



SAS Bulletin

Society for Archaeological Sciences

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From the President

The current year has brought many life-shaking events of worldwide significance and rippling effects that we are only starting to be able to fathom. For many, reactions to these events have brought a time of reflection and re-assessment of priorities in

our personal and professional lives. Most of the issues behind current events lie at the heart of what it means to be human and our fragile yet continuing efforts to live together in pluralistic societies. Now more than ever, our human community and its problems are at a global scale and with modern telecommunications we are drawn into the details with an immediacy that is unprecedented.

For archaeologists and researchers of human culture, these are not new problems, but rather recurring processes that have punctuated both history and prehistory. In archaeometric research, we investigate the physical evidence of past societies, their technological systems, and their manipulations of their social and natural environments. It is often stated that if we do not learn from the mistakes of the past, we will be doomed to repeat them. Through scientific investigations of material culture we can greatly increase the knowledge of past cultural behaviors and traditions. But to be highly effective in building a support base, we must strive to share this knowledge and its significance to understanding the human experience with audiences beyond our own colleagues.

Over the last several years it has become clear that a measure of the future viability of archaeological science is reflected through levels of support from governmental and granting organizations, the hiring of faculty to educate present and future generations of archaeometrists, and the potential to place graduates in a range of professional research and teaching positions. In the U.S., the tenuous status of the Smithsonian Center for Materials Research and Education (SCMRE) is symptomatic of the problems of limited, if not diminishing, support for archaeometric research ("Saving SCMRE" by Charles Kolb, *SAS Bulletin* 24:1/2).

However, the main strengths of the **Society for Archaeological Sciences** continue to lie in the expanding

international base of its membership and also in its support of interdisciplinary communication. We should strive to use this network to advantage by strengthening the profile of archaeological sciences within academia and beyond. It would be timely for us to open discussions of the present and future status of archaeological science and to examine positive avenues for shoring up, if not expanding, support for research programs. What are the operative models for archaeological sciences and how they articulate with archaeological research and other sciences? What are the advantages and disadvantages of such models of operation? How we examine these issues and proposed solutions will benefit from a diversity of ideas and individual and group efforts. Your thoughts are welcome, either to the *Bulletin*, or on SASnet, or by writing directly.

Arleyn Simon

November 14, 2001

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Positions

California State University, Long Beach

California State University, Long Beach, Department of Anthropology, invites applications for an Assistant/Associate Professor of Anthropology, with a specialization in archaeology. The successful candidate must have a Ph.D. in Anthropology/Archaeology or closely related field at time of appointment. Primary research focus on archaeological theory closely tied to rigorous analysis of archaeological data and technical skills in analysis of archaeological materials. Desired/Preferred qualifications include: experience in archaeometry, chemically based ceramic analysis, quantitative/statistical methods, and computer applications/simulation. Experience in climatic reconstruction and study of ecological change will also be considered. Geographic area is open. Theoretical orientation and technical skills/material analysis demonstrated in previous research and publications. We are seeking a scholar with a focus on evolutionary theory, active field research program, and a commitment to train undergraduate and graduate students. The candidate will teach archaeology and theory courses, quantitative/statistical methods, work with graduate and undergraduate students in an advisory capacity, and direct the activities of our ICP-MS laboratory. Salary will be commensurate with training and experience. Candidates must submit letter of application addressing qualifications, Curriculum Vitae, three letters of recommendation, samples of research, official transcript from Ph.D. granting institution, teaching portfolio including teaching statement, course syllabi, and teaching evaluation summaries. Position open until filled (or recruitment cancelled). Review of applications to begin on January 31, 2002. Applications, required documentation, and/or requests for information should be addressed to: Chair, Search Committee, Department of Anthropology, California State University Long Beach, 1250 Bellflower Boulevard, Long Beach, CA 90840-1003, USA. CSULB is an Equal Opportunity Employer committed to excellence through diversity, and takes pride in its multicultural environment. An EEO/AA Employer. Please no on-line applications.

Requirements: The successful candidate must have a Ph.D. in Anthropology/Archaeology or closely related field at time of appointment. Primary research focus on archaeological theory closely tied to rigorous analysis of archaeological data and technical skills in analysis of archaeological materials.

Notes: International candidates will be considered. Salary will be commensurate with training and experience. This employer does offer employment benefits to domestic partners of employees. This employer does not prohibit discrimination on the basis of sexual orientation/preference and gender identity/expression.

About the California State University: Enrollments in Fall 1999 totaled 359,719 students, who were taught by over 20,600 faculty. The system awards more than half of the bachelor's degrees and 30 percent of the master's degrees granted in California. Some 1.94 million persons have been graduated from CSU campuses since 1960. The department of anthropology is listed within the College of Liberal Arts (CLA).

University of Missouri-Columbia

University of Missouri-Columbia, Department of Anthropology and the Missouri University Research Reactor (MURR) jointly seek an archaeologist as a tenure-track associate professor. The person's tenure home will be the Department of Anthropology. Ph.D. in Anthropology or Archaeology required at time employment begins. Successful applicant will have specialization in scientific measurement techniques, publications, and a record of successful grantsmanship. Expertise in instrumental NAA, quantitative analysis, and ceramic analysis are desired. Candidates should have a theoretical perspective and archaeological research interests complementing those of Anthropology Department members. Successful candidate will be appointed half time in Anthropology, where he/she will teach two courses per year, and half time at MURR, where he/she will co-direct the Archaeometry Laboratory. Other responsibilities include advising undergraduates and graduates, obtaining funding for the Archaeometry Lab and his/her own research program(s), and publishing. Send letter of application, CV, reprint(s) or other sample(s) of work, and evidence of teaching ability to Search Committee (Archaeometry), Dept of Anth, 107 Swallow Hall, Univ. of Missouri, Columbia, MO 65211-1440. Preference given to applications received by February 1, 2002. The University of Missouri is an equal opportunity, affirmative action employer. To request ADA accommodations, please contact our ADA Coordinator at 573-884-7278 (email: adawww@showme.missouri.edu).

Smithsonian Tropical Research Institute

The Center for Tropical Paleoecology and Archaeology at the Smithsonian Tropical Research Institute (STRI) announces 3-month fellowships in phytolith and starch grain studies. STRI is a bureau of the Smithsonian Institution located in the Republic of Panama. Candidates should be enrolled in graduate programs and have concentrations either in paleoethnobotany or plant-oriented paleoecology. The fellowship will consist of a roundtrip airfare to Panama, a stipend to cover modest living expenses (\$500 per month) at STRI facilities, and a research allowance. Geographic area is open and no previous hands-on experience with phytoliths and starch grains is required. Applications should include a cover letter, an essay of not more than 1600 words that discusses why you are seeking a fellowship at STRI and how it would relate to your academic or professional development and goals, two letters of recommendation, copies of official transcripts, and a curriculum vitae. They should be sent to Dr. Dolores Piperno, Director, Center for Tropical Paleoecology and Archaeology, STRI, Unit 0948, APO AA 34002-0948. Applications should be received at the latest by January 31, 2002. Applicants will be informed of the results 6-8 weeks after the deadline.

Quaternary Dating Research Opportunities for Graduate Students

Graduate work at the M.Sc. and Ph.D. level, with full financial support, is currently available to suitably qualified students finishing undergraduate degrees or holding

undergraduate degrees in the Earth Sciences, Archaeological Sciences, Environmental Sciences, Chemistry or Physics through Dr. Jack Rink at McMaster University, Hamilton, Ontario, Canada. The School of Geography and Geology offers the M.Sc. and Ph.D. in Geology or Geography. Funding for 2 years (M.Sc. degree) or 4 years (Ph.D. degree) is available to both Canadians and foreign nationals. Details regarding applications for graduate study can be found at www.science.mcmaster.ca/geo/graduate/sgrad.html

Interested applicants are also encouraged to contact Dr. Jack Rink directly at rinkwj@mcmaster.ca. Applications should be received no later than late January, 2002.

Dr. Rink seeks students interested in sharing his enthusiasm in the fields of luminescence and electron spin resonance dating of geological and archaeological contexts. Current projects include geochronology of Holocene, Pleistocene and Pliocene coastal sediments in Florida and Australia, use of luminescence in minerals to study sand transport in modern coastal environments including studies of shipwreck stability related to residence time of local marine cover sands, geochronology of Lower and Middle Pleistocene faunal assemblages using electron spin resonance dating, geochronology of Lower and Middle Palaeolithic archaeological sites in China, Indonesia, Africa, Europe and South America, and development of imaging electron spin resonance dating to improve dating of fossil tooth enamel. Considerable opportunities for travel are available for graduate student research projects. The faculty complement at the School of Geography and Geology offers outstanding breadth to those students interested in applications to Archaeological Science and Geochemistry. Further information may be found at:

W.J. Rink Homepage: www.science.mcmaster.ca/geo/faculty/rink/index.html

AGE Laboratory Homepage: www.science.mcmaster.ca/geo/research/age/home.html

EU Large Scale Geochemical Facility

Applications are invited for access to the EU Geochemical Facility at Bristol University. The Geochemical Facility contains a large number of modern analytical instruments that allow the user to carry out investigations across the earth, environmental and material sciences: electron probe microanalyser (EPMA); scanning electron microscopy (SEM); ICP-MS & ICP-AES; laser ablation ICP-MS; XRF; fourier transform infra-red spectrometry; XRD; LECO carbon/sulphur analyser; thermal ionisation mass spectrometer (TIMS); nuclear magnetic resonance spectrometer; auger electron, secondary ion mass and X-ray photoelectron spectrometers.

The facility also contains the following experimental apparatus: piston-cylinder presses; cold-seal pressure vessels; 1 atm gas mixing furnace.

Visits are usually expected to last between 1 week and 1 month. Priority will be given to research teams who have not previously used the infrastructure and who do not normally

have access to such facilities. Selection of projects will be on the basis of scientific merit taking into account the interests of the Community. The Facility will pay ALL travel, subsistence and laboratory expenses. Application Deadlines: 15th January 2002; 15th March 2002.

Supported by the European Commission Access to Research Infrastructures action of the IHP Programme. Access is restricted to research teams from institutions in EU countries (except UK) plus Bulgaria, the Czech Republic, the Republic of Cyprus, Estonia, Hungary, Iceland, Israel, Latvia, Liechtenstein, Lithuania, Norway, Poland, Romania, Slovakia and Slovenia.

