

# SAS

Volume 4 Number 2 Fall 1980

# NEWSLETTER

## SOCIETY FOR ARCHAEOLOGICAL SCIENCES

### CURRENT RESEARCH

#### Progress on the Collection of Rock Samples for TL Dating

The Fall 1979 issue of the *SAS Newsletter* carried a note describing a Washington University (St. Louis, Missouri) project aimed at developing thermoluminescence techniques for accurately dating heated rocks found at archaeological sites. Current efforts have concentrated on locating archaeological fired structures which contain three types of materials: 1) granite, 2) charcoal, and 3) low-radioactivity quartz-bearing rock (such as sandstone, quartzite or limestone). These samples are being sought to test the accuracy of a recently developed thermoluminescence dating technique. Specifically, samples from two time periods are desired: 500 to 2000 and 5000 to 7000 years B.P. Features in the former period are expected to give concordant thermoluminescence and radiocarbon ages while features in the latter period should produce discordant ages, based on the bristlecone calibration curve for radiocarbon dating.

To facilitate the collection of suitable samples for this test program, a meeting was convened at Washington University on April 29, 1980. Participating were six archaeologists from different regions of the U.S., and associates of the Center for Archaeometry at W.U. The principal objectives for the conference were to discuss the potential of the various archaeological regions for containing suitable samples and to discuss ways to establish contacts with archaeologists in the field.

It is apparent that rock bearing fired structures are quite common in the U.S. These are principally rock-lined hearths. The major difficulty is to identify regions which are promising for producing granite-bearing hearths. It is expected that the occurrence of granite will be well-correlated with proximity to granitic outcrops. Since major outcrops in the U.S. are in the north, northeast and west, these regions would be expected to be the most promising. Another very promising area is the southwest — the most archaeologically active region in the U.S. Although principally a sedimentary environment, isolated outcrops of granite do occur. One such outcrop is the Sangre de Cristo mountain range in north central New Mexico which contains numerous archaeological sites.

It was decided that the best way to make contacts with archaeologists in the field is for the six archaeologists to act as regional coordinators for sampling efforts in their region. These coordinators are:

**Northwest:** Dr. C. Melvin Aikens, Dept. of Anthropology, Univ. of Oregon, (503) 686-5115.

**Far West:** Dr. R.E. Taylor, Dept. of Anthropology, Univ. of Calif., Riverside, (714) 787-5521.

**Southwest:** Dr. James Judge, National Park Service, Albuquerque, New Mexico, (505) 227-5333.

**Plains:** Dr. Paul Brockington, Museum of Anthropology, Univ. of Kansas, (913) 864-4245.

**Southeast:** Dr. Robert L. Stephenson, Inst. of Archaeology and Anthropology, Univ. of South Carolina, (803) 777-8170.

**Northeast:** Dr. David Sanger, Dept. of Anthropology, Univ. of Maine, (207) 581-1110.

In addition to the contact made by each coordinator, a letter has been distributed by Dr. Stephenson to all State Archaeologists describing the project and asking for information on potential samples.

The most promising samples received to date have come from two sites. The first is a site excavated by Glenn Condon and colleagues of the Laboratory for Anthropology at the Museum of New Mexico in Santa Fe. The site, located at Littlewater, New Mexico, dates to around 1200 years B.P. from tree-ring and archaeomagnetic dating. Two pairs of granite and sandstone samples plus wood for radiocarbon dating have been obtained from this site. The second site (Crescent), located just outside Denver, has been excavated by David Ford of the University of Denver. From this site, charcoal and more than fifty rock samples have been obtained from four hearths dating to about 2000 years B.P. and from one hearth possibly as old as 5000 years B.P.

Submitted by Stephen Sutton, Center for Archaeometry, Washington University, St. Louis, MO. 63130.

# NEWS OF THE PROFESSION

## **Position Open: Petrologist for Study of Ancient Ceramics**

Applications are invited by the Conservation-Analytical Laboratory of the Smithsonian Institution for an appointment in the investigation of the composition of ancient ceramics. This position has been established initially as a one year appointment. Candidates must have experience in optical petrography, x-ray diffraction and electron microprobe analysis.

