

SAA MEETING
(JOINT MEETING SAS/SAA)
23 to 26 APRIL 1986
NEW ORLEANS
CLARION HOTEL

SAS ANNUAL MEETING
Thursday 24 April 1986

12 Noon — Executive Board Meeting
Fleur de Lis Room 1

5 p.m. — Annual Business Meeting
Fleur de Lis Room 1

General Discussion Topic:
"Long-Range Planning for SAS —The Second Decade"

SAS

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NEWSLETTER

SOCIETY FOR ARCHAEOLOGICAL SCIENCES

FROM THE EDITOR

A little over two years ago I began publishing a Directory of Graduate Programs in Archaeological Geology and Geoarchaeology. The third edition came out in November 1985. Now SAS President Elect Joe Lambert (Department of Chemistry, Northwestern University) has published a Directory of Graduate Studies in Archaeological Chemistry. (Both may be received free of charge from their compilers.) Joe polled all chemistry departments in the United States and Canada that give advanced degrees. If you have a graduate program that is basically archaeological chemistry but is not part of a Department of Chemistry, please notify Joe: Joseph B. Lambert, Department of Chemistry, Northwestern University, Evanston IL 60201. Perhaps ultimately someone will do a directory for paleoethnobotany or any other archaeological science where students need more information about graduate programs. A scientific society is organized in large part for the dissemination of information. It is our collective responsibility.

Rip Rapp
RIP RAPP

GSA: CORDILLERAN SECTION

The Geological Society of America, Cordilleran Section meeting will hold a symposium on Archaeological Geology, chaired and organized by J. Ericson during the afternoon of 25 March 1986 at California State University, Los Angeles, King Hall #1. Abstracts will be published in the GSA Abstracts, Vol. 18, No. 2, February 1986.

PENROSE CONFERENCE

A five-day GSA Penrose Conference, **Archaeological Geology: Environmental Siting and Material Usage**, will be held 7-14 December 1986 at St. Simons Island, Georgia. The conference will also be co-sponsored by the Society of American Archaeology, the Society for Archaeological Sciences, and the Association for Field Archaeology. Conference conveners are Charles J. Vitaliano, Department of Geology, Indiana University, Bloomington IN 47405, and Norman Herz, Department of Geology, University of Georgia, Athens GA 30602.

The burgeoning of archaeological geology as an interdisciplinary science has involved archaeologists and geologists representing almost every field of specialization. In the resulting literature, constant reference is made to the effect of climate and terrain on site selection; the subsequent modification of site and site environment by erosion, volcanism, and other geological processes; and the relationship between artifact raw material sources and site selection, trade route development, the well being of ancient communities, and techniques for fashioning tools and weapons.

Integration of the results, widely scattered in the literature, and consideration of the nature and thrust of past research constitute the foremost aims of the conference. Additional goals include clarification of the present state of this interdisciplinary science, identification of important outstanding problems for future research, and investigation of potentially powerful new tools and techniques for archaeological geology research. Plans include a one-day field trip to a recently excavated site on St. Catherine's Island, off the coast of Georgia, which was located and developed using some of the new research techniques; and a series of symposium-like reports, followed by a period of free-wheeling discussions, under the following headings:

1. **Site Reconstruction, Geomorphology, and Environmental Influences:** site geology, palynology, paleogeography, volcanic hazards, and marine usage.
2. **Site Sedimentation, Stratigraphy, and Climatology:** sedimentation processes, interpretation, and pedology.
3. **Lithic Artifacts:** mineralogy and petrology of artifacts and provenance studies, including magnetic sourcing.
4. **Metal Artifacts:** geochemistry of pseudomorph development, ancient metal mining, smelting, and metallurgical techniques as well as raw material sourcing.
5. **Dating Techniques:** radioactive isotope techniques, tephrochronology, and archaeomagnetism.
6. **Applications of Stable Isotopes:** Sr, O, and C in human teeth, as artifact fingerprints, and clues to ancient diet and agriculture.

PENROSE CONFERENCE — continued

7. **Geophysics and Geophysical Techniques:** electromagnetic prospecting, mapping and logging, remote sensing and resistivity.

8. **Ceramics:** the importance of ceramics in archaeological research, and the nature and provenance of ceramic raw materials.

The field trip to St. Catherine's Island, scheduled for the third day of the conference, will emphasize site selection and discussion of the use of such research techniques as remote sensing, ground-penetrating radar, and resistivity surveying as applied to site studies.