Application forms can be downloaded from the website below. For further information contact: Dr John A. Dalton, Scientific Co-ordinator EU Geochemical Facility, Department of Earth Sciences, University of Bristol, Wills Memorial Building, Bristol BS8 1RJ, UK. Tel: 44 (0)117 954 5421; fax: 44 (0)117 925 3385; mobile: 0776 5332357; email: john.dalton@bristol.ac.uk; EU Geochemical Facility home page: <http://eugf.gly.bris.ac.uk/>

Radiocarbon CALPAL

The latest version of the computer program CALPAL (the Cologne Radiocarbon Calibration & Palaeoclimate Research Package), can now be downloaded from the site: <http://www.calpal.de/>

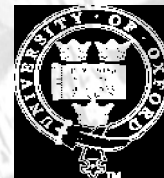
Research Laboratory for Archaeology University of Oxford M.Sc. in Archaeological Science



- Scientific dating
- Molecular bioarchaeology
- Materials analysis

<http://athens.arch.ox.ac.uk/masters>

Contact: Professor Hedges
+ 44 (0)1865 283033
robert.hedges@rlaha.ox.ac.uk



Archaeometry - Available Online

Archaeometry, edited by M.S. Tite, M.S. Shackley & G.A. Wagner, is an international research journal covering the involvement of the physical and biological sciences with archaeology and art history. The topics covered include dating methods, artifact studies, mathematical methods, remote sensing techniques, conservation science and the study of man and his environment. The journal is published on behalf of the Research laboratory for Archaeology and the History of Art, Oxford University, in association with the Gesellschaft für Naturwissenschaftliche Archaeologie Archaeometrie and the Society for Archaeological Sciences.

Archaeometry (ISSN 0003-813X) is published quarterly, at individual subscription rates of \$47.00 (USA) and £22.00 (UK and elsewhere); SAS members may subscribe at the discounted rate of \$30.00.

Archaeometry is available online to individual and institutional subscribers. Email updates, including advance tables of contents, are available from the Blackwell Publisher's website: <http://select.blackwellpublishers.co.uk>

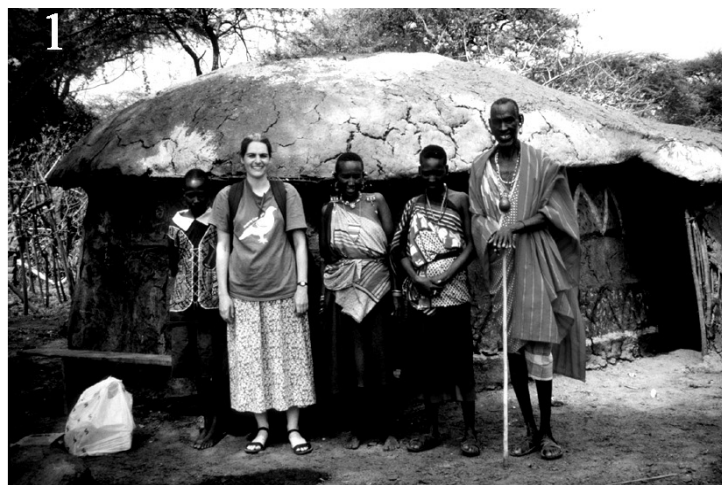
Revista Atlántica-Mediterránea de Prehistoria y Arqueología Social

The University of Cadiz (Spain) published an annual scientific review, the *Revista Atlántica-Mediterránea de Prehistoria y Arqueología Social*. It is in the theoretical framework of 'social archaeology' and has a non-adaptative point of view about archaeology, geoarchaeology, archaeometry and archaeozoology. It also offers a critical perspective of historiography. Three volumes have been published, with volume IV to be published in June 2002. Summaries, indexes and texts may be consulted at the following website: <http://biblioteca.uca.es/ucadoc.asp>

Laboratory Profile: The Kimmel Center for Archaeological Science – Training a New Generation of Archaeologists

Steve Weiner, Director, Kimmel Center for Archaeological Science, The Weizmann Institute of Science, Rehovot, Israel 76100. Email: Steve.weiner@weizmann.ac.il

Much of archaeology, some would say all, is part of the natural sciences. In fact it is probably one of the most difficult branches of the natural sciences, in that its declared goal is to reconstruct past human behavior based on the often scanty remains of human activities preserved at archaeological sites. To achieve this goal, as much information as possible needs to be extracted from a site using diverse and demanding multi-disciplinary analytical methods. During the last 50 years or so, more and more use has been made of powerful technologies for dating, climate reconstruction, reconstructing diet, identifying sources of materials, and more. In the last decade in particular, the use of preserved remnants of DNA and other



PhD student Ruth Shack-Gross at a Maasai village in Kenya, where she is performing a geo-ethnoarchaeology study aimed at being able to differentiate pastoral sites from hunter-gatherer sites in the archaeological record of Africa.



The Pelletron particle accelerator on the campus of the Weizmann Institute. A dedicated accelerator mass spectrometry beam line built and operated by Prof. Michael Paul (Hebrew University of Jerusalem) is used in part for archaeological research. This includes the development of new methods for dating flint and authigenic minerals formed in caves, as well as elucidating the history of flint mining.

macromolecules has opened up exciting possibilities of a genetic approach to archaeological problems. Despite all these developments, the core of archaeological research is and will remain in the field, where the problems are defined and the material obtained. An archaeological project also ends in the field where the data has to be put into an appropriate context.

Archaeology today is an intimate blend of field and laboratory research. The ideal archaeologist thus needs to understand both worlds. Furthermore, both field and lab work involves using the scientific approach - quantitation, controls, hypothesis driven questions, verifiability by others and so on. Even today, however, the overwhelming majority of archaeologists are trained in faculties of humanities and not natural sciences, and the (cultural) gap is large. With this in mind, the Weizmann Institute of Science established a PhD program in 1997 to train archaeologists, at home in both the field and the laboratory. Students with masters degrees in the natural sciences spend the first year of the 5 year program devoted entirely to studying undergraduate courses in archaeology, and at least one summer in the field. Those with degrees in archaeology study pertinent disciplines within the natural sciences, especially chemistry during the first year. These studies continue throughout the PhD, with students taking the required number of graduate level courses, but progressively focusing on their chosen field of research.

Students receive a fellowship from the Kimmel Center for Archaeological Science, made possible by a generous gift to the Weizmann Institute from Helen and Martin Kimmel, New York. This allows them to devote all their time to studies and research. Students usually have two advisors with expertise in archaeology and the scientific discipline most closely related to their research interests. Research is carried out primarily at the Weizmann Institute, although the archaeological sites under investigation can be anywhere in the world. The Kimmel Center also provides students with modest instrumentation and start-up funds needed for their specific research. Research is generally carried out in the laboratories of one or both advisors, and of course in the field. Wherever possible on-site analyses are carried out in order to exploit the major benefits of working interactively in the field. The Center is housed in a small building that contains a seminar room, an archaeometallurgy laboratory (Director, Dr. Sarel Shalev, Haifa University, who is also an associate of the Institute), an ancient DNA laboratory and a radiocarbon dating laboratory (Director, Dr. Elisabetta Boaretto). Students also have access to all the Institute's analytical facilities, laboratories, libraries etc. The Weizmann Institute is a basic research center with faculties of biology, chemistry, physics and mathematics. It has only graduate (MSc and PhD) students (about 750) and an academic staff of around 250. The official language is English, thus enabling visiting students and scientists to easily integrate into Institute research programs.

Major instrumentation available at the Institute used for archaeological research includes the following. Infrared and Raman spectrometers and microscopes, petrographic and other light microscopes, a scanning electron microscope (SEM) with an elemental analyser, a new environmental SEM also with an elemental analyser, single crystal and powder X-ray



Dr. Elisabetta Boaretto, the director of the Radiocarbon Laboratory, standing in front of the Kimmel Center for Archaeological Science.

diffractometers, radiocarbon analyses, stable isotope mass spectrometers, and an on-campus accelerator mass spectrometry facility that can analyse a wide variety of isotopes, including many of potential interest for archaeology.

There are currently 5 PhD students enrolled in the program, not all of whom are registered at the Weizmann Institute. All however are officially students or visiting students of the Institute, and perform their research full-time at the Institute. Their chosen fields of research first and foremost reflect their own interests, provided that the Kimmel Center and the Institute can provide the necessary facilities for carrying out this research. The following is a list of the students, their affiliations, supervisors and the field of research:

1. Ruth Shahack-Gross (Washington University, St Louis) Ethnoarchaeology of Maasai pastoralists in Kenya. Advisors: Fiona Marshall (Washington University) and Steve Weiner.



PhD student Rivka Elbaum operating a portable Fourier Transform Infrared Spectrometer on-site in Hayonim Cave (Israel). More than 2000 analyses were made on-site in order to elucidate aspects of bone preservation, ash accumulation and diagenesis, site formation processes, and TL and ESR dating.

2. Rivka Elbaum (Weizmann Institute) Domestication of emmer wheat using ancient DNA. Advisors: Moshe Feldman, Avi Levy and Steve Weiner.

3. Michal Kaufman (Tel Aviv University) Chalcolithic human populations in the Levant using ancient DNA. Advisors: Baruch Arensburg (Tel Aviv University), Doron Lancet and Steve Weiner. The costs of her fellowship are shared with Tel Aviv University.

4. Illit Cohen (Weizmann Institute) Charcoal in archaeological sites – molecular structure and diversity, and mode of preservation. Advisor: Steve Weiner.

5. Dvori Namdar (Tel Aviv University) Use of preserved organic residues to resolve key archaeological problems. Advisors: To be chosen.

Post-doctoral fellows also perform archaeological research at the Weizmann Institute. They are funded by faculty member's individual research programs. Dr. Francesco Berna is currently studying the formation and stability of authigenic minerals in prehistoric caves under the supervision of Prof. Weiner. He has recently received a Marie Curie Fellowship to develop a new dating method for authigenic minerals formed in archaeological sites using the isotope ^{10}Be . This and other cosmogenic isotopes are measured at the accelerator mass spectrometry facility of the Weizmann Institute. This project will be performed under the supervision of Dr. Elisabetta Boaretto (Director of the Radiocarbon Laboratory, Weizmann Institute) and Prof. Michael Paul (Hebrew University). Dr. Giovanni Verri is studying the history of flint mining in the Levant, also using ^{10}Be . This project is supervised by Prof. Paul, Prof. Avi Gofer (Tel Aviv University) and Dr. Boaretto.

The Kimmel Center has modest support for short term visitors to give seminars, perform analyses or learn new methodologies. In the last year, visitors have included Prof. Devendra Lal from Scripps Institute of Oceanography, San Diego, Dr. Panagiotis Karkanas (Ephoreia of Palaeoanthropology-Speleology, Athens), Dr. Clive Trueman

(Smithsonian Institution, Washington DC), Dr. Rosa Albert (Department of Prehistory, Ancient History and Archaeology, University of Barcelona) and Mr. Dan Cabanes (University of Tarragona, Spain). The Center also supported part of the costs of an intensive course on carbon 14 dating, together with the Hebrew University. The course was taught by Prof. Ilan Sharon (Hebrew University), Prof. Davendra Lal (SIO), Dr. Elisabetta Boaretto and Prof. Steve Weiner. The course was attended by about 25 students from many universities and institutes in Israel.

The overall objective of the Kimmel Center is admittedly ambitious – to educate a new generation of archaeologists knowledgeable in relevant aspects of work in the field and in the laboratory. The program is presently limited to a rather small number of participants. It is hoped that despite the limited scope of activities, the graduates of this program will contribute significantly to this most challenging, difficult and fascinating of fields, archaeology.