Address inquiries to Jacqueline S. Olin, Conservation-Analytical Laboratory, Smithsonian Institution, Washington, D.C. 20560.

## **Postdoctoral Position Open: Geochemist or Biochemist**

Applications are being accepted for a postdoctoral position for an organic geochemist or biochemist with background in amino acid biogeochemistry. Project involves study of problems in sample preparation of bone and other organics for radiocarbon and amino acid racemization measurements. Initial appointment will be for 1 year with possible renewal for 2 additional years. Vital that background include experience with HPLC amino acid instrumentation. Advantage if applicant has demonstrated interest in Quaternary geochronology, and/or previous studies in bone biochemistry including experience in microanalytical techniques. Please send curriculum vitae, synopsis of Ph.D. dissertation, letter stating interests, and three references to R.E. Taylor, Radiocarbon Laboratory, Department of Anthropology, University of California, Riverside, CA 92521.

## **Task Force on Nuclear Archaeometry Organized**

The American Nuclear Society has recently organized an informal study group, The Task Force on Nuclear Archaeometry, to study ways of interrelating the procedures and results of archaeometry with the interests and expertise of the members of the ANS and to pursue means by which archaeometry problems and topics can be approached.

Task Force members include James Vogt, Chairman, University of Missouri Research Reactor; James Blackman, Analytical Chemistry Division, National Bureau of Standards; Jonathon Ericson, Peabody Museum, Harvard University; Ervan Garrison, Cultural Resources Laboratory, Texas A & M University; Garman Harbottle, Chemistry Department, Brookhaven National Laboratory; David Ives, Department of Anthropology, University of Missouri-Columbia; Ralph Rowlett, Department of Anthropology, University of Missouri-Columbia; R.E. Taylor, Department of Anthropology, University of California-Riverside; C.C. Thomas, Los Alamos Scientific Laboratory; and Ed Sayre, Chemistry Department, Brookhaven National Laboratory.

The Task Force sponsored a full-day symposium on Nuclear Archaeometry at the Spring meeting of the American Nuclear Society in Las Vegas on June 11, 1980. Presented papers included: "Archaeological Thermoluminescence Beyond Ceramics" by Ralph M. Rowlett; "Provenience Studies of Middle Eastern Obsidian Artifacts by INAA" by M. James Blackman; "The Potential for ESR Dating of Lithic Materials" by Ervan G. Garrison; "The Accuracy of Radiocarbon Dates on Bone" by R.E. Taylor; "Obsidian Hydration Rates, Variables of Hydration and Characterization by Instrumental Neutron Activation Analysis" by Jonathon E. Ericson; "Trace Element Analysis of Archaeological Cherts" by David J. Ives; "The Missouri Mesoamerican Obsidian Program - A Preliminary Report" by J.R. Vogt, R.H. Cobean, and C. Graham; "A Neutron Activation Study of Ancient Near Eastern Trade" by Maureen F. Kaplan.

The Task Force also appointed a Committee (Blackman-Chairman, Ericson, Ives, Taylor, Vogt-ex officio) to compile a listing of standards suitable and available for elemental analysis of archaeological materials and to determine the need for additional standards. The ANS Task Force will work closely with the SAS and with similarly-oriented groups within The American Chemical Society and The Geological Society of America.

## **SAS NEWSLETTER**

**Volume 4 Number 2 Fall 1980**

Radiocarbon Laboratory, Department of Anthropology, University of California, Riverside, Riverside, California 92521

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ASSOCIATE EDITORS: Matthew Hall, David McJunkin

**SAS**

## Newsletter on Plant Opal Phytolith Analysis Announced

At a recent symposium on the use of plant opal phytolith analysis in paleobotany and archaeology, participants agreed on several major points. First, the system has demonstrated phenomenal potential in multi-disciplinary research. Second, its development is in its preliminary stages. Third, some means of better communication on a consistent basis is needed to aid the development of this powerful research tool. In response to the last point, it was proposed that a periodic informational publication be established. Tentatively entitled "The Phytolitharien Newsletter", it will be published three or four times annually in the most inexpensive form possible. Costs should not exceed \$3.00 per year. It is not intended to serve the purpose of a full-fledged journal, nor is an associated society contemplated.

