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NEWSLETTER
SOCIETY FOR ARCHAEOLOGICAL SCIENCES

NEWS OF THE SOCIETY

CLOSING THE GAP: FROM THE SAS PRESIDENT

As a "general" archaeological scientist, I have been concerned with the articulation of the sciences with archaeology. I have seen the field of archaeological science grow from a handful of individuals, most of whom were dating specialists, to large national societies with sizeable memberships. The American Chemical Society, American Nuclear Society, and Geological Society of America have created new sections and divisions. Research projects have changed from the analysis of a single sample from a single site to the analysis of whole collections within a region. Likewise, there has been a change from purely developmental or technical contributions to large scale collaborative research aimed at resolving important aspects of past human behavior. Archaeologists are indebted to the many individuals who have made so many contributions and at the same time have made archaeology so interesting. I think that archaeology has arrived at a critical juncture, and for this reason, I raise the issue.

With the tremendous expansion in knowledge and the ever increasing number of new techniques and procedures applied to archaeological materials, there is a widenig gap between the archaeologist and archaeological scientist. is important to acknowledge this problem now and to be able to make adjustments.

Among practicing archaeologists, it is difficult to find an individual who understands most of the new developments in theory, much less in practice. Nevertheless, the archaeologist would like to be able to understand the technical advances in the field of archaeological science and to be able to incorporate them into his research. There are a number of steps which could be used to rectify this situation. Our annual meeting in conjunction with the Society for American Archaeology is viewed as an important first step. Through our symposia we provide information on current research. However, I think we should also conduct demonstrations, poster presentations, and a research strategy colloquium as additional means of setting up a dialogue between the scientist and archaeologist. A few key publications would also go long way towards increasing information flow. Review articles drawn from each field of archaeological science would be extremely useful to bring the entire field up-to-date. Likewise, a graduate level textbook on research strategy incorporating the potential applications and limitations of techniques of the archaeological sciences would be an invaluable contribution.

There are more archaeological projects underway now than ever before. The cultural resource management (CRM) archaeologist is extremely busy doing environmental impact studies. Unfortunately, most of these projects are designed for rapid recovery to mitigate site destruction by the contract awarding agency. Except for radiocarbon dating samples, most of the artifacts are not analyzed beyond the macroscopic level. Many of them are reburied rather than submitted to museums for curation and subsequent study.\It is critical to set forth immediate guidelines for the collection of specific samples for forming condensed collections for future analysis. Often the CRM archaeologist is not familiar with the possible techniques that are available, or interested researchers, nor even the procedures to collect adequate samples for analysis. As a start towards correcting this problem, The SAS might consider assembling a handbook of sample collection procedures as well as a list of on-going research projects requiring specific samples. As a prototype, Martin Aitken in a 1977 issue of **Antiquity** has provided guidelines for the collecting of thermoluminescence dating samples. This handbook would be made available to members of the Society for American Archaeology, Society for Professional Archaeology and Archaeological Institute of America.

I think the most important problem is how to transfer some of the existing technology to the practicing archaeologist. Archaeologists, particularly those being trained now, are eager to assume some of the technology by being trained formally in scientific techniques. This point is best exemplified by the adoption of sampling theory and statistics by the archaeological community in the last decade. The transfer of technology brings up the issue of education. There is a need to train a group of archaeologists who can train and direct research using methods and techniques of archaeological science. There are several educational/research programs now under development

Fourth Annual SAS Meeting: Minneapolis 1982

The SAS will have its annual meeting with the Society for American Archaeology at Minneapolis, April 14-17, 1982. The SAS will have three sessions on the program as well as the annual business meeting. Dr. Irwin Scollar, Rheinisches Landesmuseum, Bonn, will give a talk, "Geophysical Prospecting and remote Sensing: Natural and Technical Limits for Archaeology". There will be a symposium of Obsidian Hydration chaired by Jon Ericson and there will be a half-day poster session open to displayable papers on the sciences applied to archaeology. Anyone wishing to display a poster submit a brief description of the content to John Weymouth, Physics Department, University of Nebraska, Lincoln, NE 68588.