Selected Bibliography of Studies Performed at the Weizmann Institute

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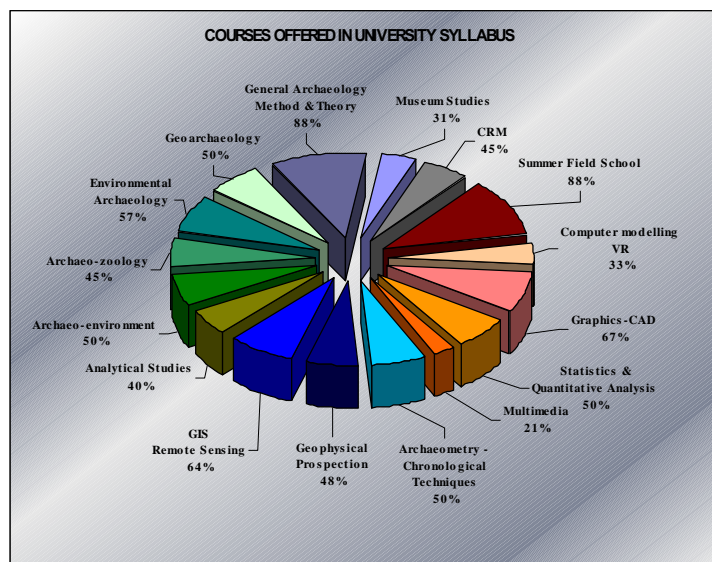
Neolithic flint mine in the northern Negev, Israel. Source of the material being used by Dr. Giovanni Verri for developing a new method to elucidate the history of flint mining using the cosmogenic isotope ^{10}Be .

Remote Sensing & GIS

Apostolos Sarris, Associate Editor

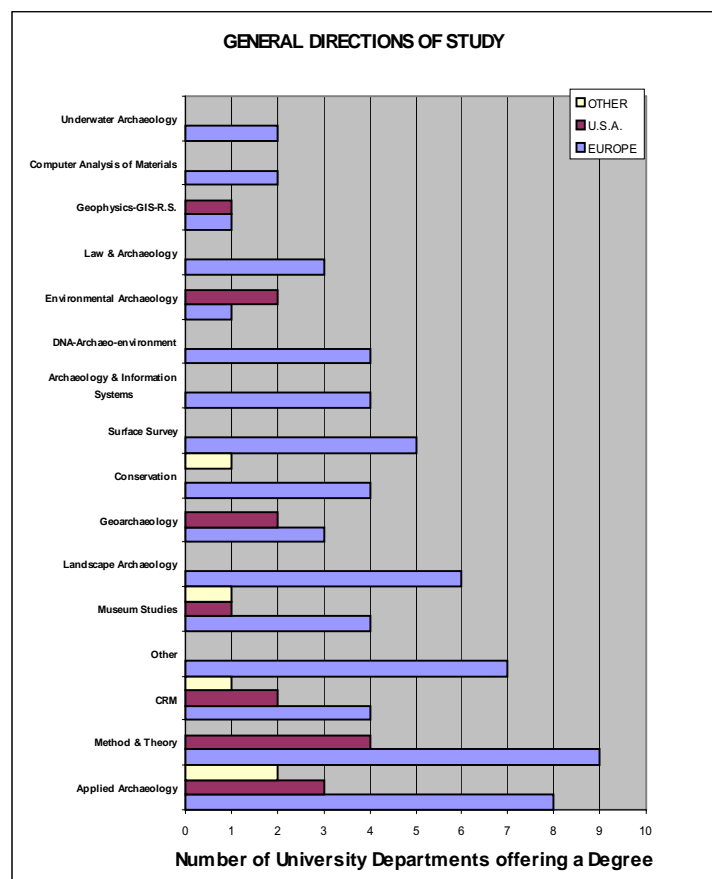
Archaeological Prospection: Web sites with case histories and survey reports

Geophysical techniques have contributed considerably to the practice of field archaeology and to the decision-making



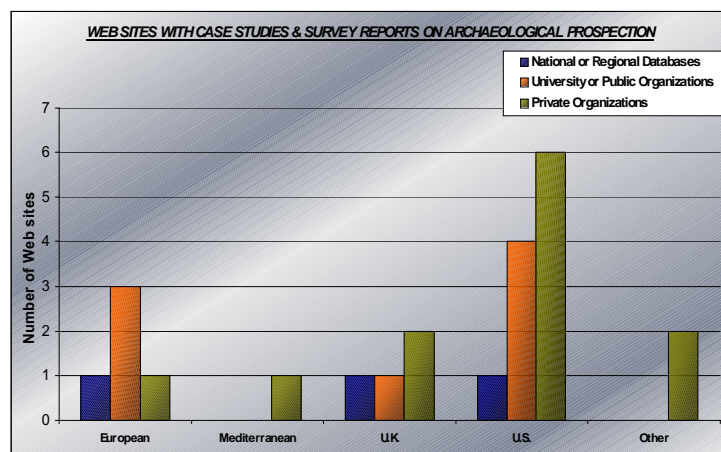
and policy-making process concerning the protection and preservation of cultural resources. Nevertheless, despite the recent developments in instrumentation and processing-visualization techniques, for most parts of the world, geophysical prospection has not reached yet the critical turning point of an open approval from the archaeological community. There are two main reasons for this situation.

Firstly, taking a look at the curriculum of a sample of over 60 Archaeology/Anthropology Departments worldwide (available through the Web), one can notice that although



geophysical prospection courses are offered by almost half of them (compared to a 64% for GIS/RS and 67% for Graphics/CAD courses), there are only two of them which lead to a degree in the specific direction (including prospection, GIS, RS and graphics). This means that a) archaeology students are not well exposed to the specific techniques and b) there are not many archaeologists who get the appropriate training and specialization for conducting archaeological prospection surveys.

Second, there is a lack of sufficient data banks providing case histories and survey reports, which could thus improve communication and dissemination of information among practitioners of archaeological prospection and archaeologists. These databases are important to all, since they can provide information regarding the potential of geophysical techniques in surveying specific sites or monuments, the methodological planning and limitations of each method, the type of signal one can get from specific targets, the exploitation of results, the improvement of processing techniques, etc.



The section below provides a list of the most important accessible Web sites containing information regarding case histories and survey reports related to archaeological prospection. Although these databases provide a number of images and reports, they cannot be considered as the ideal. In most cases, there are no information regarding the processing techniques that have been used, or the verification of results through excavation, and most important, there is no access to the original data. The need of such databases, consisting of raw data, metadata, maps, photographic illustrations, archaeological feedback or ground truthing and other related information is more urgent than ever and hopefully, we shall see more of this in the future.

National Databases or Regional Databases of Archaeogeophysical Results

English Heritage (U.K.)

U.K. National Database. The Geophysical Survey Database (SDE) is one of the United Kingdom national database, which was constructed by the English Heritage together with the Environmental Database (EAB) and the Monument Class

Descriptions (MCDs). The aim of these on-line databases is the electronic gathering and dissemination of data about the historic environment. The Geophysical Survey Database provides a catalogue of the archaeogeophysical surveys undertaken by the Archaeometry Branch of the Ancient Monuments Laboratory since 1972. For many of surveys that have been reported since 1993 there is also a link to a hypertext copy of the report, complete with plots, maps and interpretations. About 75 AML geophysical survey reports that are currently available in HTML format. The logical data structure of the database has taken into account a number of details such as multiple visits/multiple methods of geophysical survey work in a specific site. The Web site contains clickable maps of the whole Great Britain or large geographical sections of it. The maps indicate the distribution of archaeological geophysical surveys recorded, according to the surveying agency (Archaeological Services WYAS, English Heritage Archaeometry Branch, Geophysical Surveys of Bradford, GeoQuest Associates, Oxford Archaeotechnics, Other Surveyor), while a clicking on the map returns a list of surveys located within a 10km square centred on the point specified. Queries can be also based on special criteria specified in the Survey Visit Query Form (such as survey or project name, location and date, organization involved, features/monuments covered, geophysical techniques employed, geology, etc.). <http://www.english-heritage.org.uk/knowledge/archaeology/resources.asp>

Government of Baden-Württemberg (Germany)

A handy database containing a number of prospection surveys (geomagnetics, geoelectrics, electromagnetic Induction and GPR). Sites include Celtic tumuli, Roman villas and forts, monasteries, churches, Middle Ages structures, graves and cemeteries. Examples are listed in the form of images, which are accompanied by a short summary of the survey contacted. <http://www.lb.netic.de/hvdosten/>

NADAG (U.S.)

U.S. National Database. The North American Database of Archaeological Geophysics (NADAG) is a web-based database aiming towards the promotion, education and communication in the practice of archaeological geophysics in North America. The components of NADAG include among others an image library of project results, an archaeogeophysical project database (searchable by type of site, type of survey, state, and other fields of information) and a bibliography database. There are also components devoted to educational materials (methods and theory, data processing, educational tools and links), instruments and manufacturers, practitioners and consultants directory and other links to Web sites. The image library module of the web site offers different graphical means to explore the diversity of geophysical results in North American archaeology: by location (North America map is provided), by archaeological site type or by geophysical survey type (pictorial representations are also provided per category). There are numerous examples provided (all of them from U.S.), accompanied by images together with short

comments. Project name and references are also included. Each database report (in the projects' database) includes information regarding the site, its geographic location, ownership status, historical period, type of site and survey type, instrumentation, sampling interval, date and area of survey, surveyors, references, and even a short summary of the project. Together with the English Heritage geophysical survey database, NADAG can be considered as one of the most comprehensive national database. <http://www.cast.uark.edu/nadag/>

University or Public Organization Databases of Archaeogeophysical Results

University of Arkansas (U.S.)

Department of Anthropology & Center for Advanced Spatial Technologies. The Archaeological Remote Sensing Library of Geophysical Imagery. Various sites have been considered mainly from the U.S. (native settlements, native mounds and camps, cemeteries, historical structures and complexes, trading posts, a.o.), with a couple more examples from Europe. All projects are presented in report style, following the NADAG format. Most of the examples provided are also included in the NADAG database. <http://www.cast.uark.edu/~kkvamme/geop/geop.htm> or <http://www.cast.uark.edu/%7Ekkvamme/geop/geop.htm>

Archeo Prospections, University of Vienna (Austria)

An archive of geophysical surveys in the area of Austria, some of which are accompanied by reports with excavation results. The distribution of sites surveyed is shown in a clickable map. Most applications from Austria (Neolithic circular ditches and fortified settlements, Bronze Age burial sites, Iron Age settlements and oppidums, Roman and Early Medieval settlements, historical sites). A lot of images are provided without many comments. The site includes also information on the methodology of archaeological prospection (some documents in english and most in german). <http://www.univie.ac.at/Projekte/Idea/Prosp/>

AS CR Brno, Institute of Archaeology (Czech Republic)

Department of Archaeological Prospection and Interdisciplinary Cooperation. No examples are given. <http://www.iabrno.cz/3be.htm>

Institute of Archaeology, Czech Academy of Sciences (Czech Republic)

Only three examples from the Czech Republic are shown with short comments. http://www.arup.cas.cz/airarch_e/La_aru_a.htm

University of Bradford (U.K.)