Anyone wishing to receive formal notice of the initiation of the newsletter should contact Irwin Rovner, Associate Professor and Editor, The Phytolitharien Newsletter, Dept. of Sociology and Anthropology, North Carolina State University, P.O. Box 5535, Raleigh, N.C. 27650.

## Journal of Archaeological Science Subscription Rate

Although Academic Press has discontinued special Personal Subscription rates, last year's personal rate of \$29.50 will still be available to all members of the SAS. Those who are interested in subscribing or renewing their subscription to the JAS should contact Academic Press, Journal Division, 111 5th Avenue, New York, NY 10003 and cite their membership in the SAS. Although the exact subscription rate for 1982 for the JAS has not been fixed, similar special rates will continue to be available to members of the SAS in the future. If any member experiences problems in its contacts with the Journal Division, please get in touch with SAS at the Radiocarbon Laboratory, University of California, Riverside, (714) 787-5521.

# NEWS OF THE SOCIETY

## Program for San Diego Meeting

The program for the third annual meeting of the SAS is now in the process of being finalized. The SAS will be meeting in conjunction with the Society for American Archaeology, April 29-May 2, 1981 at the San Diego Convention Center, San Diego, California. The tentative preliminary program for the SAS meeting currently includes the following: Wednesday evening (April 29): meeting of the SAS Executive Board. Thursday morning (April 30): *Symposium on Biogeochemistry in Archaeology* (organized by Jonathon Ericson). Thursday afternoon (April 30): *Joint SAS/SAA Symposium on Early Man in the New World* (organized by Richard Shutler, Jr.). Thursday evening (April 30): Annual SAS Business Session. Friday morning (May 1): *Symposium on Hawaiian Archaeology 1980* (organized by William K. Kikuchi and Hallet H. Hammatt). Friday afternoon (May 1): *Symposium on Application of Material Analysis in the Study of Ceramic Production* (organized by S.P. DeAtley and M.P. Beaudy). Saturday morning (May 2): *Symposium on Archaeological Geochronology* (organized by R. E. Taylor). Pre-registration materials and hotel applications will be mailed to SAS members in the next newsletter or in a separate mailing.

## SAS 1981 Elections: Appointment of Nominating Committee

In conformity with the bylaws, the SAS Executive Board has appointed a Nominating Committee to prepare the ballot for the 1981 SAS elections for the offices of Vice-President/President-elect and Assistant Secretary-Treasurer (Secretary-Treasurer elect). The current holders of those offices will succeed to the offices of President and Secretary-Treasurer respectively. The chairman of the Nominating Committee, as specified in the bylaws, is the current Vice-President, Jonathon E. Ericson (Peabody Museum, Harvard University, Cambridge, MA 02138). The other members of the committee are David McJunkin (Institute of Geophysics and Planetary Physics, University of California, Los Angeles, Ca 90024) and Steven Sutton (Center for Archaeometry, Washington University, St. Louis, MO 63130). Members of the SAS who wish to run for one of the offices for which an election is to be held or want to suggest names of members for consideration by the Nominating Committee are encouraged to contact one of the committee members. According to the bylaws, the deadline for the receipt of nominations or suggestions by the members of the Nominating Committee is March 1, 1981.

### **Results of Bylaws/Referendum Voting**

The members of the SAS who returned their ballots in the recent bylaws revision and referendum voted overwhelmingly to approve the recommendation of the Executive Board for changes in bylaws and the structure and costs of membership. All measures on the ballot were approved by more than 95% of the 135 members voting. The referendum established four categories of membership and assigned different membership costs to them. The annual membership cost was established at \$7.50 for regular members, \$5.00 for students, \$10.00 for institutions, and \$150 for a life-time membership. The changes in the By-laws moved the time table for the election process to conform with typical dates of the annual meeting.

