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SOCIETY FOR ARCHAEOLOGICAL SCIENCES

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NEWS OF THE PROFESSION

Some Results of Two Surveys of the Archaeological Sciences

A 1977 survey of geoarchaeology (see *SAS Newsletter* vol. 1, no. 3) and a 1978 survey of research in the archaeological sciences provided profiles of 215 specialists and their archaeology-related research experiences. The sample is highly educated (77% have their doctorates) and optimally employed for engaging in research. Fifty-two percent are college or university teachers, 12% are affiliated with a state or government agency, 10% with museums and 7% with a research institute; only 8% are students.

Specialists are classified as geoarchaeologists, archaeometrists and bioarchaeologists depending on whether their archaeology-related research has more in common with: (1) an earth science; (2) chemistry or physics; or (3) a biological science, respectively. The character of the three groups differs, but their archaeology-related research experiences show many similarities.

The 132 geoarchaeologists form the largest subsample. This may reflect the composition of the SAS, from which much of the mailing list was obtained, and perhaps of the archaeological sciences, as well as sampling bias. As a group, the geoarchaeologists seem to be somewhat older than other archaeological scientists: the mean dates for undergraduate and highest degrees are 1955 and 1965, respectively. Probably as a result, they are also furthest along in their education: for over 80% the highest degree is a doctorate, compared with 66 to 68% of the other two groups. Geoarchaeologists are more specialized and less fully involved in archaeology-related research than other archaeological scientists. Only 13% were granted their highest degree by an anthropology department. They spend a mean of only 36% of their research time on archaeology-related projects, and for over half, these occupy 20% or less of their research time. While geoarchaeological research was cited as early as 1938, the median year for a first archaeological project was 1967, two years after the median highest degree date for the group. This is early compared to the other specialties, but geoarchaeologists have been involved in the smallest mean number of projects: only 3.6 major and 7.0 minor ones.

The 45 archaeometrists seem to be the youngest group of archaeological scientists: their median undergraduate and highest degree dates are 1961 and 1967. As a group, they have a strong anthropological background compared with geoarchaeologists and they are heavily involved in archaeological research. Thirty-eight percent received their highest degree from an anthropology department and they spend a mean of 61% of their research time on archaeology-related research. One archaeometrists was first involved in archaeology-related research in 1930, but the median year of first involvement is 1969. Although this is two years later than that for geoarchaeologists, archaeometrists cite participation in a mean of 6.4 major and 9.9 to 34.6 minor projects, depending on whether a single extremely high value for minor projects is included.

There are only 32 bioarchaeologists and, as a group, they are intermediate in age. They have median undergraduate and highest degree dates of 1960 and 1972. While 36% of the bioarchaeologists received their highest degree from an anthropology department, the group spends an intermediate amount of time on archaeology-related projects: a mean of 45%. The earliest respondent participation in an archaeology-related project occurred in 1936, but the median year of first involvement is 1969. As with archaeometrists, this is a year later than the median year of geoarchaeologists and bioarchaeologists have participated in a higher mean number of archaeological projects: 5.7 major and 13.6 minor ones.

Similar features of the archaeology-related research experiences of the three main archaeological science groups are found in the areas of research administration, funding and procedures. In terms of research administration, it is most common to be a specialist brought in by a project archaeologist to solve a specific problem, or to be a specialist working independently of archaeologists. Fifty to fifty-eight per cent have been in one or both of these situations while less than 40% have held any other position in an archaeology-related project (for instance, specialist co-administrator or project archaeologist). For those who work as specialists on projects, single site excavation is the most common experience in all three specialties: from 62 to 90%. However, 50 to 64% of all groups have also been involved in site surveys and multi-site excavations. In terms of funding, the means of and success in obtaining it varies, but the most common source is always the federal government. Seventy-one to ninety-three per cent have received government funds which paid for 56 to 89% of the reported projects. Funds from universities are next common in all groups; 51 to 89% have received them. All three specialties tend to make short field visits compared to archaeologists, with mean stays ranging from 2.4 to 3.8 weeks. Almost all spend a mean of 58 to 72% of their research time doing lab work. In the lab, all groups do from 50 to 60% of the work themselves. The rest is done by students or staff or on commission. The latter largely involves dating procedures. Lab work is a source of frustration for over half of all groups, and in all cases a shortage of time is a major reason for this. Finally, in terms of publication, archaeological meetings seem to be the most accessible forum for presenting the results of specialized archaeology. Anthropological/archaeological journals (especially *American Antiquity, Archaeometry, Plains Anthropologist* and *Journal of Field Archaeology*) and non-archaeological professional meetings are the second most common forums.