Department of Archaeological Sciences Archaeology Resources, Archaeological Sciences Resources: General Archaeometry, GIS, Dating, Computing, Forensic Anthropology /Forensic Science, Conferences & Past Conferences. Archaeological Prospection Resources, Geophysics: Individual Survey Reports (mainly from UK and U.S.), Collections of

Survey Reports, Research Groups (very limited), Conferences and Courses & Documentation. There are also references on Aerial Photography/Remote Sensing, Geophysics (general), Electronic Publications, Conferences, Organisations & Companies. There are a number of examples of prospection case studies and the Web site can be considered as one of the best Internet resources in the subject of archaeological prospection. <http://www.brad.ac.uk/acad/archsci/>

Larry Conyers, University of Denver (U.S.)

The Web site (<http://www.du.edu/~lconyer/>) provides general information on the usage of GPR and examples from El Salvador, U.S., Guatemala, Peru and Japan are provided, although there are no images for all of them. The corresponding site of his consulting company (Geophysical Investigations and Consulting) does not contain any images of archaeological prospection case studies (<http://www.du.edu/~lconyer/geoinvest/GeoInvest.html>).

Minnesota State University, Mankato (U.S.)

EMuseum. A light overview of the technological applications in archaeology (Remote Sensing, Geophysical Prospection, Mapping, #d scanning, etc.). No examples or images. <http://emuseum.mankato.msus.edu/archaeology/archtechnology/index.shtml>

University of Notre Dame (U.S.)

A few examples are provided, mainly from the course of the Notre Dame Archaeology Field School. <http://www.nd.edu/~mschurr/geophys.html>

Private Organization Databases of Archaeogeophysical Results

Archaeo-physics, LLC (U.S.)

Private company. The site includes surveyed sites from Turkey, Syria & U.S. Images can be downloaded in pdf format. A short summary accompanies each example. <http://www.archaeophysics.com/>

Archaeosurvey (Italy)

Private company. Geomagnetic, geoelectric and GPR surveys from Italian sites. Images accompanied with short comments. <http://www.planetinternet.it/archaeosurvey/Default.htm>

Cultural Resource Analysts, Inc. (U.S.)

Private company. Case studies are given from the areas of Kentucky and Mississippi accompanied by short comments on each survey. There is also a list of geophysical surveys that have been carried out since 1991. <http://www.crai-ky.com/index.htm>

Geometrics (U.S.)

Private company. Geometrics offers a series of geophysical papers that address archaeological and non-archaeological issues. Some are available in PDF format and others are

available in print. Only one case study example (Ft. Lowell, U.S.) of archaeological prospection is provided. <http://www.geometrics.com/index.html>

Geophysical Survey Systems, Inc., GSSI. (U.S.)

Private company. Two Web pages are available: <http://www.geophysical.com/archlaw.htm> is devoted to archaeology and law enforcement (two examples from Native American burials in U.S. and El Salvador). <http://www.archeologymapping.com/index.htm> contains archaeological prospection case studies from historical sites in the U.S. Very few maps are shown.

GSB Prospection (U.K.)

Private company. Although over 1000 projects have been carried out by the company all over the world (Bulgaria, Chile, Croatia, England, France, Greece, Northern Ireland, Norway, Scotland, Slovenia, Spain, USA, Wales and Zimbabwe), only a couple of examples are given (Wroxeter Roman City and King Lobengula's Royal Enclosure in Zimbabwe), but summaries of many of their projects in England can be found in English Heritage's geophysical survey database. <http://ourworld-top.cs.com/gsbprospection/index.htm>

MicroGeophysics Corporation (U.S.)

Private company. Summaries (electronic hand-outs) of the methodological aspects of geophysical prospection. <http://www.microgeo.com/>

Northeast Geophysical Services (NGS) (U.S.)

Private company. A short summary of the wide spectrum of prospection techniques & applications and their constraints is provided, without any reference to archaeological prospection. <http://www.negeophysical.com/>

Oxford Archaeotechnics (U.K.)

Private company. Excellent comparisons between magnetic susceptibility and magnetic surveys carried out in the U.K. <http://ds.dial.pipex.com/town/terrace/ld36/index.htm>

Sensors & Software (Canada)

Private company. It has set up a special Web page on GPR applications in archaeology, which includes 2 examples, one from Denmark and one from Norway, but almost without any images. <http://www.sensoft.on.ca/arche.htm>

Tanaka Geological Corporation (Japan)

Private company. (Geophysics in Archaeology - A Scrapbook of Worldwide Data). The site includes a number of reports with figures (.pdf format) from case studies in Japan, China, South & Central America and Europe. <http://www.geology.co.jp/ronbun/adambook-e.html>

Terra Nova (France)

Private company. Several methods and examples are given, including the use of aerial photos, GIS databases, geophysical methods and pedological studies. There are very few examples

given. Available in French. <http://pro.wanadoo.fr/terra-nova/>

Conference Announcements & Reports

The 9th International Aegean Conference, to be held at Yale University (18-21 April 2002), is focused on the theme of Metron: Measuring the Aegean Bronze Age. The conference is organized by Liege and Yale University, hosted by the Department of Near Eastern Languages and Civilizations. The topics of the conference include Materials Characterization, Environmental and Biological analyses, Authentication and Conservation Issues, Chronometric Dating, Measuring and Measures, Computer-aided research and reconstruction, experimental Archaeology and Replication Projects and other similar subjects. About 70 papers, posters and demonstrations are scheduled to be presented.

Correspondence: METRON, 9th Int. Aegean Conference, Karen Foster and Robert Laffineur, 40 Jones Road, Wallingford, CT 06492 (U.S.A.), tel/fax. 1-203-284-9258, email: R.Laffineur@ulg.ac.be

CAA2001 International conference was held in Visby, Gotland from April 25-29, 2001. The conference was hosted by Gotland University College. About 100 papers were presented in parallel sessions, which included topics related to GIS, Virtual Archaeology, Osteology, Internet Applications and Cultural Heritage Management, Survey Mapping, Archaeometry, GPS and CAD applications, Database applications, Statistical and Quantitative Methods. Workshops included subjects related to GIS applications in the Pitted-Ware Culture site Ajvide on Gotland, the study of two 17th century Swedish warships (Vasa and Kronan), Neural network applications in archaeology, the CIDOC CRM model and digital mapping.

CAA2002 Int. conference will be held in Heraklion, Crete, Greece from 2 to 6 April 2002. Pre-conference workshops will be organized on 2 April. The scientific programme will be organized in plenary and parallel sessions and will include contributed papers and invited lectures, as well as posters and demonstrations. The main theme of the conference is "The Digital Heritage of Archaeology". With computers and electronic communication, information of high quality can be produced at an unprecedented rate, and it can be predicted that shortly the digital form of knowledge keeping will dominate all others, giving rise to a rapidly increasing body of knowledge, which could genuinely be called the "Digital Heritage of Archaeology". This situation poses a series of challenges. First, how to create knowledge in a form we expect to be most useful in the future, even for purposes as yet unspecified. Epistemological questions of interdisciplinary nature between archaeology and computer science thus arise about objectives and methods. Second, questions of management of the wealth of data, its preservation, and its organization to make it available as a resource for research and education. The semantic connection of information about archaeological objects in museums and in archives from archaeological research is also part of this set of questions. Third, how technologies, such as GIS, virtual reality, simulation, etc., can best be used to exploit this knowledge and to advance research, as well as to assess the needs of field study documentation in the future.

CAA2002 provides a good opportunity to draw attention to such an integrated view of the use of computer technology in the service of archaeology. The main topics of the conference are: Epistemology and Interdisciplinary Aspects (Inference and archaeological discourse, archaeological reconstitution and artefact analysis, Cognitive systems and conceptual modeling), Documentation and primary knowledge creation (Conceptual modeling and data standards, Digitization and annotation of archaeological archives, Archaeometry), Management of the digital heritage (GIS, Access to archaeological knowledge in museums and to archives, Data standards for Internet data exchange, Classification systems and Thesauri, Internet applications & Preservation of Digital archaeological data) & Secondary knowledge creation tools (Virtual Reality, GIS, Statistics and quantitative methods, simulation methods). Submission of abstracts: November 1, 2001. Correspondence: CAA2002, Institute of Computer Science, Foundation for Research and Technology - Hellas, PO Box 1385, 711 10 Heraklion, Greece, Email: caa2002@ics.forth.gr, <http://www.caa2002.gr/index.html>

Announcements of Programs

The Institute of Computer Science of the Foundation of Research & Technology has set up a Human Network for Cultural Informatics. The main objective of the network is to promote the collaboration among research teams, laboratories, firms and cultural organisations, which are active in the field of cultural informatics in Greece. The network provides a framework to promote informing, instructioning, and configuration of viewpoints and plans, through the organization of conferences, seminars and the creation and maintenance of a site in the WWW, <http://www.ics.forth.gr/CULTUREnet/>, which keeps a record and can serve as guide to other relevant activities. The activities of the network are open to the public and the deriving informational material is available to institutions or individuals, which are active in the related fields. This way, the formation of a scientific community for cultural informatics in Greece can be facilitated.

In one of its last activities, the network organized a scientific meeting (9-10/3/2001) on the subject of the role of Cultural Informatics in the preservation, management and dissemination of cultural heritage. The 15 presentations of the meeting addressed topics related to cultural databases (such as Polemon, Mitos-Kleio, Maistor, Mnimon), digital mapping and Web based applications (such as the digital archaeological map of Lasithi and the Web site of the Historical Museum of Crete), conceptual modelling and object documentation, a.o.

The project is funded by the General Secretariat for Research & Technology (GSRT). Correspondence: Panos Constantopoulos & Chrysoula Bekiari, Institute of Computer Science FORTH, Vasilika Vouton, P.O.Box 1385, 71110 Heraklion Crete, Tel.: 081-391631, Fax: 081-391638, Email: bekiari@ics.forth.gr

A Joint Research and Technology Programme between Cyprus and Greece, titled "Advanced Information Technologies for the Management and the Diffusion of the Cultural Heritage", was approved by the Greek General Secretary of Research and Technology and the Cypriot Foundation for the Promotion

of Research. The collaborative consortium consists of the Laboratory of Geophysical - Satellite Remote Sensing & Archaeo-environment of the Institute for Mediterranean Studies - Foundation of Research & Technology, Hellas (F.O.R.T.H.), the Greek Archaeometric Society, Thetis Authentics, the Department of History and Archaeology of the University of Cyprus, and the Department of Geological Prospection of the Ministry of Agriculture, Natural Resources and Environment.

The goal of the project is the establishment of a collaborative network between Greek and Cypriot institutes and researchers who are activated in the application of advanced analytical methods and information technologies for the study, management and dissemination of the cultural resources of the two countries. The proposed project aims towards a productive and systematic collaboration of researchers in the areas of GIS, geophysical prospection and satellite remote sensing, reconstruction of ancient environment, the application of chemical analysis and multispectral imaging in historic artifacts or even modern art paintings, digitization techniques, and the construction of electronic-digital archaeological maps for the better management of archaeological monuments and sites and their promotion through a Web-based multimedia environment.



Archaeological Ceramics

Charles C. Kolb, Associate Editor

The column in this issue of the *SAS Bulletin* includes four topics: 1) summaries about new and reissued books related to archaeological ceramics; 2) journal articles, special journal issues, and book chapters; 3) professional meetings held; 4) and forthcoming professional meetings. Two topics, brief notes on other significant books and Internet sites, will be included in a subsequent issue.