### **SAS At The Pacific Science Congress—1983**

The SAS is proud to announce that its first international endeavor will take place in conjunction with the Pacific Science Congress scheduled for February 1-11, 1983 at Dunedin, New Zealand. Dr. Foss Leach (University of Otago, Dunedin) and Professor R.E. Taylor (UC Riverside) will serve as co-convenors for a symposium on "Archaeological Science in the Pacific Region" (Symposium #L.A.8 of Section L: Social Sciences and Humanities). The Pacific Science Congress and the Society for Archaeological Sciences are jointly holding this symposium. It is the expectation that it will be truly cross-disciplinary and international, drawing together people not only from the Pacific basin area, but also from those countries around the Pacific rim. We would encourage as many as possible of SAS's membership interested in the Pacific region to plan to attend the Congress. Additional details of the plans for this first international SAS meeting will be published from time to time in the SAS **Newsletter**.

### **Archaeological Science Letters: New SAS Publication**

The SAS Executive Board recently authorized the development of editorial policies for a new publication series to be called **Archaeological Science Letters** (ASL). ASL will serve as a vehicle for prompt publication of archaeological science data. ASL will be published quarterly and mailed out with the SAS **Newsletter**. Material submitted for publication in ASL must be provided in an appropriate camera-ready format and be limited to that which can be printed on four 8½ x 11 inch pages. An editor and editorial board for ASL will be appointed by the SAS Executive Board. Editorial policies and format requirements will be printed in the **Newsletter** as soon as they are formulated. It is the current plan for all members of the SAS to receive ASL at no additional charge.

### **SAS Membership Poster Now Available**

The SAS has recently printed a SAS Poster which can be displayed in departmental offices and laboratories and other areas where prospective members of the SAS might congregate. The poster includes a pocket where membership materials can be placed. If your department or campus does not have a SAS Poster, please let us know, and we will be happy to send you as many as you can effectively use. Remember, the best representative of the SAS is you. Please encourage colleagues to join.

CALL FOR NOMINATIONS

Those wishing to run for the office of Vice President (President-elect) or Assistant Secretary-Treasurer (Secretary-Treasurer elect) should indicate their intention to the Chairman of the Nominating Committee, Jonathon Ericson, by providing him with a nomination form (below) signed by the nominee with (1) the office being sought; (2) the form of the name to be listed on the ballot; and (3) bibliographic information (not to exceed 50 words) which will be included verbatim on the ballot sent out to the membership of the Society.

Nominations must be postmarked no later than March 10, 1981. Ballots will be sent out with the SAS NEWSLETTER.

Send all nominations to Professor Jonathon Ericson, Department of Anthropology, Peabody Museum, Harvard University, Cambridge, Mass. 02138.

SAS NOMINATION FORM

\_\_\_\_\_ office

\_\_\_\_\_ name to be listed on ballot (typed)

Bibliographic information (not to exceed 50 words):

I, the undersigned, have read the By Laws of the SAS and understand the duties and responsibilities of the office for which I am a nominee:

\_\_\_\_\_ signature of nominee

# MEETING NOTES

## 1981 Archaeometry Symposium

The 21st International Archaeometry Symposium will be held at Brookhaven National Laboratory, Upton, New York, May 17-22, 1981. Individual sessions will be arranged by session convenors, who must receive abstracts by Feb. 1, 1981. These abstracts should be a minimum of 200 words and a maximum of one page, ready for camera production. Two copies must be supplied. The camera-ready copy should be sent to the Upton address given below, and the second copy to the convenor.

Convenors for the Upton Meeting are as follows:

Provenance Studies (all materials including coins):

A. Aspinall and S. Warren, Postgraduate School of Studies in Physics, University of Bradford, Bradford West Yorkshire BD7 1DP, U.K.

Ancient Metals and Metallurgy:

R. Maddin, University of Pennsylvania, Philadelphia, Pa. 19104, USA.

Ancient Technology (non-metals):

M.S. Tite, the British Museum, Research Laboratory, London WC 1B 3DG, U.K.

Prospection:

R. Linington, Fondazione Lerici, Via Vittorio, Veneto 108, 1 00187, Rome, Italy.

Dating of Organic Materials (eg. radiocarbon and other cosmogenic nuclides, dendrochronology, amino acid dating):

E.T. Hall, Research Laboratory for Archaeology and the History of Art, 6 Keble Road, Oxford, OX1 3QJ, U.K.