The most outstanding distinctions among the archaeological specialties are also found in the areas of research administration, funding, research procedures and publication. There are significant differences in the degree to which different types of specialists have held administrative positions in archaeology-related research. The proportion of archaeometrists and bioarchaeologists who have been project archaeologists is 1.7 to 1.9 times greater than the proportion of geoarchaeologists; conversely, the proportion of geoarchaeologists who have been specialist co-administrators is 1.7 to 1.9 times greater than that of either of the other two groups. Most likely these distinctions are a reflection of differences in the extent of academic training and experience in archaeology.

Funding varies in terms of who applies for and administer it, and what items are given most priority on applications. Receiving funds as a result of applying for them independently is an experience shared by slightly over half of the geoarchaeologists; but receiving funds applied for and administered by an archaeologist is slightly more common and pays for almost three times as many

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projects. On the other hand, among archaeometrists it is quite common to receive funds through a direct grant application; 68% have done so and five times more projects have been financed this way than as a result of other kinds of applications. Bioarchaeologists have the highest proportion of recipients of archaeologist-administered funds (74%) and 1.7 times more of their projects have been financed this way than any other. The priority of various items of expense also varies among application types on the basis of specialty. Geoarchaeologists are more likely to receive funds to cover the cost of their field visit than other items on their budget, no matter who applies for the funds. On the other hand, funds applied for directly are more likely to cover lab expenses and/or a partial salary, while jointly-applied for and archaeologist-administered funds tend to provide expenses for a field visit. Expenses for students are almost always the last priority. A single exception occurs among archaeometrists for whom funds from direct grants more commonly cover student expenses than a salary supplement or in-field transportation. Finally, it should also be noted that the groups vary in the percentage of group members that have done unfunded archaeology-related research. Geoarchaeologists have the largest proportion, 38%, compared with 26% of the archaeometrists and 15% of the bioarchaeologists. The high frequency of unfunded research among geoarchaeologists is partly a reflection of their use as informal consultants by archaeologists.

Although all archaeological scientists tend to make relatively short field visits in the process of doing archaeology-related research, the average length spent varies between specialties, as does the percentage of research time these visits represent and their importance in interdisciplinary projects. Geoarchaeologists make the longest field visit, a mean of 3.8 weeks, and it represents the largest proportion of their research time, a mean of 39.7%. In addition, in interdisciplinary projects this is the period in which they have the closest and most satisfactory contact with archaeological collaborators. Archaeometrists and bioarchaeologists tend to make shorter field visits and these represent a smaller percentage of their research time. Even so, for these groups it is also the research phase in which individuals have collaborated most closely, if not always most satisfactorily, with archaeologists in interdisciplinary projects. Probably as a result of the large percentage of time they must spend in the lab, a far higher proportion of archaeometrists and bioarchaeologists complain of frustrations in completing their lab work phase of research. Eighty-one per cent of the archaeometrists and 93% of the bioarchaeologists mention this, compared to 56% of the geoarchaeologists. While goearchaeologists complain of a lack of money in addition to a lack of time, probably a reflection of funding priorities mentioned above, for most archaeometrists a lack of time is the crucial problem. A second major source of frustration for many bioarchaeologists is inadequate communication with archaeologists. Communication problems are said to stem from the archaeologists' lack of knowledge about the contextual information needed by bioarchaeologists and the time required to make various biological analyses.

Finally, there are differences in the way in which research results are most frequently prepared for presentation or publication. While geoarchaeologists vary, archaeometrists are consistently more likely to co-author a paper, article, book or report than write one alone. Bioarchaeologists are almost totally the reverse, except when writing articles for publication in journals of non-anthropological disciplines.