New Publications: Books

An out-of-print volume of major significance to ceramic ethnoarchaeology has recently been reissued in larger format with superb color illustrations — *The Traditional Pottery of Papua New Guinea* by Patricia May and Margaret Tuckson (Honolulu, University of Hawai'i Press, xiii + 380 pp., ISBN 0-8248-2344-3, \$50.00 (cloth). The narrative consists of a forward, two prefaces (for the 1982 and 2000 editions), and 11 chapters. The text is supplemented by 521 figures (249 in color), 12 maps, 4 diagrams, 1 table, 2 appendices, and 10-page four-column conflated index of proper nouns and topics. One appendix (pp. 348-349), "Terminology," concerns vessel profiles, shapes, structure, and rim types and is accompanied by four diagrams; a second appendix report clay analysis. The glossary (pp. 351-356) contains 163 entries. The original bibliography through 1982 had 287 entries; the revised edition has an addendum of 13 items for a total of 300 entries. Patricia May holds a BA from Vassar and an MA from the University of Michigan and is a former lecturer in the history of art at Australian National University. Her colleague, Margaret

Tuckson, is a well-known potter and teacher, and an associate of the Australian Museum, Sydney. The authors have described every pottery-producing group they could identify and they conducted first-hand field research on the vast majority of those documented in this lavish volume. The magnificent color images illustrate people making and firing the pots and using the vessels. The information is grouped by provincial areas ($n = 11$), and includes a discussion of forming processes, vessel types, modes of decoration, and firing. May and Tuckson began their survey of potters in 1965 and published the initial edition in 1982. The current compendium emends that edition, clarifies statements, and adds to the bibliography.

The 11 chapters begin with an informative introduction (19 pp., 23 figures [10 in color], 2 maps, 1 table) that is followed by a chapter "Clay and Techniques" (44 pp., 36 figures [23 color]) in which clay mineralogy, tempered clays, temper and heat resistance, clay color, clay preparation, fabrication techniques, decoration, firing, sealing and post-fire painting are detailed. There is also a salient discussion of the correlation of forming techniques and tempering practices. The nine succeeding chapters document regional ceramic production: Central Province (17 pp., 27 figures [10 color]) with three production groups; Milne Bay Province (43 pp., 62 figures [30 color], 1 map) with 14 groups; Northern Province (17 pp., 22 figures [14 color], 1 map) with seven major groups; Morobe Province (25 pp., 37 figures [18 color], 1 map) with five groups; The Highlands (6 pp., 8 figures [4 color]) with two; Madang Province (45 pp., 65 figures [29 color], 2 maps) with five coastal and 17 highland producing groups; East Sepik and West Sepik Provinces (118 pp., 213 figures [96 color], 3 maps) with 35 groups in coastal and highland areas; Province (12 pp., 13 figures [10 color]) with three groups; and Northern Solomons Province and Solomon Islands (13 pp., 14 figures [5 color]), five groups.

Of particular value is the "Technique Table" in which the authors have delineated "pottery making industries" (locations or societies), coastal or inland provenance, political province, and techniques of manufacture (pp. 16-17). This scholarly work is still — after two decades — the best single compendium on the pottery of this region and is a major study of craft production that should be read by anyone conducting ceramic ethnographic or ethnoarchaeological research. It is significant that the book is back in print and the publisher must be commended for producing such a splendid volume. The University of Hawai'i Press (2840 Kolowalu Street, Honolulu, HI 96822; telephone 808/956-8697, uhpbooks@hawaii.edu) has an informative website at <http://www.hawaii.edu/uhpress>

New publications from Archaeopress (British Archaeological Reports) include Tajana Sekelj Ivancan's *Early Medieval Pottery in Northern Croatia: Typological and Chronological Pottery Analysis as Indicators of the Settlement of Territory between the Rivers Drava and Sava from the 10th to the 13th Centuries A.D.* (Oxford: Archaeopress, BAR S-914, 2001, ISBN 1-84171-211-6, £40.00/\$63.00, 335 pp., 54 maps, 49 figures, 15 tables, 95 plates). *Industria y artesano cerámico de época romana en el nordeste de Cataluña* by Joachim Tremoldeu i Trilla (BAR S-835, 2000, ISBN 1-84171-128-4, \$106.00 paper) add to our

knowledge of the Iberian Peninsula. Michael L. Galaty is the author of *Nestor's Wine Cups: Investigating Ceramic Manufacture and Exchange in a Late Bronze Age "Mycenaean" State* (BAR S-766, 1999, ISBN 0-86054-993-3, £38.00/\$60.00, vii + 133 pp., 22 illustrations, 25 figures, 7 tables).

Other notable publications include Andrew J. Shortland's: *Vitreous Materials at Amarna: The Production of Glass and Faience in 18th Dynasty Egypt* (BAR S-827, 2000, ISBN 1-84171-038-5, £30.00/49.00, 184 pages, 114 black-and-white figures and photos, 7 color images). The author considers the technological processes involved in the making of ancient vitreous materials concentrating on the site of Amarna, capital city of the 18th Dynasty monarch, Akhenaten (1352-1336 BCE). The manufacture of vitreous materials in Dynastic Egypt reached its zenith in terms of artistic and technical accomplishment in the 18th Dynasty. The entire process of manufacture is examined, from the selection of raw materials, preliminary processing and eventual firing right through to the distribution of the finished objects. Analysis of the finished objects and the waste materials of the production sequence by SEM and other techniques forms the principal source of evidence, supported by close examination of the archaeological context.

Patrick E. McGovern (with a contribution by Tine Bagh) prepared *The Foreign Relations of the "Hyksos": A Neutron Activation Study of Middle Bronze Age Pottery from the Eastern Mediterranean* (BAR S-888, 2000, ISBN 1-84171-088-1, £40.00, 242 pages, 1 color plate, 17 black-and-white plates, 29 figures, 46 tables). This NAA study of Syro-Palestinian pottery types found at Tell el-Dab'a/Avaris provides on economic and social developments at what has been identified as the capital of the "Hyksos" in the north eastern Nile Delta during the period from the late Middle Kingdom through the Second Intermediate Period. Zdenko Brusic is the author of *Hellenistic and Roman Relief Pottery in Liburnia (North-East Adriatic, Croatia)* (BAR S-817, 1999, ISBN 1-84171-030-X, £33.00/\$52.00, 254 pages, 122 plates of drawings and photographs). Study of the relief pottery from the 4th century BCE to the 5th century CE found on the territory inhabited in Iron Age and Roman periods by the Liburni, on today's north-central coastal area of Croatia. The author analyses a special 'Hellenistic' group of pottery for which there is evidence that it was produced in Liburnia and in Dalmatia in the 2nd and 1st centuries BCE. The use of such pottery in funerary rites by the Iron Age Liburnian population is documented on cemeteries belonging to autochthonous hill-forts. Other pottery examined and illustrated are imports of Arretine, North Italian and Gaulish sigillata, and relief pottery from Cnidian, Corinthian, African and Asia Minor workshops.

J. Theodore Peña's *The Urban Economy during the Early Dominate: Pottery Evidence from the Palatine Hill* (BAR S-784, 1999, ISBN 1-84171-004-0, £34.00/\$55.00, 231 pages, 38 figures, 15 tables.) is an in-depth analysis of a deposit of pottery recovered on the Palatine Hill that is composed of materials used and discarded in the period 290-315 CE. An unusually large number of complete or nearly complete vessels made experiments with analytical techniques possible. The book

includes detailed catalog. C. Jane Evans, Laurence Jones, and Peter Ellis compiled *Birmingham University Field Archaeology Unit Monograph Series 2: Severn Valley Ware Production at Newland Hopfields Excavation of a Romano-British Kiln Site at North End Farm, Great Malvern, Worcestershire in 1992 and 1994* (BAR 313, 2000, ISBN 1-84171-204-3, £25.00/\$41.00, 88 pages, 47 figures, 8 plates). The authors present the results of two campaigns of Romano-British archaeological work at Newland Hopfields and makes a significant contribution to studies at a local, regional, and national level. This is not only the first Severn Valley ware production site to be explored in such detail, but it is also one of the few Romano-British pottery production sites generally for which this level of information has been gathered.

Archaeology and Clays, edited by Isabelle C. Druc (Department of Anthropology, University of Wisconsin at Madison) was published in mid-May 2001 as British Archaeological Report BAR S-942, ISBN 1-84171-175-6, £36.00. Dr. Druc reports that the volume was inspired by a symposium held during the 37th annual Clay Minerals Society meeting in Chicago in June 2000. It focused on the material in its mineralogical aspect, both at the plastic (clay) and non-plastic (temper) phases to resolve archaeological problems. The symposium was meant to bring geologists, clay mineralogists, and archaeologists together. There is a strong emphasis on the importance of interdisciplinary dialogue and the use of a diversified approach to the analysis of clay artifacts, combining mineralogy, archaeology and chemistry. The importance of understanding the local geology and mineral resources is also stressed. The techniques used in the studies presented in this volume range from optical to chemical, with emphasis on petrography, spectroscopy and x-ray diffraction. Many studies use a variety of complementary techniques to correlate the results and strengthen data interpretation. Several chapters address the question of provenance (Shriner and Murray, Bossiere and Frère, Druc, Miksa), changes in resource locations and technology (Shriner and Murray), or technology and organization of production (Friedman, Eygun, Velde and Bouchain, Druc). Ceramic typologies based on style, form or surface appearance are linked to clays and pastes, leading to identification of social groups and populations (Cecil), while firing temperatures are investigated by analyzing the clays and non-plastic inclusions in the paste (Bruni et al.). The interdisciplinary scope of the studies is enhanced by the dual background of many contributors (trained in anthropology and in different aspects of ceramic analysis), or as the result of team efforts, working in close partnership and involving scholars specialized in material sciences, chemistry and geology, and archaeologists, art historians and classical academics. Druc observes that this interdisciplinary trend has been advocated since the mid-1980s, in conjunction with an urge to return to a more global view of production and an understanding of man and society (Matson 1984; Kolb 1988). Although the anthropological and social perspective is not always explicitly expressed here, the level of data interpretation goes beyond the analysis exercise to answer questions raised by archaeologists and better understand the potter and his work. The international panel of contributors in this volume also offers