The conference will be limited to 60-70 participants, including graduate students and foreign scholars. Interested persons should write Charles J. Vitaliano, Department of Geology, Indiana University, Bloomington IN 47405, stating reasons for wanting to attend the conference. Include a brief description of past or present research relevant to any of the conference sessions. **Deadline for applications is 15 August 1986.**

Limited support may be available for a few qualified graduate students. Ample time will be provided for formal and informal discussion. Poster presentation will be encouraged. The registration fee, about \$500, will cover lodging, meals, and local transportation.

FLINTKNAPPING FIELD SCHOOL

The Flintknapping Fieldschool, started by Donald E. Crabtree in 1968, has been conducted for the past ten years by J. Jeffrey Flenniken. For the last five years this school has been held in the Sawtooth National Forest of central Idaho. In this scenic environment of Lodge Pole Pines, trout streams, and glacially carved mountains, participants study lithic technology eight hours a day, six days a week for four and a half weeks. In addition to the regular content of the course, each student brings to the class his or her expertise in the study of lithic artifact manufacture and use. The discussions that result are both interesting and informative. Add to this the actual practice of flintknapping and the result is an intensive learning experience that cannot be duplicated elsewhere.

The school is offered through the Department of Anthropology, Washington State University. Based upon a letter of interest, vita, and three letters of recommendation, seven students will be selected to attend. Each student applicant should currently be a graduate student or accepted by a graduate school beginning fall 1986. Individuals with advanced degrees and/or employed as archaeologists are encouraged to apply. **The application deadline is 25 April 1986.**

The Fieldschool will begin 9 June and end 11 July. A tent camp including all necessary equipment will be provided by Washington State University. Each participant must bring a sleeping bag and clothes suitable for outdoor work. The cost of the fieldschool is \$65 per credit hour (the class is four graduate hours or \$260) plus a \$450 special fee (covering tool kit, raw materials, vehicle, fieldtrips, guest knappers, etc.). Gene Titmus, Jim Woods, and Great Basin expert Dr. Philip J. Wilke will be assisting Dr. Flenniken in the instruction of students during the 1986 fieldschool.

Send applications to Dr. J. Jeffrey Flenniken, Department of Anthropology, Washington State University, Pullman WA 99164-4910.

RECENT PUBLICATIONS

John Delmonte

Origins of Materials and Processes. Lancaster PA: Technomic Publishing Co., 388 pages.

Jonathon E. Ericson

Strontium Isotope Characterization in the Study of Prehistoric Human Ecology. Journal of Human Evolution 14:503-514.

John A. Gifford and George Rapp, Jr.

The Early Development of Archaeological Geology in North America, in Geological Society of America Centennial Special Volume I, 409-421, reprinted from Geologists and Ideas: A History of North American Geology, eds. E.T. Drake and W.M. Jordan.

Vance T. Holliday

Early and Middle Holocene Soils at the Lubbock Lake Archeological Site, Texas. Catena 12:61-78.

Morphology of Late Holocene Soils at the Lubbock Lake Archeological Site, Texas. Soil Science Society of America Journal 49(4):938-946.

New Data on the Stratigraphy and Pedology of the Clovis and Plainview Sites, Southern High Plains. Quaternary Research 23:388-402.

Holocene Soil-geomorphological Relations in a Semi-arid Environment: The Southern High Plains of Texas, in Soils and Quaternary Landscape Evolution, ed. J. Boardman, 325-357. New York: John Wiley and Sons, Ltd.

Eileen Johnson

Current Developments in Bone Technology. Advances in Archaeological Methods and Theory 8:157-235.

R.E. Jones

Greek and Cypriot Pottery: A Review of Scientific Studies. British School at Athens, 950 pages.

James B. Pritchard

Tell Es-Sa'Idiyeh: Excavations on the Tell, 1964-1966. University Museum Monograph no. 60. Philadelphia: University of Pennsylvania, 216 pages.

Four from Current Research in the Pleistocene, volume 2:

Eileen Johnson, Vance T. Holliday, Frank Asaro, Fred Stross, and Helen Michel
Trace Element Analysis of Paleoindian Obsidian Artifacts from the Southern High Plains, 51-53.

Eileen Johnson and Vance T. Holliday

A Clovis-Age Megafaunal Processing Station at the Lubbock Lake Landmark, 17-19.

Vance T. Holliday, Eileen Johnson, Stephen A. Hall, and Vaughn M. Bryant
Re-Evaluation of the Lubbock Subpluvial, 119-121.

Eileen Johnson and Vance T. Holliday

Paleoindian Investigations at Lubbock Lake: The 1984 Season, 21-23.