Many of the similarities between geoarchaeologists, archaeometrists and bioarchaeologists reflect the constraints of doing specialized research that requires long periods of tedious lab analysis, without the funds to hire sufficient student or staff assistance. Other similarities must reflect the attitudes of and constraints on archaeologists. These include the rarity with which specialists participate in research administration, the sources of funding archaeologists receive and the types of projects they undertake. Many of the differences seem to be a reflection of the varying degree of archaeological training possessed by the specialists. To some extent, the more archaeological training, the more non-specialized archaeological tasks the specialist is willing to undertake, the more success in direct grant applications and the more administrative responsibility the specialist is given. These differences may also reflect a temporal trend. It is the younger groups that include the largest proportions of specialists who made a heavy commitment to archaeology early in their careers.

Submitted by Robin L. Burgess, University of Chicago, Chicago, Illinois 60637.

Support for Field Research

Post-doctoral scholars in need of funds and actively participating volunteers to support their field research investigations should contact The Center for Field Research in Belmost, Massachusetts. This private, non-profit organization has raised over $2 million to support over 350 research expeditions in 25 states and 48 countries. The funds and field staff to assist Principal Investigators are raised through private subscription, i.e., interested citizens who have the time and talent to help scientific investigation and who are willing to make a contribution to project costs. Awards vary, depending on the number of volunteers involved. Co-sponsorship by other funding agencies is encouraged.

Working in cooperation with EARTHWATCH, a national volunteer organization, The Center subsidizes over 65 expeditions annually in the following disciplines: anthropology, art history, astronomy, biology, botany, cartography, conservation, ethology, folklore, geography, musicology, ornithology, public health, sociology, zoology. Interdisciplinary proposals are invited.

Preliminary proposals of two pages should cite research objectives, project dates, and the need for funds and volunteers. After favorable review of the preliminary proposal, Center staff will invite a formal proposal, which must precede field work by nine months. Preliminary proposals may be submitted at any time. Formal proposal deadlines are May 15 and October 1.

Preliminary proposals should be sent to Elizabeth E. Caney, Director of Research, The Center for Field Research, 10 Juniper Road, Box 127-E, Belmont, Massachusetts 02178. Or call (617) 489-3032 for further information.

NEWS OF THE SOCIETY

Election Results

The results of the recent SAS election were announced at the Second Annual Business Meeting in Philadelphia. As a result of balloting, Jonathan Ericson was elected Vice President/President-elect and David Weide was elected Assistant Secretary-Treasurer. Both will serve in their elected capacity for one year and then succeed to the offices of President and Secretary-Treasurer. Other officers of the SAS for 1980-81 are R. E. Taylor, President, Karl Butzer, Past-President, and Matthew Hall, Secretary-Treasurer S. P. De Atley was re-elected *SAS Newsletter* Editor by the Executive Board.

Annual Business Meeting

The SAS held its Annual Business Meeting on Thursday, May 1, 1980 in the Philadelphia Sheraton Hotel during the meeting of the Society for American Archaeology. Members present at the meeting heard reports by the President, Secretary-Treasurer, and Newsletter Editor. The SAS membership as of May 1 was 525, up from 428 as of December 31, 1979 and 224 as of December 31, 1977. Income and Expenditure statements for the previous fiscal year were approved as was a budget for 1980-81. The Newsletter Editor reported her interest in appointing subject area as well as regional associate editors.

The membership unanimously endorsed the recommendation of the Executive Board that the SAS contribute annually $100 to the SAA's Fryxell Award Fund. This year the award went to Professor James Griffin of the University of Michigan. Professor Griffin previously served as a member of the Acting Executive Board of the SAS.

Professor Curt Beck introduced a discussion of the possibility of co-operating with the AATA abstract program as a means of improving and extending abstracts of archeological science periodical materials. The Executive Board has voted to consider various means of implimenting this suggestion and will appoint a committee to prepare recommendations.

The membership also considered the question of the membership cost structure of the SAS in the light of inflationary pressures. It was voted to submit the issue to a referendum. A ballot is included with this issue of the *Newsletter*.

A Note from the New SAS President

Over the last two years, our founding president, Karl Butzer initiated and encouraged several surveys of SAS members. The information gleaned in these surveys have now provided us with a base of solid information concerning the interests and needs of our members. With this data, we can now proceed in specific and concrete ways to carry out the SAS's mandate to encourage and facilitate interdisciplinary co-operation between archeologists and their physical and natural science colleagues.