a broad perspective of clay and ceramic analysis from different geographical areas, in both the Old and New Worlds. *Archaeology and Clays* contains introductory remarks by Druc, nine chapters, and a conclusion by Bruce Velde. There are 70 monochrome illustrations, 17 tables, and four color plates with 31 images (primarily thin sections). Each chapter has its own references. The individual authors employ a variety of analytical techniques petrographic thin sections ($n = 5$) and XRD ($n = 3$), plus EMPA, NAA, FTIR, NIR, EDS, and XRF (one each). The contributions include: "Introduction Archaeology and Clays" (Isabelle C. Druc), "Chapter One: Explaining Sudden Ceramic Change at Early Helladic Lerna: A Technological Paradigm" (Christine M. Shriner and Haydn H. Murray, pp. 1-16); "Chapter Two: Anatolian Metallic Ware: A Third Millennium B.C. Ceramic Phenomenon" (Elizabeth S. Friedman, pp. 17-26); "Chapter Three: Spectroscopic Characterization of Etruscan *depurata* and *impasto* Pottery from the Excavation at Pian di Civita in Tarquinia (Italy): A Comparison with Local Clay" (S. Bruni, F. Cariati, G.G. Bagnasco, J.M. Bonghi, G. Artioli, and U. Russo, pp. 27-38); "Chapter Four: Petrological EDS Chemical Study in Thin Section of Some Etrusco-Corinthian Ceramics: A Contribution to their Archaeological Knowledge" (Gérard Bossière and Dominique Frère, pp. 39-53); "Chapter Five: Clays and Early Neolithic Potters" (Guilmine Eygun, pp. 55-70); "Chapter Six: Grain Distribution by Image Analysis of Thin Sections in Some Gaulo-Roman Common Ware, St. Marcel (Indre) France" (Isabelle Bouchain and Bruce Velde, pp. 71-80); "Chapter Seven: Criteria for Evaluating Multiple Components in Pottery Paste" (Elizabeth J. Miksa, pp. 81-93); "Chapter Eight: Soil Sources for Ceramic Production in the Andes" (Isabelle C. Druc, pp. 95-105); "Chapter Nine: Developing Technological Styles of Petén Postclassic Slipped Pottery" (Leslie Cecil, pp. 107-121); and "Conclusions" (Bruce Velde, p. 123). Druc and Velde are the authors of *Archaeological Ceramic Materials* (Berlin and New York: Springer, 1999) reviewed by Kolb in *SAS Bulletin* 23(1):17-21 (Spring 2000).

Andrew Millard is the editor of *Archaeological Sciences '97: Proceedings of a Conference held at the University of Durham, 2nd-4th September 1997* (Oxford: Archaeopress, British Archaeological Reports, BAR S-939, 2001, ISBN 1-84171-231-0, \$94.00 paper). Among the 43 papers or abstracts of presentations are chapters by I. S. Zhushchikhovskaya, "Prehistoric and Ancient Pottery-making of the Northern Japan Sea Basin: Spatio-temporal Dynamics of Ceramic Pastes," pp. 31-45; M. Regert, S. N. Dudd, P. F. van Bergen, P. Pétrequin, and R. P. Evershed, "Investigations of Solvent Extractable Lipids and Insoluble Polymeric Components: Organic Residues in Neolithic Ceramic Vessels from Chalain (Jura, France)," pp. 78-90; S. M. Barnett, "Thermally and Optically Stimulated Luminescence Dating of Later Prehistoric Pottery," pp. 201-207; and O. E. Craig, R. J. Stacey, and M. J. Collins, "The Ancient Potsherd: A Unique Environment for Protein Survival?," pp. 47-52.

Archaeopress has also recently reprinted several volumes from the British Series: *New Forest Pottery: Manufacture and Distribution, with a Corpus of the Pottery Types* by M.G. Fulford (British Archaeological Reports, British Series, BAR 17, 1975, reprinted in August 2000, 200 pp., 61 figures,

£36.00/\$58.00 paper) and *Oxfordshire Roman Pottery: The Roman Pottery Industry of the Oxford Industry* by Christopher Young (British Archaeological Reports, British Series BAR 43, 1977, reprinted in August 2000, 391 pp., 84 figures, 14 tables, £59.00/\$84.00 paper). A complete list of more than 1,200 Archaeopress BAR publications (searchable by author, title, or ISBN) is available at the publishers website <http://www.archaeopress.com>. Orders can be placed thorough Hadrian Books (122 Banbury Road, Oxford OX2 7BP, England; telephone +44 1865 316916, e-mail bar@archaeopress.com). In the United States volumes can be obtained through the David Brown Book Company (P. O. Box 511, Oakville, CT 06779; telephone 800/791-9354, e-mail david.brown.bk.co@snet.net) which has a web site at <http://www.oxbowbooks.com>.

Chris Caple's *Conservation Skills: Judgement, Method and Decision* (London and New York: Routledge, 2000, 232 pp., ISBN 0-415-18881-4, \$32.95 paper, ISBN 0-415-18880-6, \$100.00 hardback), published in January 2001, provides a comprehensive overview of the major issues facing object conservators. Archaeologists and conservators who work with glass or ceramic objects would find much merit in this significant work. *Conservation Skills* is an especially valuable, clearly written, and well documented overview that considers major cognitive issues that confront conservators of historic and artistic works. Written from a British museum conservators perspective, Caple (Senior Lecturer in Archaeological Conservation and Archaeological Sciences at the University of Durham) provides the reader with an essential treatise describing the nature of object conservation from the basics (adhesives, insect pests, cleaning, stabilization, and preventive measures) to scientific analyses to determine fakes and forgeries (gas chromatography and radiography), but emphasizes ethics and decision making. The book has 14 chapters, 13 case studies, 40 figures, a 368-item bibliography, and 10-page conflated proper noun and topical index. There are chapters on perception and judgment, why the past should be preserved, the history and nature of conservation, ethical codes and stewardship, data recording, cleaning, stabilization, restoration, preventive conservation, risk assessment, and decision making and the conservators' responsibilities. Superb examples range from Paleolithic cave art to cathedral mosaics, shrunken heads to Spitfire aircraft, and the Statue of Liberty to the Portland Vase. Caple's volume is a logical companion to *A Conservation Manual for the Field Archaeologist* (3rd edition, Los Angeles: University of California at Los Angeles, Institute of Archaeology, 1994, ISBN 0917956826) by Catherine Sease (Field Museum of Natural History). Routledge (29 West 35th Street, New York, NY 10001; telephone 800/634-7064) maintains an Internet site at <http://www.routledge.com/>.

Terry Stocker and Cynthia L. Otis Charlton are the co-editors of *The New World Figurine Project, Vol. 2* (Provo, UT: Research Press at Brigham Young University, ISBN 0-934893-10-1, paper \$39.95 + shipping, 2001). The volume is available through Research Press (P.O. Box 7113, University Station, Provo, UT 84602; telephone 1-800/327-6715 or via the FARMS website at <http://farmsresearch.dhs.org/bomindexretail.html>). There are also copies of the first volume available as well (178 pp., hardback only, \$23.00 + shipping,

1991) with 13 contributions. In the new volume, following Charlton's "Introduction" (pp. vii-x), there are 12 chapters: Donald L. Brockington "Anthropomorphic Figurines from the Oaxaca Coast" (pp. 1-24); Cynthia L. Otis Charlton "Hollow Rattle Figurines of the Otumba Area, Mexico" (pp. 25-53); Dan Edwards and Terry Stocker "Covariance of Postclassic Figurine Styles, Settlement Patterns, and Political Boundaries in the Basin of Mexico" (pp. 55-87); Gertrude E. Dole "Karajá Dolls: A Window on the Development and Functions of Figurines" (pp. 89-116); Ralph M. Rowlett "Thermoluminescence (TL) Applications in Archaeology for Figurines and Other Materials" (pp. 117-129); Donald R. Tuohy "The Virgin Anasazi Figurines from Lost City, Nevada" (pp. 131-147); Donald R. Tuohy "The Eastern Great Basin Figurines" (pp. 149-196); Stuart D. Scott "Pottery Figurines from Central Arizona" (reprinted from *Kiva* 26(2), 1960; pp. 197-209); Harry J. Shafer "Clay Figurines from the Lower Pecos Region, Texas" (reprinted from *American Antiquity* 40(2), 1975, pp. 211-223); B.K. Swartz, Jr. "A Survey of Adena-Hopewell (Scioto) Anthropomorphic Portraiture" (pp. 225-252); B.K. Swartz, Jr. "Middle Woodland Figurines from the Mann Site, Southwest Indiana" (pp. 253-270); and Kevin E. Smith "Human Figurines as Messengers Communicating with Past, Present, and Future Cultures" (pp. 271-288).

Ivor Noël Hume's catalog of his collection entitled *If These Pots Could Talk: Collecting 2,000 Years of British Household Potter* (Hanover, NH: University Press of New England for the Chipstone Foundation, 472 pp., 648 illustrations [560 in color] ISBN 158465161X, 2001, \$65.00 plus \$5.00 for postage if ordered before 1 January 2002, \$75.00 thereafter). Archaeologist and social historian Ivor Noël Hume brings British history to life through his accessible story about the everyday ceramic objects he and his late wife, Audrey, collected over a 40-year period. In this volume he presents "a panoramic view of pottery in Britain and her colonies from the landing of the Romans to the bad intentions of the Germans in 1939." Beginning as a novice at London's Guildhall Museum in the immediate post World War II years, Noël Hume shares his passion for reconstructing lives from bits and pieces of crockery. He describes in vivid detail the common household pottery he unearthed with a bright graduate of Bristol University and the four decades of collecting (and marriage) that followed. Concentrating on earthenwares, stonewares, and porcelains commonly found in archaeological excavations but uncommonly encountered in decorative arts exhibits, his book runs the gamut from burial urns and chamber pots to wine cups and witch bottles.

The volume contains both a cultural and political history, and is written in a personal and often humorous style; this gorgeous and hefty volume will appeal to nonspecialists and experts alike. Splendid color photographs, largely by acclaimed professional photographer Gavin Ashworth, enhance the historical and personal commentary. Part catalog, part memoir, *If These Pots Could Talk* is a beautiful tribute to the richness of collecting and the rewards of a true partnership. Ivor Noël Hume was born in London and studied at Framingham College and St. Lawrence College in England. In 1949 he joined the staff of London's Guildhall Museum as an archaeologist and

moved to Colonial Williamsburg as chief archaeologist in 1957, subsequently becoming director of their Department of Archaeology. He is an honorary research associate of Smithsonian Institution, fellow of the Society of Antiquaries of London, and past vice-president of the British Society of Post-Medieval Archaeology. Author of fourteen other books, including *Here Lies Virginia* and *Martin's Hundred*, and dozens of articles, he was named an Officer of the British Empire in 1992 for contributions to British cultural interests in Virginia. The volume is further detailed by the University Press of New England (23 South Main Street, Hanover, NH 03755-2055; telephone 800/421-1561) on their university press website at <http://www.dartmouth.edu/acad-inst/upne/1-58465-161-X.html>

An important book on ceramic figurines from the Classic period in Central Mexico authored by Sue Scott has just been published. The volume, *The Corpus of Terracotta Figurines from the Excavations of Sigvald Linne at Teotihuacan, Mexico (1932 & 1935) and Comparative Material* (Stockholm: National Museum of Ethnography, Stockholm, Sweden, Monograph Series 18, ISBN 91-85344-40-0, 114 pp. + 175 plates, 2001, price not given), contains over 1200 photo illustrations in 175 plates, 53 figures, 34 line drawings, and 5 maps. A brief review of the monograph will be included in a subsequent column.

