. You may contact him, preferably by BITNET, for further details.

January 1989


March 1989


* March 6-10. 40th Pittsburgh Conference and Exposition on Analytical Chemistry and Applied Spectroscopy. Atlanta. Pittsburgh Conference, 12 Federal Drive, Suite 322, Pittsburgh, PA 15235 (412-795-7110). Symposia include: Computers in the laboratory; Mass spectrometry; New applications of Raman spectroscopy; Expert systems in chromatography; The art of chemical measurements - where will it be 40 years from now? Parts per trillion and femtograms - elemental analysis at the limits;
Reference materials - their development and use in a modern analytical laboratory. Short courses include: Basic statistics for the analytical chemist; Choices in mass spectrometry; Computer-aided experimental design; ICP/MS; Off-the-shelf software in the laboratory; PC-based laboratory information management systems.


March 16-19. Northeast Anthropological Association, Annual Meeting, Sherbrooke St. Montreal, Quebec. Kenneth Jacobs, Department of Anthropology, University of Montreal. CP6128 Succursale A Montreal PQ H3C 3J7, Quebec, Canada. Abstract deadline: 1/15/89. Special sessions include: Archaeology of the St. Lawrence Iroquoians; Old World Lower Paleolithic archaeology; European human evolution, 40-20 Ky. B.P.


April 1989


*April 9-12. 6th Symposium on Ion Chromatography, organized by International Association of Environmental Analytical Chemistry. Sils Maria, Switzerland. Dr. R.W. Fret, Free University, Department of Analytical Chemistry, De Boelelaan 1083, 1081 HV Amsterdam, Netherlands. Abstract deadline: 3/1/89. Topics include: new application areas for organic and inorganic ion analysis in biological and environmental samples.

*April 9-14. 197th National Meeting of the American Chemical Society. Dallas. B. Ulyot, American Chemical Society, 1155 16th St. NW, Washington, DC 20036.


April 11-14. Joint Mathematics Meetings. Phoenix. H. Daly, American Mathematical Society, Meetings Department, PO Box 6248, Providence, RI 02940.


*April 17-21. Nuclear Analytical Methods in the Life Sciences. Gaithersburg, MD. Rolf Zeisler, B108 Reactor Building, National Institute for Standards and Technology, Gaithersburg, MD 20899 (301-

April 26-28. 50 Years with Nuclear Fission; co-sponsored by the National Bureau of Standards, American Physical Society, American Nuclear Society, American Chemical Society, Gaithersburg, Maryland. J. W. Behrens, B109 Radiation Physics Building, National Institute for Standards and Technology, Gaithersburg, MD 20899 (301-975-5572).


May 1989


May 10-13. 21st Annual Meeting of the Canadian Archaeological Association, Fredericton, New Brunswick. Christopher Turnbull, Conference Coordinator, Tourism, Recreation, and Heritage Archaeological Services, Old Soldiers Barracks, PO Box 6000, Fredericton, New Brunswick E3B 5H1, Canada (506-453-2792). Titles due: 12/2/88; abstract deadline: 1/6/89. All aspects of prehistoric and historic archaeology.


May 15-17. Geological Society of Canada, Annual Meeting, Montreal. Colin Stear, Local Organizing Committee for Montreal 89, Room 236, 3450 University Street, Montreal, Quebec H3A 2A7, Canada (514-398-4082). See SAS Newsletter, 11/88. Short courses include: Methodological advances in X-ray fluorescence; Image analysis. Field trips include: Pleistocene stratigraphy of SW Quebec; Classic volcanic localities of southern Italy.


June 1989


*June 19-23. 7th International Conference on Fourier Transform Spectroscopy, Fairfax, VA. Robert F. Cozzens, George Mason Institute, 4400 University Dr., Fairfax, VA 22030.


*June 27-30. 2nd Conference of the International Federation of Classification Societies, Charlottesville, VA. IFCS-89, Department of Mathematics, University of Virginia, Charlottesville, VA 22903 (804-924-4919); BITNET: STJ/Virginia. Abstract deadline: 1/15/89. Presentation of theoretical, methodological, and applied papers on classification, pattern recognition, and related methods of statistics and data analysis.
July 1989

*July 2-9.  26th Colloquium Spectroscopicum Internationale. Sofia, Bulgaria. CSI ’89, Sofia University, Faculty of Physics, Department of Optics and Spectroscopy, 5, A. Ivanov Boulevard, 1126-30 Sofia, Bulgaria.

July 9-19.  28th International Geological Congress. Washington, D.C. Dr. Bruce R. Hanshaw, Secretary General. 28th ICC, PO Box 1001, Herndon, VA 22070-1001 (703-648-6059). Abstract deadline: 10/1/88. Symposia include: Geologic phenomena and archaeology; Archaeological geology - geologic controls on human habitation; Global change - impact on the earth, natural hazards, and human activities; Clovis origins and the Bering Land Bridge. Short courses include: Quaternary dating methods; Digital geologic and geographic information systems; Palaeoenvironmental interpretation of paleosols. Field trips include: Quaternary geology of the Great Basin; Geology of the Colorado Plateau.


July 24-Aug. 4.  International Association of Geomagnetism and Aeronomy. Exeter, United Kingdom. Roy Jady, IAGA 1989 Organizing Secretary, Department of Mathematics, University of Exeter, Exeter EX4 4QE, United Kingdom.


August 1989


*Aug. 22-29.  5th International Theriological Congress. Rome. Secretariat, ITC-5, Department of Animal and Human Biology, Viale dell’Universita’ 32, 00185 Rome, Italy (39-6-4911355); BITNET: Bolta@IRMUNISA. Abstract deadline: 3/31/89. Symposia include: Late Cenozoic mammals - dispersal between Americas; Domestication and wildlife utilization; Multiple factors and population dynamics of mammals.


Federal Republic of Germany. Abstract deadline: 1/10/89. Topics include: Inorganic and organic trace, micro, and surface analysis.

Aug. 28-Sept. 1. IFIP '89, 11th World Computer Conference. San Francisco. IFIP Secretariat, 3 Rue de Marche, CH-1204, Geneva, Switzerland. Abstract deadline: 11/1/88. Includes a major exhibition of computer products, systems, and services.

Aug. 28-Sept. 2. 9th International Clay Conference. Strasbourg. Helene Paquet, Institut de Geologie, 1 rue Blessis, 67084 Strasbourg, France. Abstract deadline: 12/31/88. Topics include: Geochemistry and isotope chemistry; ceramics; analytical techniques. Field trips include: famous clay deposits.


September 1989


*Sept. 8-14. COSMEX '89: International Conference on Stochastic Methods in Experimental Sciences. Wroclaw, Poland. A. Weron, Institute of Mathematics, Politechnika, 50-370 Wroclaw, Poland. Abstract deadline: 3/1/89. Topics include: Stochastic analysis in physical sciences; Chaos and order; Synergetics; Stochastic dynamical systems; Regression analysis; Time series; Design of experiments; Computer-oriented and robust methods in data analysis.


November 1989


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