

# SAS Newsletter

## Society for Archaeological Sciences

Volume 11

Number 3

July-September 1988

### Results of the 1988 SAS Officer Elections

A Teller Committee—consisting of Garmon Harbottle, Christine Prior, Erv Taylor, John Weymouth, and Daniel Wolfman—met on Thursday, May 19, 1988 in Toronto, Canada to count the ballots received in the Office of the General Secretary. **Douglas T. Price** was elected to the office of **Vice President/President-elect** and **Robert S.**

**Sternberg** was elected to the office of **Assistant Secretary Treasurer/Secretary Treasurer-elect**. The Executive Board wishes to express its appreciation to all candidates for their willingness to stand for election.

*With regards: R. E. Taylor, General Secretary*

### A Message from Garman Harbottle, 1988 SAS President

As the newly-elected President of our society, I think it fair to outline some of the directions I think the SAS ought to go in order to become a more dynamic and effective organization.

The greatest strength—and most interesting aspect—of our society is its breadth. Within our membership we find many disciplines: biology, astronomy, physics, medicine, the fine arts, paleontology, the humanities. . . all rooted in the solid grounds of archaeology and anthropology. We are blessed, in the forums of our "Newsletter" and our interactions with each other, with research help and criticism that is *truly* interdisciplinary. I think the directions in which the SAS travels in the future should reflect and reinforce that interdisciplinary nature of our society.

*We should extent our reach.* We are trying to expand our membership into Europe and have met with some success. Twenty new members have joined from the Scandinavian countries, where a splendid "Nordic Archaeometry Conference" takes place every three years. A number of new members come from Germany (the next archaeometry conference will be in Heidelberg). And Prof. Maurizio Tosi has offered to be our agent and contact in Rome. We welcome our new members and encourage all of you to send names and addresses of any of your international colleagues who might be interested in joining the SAS. Address lists of different organizations involving archaeology or allied disciplines (quaternary studies, flint-knappers, archaeoastronomers, etc.) are also welcome. Send all information to me or Erv Taylor, and we will do all the rest.

*We should continue to stress technical innovation.* I hope that archaeological scientists who are developing state-of-the-art equipment in any related field will keep the membership informed. We welcome articles and accounts of the

improvements so that others might benefit in their research from early exposure to the innovation.

*We should increase our funding and improve our image.* I sometimes think that when it comes to funding archaeometry research, we suffer because people imagine that anything so rewarding and interesting to do can't be serious. I maintain that John Yellen's initiative at NSF was a huge step forward; it invested our work with a stature we probably had in the past—and wish to regain—but lost in the shadow of "Big Science." In addition to the NSF support, I would like to see some substantial private funding like the famous *Volkswagenstiftung* grants that were responsible for so much good German archaeometry in the past. I will entertain ideas from the membership and will travel to interview any corporations interested in following Volkswagen's example.

We're planning to bolster and spread our image by making a professionally-designed poster available (for a modest charge, plus postage and handling) to our members. The poster, designed in New York at the Cooper Union Design Center, features Albrecht Dürer's "Melencolia I," his image of the world of science: a brooding Renaissance angel holding a pair of dividers, contemplating a laboratory, its instruments, and the Harmony of Nature. The poster is a stunner, suitable for framing, and should grace any laboratory, office, or departmental wall of every SAS member.

Finally, I would like to urge continuing communication between the membership and the officers listed on the back page of the "Newsletter." Let us know what you would like us to do—what is valuable and what isn't—and help us reach out to the whole archaeological community and beyond.

*With best wishes to all,  
Garman Harbottle*

## New Publications

Eiseman, Cynthia Jones, and Brunilde Sismondo Ridgway. 1987. *The Porticello Shipwreck; A Mediterranean Merchant Vessel of 415 - 385 B.C.* Texas A&M University Press, Drawer C, College Station, TX 77843-4354. 9x12, 144 pp., 190 photos, 52 line drawings. \$72.50, 10% discount on prepaid orders.

"The final report of the Porticello excavation includes detailed analyses of the ship and its contents and a thorough catalog of artifacts associated with the shipwreck. The Porticello wreck documents for the Classical period aspects of anchor, sail, and hull construction. The cargo provides the earliest evidence for maritime trade in ink and the export of Athenian lead to the Mediterranean, and the cargo of amphorae is the largest assemblage of Greek and Punic amphorae from a shipwreck site.

"Of particular importance are the fragments of bronze Greek sculpture of the Classical period, which include a strikingly realistic bearded head. These pieces strongly suggest that techniques of Classical Greek bronze casting were much more varied and complex than art historians had thought possible. Illustrated with more than 150 photographs and 52 line drawings, this volume will be of great value to scholars of Classical Greek archaeology, sculpture, and economics as well as those interested in ancient maritime history.

"Cynthia Jones Eiseman is director of foundation-giving, Academy of Natural Sciences, Philadelphia. Brunilde Sismondo Ridgway is professor of Classical and Near Eastern Archaeology at Bryn Mawr College."

Sease, Catherine. 1988. *A Conservation Manual for the Field Archaeologist*. Institute of Archaeology, University of California, Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024-1510. 171 pp., 36 line drawings, 46 plates. ISBN: 0-917956-59-1. \$16.00, plus \$2.50 postage and handling.

"Conservation treatments and techniques for the archaeologist in the field, emphasizing how to conserve an excavated object before it is taken to a trained conservator offsite. Safety procedures and conservation supplies and materials are recommended. Proper techniques for lifting, cleaning, consolidating, marking, packing, and storing are discussed, along with methods for treating a diverse range

of artifactual materials (e.g., amber, feathers, lead, wood). Appendices cover how to make impressions (basketry, cylinder seals) and chemical preparations, and where to find chemical supplies and trained conservators."

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Whitten, E. H. Timothy, Theodore J. Bornhorst, Gongshi Li, Darrel L. Hicks, and John P. Beckwith. 1987. "Suites, subdivision of batholiths, and igneous-rock classification: Geological and mathematical conceptualization." *American Journal of Science*. 287:332-352.

**ABSTRACT.** Methods proving the reality of named suites within an Australian batholith and of identifying similar megagroups within new terrain are examined objectively. The work involves explicit differentiation between (1) suites defined genetically (in

terms of conditions during formation and/or of distinctive parental material) and descriptively (in terms of current physical and chemical characteristics), and (2) igneous-rock categories based on true classification and on partitioning. A new mathematical basis for cluster analysis (used for partitioning) is presented. Being wholly dependent on the variables used to define them, descriptive suites are real but arbitrary (and thus of undetermined relevance to petrogenesis), unless the defining variables are prescribed by a genetic model. Available quantitative chemical variables do not permit retrieval of the Australian suites, whose genetic significance was recently described; these suites must either be abandoned or (preferably) be defined differently.