Journal Articles, Special Journal Issues, and Book Chapters

Readers familiar with Prudence Rice's *Pottery Analysis: A Sourcebook* (Chicago: University of Chicago Press, 1987) recognize that she has also authored three recent articles that brought some materials that compendium up-to-date: "Recent Ceramic Analysis, 1: Function, Style, and Origins" and "Recent Ceramic Analysis, 2: Composition, Production, and Theory" in *Journal of Archaeological Research* 4:133-163, 165-202 (1996). Rice's more recent contribution is "On the Origins of Pottery," *Journal of Archaeological Method and Theory* 6:1-54 (1999).

Several other journal articles have carried these updates forward and provided significant emendations. Oxford University's M.S. (Mike) Tite prepared "Pottery Production, Distribution, and Consumption — The Contribution of the Physical Sciences," which also appeared in *Journal of Archaeological Method and Theory* 6:181-233 (1999). More recently ceramic ethnoarchaeology has been accorded similar treatments, notably Philip J. Arnold III's "Working Without a Net: Recent Trends in Ceramic Ethnoarchaeology," *Journal of Archaeological Research* 8:105-133 (2000), which updates Carol Kramer's pioneering evaluation (1985).

Joining these are two entire issues of *Journal of Archaeological Method and Theory* 7:127-403 (September 2000 with six articles and December 2000 with four). These 10 articles are revised from papers presented in 1998 at the Society for American Archaeology Annual Meeting held in Seattle, WA. The journal's two special issues present "Recent Advances in Ceramic Ethnoarchaeology" (Parts I and II), with Brenda J. Bowser serving as the Guest Editor. From the September number, the authors and their articles are: Michele Hegmon, "Advances in Ceramic Ethnoarchaeology," pp.129-

137; Margaret A. Hardin and Barbara J. Mills, "The Social and Historical Context of Short-Term Stylistic Replacement: A Zuni Case Study", pp. 139-163; Olga Kalentzidou, "Discontinuing Traditions: Using Historically Informed Ethnoarchaeology in the Study of Evros Ceramics," pp. 165-186; Olivier P. Gosselain, "Materializing Identities: An African Perspective," pp. 187-217; Brenda J. Bowser, "From Pottery to Politics: An Ethnoarchaeological Study of Political Factionalism, Ethnicity, and Domestic Pottery Style in the Ecuadorean Amazon," pp. 219-248; and Mark A. Neupert, "Clays of Contention: An Ethnoarchaeological Study of Factionalism and Clay Consumption," pp. 249-272. The December 2000 issue of *Journal of Archaeological Method and Theory* includes four contributions: William A. Longacre, Jingfeng Xia, and Tao Yang, "I Want to Buy a Black Pot," pp. 273-293; Miriam T. Stark, Ronald L. Bishop, Elizabeth Miksa, "Ceramic Technology and Social Boundaries: Cultural Practices in Kalinga Clay Selection and Use," pp. 295-331; Dean E. Arnold, "Does the Standardization of Ceramic Pastes Really Mean Specialization?," pp. 333-375; and Cathy Lynne Costin, "The Use of Ethnoarchaeology for the Archaeological Study of Ceramic Production," pp. 377-403. Forthcoming in these "Journal Wars" will be "Recent Advances in the Study of Archaeological Ceramics," *Journal of Archaeological Research* by Charles C. Kolb.

Eric S. Johnson has written a notable book chapter, "The Politics of Pottery: Material Culture and Political Process among Algonquians of Seventeenth-Century Southern New England" (pp. 118-145), which appears in *Interpretations of Native North American Life: Material Contributions to Ethnohistory*, edited by Michael S. Nassaney and Eric S. Johnson (Gainesville: University Press of Florida, 2000, ISBN 0-8130-1783-1, cloth, \$55.00). In this chapter, Johnson assesses ceramic variation in light of native sociopolitical factors and concludes that in the Late Woodland and Contact periods, the native peoples of southern New England began to decorate their pottery vessels more intensively. He notes an increase in the diversity of decoration and comments on the distributions of different decorative elements. Johnson states that the decoration of functional cookware also carried social information such as women's status and gender politics, competition versus cooperation, and residential or descent group affiliation (lineages, communities, or confederations). He also asserts that Shantok ware is associated with the Mohegan peoples and their allies. The University Press of Florida (15 N.W. 15th Street, Gainesville, FL 32611-2079; telephone 888/226-3822) also has a website at <http://www.upf.com>

The Guest Editor of the January 2001 issue of the *MRS Bulletin*, Vol. 26, No. 1, is Pam Vandiver, our ceramic colleague from the Smithsonian Center for Materials Research and Education (SCMRE). This topical issue of the Materials Research Society *Bulletin* focuses on "Preserving Art Through the Ages" and includes seven articles, two on ceramics and one on glass: "Peruvian Black Pottery Production and Metalworking: A Middle Sicán Craft Workshop at Huaca Sialupe" by Izumi Shimada and Ursel Wagner, pp. 25-30; "Technical Studies and Replication of Guan Ware, and Ancient Chinese Ceramic" by Li Jiazhi, Deng Zequn, and Xu Jiming,

pp. 31-37; and "Evidence for the Metallurgical Origins of Glass at Two Ancient Egyptian Glass Factories" by Jennifer L. Mass, Mark T. Wypyski, and Richard E. Stone, pp. 38-43.

The *Journal of Palestine Studies* (JPA), a new journal with two issues per annum and published by the Palestine Institute of Archaeology of Birzeit University (West Bank, via Israel) issued its initial number (Volume 1, No. 1) in January 2000 under the editorship of Dr. Khaled Nashef. Although the journal publishes in the main in Arabic, articles are welcome in other languages (preferably English, but French and German contributions are also acceptable). The inaugural number contains an article by Omar Abd Rabu entitled "Khirbet Bizeit 1996: The Pottery" (in Arabic and English) and a contribution, "Oil Lamps from Tell Taannek," by Nail Jelal. The second issue (1[2], July 2000) has Omar Abd Rabu's "Khirbet Bizeit 1999: The Pottery" (in Arabic and English) and "Animal Figurines" by Nail Jelal and Mohammad Al-Zawahra (in Arabic). Additional information may be found on the university's Internet site at <http://www.birzeit.edu/ourvoice/society/feb2k/jpa.html>

David Graham (Surrey Archaeological Society) has published an article on a unique Victorian pottery near Farnham, Surrey, UK that was founded by Absalom Harris in 1972 and is regarded as the best preserved example of a country pottery anywhere in England. "Old Absalom's Wheels Keep on Turning" appears in *British Archaeology* No. 41 (February 1999), published by the Council for British Archaeology, and is online at <http://www.britarch.ac.uk/ba/ba41/ba41regs.html> Further information on the manufactory is at the website <http://www.surreyweb.org.uk/farntrust>

The entire issue of *Conservation: The Getty Conservation Institute Newsletter* 16(1), 2001, is devoted to the conservation of earthen architecture. There are four main articles: "The Conservation of Earthen Architecture" by Alejandro Alva Balderrama (pp. 4-11); "Conservation and Continuity of a Tradition: A Discussion about Earthen Architecture" featuring Tony Crosby, Hugo Houben, John Hurd, and Nevill Agnew (pp. 12-18); "Project Terra" by Erica Avrami (pp. 19-21); and "Joya de Céren: Conservation and Management Planning for an Earthen Archaeological Site" by Carolina Castellanos, Francois Descamps, and Maria Aráuz (pp. 22-24). The newsletter, issued three times a year, is distributed free to professionals in conservation and related fields. Back issues are available on-line at <http://www.getty.edu/conservation/resources/newspetter.html> Additional information is also available on the Getty web site <http://www.getty.edu>

The June 2001 issue of *Early American Life* has an article by Trish Samford entitled "Dating English Printed Earthenwares" which is a less technical but better illustrated takeoff on her 1997 article "Response to a Market: Dating English Underglaze Transfer Printed Wares" from *Historical Archaeology*. Many of the illustrations in the *Historical Archaeology* article are not clear due to poor work by the printer who converted the photographs to digital images. The *Early American Life* article has high quality color prints, and is available for about \$3.00.

The most recent issue of *Medieval Ceramics* (Vol. 22-23, 1998-1999, 212 pp.), the publication of the Medieval Pottery

Research Group (MPRG), contains a combination of articles about pottery, brick, and tile produced and distributed during the period from the end of the Roman era to the 16th century. Of particular note are Terence Paul Smith's contribution "London's Earliest Medieval Roofing Tiles: A Comparative Study," pp. 66-71; Nicholas Riall's "Some Early Clay Roof Tiles from Bishop Waltham's Palace, Hampshire," pp. 159-161; and R.W. Newell's "Reduction and Oxidation in English Medieval Kiln Practice," pp. 124-134. The MPRG has tables of contents (Vol. 1 ff. listed on their website at <http://www.medievalpottery.org.uk/>

Helen L. Loney (Department of Archaeology, University of Glasgow) is the author of "Society and Technological Control: A Critical Review of Technological Change in Ceramic Studies," *American Antiquity* 65(4):646-668 (2000). In this article she examines the use of evolution as an analog or as a theory of ceramic change, contending that this perception thereby imposes an artificial view of technology and the tendency for investigators to equate technological change with technological improvement in a unidirectional manner. Loney (a University of Pennsylvania Ph.D.) uses European perspectives promulgated by Sander van der Leeuw and P. Petreguin, among others, to assess studies authored by American scholars including Dean Arnold, Hector Neff, and Charles Kolb.

Joseph B. Lambert, Charles D. McLaughlin, Catherine E. Shawl, and Liang Xue (all Northwestern University) co-authored the article "X-ray Photoelectron Spectroscopy and Archaeology," which appeared in "Analytical Approach" in *Analytical Chemistry News and Features*, September 1, 1999, pp. 614A-620A. They emphasize how XPS offers unique advantages for assessing a wide range of artifacts including pottery, pigments, glazes, glass, and metals. This article is posted on the American Chemical Society's website <http://pubs.acs.org.hotartcl/ac/99/sept/approach.html>

The Alan Vince Archaeological Consultancy (AVAC) website includes a forthcoming publication entitled "Petrology and ICPS Analysis of Medieval Floor Tiles from Cleeve Abbey, Somerset," which will be found in J.A. Harcourt's "The Medieval Floor Tiles of Cleeve Abbey" in *Journal of the British Archaeological Association* (2000). Alan has posted the report at <http://www.postex.demon.ac.uk/reports/cleeve/menu.htm> Six fabric groups are identified. Vince has updated his AVAC entries on access, chemical analysis (XRF, ICP-AES, ICP-MS), and ceramic petrology: <http://www.postex.demon.co.uk/assess.htm> , <http://www.postex.demon.co.uk/icps.htm> , and <http://www.postex.demon.co.uk/petrology.htm>

Dominic Perring and Alan Vince co-authored "Liberating Archaeological Data," 12 March 1999, posted at <http://www.postex.demon.ac.uk/dar/lad/pdmar99nocosts.htm>

"Pyroclastic Temper in Apulian Bronze Age Pottery: The Long Distance Impact of a Vesuvian Eruption" by Sara T. Levi, Raffaello Cioni, Fabio Fratini, and Elena Pecchioni, initially published in the *Proceedings of the XIII International Congress of Prehistoric and Protohistoric Sciences, Forlì, Italy, 8-14 September 1996* (1:185-190, 1998) has been posted on *Mediterranean Prehistory Online* at [http://](http://www.med.abaco-mac.it/articles.doc/005.htm)

www.med.abaco-mac.it/articles.doc/005.htm There are two tables and four figures in this petrographic and mineralogical analysis which employs XRF assessments.