Dating of Inorganic Materials (eg. thermoluminescence, ESR, fission tracks, uranium series, archaeomagnetism):

M.J. Aitken, Research Laboratory for Archaeology and the History of Art, 6 Keble Road, Oxford OX1 3QJ, U.K.

Mathematical Methods and Data Management:

I. Scollar, Rheinisches Landesmuseum, Colmantsstrasse 14, 5300 Bonn 1, W. Germany.

The Smithsonian Institution is organizing a panel to discuss "Future Directions in Archaeometry". These discussions will be open to all attending the Archaeometry Symposium, and will follow the meetings on Thursday, May 21, continuing on the morning of May 22.

A limited number of accommodations will be available at Brookhaven National Laboratory, at moderate prices. These will be reserved for overseas (including Mexico and Canada) attendees on a first-come basis. Please mention your need in communication with the organizer.

To facilitate planning, individuals who are considering attending the 1981 Symposium should signify their intentions as soon as possible. Contact: Garman Harbottle, Dept. of Chemistry, Bldg. 555, Brookhaven National Laboratory, Upton, N.Y. 11973 USA. Telephone: (516) 345-4387, Telex: 96-7703, Cable: "BROOKLAB UPTONNY".

## RECENT PUBLICATIONS

### "Archaeology, Natural Science and Technology: The European Situation"

The European Science Foundation has recently carried out a survey of laboratories and institutes in Europe which offer scientific services for archaeological research purposes. An inventory of these institutions has now been published which gives details of the work which can be carried out in them. It is in three volumes and covers Austria, Belgium, France, the Federal Republic of Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Spain, Switzerland, the United Kingdom and the Nordic Countries (Denmark, Finland, Iceland, Norway and Sweden).

The inventory, which is in English, and which was prepared by Dr. F. Verhaeghe of the Belgian National Fund for Scientific Research includes a report on some general problems concerning the use of scientific methods and techniques by archaeologists in a number of specific fields. These are: air photography, geophysical and geochemical prospection, photogrammetric work, archaeomagnetism, underwater archaeology, the earth sciences, analysis of materials, palaeobotany, archaeozoology, physical anthropology and archaeometry together with a discussion of certain aspects of archaeological legislation, the training of archaeologists in these fields, archaeological documentation and existing facilities for conservation.

The price per set for the three volumes of the report is 100 French Francs and copies can be obtained from the European Science Foundation. Address inquiries to: Mrs. J. Steydli, European Science Foundation, 1 quai Lezay Marnesia, 67000 Strasbourg, France.

**Catchment Analysis: Essays on Prehistoric Resource Space.**

Frank J. Findlow and Jonathon E. Ericson, Editors. 1980, Anthropology UCLA.

Contents:

- Robin Dennel (Sheffield University). The Use, Abuse and Potential of Site Catchment Analysis.  
Jonathon E. Ericson (Harvard University) and Raymond Goldstein (Jet Propulsion Laboratory).  
Work Space: A New Approach to the Analysis of Energy Expenditure within Site Catchments.  
Frank J. Findlow and Linda Confeld (Columbia University). Landsat Imagery and the Analysis of  
Prehistoric Site Catchments.  
Geoffrey Clark and Shereen Lerner (Arizona State University). Prehistoric Resource Utilization in  
Early Holocene Cantabrian Spain  
Julie Francis (Wyoming Office of the State Archaeologist) and Geoffrey Clark (Arizona State  
University). Bronze and Iron Age Economies on the Meseta del Norte, North-Central Spain.  
Michael West (California State University, Northridge). Prehistoric Resource Exploitation in the Viru  
Valley, Peru.  
Frank J. Findlow (Columbia University). A Catchment Analysis of San Luis Phase and Animas Phase  
Sites in Southwestern New Mexico.  
James Louis Tartaglia (California State University, Northridge). Late Period Site Catchments in  
Southern California.  
Thomas H. McGovern (CUNY, Hunter). Site Catchments and Maritime Adaptations in Norse  
Greenland.

To order send check or money order (\$10 for individuals and \$15 for institutions) payable to  
Anthropology UCLA to: James Loucky, Anthropology UCLA, Anthropology Dept. 341 Haines Hall,  
UCLA, 405 Hilgard Ave., Los Angeles, California 90024.

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