(Editor's note: This paper might well be of interest to those members who contributed to and followed the series of articles on classificatory methods in the *Newsletter*.)

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Johnson, Eileen, ed. 1987. *Lubbock Lake: Late Quaternary Studies on the Southern High Plains*. Texas A & M University Press, Drawer C, College Station, Texas 77843-4354. ISBN 0-89096-321-5. 8 1/2x11. 192 pp. 30 photos. 42 line drawings. 25 tables. \$49.50.

Lubbock Lake, one of the best-dated and best-stratified archaeological sites in the New World, has yielded information on 12,000 years of natural history. The site contains five major stratigraphic units: five different soils reveal that the area was once cool and marshy; however, a gradual

warming and drying trend, followed by periods of blowing dust, steadily reduced the levels of vegetation. The bones of mammoths and extinct species of bear, bison, reptiles, and various aquatic creatures and artifacts of cultural interaction offer clues to animal and human adaption to the fluctuating climate and changing ecosystem on the Southern High Plains. This primary site report is the most comprehensive work available on the excavation of Lubbock Lake. It details research methodologies used and includes reports on the regional and local setting of the site; its history; and its geologic, pedologic, botanical, and cultural chronology.

Eileen Johnson is director of the Lubbock Lake Landmark and curator of anthropology and The Museum, Texas Tech. University, Lubbock, Texas.

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Blanchet, A. et A. Dieudonné. *Manuel de numismatique française*. 1 600F.

Tome 1: *Monnaies frappées en gaulle depuis les origines jusqu'à Hugues Capet*.

Tome 2: *Monnaies royales françaises depuis Hugues Capet jusqu'à la révolution*.

Tome 3: *Médailles—jetons—mèreaux*.

Tome 4: *Monnaies féodales françaises*.

Déchelette, Joseph. *Manuel d'archéologie préhistorique et celtique, tome 2: age du bronze*. 400F.

Salin, Edouard. *La civilisation Mérovingienne, tome 3: les techniques*. 270F.

Picard Librairie Internationale. 82, rue Bonaparte, 75006 Paris, France.

Catalogue complet sur demande.

## Information Exchanges

Dr. Sebastian Rahtz operates an "Archaeological Information Exchange" (AIE) at Southampton University, England. It serves as an automated mailing list and as a distribution service for data and software. To get linked, use the mail service on BITNET: send/file [file name] to MAILER@UKACRL. That gets it to England; then AIE@CM.SOTON.AC.UK. to Dr. Rahtz.

Dr. Ian Bailiff at the Durham, England, thermoluminescence laboratory would be pleased to receive information on TL, such as opportunities for cooperative research. He is trying to build an information network on the computer that would link TL labs and other interested parties. His address is IAN\_BAILIFF@DURHAM.AC.UK.

## Laboratory Profile

Dr. R. Rottlander of the University of Tübingen has offered the following description of his Laboratory program.

The "Archäochemisches Laboratorium" of the Institut für Urgeschichte (Early Man Archaeology: hunters and gatherers) was established in 1971. The Lab carries out investigations for the institute itself, investigations on patination of flint, on decomposition of bone, on the composition of soils/sediments, and on fat analysis for food identification. There is no strict limitation in the subjects, for our interests cover many areas: botanical sources of amber; weathering of potsherds during sedimentation; glass composition as an indicator of provenance; birch bark tar as 'prehistoric glue' and 'neolithic chewing gum'; scientific translations of Pliny the Elder's chapters on ancient technology (glass, iron, copper and its alloys, tin, lead, etc.); ancient metrology; and other topics.

Fat analysis is a particular specialty of the Laboratory and is often carried out as a paid service for other institutions. Professor Rottlander has built a substantial comparative data base of fatty acids to aid in identification. The investigation process begins with extraction of the fat through use of appropriate solvents. Thin-layer chromatography is performed for cholesterol, and the fats are transesterified to methyl esters. Gas chromatography is the next step, and 2 to 4 runs are performed. The chromatographs are evaluated mathematically, and the parent fats are identified. In cases where accurate identification is not possible, it is characterized. A textual description and figure of the fat composition is also provided, suitable for publication. The cost of this analysis is \$530 US.

## Upcoming Events of Note

### The Discovery of Metal before the End of the 3rd Millennium B. C.

La Musée des Antiquités Nationales, Château National, Saint-Germain-en-Laye, France, will sponsor a colloquium—the Discovery of Metal—during three days in January, 1989 (probably 19, 20, and 21). Meetings and

papers (presented primarily in French, with English translations available later) will take place in the conference room of the Museum as follows:

First day: Non-Precious Metals—new archaeological discoveries, exploitation and circulation of metal, and metallurgical technology.

Second day: Precious Metals—topics as above.

Third day: First Metals and Man before the End of the 3rd Millennium B. C.—and conclusion of the colloquium.

The colloquium will also include poster displays and free entrance to the exhibition "Le premier or de l'humanité" (The First Metalworks of Man) and the rest of the Museum. Hotels can be found in and around Saint-Germain-en-Laye or in Paris; accommodations may be arranged by individuals (lists of hotels are available) or through the colloquium office. Projected expenses for the colloquium:

Registration fee (members).....	350F
Registration fee (guests).....	300F
Three lunches and reception.....	350F
Reception only.....	150F
(Lunches and reception will take place in the royal chapel of the château.)	

Further information can be obtained from La Musée des Antiquités Nationales, Château National, 78103 Saint-Germain-en-Laye, France. Tel: (1) 34.51.53.65.

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### **World Summit Conference on the Peopling of the Americas**

**May 24-28, 1989**

**University of Maine Orono, Maine**

China, Japan, the Soviet Union, Canada, the U. S., and seven Latin American countries will be represented by archaeological experts at a World Summit Conference on the Peopling of the Americas scheduled for May 24-28, 1989 at the University of Maine. The purpose of this conference, sponsored by the Center for the Study of Early Man, is to examine the current status of research on the earliest peopling of the Americas and to plan for the future of this research into the 21st century.

The 40 presenters for the five-day event have been asked to bring key artifacts from some of the earliest known sites for public exhibit in the University of Maine's Hudson Museum. A special workshop will be held for invited scientists to examine the collected artifacts with some of the latest analytical tools available. The Center for the Study of Early Man will demonstrate its video digital imaging system, a state-of-the-art technique that allows exact measurements of artifacts to be recorded and analyzed by computer.