CURRENT RESEARCH

CMRAE SUMMER INSTITUTE: Materials in Ancient Societies/Metals

The Center for Materials Research in Archaeology and Ethnology (CMRAE) announces the opening of its Summer Institute, designed to offer to a national audience courses on materials analysis of archaeological and ethnographic collections. The first course, a one month, intensive investigation of ancient metallurgy, will be held June 4-30, 1982 at M.I.T. It will be taught by Heather Lechtman, Professor of Archaeology and Ancient Technology, M.I.T., and director of CMRAE. The purpose of the course is to develop the analytical skills that enable students to reconstruct and interpret technological systems used in ancient and non-industrial societies to produce items of metal. The course will be valuable to students of anthropology, archaeology, art history, conservation of cultural materials and other related disciplines.

Morning lectures will discuss the stages of production common to most metal objects in terms of the principles of physical metallurgy. In addition, the technologies of metal production will be related to the socio-cultural settings in which the activities occurred. Afternoon laboratories will involve examination and x-radiography. Students may work on their own collections after prior consultation with the instructor.

The course is limited to 15 participants and is open to graduate students and faculty or postdoctoral staff. Credit must be arranged at the student's home institution. The cost is $750, which covers registration, room at M.I.T., and course materials. Financial assistance is available.

For further information and application forms, write to: Professor Suzanne De Atley, Director, CMRAE Summer Institute, Massachusetts Institute of Technology, Room 8-138, Cambridge, Massachusetts 02139. The application deadline is February 15, 1982.

4th International Conference in Archaeology

The theme of the 4th International Conference in Archaeozoology is the contribution of faunal analysis to the study of man. It will be held 18-23 April 1982 at the Institute of Archaeology, University of London. So far, more than 200 persons from 34 countries have announced their intention to attend. The deadline for submitting papers is closed, but further information on accomodations and on the program can be obtained from the organizers. Write to: Dr. Juliet Clutton-Brock or Dr. Caroline Grigson, Institute of Archaeology, 31-34 Gordon Square, London WC1H OPY, England.

11th International Radiocarbon Conference

The tentative program for the June 1982 Radiocarbon Conference in Seattle, Washington, has been set. The following topics will be covered:

C-14 and Archaeology; Natural C-14 Variations (cosmogenic and climate induced); Anthropogenic C-14 Variations; Instrumental Techniques; General Aspects of C-14 Dating (sample contamination and composition, comparison with other techniques); Accelerator Mass-Spectrometry of C-14 and Other Cosmogenic Isotopes; C-14 Applied in Various Fields (oceanography, hydrology, geology, tectonics, pedology).

So far about 180 researchers from 29 countries have indicated their plans to attend, and the preliminary titles of 110 presentations have been received. For a final program and registration form, contact: The Organizing Committee of the 11th International Radiocarbon Conference, Quaternary Isotope Laboratory, AK-60, University of Washington, Seattle, Washington 98195.

22nd International Archaeometry Symposium

The 22nd International Archaeometry Symposium will be held at the University of Bradford, U.K., March 30 - April 3, 1982. Topics and convenors for the meeting are:

Theme session: Reconstruction of Exchange Systems (archaeological interpretation based on provenance studies) A.Aspinall and S.E.Warren, Postgraduate School of Studies in Physics, University of Bradford, Bradford BD7 1DP, West Yorkshire, U.K.

which address this problem, such as the Center for Material Research in Archaeology and Ethnology, centered at MIT.

For the last few years I have been involved in the development of a graduate and undergraduate program in archaeological science at Harvard University. I would like to convey some of its features. This program has involved three phases: (i) the design and establishment of several laboratories, now called, the Center for Archaeological Research and Development, (2) the development of an educational program to train students of archaeology and (3) the guidance of scientific research programs of students and staff. Within the Department of Anthropology, the first priority is the training of students as competent archaeologists with a specific regional focus, e.g. Mesoamerica or Near Eastern archaeology. Secondarily, as part of their curriculum, students are intruduced to archaeological science. A year-long introductory course includes laboratory exercises and lectures on dating techniques, remote sensing, spatial analysis, rudimentary statistics, chemical archaeology, geoarchaeology, ethnobotany, and zooarchaeology. The purpose of the course is to introduce the full repertoire of scientific techniques and how they articulate with each other. The potential applications, limitations and sample collection procedures are presented for each technique. Next, a half-year course has been designed to present the basic theory underlying given techniques and the operating procedures of each analytical system within the CARD laboratories. Then, a half-year siminar on research strategy is directed toward specific problem-solutions and to develop ideas on how to measure or define manifestations of past human behavior patterns. In addition, there are directed research courses in the laboratories. Generally, the students have tended to specialize on one form of analysis which is pertinent to their research problem, e.g. petrography of ceramics, or faunal analysis. However, the research design of these students, indeed, specify the need to perform several different types of complimentary analysis to resolve a particular problem. In this way, the Harvard graduates are becoming a group of first-rate regional archaeologists with a strong background in archaeological science. Many of them are taking courses in other departments or at other universities such as MIT to strengthen their knowledge in one particular field or analytical procedure. A few graduate students with scientific credentials are substituting archaeological science in lieu of a specific regional focus.