CONFERENCE REPORT

2000 YEARS OF BRASS AND ZINC

PAUL T. CRADDOCK

BRITISH MUSEUM RESEARCH LABORATORY

This weekend meeting was held in Bristol, the home of British zinc and brass making, from 7-9 June 1985. The conference was sponsored jointly by the Historical Metallurgy Society and the British Museum and was organized by Dr. J. Betty and the Extramural Department of Bristol University. The meeting was intended to discuss recent discoveries of early zinc making in India, as well as the continuing work of the Bristol brass industry and continental connections.

Friday night, Joan Day presented a major paper on the Bristol brass industry. Next day, Justine Bayley, Ancient Monuments Laboratory, read a paper on Roman brass and brass making in Britain, followed by Lyn Willies of the Peak District Mining Museum who spoke on the very early but well preserved lead/zinc mines at Zawar, India. Paul Craddock then presented a survey of early zinc smelting, highlighting the discoveries at Zawar. He was followed by Professor K.T.M. Hegde of Baroda University, India, who gave a more detailed description of the recent Zawar excavations.

In the afternoon Chris Richards described the Old Mendip Calamine mines, David Eveleigh talked about the everyday objects of brass at the Blaise Castle House Museum in Bristol, and Sue Stronge, Victoria and Albert Museum, spoke on Bidri ware, Indian vessels made of zinc. (Stronge's book, *Bidri Ware*, has just been published by the Victoria and Albert Museum.) Ian Freestone, British Museum Research Laboratory, and Lalit Gurjar of Hindustan Zinc, Udaipur gave a report on the scientific work in progress on the retorts, furnaces, and other remains from Zawar. Mr. Gurjar also spoke on the early Sanskrit literature dealing with metal production. John Mackenzie gave the final paper on European zinc making in the last 100 years. The afternoon session ended with *A Day at No. 1 Furnace*, a film lent by RTZ Services Ltd., Bristol. The film showed the full operation of the horizontal retort furnace as it was still worked in the 1950s.

In the evening Monique Rovette gave a talk at St. Stephen's Church on the medieval brass lecterns made in Flanders, and a detailed description of the fine eagle lectern in St. Stephen's. Sunday, Rovette (who is preparing a detailed monograph on medieval Flemish brasses) gave another talk on the medieval chandelier in Bristol Cathedral. Sunday morning, participants visited the site of the Conham copper smelter and proceeded to Warmley where Champion's great enterprise, the integrated brass works, flourished briefly before its crash in the 1760s. Surprisingly, the offices and clock tower, the windmill and Champion's own house still survive. The third stop was Saltford, where years of determined efforts have resulted in the restoration of the only surviving intact 18th-century brass annealing furnace. The final stops were the famous "gruffy ground" at Shipham where zinc ore was mined, and the other main mining area at East Harptree.

The Historical Metallurgy Society and the British Museum Research Laboratory hope to produce a book based on the meeting — 2,000 Years of Brass and Zinc — in time for the 1986 annual HMS conference. □

- The National Park Service is organizing a meeting on the restoration of the **Statue of Liberty** for 22-24 September in New York City. Further information can be obtained from the office of E. Blaine Cliver, National Park Service, Building 28 - Charlestown Navy Yard, Boston MA 02129, (617) 242-1977.
- The Microbeam Analysis Society will meet jointly with the Electron Microscopy Society of America 10-15 August in Albuquerque and will have another full-day session on **Microanalysis of Art Objects**. Organizers are Dr. Robert Ogilvie of the Museum of Fine Arts, Boston, 465 Huntington Avenue, Boston MA 02115, (617) 267-9300 and Professor Michael Notis, Department of Metallurgy and Materials Science, Whitaker Laboratory 452, Lehigh University, Bethlehem PA 18015, (215) 861-4225.
- SHOT, the **Society for the History of Technology**, will meet in Pittsburgh 23-26 October, jointly with the History of Science Society, the Philosophy of Science Association, and the Society for Social Studies of Science. Proposals for papers or sessions should reach Professor W. Bernhard Carlson, Department of Social Sciences, Michigan Technological University, Houghton MI 49931 by May 1.
- The Getty Conservation Institute is sponsoring a short course on metallography 7-11 April in Los Angeles. Dr. David Scott, Institute of Archaeology of the University of London, will be the instructor. The course was originally developed for the Institute's Conservation Summer School. The Conservation Analytical Laboratory of the Smithsonian plans to offer this same course at a later date. For information, call Martha Goodway at (202) 287-3733 or write her at CAL MSC, Smithsonian Institution, Washington DC 20560.
- The second **archaeometallurgy conference in China** has been set for 21-26 October this year. Announcements are expected shortly.
- The proceedings of the Symposium on Early Furnace Technology held at the British Museum in October 1982 have been published as British Museum Occasional Paper 48, **Furnace and Smelting Technology in Antiquity** (ISBN 0 86159 048 1/ ISSN 0142 4815). Edited by Paul T. Craddock and Michael J. Hughes, the volume contains eighteen papers. It is available for L11 postpaid from British Museum Publications Ltd., 46 Bloomsbury Street, London WC18 3QQ England.
- British Museum Occasional Paper 15, **Aspects of Tibetan Metallurgy**, edited by W.A. Oddy and W. Zwalf, is back in print. It contains papers on the production of copper alloys in the East, traditional casting in modern Nepal, and gilding, as well as a catalog of the British Museum's collection of Tibetan metal images. Cost is L7 postpaid. **Aspects of Early Mining and Structural Metallurgy**, Occasional Paper 20, edited by P.T. Craddock, should be back in print soon.
- Another proceedings volume, **Sculptural Monuments in an Outdoor Environment**, 1985, edited by Virginia Norton Naude (ISBN 0-943836-04-2) has been published by the Pennsylvania Academy of the Fine Arts, Broad and Cherry Streets, Philadelphia PA 19102.
- Professor Robert Gordon of Yale has been studying **puddling slag** from Funtley Forge, the site of Henry Cort's development of the puddling process in the early 1780s. Slag found at Roxbury Furnace in Connecticut appears to be identical.