For information and registration materials, contact: Conferences and Institutes Division, Chadbourne Hall, University of Maine, Orono, ME 04469 USA. Phone: (207) 581-4092. More detailed registration information will be available in September 1988.



### **AAA Workshop on the Uses of Airborne and Space Remote Sensing and Geographic Information Systems in Archaeology and Anthropology**

The Archaeology Unit of the American Anthropological Association will sponsor a day-long workshop focusing on applications of remote sensing in anthropology and archaeology on November 15, 1988, the day before the AAA's annual meeting begins in Phoenix. A nominal fee will be charged for attendance and a catered lunch.

Although remote sensing is no longer an unknown domain to most archaeologists, it is one of constant change. This workshop was conceived in the spirit of providing a timely "update" for attendees, as well as a chance to meet one another and discuss the importance and potential of remote sensing in our profession. Presentations will include:

- an introduction and overview of the workshop and of recent remote sensing applications (Tom Sever, NASA)
- insights on the acquisition of recently available remote sensor data (Scott Madry, Institute for Technology Development)
- a comparison of GIS systems including GRASS, ELAS, Arc/INFO, and the image processing system ERDAS (David Wagner, Institute for Technology Development)
- discussions of remote sensing's role in predictive modelling (Jay Custer, University of Delaware)
- integrating remote sensing and GIS data bases (Fred Limp and Jim Farley, Arkansas Archeological Survey)
- using GIS in historical ecology and regional analysis (Carol Crumley, University of North Carolina)
- paths, routes, and transport networks (Payson Sheets, University of Colorado)
- integration of aerial photographs and other imaged data for archaeology and development anthropology (James Ebert, University of New Mexico)
- applications of Boston University's multispectral camera (Fritz Hemans, Boston University)

During the afternoon, there will be a number of simultaneous, "hands-on" demonstrations featuring computer work stations (a MASSCOMP 5450 running GRASS and ATs running ERDAS) and Boston University's field equipment, including the multispectral camera itself. James Ebert will lead an open forum to conclude the workshop.

For more information concerning this workshop, please contact Dr. Carol Crumley, Department of Anthropology, University of North Carolina, Chapel Hill, NC 27514. (919) 962-5527.

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### **International Mining History Conference**

In the tradition of the first "International Mining History Conference," which was held at the University of Mel-

bourne, Australia, in August 1985, a second congress will be organized on the occasion of the 100th anniversary of the German Miner's Union. The Congress, sponsored by the union, will take place in the "Deutsches Bergbau-Museum" (German Mining Museum) in Bochum, September 4-7, 1989. During the conference, simultaneous translations in German, French, and English will be offered; papers must be submitted in English or German. Some topics under consideration for papers and discussion are as follows:

- Comparative history of mining communities.
- Economic and social consequences of technological change and rationalization in coal mining.
- Reasons, conditions, and social consequences of Pit Enclosures in the 20th century.
- Protest and organization: the formation of trade unions in mining.
- Problems of the social history of mining in developing countries.
- Health, safety, and welfare politics in mining— 19th and 20th centuries.
- Culture of mining— culture of miners.

For further information, contact:

Prof. Dr. Klaus Tenfelde,  
Institut für Geschichte  
Abteilung für Wirtschafts und Sozialgeschichte  
Universität Innsbruck  
Innrain 52  
A-6020 INNSBRUCK  
Austria/Europe  
Phone: Austria 5222/724-3484 (off.)  
5222/724-3496 (res.)

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### **Computer Applications and Quantitative Methods in Archaeology**

#### *First Announcement and Call for Papers*

The 1989 Conference on Computer Applications in Archaeology, hosted jointly by the Department of Archaeology and the York Archaeological Trust, will take place at the University of York from Tuesday-Thursday, the 21st-23rd of March. The major theme will be the application of computers and quantitative methods to the field profession; demonstrations of working software and the opportunity for software exchange will be featured.

We invite relevant papers, posters, and software for demonstration and exchange. Contributions will be especially welcome in the following areas:

- Computers in field survey
- Computers in cultural resource management
- On-site excavation recording methods
- Spatial analysis techniques
- Quantitative analysis of archaeological materials
- Expert systems and field archaeology
- Computers in public presentation of archaeology
- Computers in archaeological publishing and communication

Deadlines are as follows:

Title and author of proposed paper: November 30, 1988.

Abstract of proposed paper: December 31, 1988.

Full text of paper (on disk): March 21, 1989

The program and application form will be available in January, 1989. To offer a contribution, and/or to obtain further details, write:

Dr. Julian Richards  
CAA89  
Department of Archaeology  
Micklegate House  
Micklegate  
YORK YO1 1JZ  
(JANET address: JDR1@UK.AC.YORK.VAXA)

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### **Association for Computers and the Humanities with the Association for Literary and Linguistic Computing**

16TH International ALLC Conference  
9th ICCH Conference  
June 6-10, 1989

The Centre for Computing in the Humanities  
University of Toronto • Toronto, Ontario • Canada

Papers on all aspects of computing in linguistics, ancient and modern languages and literature, history, philosophy, art, **archaeology**, and music are invited for presentation at the conference. Topics include, but are not limited to, the following [abridged] list:

- content analysis
- historical simulation
- text archives
- statistical applications
- databases & DBMS
- linguistic computing
- quantitative linguistic
- editing and publishing

Send 6 copies of a 1000-word abstract of a proposed paper, software for demonstration, poster session, or session theme to:

Professor Ian Lancashire  
ALLC-ICCH Conference  
Centre for Computing in the Humanities  
University of Toronto  
Toronto, Ontario  
CANADA M5S 1A5  
Telephone: (416) 978-4238

Due Dates:

Abstract..... November 1, 1988  
Acceptance notice..... February 1, 1988  
Early registration..... April 1, 1988  
Final software descriptions..... April 1, 1989  
Final copy of papers for published proceedings..... May 1, 1989  
Conference begins..... June 6, 1989.

For further information and announcements: Professor Ian Lancashire, Centre for Computing in the Humanities, Robarts Library, 14th Floor, 130 St. George Street, University of Toronto, Ontario, CANADA M5S 1A5.

## NAA Archaeological Services

The Neutron Activation Analysis (NAA) Program at the University of Missouri Research Reactor (MURR) has been awarded a grant from the National Science Foundation to establish a dedicated laboratory to which anthropologists and archaeologists can submit specimens for characterization at reduced charges. Because we anticipate a considerable response to this announcement, investigators will be required to submit a "mini-proposal" describing the essentiality of NAA services to their research. To select those proposals which will be supported, a competitive evaluation

will be made by an advisory committee of experienced anthropology faculty from several major universities. The next deadline for receipt of proposals is December 15, 1988. Interested researchers, faculty members and graduate students in the USA should write to Dr. Michael D. Glascock, 223 Research Reactor Facility, University of Missouri, Columbia, MO 65211 to receive necessary instructions and an application form.