Back in 1977, when the SAS was founded, the first task of the Acting Executive Board was to create an organization and begin the process of communicating SAS's aims and goals to prospective members. These initial tasks have been completed. Our membership of over 500 is respectible by any standards for an organization of such specific focus. It is now our responsibility to consolidate the initial gains by initiating long-term planning. The basic question is how best can our organization serve the needs of our members? How best can we further interdisciplinary studies in archaeology? As our long term planning process proceeds, the SAS should work closely with the various organizations which are committed to the same goals within a disciplinary-specific framework. In particular, the SAS is interested in co-ordinating its efforts with the Archaeological Geology Division of the Geological Society of America, the Archaeological Chemistry Section of the American Chemical Society and the Task Force on Nuclear Archaeometry, American Nuclear Society. We also want to reach out to all other organizations and groups concerned with archeological science.

An important goal of the SAS is to facilitate communication across both disciplinary and international boundaries. In this context, I would like to echo the exhortation of our Editor, Suzanne De Atley in the Summer 1978 issue of the *Newsletter*. This *Newsletter* exists to serve the needs of all members. We would like to strongly encourage you to take advantage of it by sharing information pertinent to your area of study. Your support and contributions are essential to the *Newsletter*'s value to the membership at large.

I will look forward to receiving any and all of your suggestions as to how best the SAS can accomplish its goals. In the next issue of the *Newsletter*, I will be reporting on new programs and personnel that will be helping us develop and expand our efforts. With best wishes —

R. E. Taylor, President

MEETING NOTES

Archaeometry Conference: New Zealand 1980

There will be an international conference in Christchurch, New Zealand in August 1980 on Physics Applied to Problems in Archaeology. It is one of nine specialist conferences which will follow the two day New Zealand National Physics Conference.

Professor E.T. Hall of Oxford will be the keynote speaker for the symposium, and he will give three papers. These are entitled: "Archaeometry: the Impact of Physics on the Arts;" "New Approaches to C-14 Dating;" and "Physics, Fakes and Forgeries."

Submitted by Dr. Foss Leach, Anthropology Department, University of Otago, P.O. Box 56, Dunedin, New Zealand.

Report on the 1980 SAA Meeting, Philadelphia

Recognition of the growing importance of scientific techniques in archaeological research was well reflected in the program of the recent annual meeting of the Society for American Archaeology held in Philadelphia in May. Twenty-nine of the 63 scheduled sessions had one or more papers which dealt with some aspect of scientific analysis. In many cases, results obtained from more familiar techniques were used in archaeological interpretation. Other papers discussed the potential applications of particular techniques that have not received much archaeological attention, and a few

addressed technical issues of interest to the specialist.

A wide range of topics and disciplines was represented. Applications of geological techniques included geophysical exploration, sediment analysis of cultural and natural deposits, dating techniques, soil pH and phosphate analysis. Lithic and ceramic analyses focused on the isolation of sources or provenience of raw materials and artifacts, using techniques such as petrographic analysis, X-ray diffraction, and neutron activation. Paleoenvironmental research was represented by pollen analysis and bristlecone pine studies, while faunal and floral remains in sites were the subjects of zooarchaeological and paleo-ethnobotanical studies. Analysis of fresh water shell and of molluscan growth lines, and chemical characterization of marine shell were also included. Physical and chemical analyses of human bone provided data for nutritional and demographic studies.

Of the 41 organized symposia, four focused on various archaeological sciences. The session on plant opal phytolith analysis was concerned with its applications in archaeological research. The themes were field and laboratory techniques; phytolith taxonomy; and analytical success in studies of paleoenvironment and subsistence. Archaeomagnetism and its prospects for improving time control in archaeology were discussed in a second session. Current developments in techniques and analysis were presented, and the potential of the technique was communicated to the archaeological community. The symposium on soils and patterns of past human behavior was organized by individuals involved in the Soil Banque. Methodologies to analyze anthropogenic soils were illustrated by the papers, and the symposium presented an overview of the inferential potential of these lines of investigation in archaeological research. The fourth symposium on lithic resources in the northeast highlighted characterization of sources and analysis of quarry activities.

Other events included the first SAS Annual Research Lecture, delivered by Rainer Berger. His topic was "Greater Than 40,000 Years of Prehistory on Santa Rosa Island, California." The following day, the University Museum of the University of Pennsylvania held an open house at the Museum Applied Science Center for Archaeology (MASCA) . Staff members were present to discuss their projects as well as the range of analytical techniques and facilities available at the Center.

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