DEADLINE FOR SPRING NEWSLETTER 15 MAY 1986

ARCHAEOLOGICAL METALLURGY — continued

- At Harvard's University Museum Dr. John F. Merkel has been studying twenty pieces of Roman jewelry from Hesban in Jordan; four of the pieces are brass.

If you have news you would like to contribute, please call Martha Goodway at (202) 287-3733 or write her at CAL MSC, Smithsonian Institution, Washington DC 20560.

CMRAE SUMMER INSTITUTE: COMPUTERS AND ARCHAEOLOGY

Multivariate Methods in Archaeological Description and Analysis

The Center for Materials Research in Archaeology and Ethnology (CMRAE) announces its fifth annual Summer Institute course, to be held 9-27 June 1986 at MIT. It will be taught by George L. Cowgill (Professor of Anthropology, Brandeis University) and Edward V. Sayre (Research Physical Scientist, Conservation Analytical Laboratory, Smithsonian Institution). The central theme of the course will be the diverse applications of multivariate methods (as well as some simpler techniques) in archaeology. Examples of applications are the characterization of materials and artifacts on the basis of laboratory analyses of composition, classification and typology, the characterization and interpretation of spatial patterns in archaeological remains, and predictive modeling.

There will be morning lectures and afternoon laboratory sessions devoted to computer exercises related to lecture topics. Techniques to be addressed include various kinds of similarity and dissimilarity coefficients, the uses of matrices of such coefficients, some basic concepts of matrix algebra, various forms of clustering, principal components analysis, discriminant analysis, multivariate probability calculations, and other related techniques. Attention will also be given to some simpler methods of exploratory data analysis and to appropriate roles for statistical methods in hypothesis testing and theory building.

The course is intended for persons at an intermediate level of mathematical sophistication. Familiarity with the basic concepts provided in a one- or two-semester statistics course is expected, but no previous work with multivariate methods is required.

The course is limited to 15 participants and is open to graduate students, faculty or post-doctoral staff, and museum personnel. Credit must be arranged at the student's home institution. The cost is \$500 to cover registration and course materials. Lodging in MIT dormitories can be arranged for an additional cost of approximately \$600.

For further information and application forms, write: Professor Suzanne De Atley, Director, CMRAE Summer Institute, Room 8-138, Massachusetts Institute of Technology, Cambridge MA 02139.

Deadline for receipt of application forms is 8 April 1986.

REQUEST FOR COOPERATION

J.L. Hollowell is working on a new problem — dating cut stonework based on differences between properties of the cut surface and uncut stone on talus slope quarries. He would be grateful if anyone with interest in and suggestions for potentially useful instrumental techniques would contact him at 208 Old Ferry Rd., Elkton MD 21921.

CALL FOR NOMINATIONS

Please send nominations for the following SAS positions to Nominations Committee Chair Jonathon Ericson, Program in Social Ecology, University of California, Irvine CA 92717 or to SAS General Secretary, Erv Taylor:

Vice President/President Elect
Assistant Secretary Treasurer/Secretary Treasurer Elect

SAS Newsletter

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