## News of Archaeometallurgy

A half-day session on African Ironworking was held on 27 April 1988 in Phoenix as part of the biennial meeting of the Society of Africanist Archaeologists in America. Papers were presented by Nicholas David (U. of Calgary) on the social contexts of Mafa iron working; Peter Schmidt (Brown) on ancient iron technology in Gabon; David Killick (Yale) on the technical basis of iron production in central Malawi, 1910-1930; and Terry Childs (MIT) on influences and outcomes of resource selection in ceramic manufacture during the Early Iron Age of Tanzania.

Three films were shown at the above meeting:

- *Dokwaza, Last of the African Iron Masters* by Nicholas David, Yves Le Bleis, and Henri Auge, records a successful reconstruction of the extraordinary smelting process employed until the late 1950s by the Mafa of northern Cameroon. The film is in color, runs for 50 minutes and is available in VHS, Beta, 1" NTSC PAL, or SECAM video formats. Both English- and French-language versions are available from the Department of Communications Media, The University of Calgary, 2500 University Drive N.W., Calgary, Alberta T2N 1N4 Canada. The purchase price is \$325; rental is \$60, with a 2-day preview for \$10.
- *The Blooms of Banjelt: Technology and Gender in African Ironworking* by Carolyn Saltman, Candace Goucher, and Eugenia Herbert records the iron smelting process of the Bassari of northern Togo. Included in the film is archival footage from 1914 showing the furnaces in production. The film is in color, runs 28 minutes and is available in VHS, Beta, 1" NTSC, PAL, and SECAM formats from Documentary Educational Resources, 101 Morse St., Watertown, MA 02172. Purchase price is \$350; rental is \$60.
- *Trees of Iron*, a documentary on the history of ironworking in the Buhaya region of western Tanzania, made over a period of fifteen years by Peter Schmidt, Donald Avery, and Terry Childs, has not been formally released but will be broadcast on PBS in early 1989.

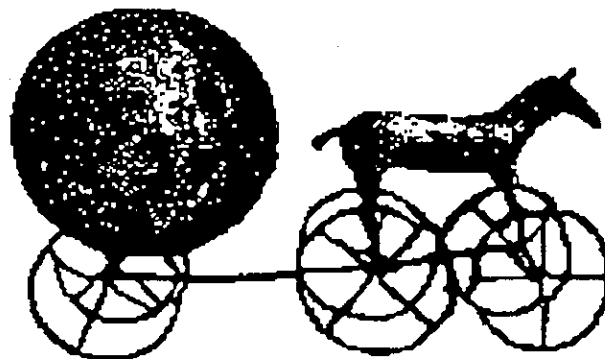
The annual conference of the Historical Metallurgy Society will be held 16-18 September 1988 in the Forest of Dean, a royal forest in West Gloucestershire known for iron production during Roman times. The conference will be held at the College of St. Paul and St. Mary in Cheltenham. Reservations should be sent to Ian Standing, Rock House, Coleford, Gloucestershire GL16 8DH England. Telephone (1594) 33778.

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The Historical Metallurgy Society has announced a conference on *Metallurgy and the Sea* for 5-9 April 1989 at the Portsmouth City Polytechnic in Portsmouth. For information, write Judith Lang, British Museum Research Laboratory, Great Russell Street, London WC1B 3DG England.

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A meeting on the *Early Iron Age in the Alps and Surrounding Areas* is being planned for September 1990 in Neuchâtel. For information, write to Dr. Valentin Rychener or Dr. Peter Northover, Department of Metallurgy and Science of Materials, Parks Road, Oxford OX1 3PH, England.



An archaeometallurgy unit has been set up by Prof. Noel Barnard at Wollangdong University in Australia. Dr. Ko from Beijing will be among the first of its visitors.

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The blacksmiths of Sweden have formed an organization, Sveriges Konstmidsförening (Swedish Artist Blacksmith Association). For information, write to Tore Stenfelt, Värmdövägen 764, 132 00 Saltsjö-boo, Sweden.

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Heather Lechtman reviewed *Red Gold of Africa: Copper in Precolonial History and Culture* by Eugenia W. Herbert (*Technology and Culture*, January 1988, 29:130-131). She wrote that "there has been nothing like it since Walter Cline's classic 1937 work, *Mining and Metallurgy in Negro Africa* . . ." The book is available for \$32.50 from the University of Wisconsin Press, 114 North Murray Street, Madison, WI 53715. Telephone (608) 262-4928.

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The proceedings of the first two archaeometallurgical conferences in China will be published in August 1988 by the MIT Press under the title *Beginning of the Use of Metals and Alloys*. It was edited by Robert Maddin and has a forward by Cyril Stanley Smith and is available for \$55 from the MIT Press, 55 Heywood Street, Cambridge MA 02142

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*Experimental Studies on Early Iron-Making*, a well-illustrated dissertation by Dr. Erik Tholander, was published in 1987 by the Royal Institute of Technology, Department of Process Metallurgy, 100 44 Stockholm, Sweden.

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Percy's *The Metallurgy of Lead Including Desilverization and Cupellation* has been reprinted by the Historical Metallurgy Society and is available from the Peak District Mining

Museum, Matlock Bath, Derbyshire DE4 3PS England for £29.95 (20% extra for overseas)

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The Society of Jewellery Historians began publishing their *SJH Bulletin* this spring. Their first issue contained exhibition announcements and book reviews, as well as an article written by Jack Ogden—"All that Glitters is Not Gold"—about a recent exhibition in London that featured the controversial Sackler collection of Near Eastern jewellery.

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A Norwegian Magazine, *Tidlig Teknologi*, published an issue ("SPOR," Nr. 1 1987) showing early metalworking operations being reproduced. The magazine's editorial address is Arkeologistavdeling unit, Vitenskapsmuseet, 7004 Trondheim, Norway. Telephone: (07) 59 21 68 or (07) 59 21 44.

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Vincent Pigott began his Archaeometallurgy column in the *Journal of Metals* in the February 1988 issue where he reported on his Thai Archaeometallurgical Project. In the March and April issues, he continued with high-tin bronze gong-making by Martha Goodway. May focused on instrumental studies by Michael R. Notis, Charles E. Lyman, Heidi Moyer, and C. Cowan.