There is a need for textbooks on archaeological science as well as "How-to-do" books and laboratory manuals. Presently, it is difficult to put together a small book list for an introductory course.

In summary, we need to achieve a more open dialogue with the participating archaeologist, who would like to understand the developments of our field. It would be useful to provide the CRM archaeologist with a handbook for collecting analytical samples for future research. There is a need to educate present students of archaeology on the techniques of archaeological science so that part of the existing technology can be transferred to the future practicing archaeologist. In these ways, we will see the closing of the gap between the archaeologist and the archaeological scientist.

President SAS
Jonathon Ericson,
Peabody Museum
Harvard University

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Provenance Studies: analysis and data interpretation — B. Harbottle and E. Sayre, Dept. of Chemistry, Bldg. 555, Brookhaven National Laboratory, Upton, New York 11973, U.S.A. Ancient Metals and Metallurgy — R. Maddin, University of Pennsylvania, Philadelphia 19104, U.S.A. Ancient Technology: non-metals — M.S. Tite, The British Museum, Research Laboratory, London WC1B 3DG, U.K. Prospection — R. Linnington, Fondazione Lerici, Via Vittorio Veneto 108, 1 00187, Rome, Italy. Dating of Organic Materials (e.g. radiocarbon and other cosmogenic nuclides, dendrochronology, amino acid dating) — E.T.Hall, Research Laboratory for Archaeology, 6, Keble Road, Oxford OX1 3QJ, U.K. Dating of Inorganic Materials (e.g. thermoluminescence, ESR, fission tracks, uraniom-series, archaeomagnetism) — L. Langouet, Universite de Renne, Campus de Beaulieu, Avenue de General Leciero, 35031 Rennes Cedex, B.P. 25A, France. Mathematical Methods and Data Management — I. Scollar, Rheinisches Landesumeum, Colmantstrasse 14, D 5300 Bonn 1, West Germany. Those wishing to contribute a paper for a session must submit two copies of the abstract, one to the symposium organizers, and the other to the session convenor. Abstracts should be a minimum of 200 words and a maximum of one page, ready for camera reproduction. They will be used to decide whether papers are most suitable for oral or poster presentation. The deadline for receipt of abstracts is 29 January 1982.

Accommodations are available in the University Residence Halls which are situated close to the Symposium center, or in guest houses and hotels within the city.

An informal workshop on the application of microcomputers to archaeometry will be held in the afternoon or evening of 3 April, immediately after the symposium. Suggested topics include: small data base systems for interchange and storage of results; running evaluation of data on a small machine, on line; market survey of internationally available hardware and software; interchange of software — media, documentation, standards; interfacing to small machines. Formal papers must be submitted under normal symposium rules. All correspondence on this workshop should be addressed to I. Scollar, Rheinisches Landesmuseum, Colmantstrasse 14, D 5300 Bon 1, West Germany.

Registration material for the Bradford meeting may be obtained from the organizers: A. Aspinall and S.E.Warren, Schools of Physics and Archaeological Sciences, University of Bradford, Richmond Road, Bradford BD7 1DP, West Yorkshire, U.K. Telephone: Bradford 33466 (STD Code 0274). Telex: 51309 UNIBFD G.

Registration forms and fees must be returned by 25 February 1982. Checks should be made payable in sterling to the University of Bradford.

Editor's Note

The references for the Current Research section on Strontium and Diet submitted by A. Sillen were inadvertently omitted in the Vol. 4, No. 2 issue of the Newsletter.

Sillen, Andrew (1981a) Strontium and Diet at Hayonim Cave, Israel. An examination of the Strontium/Calcium Technique for Investigating Prehistoric Diets. Ph.D. Dissertation, The University of Pennsylvania.

Sillen, Andrew (1981b) Strontium and Diet at Hayonim Cave. **American Journal of Physical Anthropology** 56:2.

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