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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 DC 20560.

## News of Environmental Archaeology

David Reese, Research Associate in faunal analysis in the Department of Anthropology, Field Museum of Natural History, Chicago, reports that he will be undertaking a research project during the summer of 1988. Funded by the American School of Oriental Research, Reese will study the fauna of Ætokremnos, the earliest site of occupation on the island of Akrotiri. Initial work at Ætokremnos began under the direction of A. H. Simmons, who discovered evidence that pygmy hippopotamus (*Phanourios minutus*) were both butchered and burned there; he dated the site at approximately 10,000 yr BP (8,000 BC). Reese reports that at least one molar of a pygmy elephant (*Elephas cypriotes*) was found along with some marine gastropods (*Patella* and *Monodonta*), some of which were burned.

Simmons presented a paper on the excavations at Ætokremnos at the recent meeting of the SAS in Phoenix. He demonstrated that although some erosion has taken place at this coastal bluff site, associations of pygmy hippo bones, shells, charcoal, and artifacts (including at least one

shell bead, one stone net weight, and other lithics) are valid. Reese plans to study the kill-off pattern and elements preserved at the site.

In addition, Reese reports on some recent papers which deal with molluscan remains from sites in the Mediterranean region:

Reese, D. R., H. K. Mienis, and F. R. Woodward. 1986. On the trade of shells and fish from the Nile river. *American Schools of Oriental Research Bulletin* 264: 79-84.

Reese, D. R.  
1987. A bone assemblage at Corinth of the Second Century after Christ. *Hesperia* 53(3): 255-274.  
1988. A new engraved Tridacna shell from Kish. *Journal of Near Eastern Studies* 47(1): 35-41.  
n.d. Shell ornaments from Hasanlu, Iran. *Expedition* (in press).

## Meetings Calendar

### JULY 1988

- July 10-15.* International Working Meeting on Soil Micro-morphology; sponsored by Sub-commission B of the International Society of Soil Science. San Antonio. Dr. Richard Drees, Department of Soil and Crop Sciences, Texas A&M University, College Station, TX 77843-2474. See *SAS Newsletter*, 10:3.
- July 18-21.* 4th International Conference on Structure of Noncrystalline Materials. Oxnard, CA. C.N.J. Wagner, UCLA, Los Angeles, CA 90024-1595 (213-825-6265).
- July 24-31.* 12th International Congress of Anthropological and Ethnological Sciences. Zagreb, Yugoslavia. World anthropology: education, research, and application.
- July 26-30.* Symposium on Asian Pacific Mammalogy; sponsored by American Society of Mammalogy and the Mammalogical Society of China. Kunming, Yunnan Province, People's Republic of China. Dr. Andrew T. Smith, Department of Zoology, Arizona State University, Tempe, AZ 85287. Primary focus will be the mammalogy of eastern Asia and the Pacific basin; includes a session on systematics and faunistics of Recent and fossil mammals.
- July 27-30.* The Teaching of Astronomy; International Astronomical Union Colloquium No. 105. Williamstown, MA. J.R. Percy, University of Toronto, Canada.
- July 31-Aug. 5.* 30th Annual Rocky Mountain Conference (spectroscopy). Denver. Michael Reddy, U. S. Geological Survey, 5293 Ward Rd., Arvada, CO 80002 (303-236-3617). Symposia include chromatography, atomic spectroscopy, environmental chemistry, and mass spectrometry.
- July 31-Aug. 5.* 11th Annual Electron Paramagnetic Resonance Conference. Denver. Gareth Eaton, Department of Chemistry, University of Denver, Denver, CO 80208 (303-871-2980).
- July 31-Aug. 5.* Nuclear Magnetic Resonance Symposium. Denver. James Haw, Department of Chemistry, Texas A&M University, College Station, TX 77843.
- July 31-Aug. 5.* Symposium for Innovation in Measurement Science. Geneva, NY. Marie Long, ISA, 67 Alexander Dr., Research Triangle, NC 27709 (919-549-8411).

### AUGUST 1988

- Aug. 1-5.* 15th Annual Conference and Exhibition on Computer Graphics and Interactive Techniques. Atlanta. A. Newton, University of Waterloo, Department of Computer Science, Waterloo, Ontario, Canada N2L 3G1 (519-888-4534).
- Aug. 1-5.* Gordon Conference on Statistics in Chemistry and Chemical Engineering. New Hampton, New Hampshire. G. J. Hahn, GE-CRD, PO Box 8, Schenectady, NY 12301 (518-387-5558).
- Aug. 1-5.* Gordon Conference on Chemistry and Physics of Coatings and Films. Andover, New Hampshire. A. M. Cruickshank, Gordon Research Center, University of Rhode Island, Kingston, RI 02881-0801 (401-783-4001).
- Aug. 1-5.* Gordon Conference on Glass. Tilton, New Hampshire. A. M. Cruickshank, Gordon Research Center, University of Rhode Island, Kingston RI 02881-0801 (401-783-4001).
- Aug. 1-9.* 18th International Conference of the History of Science. Hamburg (Aug. 1-5) and Munich (Aug. 6-9). C.J. Scriba, Institut für Geschichte der Naturwissenschaften der Universität Hamburg, Bundesstr. 55, D-2000 Hamburg 13, Federal Republic of Germany.
- Aug. 2-5.* Permafrost, 5th International Conference. Trondheim, Norway. International Conference on Permafrost, Studies Administration, Norwegian Institute of Technology, N-7034, Trondheim-NTH Norway (47-2-466960).
- Aug. 2-11.* International Astronomical Union, 20th General Assembly. Baltimore. IAU-UAI Secretariat, 61 Avenue de l'Observatoire, F-75014 Paris, France (1-4325-8358).
- Aug. 8-12.* American Mathematical Society Centennial Conference. Providence. H. Daly, American Mathematical Society, Meetings Department, PO Box 6248, Providence, RI 02940.
- Aug. 12-14.* International Conference on Mathematical Modelling in Science and Technology. Madras, India. S. Majhi, International Conference in Science and Technology-88, Department of Mathematics, Indian Institute of Technology, Madras-600 036, India.
- Aug. 14-19.* Conference on New Horizons in Analytical Science. Nedlands, Australia. I. Watson, Australian X-Ray Analytical Associates, Conference and Development Office, University of Western Australia, Nedlands, Western Australia 6009, Australia. Will provide a forum for discussion across the whole range of x-ray analysis and allied disciplines.
- Aug. 14-18.* American Institute of Biological Sciences, 39th Annual Meeting. Davis, Ca. Meetings Department, AIBS, 730 11th St. NW, Washington DC 20001-4584 (202-628-1500). Includes workshops on ecological modelling, introduction to cladistics, software packages for numerical systematics, and 3-dimensional reconstruction on the ICM-PC.
- Aug. 14-21.* Natural and Man-Made Hazards in Coastal Zones. San Diego and Ensenada, Mexico. International Organizing Committee, The Tsunami Society/Hazards Conference, Suite 6, 2919 Kapiolani Boulevard, Honolulu, HI 96826.
- Aug. 15-19.* Gordon Conference on Organic Geochemistry. Plymouth, New Hampshire. A. M. Cruickshank, Gordon Research Center, University of Rhode Island, Kingston, RI 02881-0801 (401-783-4001).
- Aug. 21-23.* 7th York Quaternary Symposium. Lethbridge, Alberta, Canada. Dr. R. W. Barendregt, Quaternary Symposium, Department of Geography, University of Lethbridge, 4401 University Drive, Lethbridge, Alberta T1K 3M4 Canada.
- Aug. 21-26.* 26th International Geographical Congress. Sydney, Australia. Prof. Bruce Thom, Department of Geography, University of Sydney, N.S.W. 2006, Australia. Includes sessions on geomorphology, paleoclimatology, pedology, historical geography.



## SEPTEMBER 1988

- remote sensing and geographic information systems, natural hazards in the Quaternary. Commission and working group meetings include geographical data sensing, coastal environment, periglacial phenomena, mathematical models, geomorphological surveying and mapping, recent climatic change. Excursions.
- Aug. 21-26.** 9th International Congress on Thermal Analysis; sponsored by International Confederation for Thermal Analysis. Jerusalem. S. Shoval, Everyman's University, PO Box 39328, Tel Aviv 61392, Israel. Topics include clay science, pedology, metallurgy, archaeological ceramics, and glass.
- Aug. 22-25.** 1988 Joint Statistical Meetings. New Orleans. American Statistical Association, 806 15th Street NW, Washington, DC 20005 (202-393-3253).
- Aug. 23-31.** Joint Oceanographic Assembly. Acapulco, Mexico. W.S. Wooster, JOA HF-05, University of Washington, Seattle, WA 98195. Special symposia include Global Sea Level Change; Ocean Variability and Biological Change; Tropical Coastal Systems.
- Aug. 28-Sept. 2.** Clay; Association Internationale pour l'Etude des Argiles, 9th International Conference. Strasbourg, France. Dr. Helene Paquet, 9th International Clay Conference, Institut de Géologie, 1 rue Blessig, F-67084 Strasbourg Cedex, France.
- Aug. 28-Sept. 3.** Palynological Congress. Brisbane, Australia. John Rigby, 7IPC, UniQuest Ltd., University of Queensland, St. Lucia, Queensland, 4067, Australia (61-7-3772733).
- Aug. 28-Sept. 3.** Volcanic Influences on Terrestrial Sedimentation. Geological Society of America—Penrose Conference. Crystal Mountain Resort, Washington. Gary A. Smith, Department of Geology, University of New Mexico, Albuquerque, NM 87131. Meeting will consist primarily of poster sessions and field trips.
- Aug. 29-Sept. 1.** Australian Archaeometry Conference. Adelaide, Australia. Prof. J. R. Prescott, Secretariat, Third Australian Archaeometry Conference, Physics Department, University of Adelaide, GPO Box 498, Adelaide, S. Australia 5001, Australia. Topics will include technology, chronology, environment, project reports, and analytical techniques.
- Aug. 29-Sept. 1.** Australian Clay Minerals Society. Brisbane. Ross Seedsman, CSIRO Geomechanics, Private Bag 2, Indooroopilly, Queensland 4068, Australia.
- Aug. 29-Sept. 1.** 14th International Congress on Very Large Databases. Long Beach, CA. J.E. Sherner, Teradata Corporation, 12945 Jefferson Boulevard, Los Angeles CA (213-827-8777).
- Aug. 29-Sept. 2.** 1st Congress of the Australian Rock Art Research Association. Darwin, Australia. Australian Rock Art Research Association, PO Box 216, Caulfield South, 3162, Victoria, Australia. Topics include recording methods and computerization, dating methods, archaeopsychology, conservation, and geomorphology.
- Aug. 29-Sept. 2.** 11th International Mass Spectrometry Conference. Bordeaux, France. Conference Secretary, 11th International MS Conference, Ecole Polytechnique, F-91128 Palaiseau, France.
- Sept. 3-7.** 8th Annual American-Eastern European Colloquium and Symposium on Liquid Chromatography. Szeged, Hungary. Huba Kalasz, Department of Pharmacology, Semmelweis University of Medicine, Budapest, Nagyvarad ter-4, 1089 Hungary.
- Sept. 4-9.** 9th European Congress on Electron Microscopy. York, United Kingdom. Congress Secretariat, The Royal Microscopical Society, 37/38 St. Clements, Oxford, OX4 1AJ, United Kingdom. Subjects include metallurgy, mineralogy, ceramics, and amorphous materials.
- Sept. 5-8.** Computer Applications in Analytical Chemistry. Jena, German Democratic Republic. K. Danzer, c/o Friedrich Schiller University, Jena, Department of Chemistry, Steiger 3, Jena, DDR-6900, German Democratic Republic. Sept. 5-9.
- Sept. 5-9.** Fission Track Dating, 6th International Workshop. Besançon, France. J.-L. Janier-Dubry, Laboratoire de Microanalyses Nucleaires, UFR des Sciences et Techniques, 16 Route de Gray, 25030 Besançon Cedex, France.
- Sept. 5-9.** 10th Conference on Analytical Atomic Spectroscopy and 7th Polish Spectroanalytical Conference. Torun, Poland. J. Fijalkowski, Institute for Nuclear Chemistry and Technology, ul. Dorodna 16, 03-195 Warszawa, Poland.
- Sept. 5-9.** EUREM 88. International Electron Microscopy Congress and Exhibition. York, United Kingdom. The Administrator, Royal Microscopical Society, 37/38 St Clements, Oxford OX4 1AJ, United Kingdom (0865-248768).
- Sept. 12-14.** Microscopy of Ceramics III. York, United Kingdom. The Administrator, Royal Microscopy Society, 37/38 St Clements, Oxford OX4 1AJ, United Kingdom (0865-248768).
- Sept. 12-15.** Mapping and Geographic Information Systems. Orlando, Florida. National Computer Graphics Association, 2722 Merrilee Dr., Fairfax VA 22031 (800-225-6242).
- Sept. 12-16.** International Committee on Archaeological Heritage Management (as part of the International Council of Monuments and Sites, First Annual Meeting.) Stockholm. Riksanantikvarieambetet, Archaeological Heritage Department, Box 5405 S-114 84, Stockholm, Sweden (08-783-90-00). Theme is archaeology and society.
- Sept. 12-16.** Eurographics '88: Research, Practice and Experience. Nice, France. INRIA, Service des Relations Exterieures, Domaine de Voluceau-Rocquencourt-B.P. 105, F-78153 Le Chesnay Cedex, France.
- Sept. 14-17.** Geological Society of Italy. Campania and Lucania, Italy. S.G.I. Secretariat, Dipartimento di Scienze della Terra, Università di Napoli, largo S. Marcellino 10, 80138 Napoli, Italy (telex: 720634 UNGFVG). Field trips include volcanoes and archaeological geology.
- Sept. 18-21.** Clay Minerals Society, 25th Annual Meeting. Grand Rapids, Michigan. Thomas J. Pinnavaia, Department of Chemistry, Michigan State University, East Lansing, MI 48824 (517-353-4511).
- Sept. 19-23.** International Symposium on Engineering

Geology as Related to the Study, Preservation, and Protection of Ancient Works, Monuments, and Historic Sites; organized by the International Association of Engineering Geology. Athens, Greece. Paul G. Marinos, Greek Committee of Engineering Geology, 1988 Symposium Secretariat, PO Box 19140, GR-117 10 Athens, Greece; Telex: 45 4312 POLX (c/o Marinos).

- Sept. 21-23. Geological Societies of the British Isles. London. Dave Cook, Esso UK, Biwater House, Portsmouth Road, Esher, Surrey KT10 9SJ, United Kingdom. Quaternary Research Association session on trates of geological, biological, and climatic change in the Quaternary.
- Sept. 23-25. 19th Annual Binghampton Geomorphology Symposium. St. Catherines, Ontario, Canada. K.J. Tinkler, Brock University, St. Catherines, Ontario, L2S 3A1, Canada (416-688-5550, x3486).
- Sept. 25-28. European Geological Conference. Nice, France. American Association of Petroleum Geologists, Box 979, Tulsa, OK 74101 (918-584-2555).
- Sept. 25-30. 17th International Symposium on Chromatography. Vienna. Gerhard Schomburg, Max Planck Institut für Kohlenforschung, PO Box 101353, D-4330 Mülheim/Ruhr, Federal Republic of Germany. Lectures, posters, and discussions on all aspects of chromatography and related techniques.
- Sept. 25-Oct. 2. International Congress: Early Man in Island Environments. 6th Meeting of Working Group I, Unspecialized Bone Industries. Sardina, Italy. Marylene Patou, Institut de Paleontologie Humaine, 1 rue René Panhard, 75013 Paris, France (1/43-31-62-9).
- Sept. 26-30. Geographic Information Systems. Denver, Colorado. Thomas Usselman, National Academy of Sciences, 2101 Constitution Ave, Washington, DC, 20418.
- Sept. 28-30. Avian Paleontology and Evolution. Los Angeles. Kenneth E. Campbell, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007 (213-744-3414). Includes session on Holocene to recent avifaunas.
- Sept. 29-Oct. 3. Society for Post-Medieval Archaeology, Fall Conference. Isles of Scilly, United Kingdom. Rosemary Weinstein, Museum of London, London Wall, London EC2Y 5HN, United Kingdom.

### OCTOBER 1988

- Oct. 3-7. International Symposium on the Biological Diversity of Mexico. Mexico City. T.P. Ramamoorthy, Biological Diversity, Apartado Postal 70-233, Universidad Nacional Autonoma de Mexico, Delegacion Coyoacan, Mexico D.F. 04510, Mexico.
- Oct. 3-7. Great Basin Anthropological Conference, 21st Meeting. Park City, Utah. Joel C. Janetski, Program Chair, Museum of Peoples and Cultures, 105 Allen Hall, Brigham Young University, Provo, UT 84602 (801-378-5435).
- Oct. 6-8. European Studies Conference, 13th Annual. Omaha, Nebraska. Bernard Kolassa, Political Science, University of Nebraska, Omaha, NB 68118-0361 (402-554-3617).

Oct. 11-17. Geology '88, International Meeting. Beijing. China International Exhibition Centre, 21/F, China Resources Building, 26 Harbour Road, Wanchai (5-8335078).

- Oct. 14-16. Midwest Archaeological Conference, Annual Meeting. Champaign, Illinois. Kevin McGowan, 109 Davenport Hall, Department of Anthropology, University of Illinois, Urbana, IL 61801. Keynote symposium will focus on late prehistoric to historic tradition in the Midwest. Abstract deadline: 9-9-88.
- Oct. 18-21. International Colloquium on Archaeometallurgy. Bologna, Italy. Segretaria, International Colloquium on Archaeometallurgy, Centro per lo Studio e la Conservazione di Mannufatti di Interesse Archeologico e Artistico, Facolta di Chimica Industriale, Viale Risorgimento 4, I-40136 Bologna BO, Italy. Includes excursions.
- Oct. 20-21. 12th Annual Humanities and Technology Conference. Marietta, Georgia. R. Recoulley, Humanities and Social Sciences Department, Southern College of Technology, Marietta, GA 30060.
- Oct. 20-26. Remote Sensing of Environment. International Meeting. Abidjan, Ivory Coast. Alan K. Parker, Box 8618, Ann Arbor, MI 48107-8618 (313-994-1200).
- Oct. 29-30. Micas, short course. Denver, Colorado. Mineralogical Society of America, 1625 I Street NW, Washington, DC 20006.
- Oct. 30-Nov. 3. Society of Exploration Geophysicists, 58th Annual International Meeting. Anaheim, CA. SEG Headquarters, PO Box 702740, Tulsa, OK 74170-2740 (918-493-3516).
- Oct. 30-Nov. 4. OPTCON '88. Santa Clara, California. Optical Society of America, 1816 Jefferson Place NW, Washington, DC 20036 (202-223-8130).
- Oct. 30-Nov. 4. American Nuclear Society, international meeting. Washington DC. ANS, 555 N. Kensington Ave., La Grange Park, IL 60525 (312-352-6611).
- Oct. 31-Nov. 3. Geological Society of America, Annual Meeting. Denver. Edna Collis, GSA, 3300 Penrose Place, Box 9140, Boulder, CO 80301 (303-447-2020). Archaeological Geology Division will organize a symposium and field trip.
- Oct. 31-Nov. 18. First Autumn Workshop in Mathematical Ecology. Trieste, Italy. International Centre for Theoretical Physics, PO Box 586, Miramare, Strada Costiera 11, 34100 Trieste, Italy (040-2240-1). The subjects to be emphasized are resource management, ecotoxicology, and epidemiology.

### NOVEMBER 1988

- Nov. n.d. Former Methods of Conservation and Restoration. London. Mrs. H. Lane, Department of Conservation, British Museum, Great Russel Street, London WC1B 3DG, England.
- Nov. 2-5. 46th Plains Anthropological Conference. Wichita, Kansas. Donald Blakeslee, Department of Anthropology, Wichita State University, Wichita, KS 67208. Abstract deadline: 10-1-88.
- Nov. 6-13. 7th Latin American Geology Conference; 35th Brazilian Geological Congress (sponsor: Departamento Nacional de Producao Mineral). Belem, Brazil. Carlos Oiti Berbert, Organizing Committee, Depart-

mento Nacional de Producao Mineral, SAN Q 01, B1 "B", 70040 Brasilia DF, Brazil. Includes symposium on Quaternary geology and a course on geochronology.

- Nov. 14-18. Geostatistical Sampling, short course. Wheat Ridge, Colorado. Geomath, 4860 Ward Road, Wheat Ridge, CO 80033. Fee: \$700 before 10-14, \$750 after.
- Nov. 16-20. American Anthropological Association. Phoenix. AAA, 1703 New Hampshire Ave. NW, Washington, DC 20009 (202-232-8800).
- Nov. 20-25. Towards a Whole Decade for Scientific and Technological Cooperation for International Development, 8th Annual Conference. Jamaica. M. Mtewa, Executive Director, Association for the Advancement of Policy, Research and Development in the Third World. P. O. Box 70257, Washington DC 20024-1534.
- Nov. 21-26. International Symposium on the Holocene of South America; sponsored by INQUA and CADINQUA. Parana, Argentina. Dr. Martin Iriondo, Casilla de Correo 487, 3100 Parana, Argentina. Abstract deadline: 9-15-88.
- Nov. 28-Dec. 3. Materials Research Society, Fall Meeting. Boston, Massachusetts. Materials Research Society, 9800 McKnight Road, Suite 327, Pittsburgh, PA 15237.
- Nov. 29-Dec. 4. Soil Science Society of America. Atlanta. SSSA, 677 S. Segoe Road, Madison, WI 53711 (608-273-8080).

#### DECEMBER 1988

- Dec. 5-9. American Geophysical Union, Fall Meeting. San Francisco. AGU Meetings, 2000 Florida Ave. NW, Washington, DC 20009 (202-462-6903).
- Dec. 27-30. American Society of Zoologists; American Microscopical Society. San Francisco, California. Mary Adams-Wiley, Executive Officer, American Society of Zoologists, 104 Sirius Circle, Thousand Oaks, CA 91360 (805-492-3585). Abstract deadline: 8-8-88.

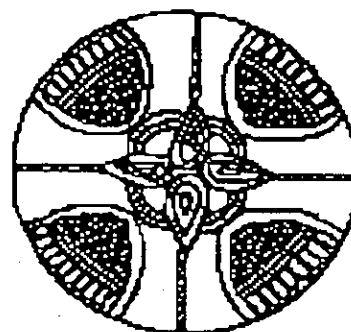
#### 1989

- Jan. 4-6, 1989. American Statistical Association Winter Conference. San Diego, California. American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402 (703-684-1221).
- Jan. 5-9. First Archaeological Conference and the Society for Historical Archaeology, Annual Meeting. Baltimore, Maryland. Elizabeth Comer, Program Chair for SHA, Baltimore Center for Urban Archaeology, Baltimore, MD 21202.
- Jan. 11-14. Joint Mathematics Meetings. Phoenix, Arizona. H. Daly, American Mathematical Society, Meetings Department, PO Box 6248, Providence, RI 02940.
- Jan. 15-20. American Association for the Advancement of Science, Annual Meeting. San Francisco, California. AAAS, 1333 H Street NW, Washington, DC. 20005 (202-326-6640).
- Apr. 28-May 3. 5th Scientific Conference of the Iraqi Scientific Research Council. Baghdad, Iraq. Organ-

izing Committee, 5th Scientific Conference, Scientific Research Council, Jadiriya, P. O. Box 255, Baghdad, Iraq (77668931).

- July 9-19. 28th International Geological Congress. Washington, D.C. Dr. Bruce R. Hanshaw, Secretary General, 28th IGC, PO Box 1001, Herndon, VA 22070-1001 (703-648-6053). 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; Paleoenvironmental interpretation of paleosols. Field trips include: Quaternary geology of the Great Basin; Geology of the Colorado Plateau. Abstract deadline: 10/1/88.
- July 24-Aug. 4. International Association of Geomagnetism and Aeronomy, 8th Scientific Assembly. Exeter, United Kingdom. Roy Jady, IAGA 1989 Organizing Secretary, Department of Mathematics, University of Exeter, Exeter EX4 4QE, United Kingdom.
- July 30-Aug. 4. Computer Graphics and Interactive Techniques, 16th Annual Conference (SigGraph '89). Boston, Massachusetts. C. Herot, Javelin Software Corporation, 1 Kendall Square, Building 200, Cambridge, MA 02139.
- Aug. 1-9. 18th International Conference of the History of Science. Hamburg (Aug. 1-5) and Munich (Aug. 6-9). C. J. Scriba, Institut für Geschichte der Naturwissenschaften der Universität Hamburg, Bundesstr. 55, D-2000 Hamburg 13, Federal Republic of Germany.
- Aug. 6-10. Joint Statistical Meetings. Washington, DC. American Statistical Association, 1429 Duke Street, Alexandria, VA 22314-3402 (703-684-1221).
- Aug. 28-Sept. 1. IFIP '89, 11th World Computer Conference. San Francisco, California. IFIP Secretariat, 3 rue de Marche, CH-1204, Geneva, Switzerland.
- Aug. 29-Sept. 6. 47th Session of the International Statistical Institute. Paris, France. International Statistical Institute, 428 Prinses Beatrixlaan, Voorburg, Netherlands.

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# SAS Newsletter

Society for Archaeological Sciences

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### Deadlines for Submissions:

No. 1 November 15 No. 2 February 15  
No. 3 May 15 No. 4 August 15

*Published quarterly by the Society for Archaeological Sciences. Distributed to subscribers: \$10.00/year individual, \$5.00 student, \$15.00 institutions, \$150.00 lifetime. ISSN 0739-0637.*