Judit Molera (University of Barcelona, Science for Cultural Heritage) is the author of "Mineralogical Evolution and Interaction of the Ca-Rich Pastes with Pb Glazes: Archaeometric Implications: Manufacture Techniques of Islamic and Mudejar Ceramics" in which she evaluates glazes and frits. This article and five BSE images are posted on the Internet at <http://www.ub.es/rpat/juditang.htm>

"Los analisis de la ceramica arqueologica: analisis petrografico" by Heajoo Chung (Universidad Nacional Autonoma de Mexico, Laboratorio de Prospeccion) appeared in *Actualidades Arqueologicas: Una revista de estudiantes de Arqueologia de Mexico* Numeros 15-16 (noviembre 1997-febrero 1998). The petrographic study of Late Classic to Early Postclassic "Pizarra" ceramics from northern Yucatan is documented. The article is accessible at <http://morgan.iaa.unam.mx/usr/Actualidades/15/texto15/heajoo.html>

Recent issues of *SAA Archaeological Record* — which has replaced the *SAA Bulletin* — have relevant articles on ceramics. The premier issue, 1(1):22-26 ((January 2001) has a very useful article by Douglas J. Kennett, Hector Neff, Michael D. Glascock, and Andrew Z. Mason entitled "Interface — Archaeology and Technology: A Geochemical Revolution: Inductively Coupled Plasma Mass Spectrometry." The authors characterize research being done at California State University at Long Beach and at the Research Reactor Center at the University of Missouri at Columbia on ceramics, chert, and obsidian. UV Laser Ablation coupled with ICP-MS can be used to determine trace elements in a variety of archaeological materials and can be employed for bulk analysis, micro-feature analysis, surface mapping, and depth profiling of materials. Work on obsidian by R.H. Tykot is also noted. In *SAAAR* 1(3):23-29 (May 2001) there is an article entitled "Interface: Archaeology and Technology: Digital Archaeology 2001: GIS-Based Excavation Recording in Jordan" authored by Thomas E. Levy, James D. Anderson, Mark Waggoner, Neil Smith, Aldolfo Muniz, and Russell B. Adams. They consider the settlement system, ore extraction, and metallurgy at Jabal Hamrat Fidan in southern Jordan, a site which dates from Pre-Pottery Neolithic Period B (PPNB, ca. 9th millennium BP) to the Iron Age (ca.1200-586 BCE). The discussion includes a brief description of more than 1,000 clay casting molds dating to the Early Bronze Age (ca. 2600-2300 BCE) and is accompanied by a color illustration of 12 molds (Fig. 4, p. 26).

The Chipstone Foundation has announced the publication of a new journal, *Ceramics in America*, edited by Robert Hunter an archaeologist and ceramics specialist who was the founding director of the Center for Archaeological Research at the College of William and Mary and on the curatorial staff at the Colonial Williamsburg Foundation. The first issue of this full-color annual journal was published in July 2001 and will be of interest to collectors, historical archaeologists, social historians, students of the decorative arts, and studio potters. Each 300-350 page issue contains 8-12 illustrated articles and book reviews section edited by Amy C. Earls. There are ten articles in the first issue, with Ivor Noël Hume, Beverly Staube, Ann Smart

Martin, Ellen Paul Denker, Michelle Erikson, Jonathan Rickard, George L. Miller, Diana Stradling, and Troy Chappell among the authors. Priced at \$55.00 plus shipping charges, the journal is published by University Press of New England (23 South Main Street, Hanover, NH 03755-2055; telephone 800/421-1561). Additional information is on the UPNE Internet site at <http://www.upne.com> with a Table of Contents for the initial volume at <http://www.upne.com/1-58465-133-4.html>

The May-June 2001 issue of *Saudi Aramco World* 52(3):18-31 contains an article by Louis Werner, accompanied by 25 color photos, entitled "Zillij in Fez" in which the ancient Moroccan ceramic art of cut glazed tiles called *zillij* tilework, dating to the 11th century, is explained. Artisans lay out the geometric design in these shaped tiles (tessera in English, *furmah* in Moroccan) on a dry floor upside-down, with each piece in precise contact with its neighbors, creating intricate designs in kaleidoscopic patterns with brilliant colors, such as medallions or multi-pointed stars (8, 12, 24, 28, or 96 points). The final pattern, which may have 5,000 pieces in a square meter, is visible only in the mind of the master *zlayji* until installed. This Moroccan art form had counterparts in Muslim Spain, North Africa, and Western Asia, and the Benslimane family has been creating them for five generations.

The abstracts of the poster presentations at the 102nd annual meeting of the Archaeological Institute of America have been published in *American Journal of Archaeology* 105(3):522, 524 (July, 2001). Three posters concerned ceramics: "Inscriptions on Attic Archaic Pottery: Analytical Techniques" by Martin F. Kilmer (University of Ottawa) and Pierre Desroches (Université d'Ottawa) which employs digital imaging, and "Using Scanning Electron Microscopy to Look at Schist as a Temper, an Experimental Exercise" by Mary F. Owenby (University of Arizona), Charlotte L. Owenby (Oklahoma State University), and Elizabeth J. Miksa (Center for Desert Archaeology, Tucson) in which SEM is used to detect crushed mica versus naturally micaceous sand. The third contribution was "Mycenaean Pottery from Panakton, Greece" by Patrick M. Thomas (University of Evansville).

The October 2001 issue of *Clays and Clay Minerals* 49(5), number 5) is devoted to a series of articles on the Clay Minerals Society Source Clays. This issue is available at a cost of US \$40 (including mailing costs) by contacting the CMS Office, P.O. Box 460130, Aurora, CO 80046-0130, FAX 303/680-9003 or e-mail: cms@clays.org

Professional Meetings Held

Society for American Archaeology: The Society for American Archaeology annual meeting held in New Orleans, 18-22 April 2001, was the largest SAA meeting ever held in terms of registrants and numbers of presentations. The society had 6,645 members and this meeting had 3,912 registrants (surpassing the previous record of 3,200 in Seattle three years ago and 2,938 in Philadelphia last year) and nearly 2,300 papers and posters were presented, of which 171 were on ceramic topics.

The 2001 SAA Awards initiated the "Excellence in Archaeological Analysis" award which will alternate with awards for ceramics and for lithics. The award was presented

to George L. Cowgill (Arizona State University) in recognition of his four decades of "pioneering and enduring contributions to fundamental problems in archaeology, including the logic and methods of archaeological inference using quantitative and formal approaches to data, central questions regarding the role of the ideational realm in archaeological theory, and the understanding of population dynamics." Associated for many years with the Teotihuacan Mapping Project (TMP) in the Basin of Mexico, George has employed artifact distribution data and ceramic and figurines analyses in his research on the ancient urban center at Teotihuacan, the primate city of the pan-Mesoamerican polity. His current research is on ideational aspects of ancient societies and on developing a "middle range theory of mind and social agency." The author of this Archaeological Ceramic column had the opportunity to help guide George on his first tour of Teotihuacan in 1963.

This SAA meeting had a total of 244 sessions or workshops of which six sessions had at least some orientation to ceramic studies. These included a "General Session: New Methods in Ceramic Analysis" (chaired by Louise Senior with contributed 4 papers); a "Symposium: Early Pottery in the Lower Southeast: Stylistic and Technological Approaches to Function and Interaction" (9 papers in the session organized and chaired by Rebecca Saunders and Christopher Hays, and moderated and discussed by James Stoltzman); and a "Symposium:" Mesoamerican Figurines III: Beyond the Boundaries" (a session with 7 papers organized by Charles C. Kolb and Cynthia Otis Charlton, chaired by the former, with interactive discussions led by the organizers). In addition there was a "General Session: Southwest Ceramics: Style, Production, and Social Dynamics" (chaired by Elizabeth Miksa, with 7 papers); a "Symposium: "The 'Sot-weed' Factor: Recent Developments in the Archaeology of Smoking and Tobacco Pipes" (organized and chaired by Sean Rafferty and Rob Mann, with 13 papers, and Alexander Von Gernet as discussant); and a "Symposium "Resolution and Refinement: Leading Wedge Research in Archaeological Chemistry" (organized and chaired by David Meiggs and Kelly Knudson, with 10 papers of which 3 were on ceramics, with Rob Tykot and Doug Price as discussants). Unfortunately, the third and fourth and the fifth and sixth sessions listed above were scheduled in the same time periods so it was impossible to attend all of the ceramic sessions.

An analysis of the abstracts indicates that a majority of the 171 ceramic-oriented papers or posters concerned Mesoamerica (one paper contained analyses from both the North American Southeast and Southwest): Mesoamerica (66); American Southwest (23.5); Western South America (22); Northeastern North America (14); North American Midwest (11); Southeastern North America (7.5); Southwestern Asia (6); Europe (4). In addition there were three each from the American Intermediate, Circum-Mediterranean, SubSaran Africa, and Oceania; two each from the Asian Subcontinent and Method and Theory (area unstated), and one from Southeast Asia.

Although the 171 ceramic-oriented presentations set a new record, there has been a "steady state" in terms of percentages over the past five years: Seattle, 1998, 3,200 registrants, 1,800 total papers with 125 on ceramics (6.9% of the total); Chicago,

1999, 3,040 registrants, 1,800 total papers with 145 on ceramics (8.1%); Philadelphia, 2000, 2,938 registrants, 1,900+ papers with 141 on ceramics (7.4%); and New Orleans, 3,912 registrants, 2,300+ papers with 171 on ceramics (7.4%). Nonetheless, the data shows a significant increase over the past decade; the SAA 1992 meeting in Pittsburgh had 48 papers on ceramics and the “low” was 39 given in Anaheim in 1994.

Major diachronic changes may be seen in culture area distributions:

Totals by Area/Year	1998	1999	2000	2001
Total SAA Papers	1800	1800	1900+	2300+
Total Ceramic Papers	125	145	141	171

By Area:

Mesoamerica	32	67	60	66
N Am Southwest	37	26	28	23.5
S Am West/Andes	10	13	17	22
N Am Northeast	2	4	8	14
N Am Plains	4	7	4	11
N Am Southeast	6	4	5	7.5
Asia Southwest	7	3	4	6
Asia (other)	6	3	4	6
Europe	4	2	3	4
Africa Subsaharan	4	4	2	3
Method/theory (no specific area)	8	6	4	2

New York State Archaeological Association: The 85th annual conference of the New York State Archaeological Association was held 27-29 April 2001, hosted by the Orange County Chapter. Among the 26 papers presented, three related to ceramic materials: “Technological Comparison of Mohawk and Hudson Valley Terminal Late Woodland Ceramics” by John P. Pretola (Springfield Science Museum), “Oneida Ceramic Effigies: A Question of Meaning” by Anthony Wonderly (Oneida Nation), and “Busman’s Holiday, or Where the Brick Maker Lived” by Kevin Moody (Hartgen Associates). Pretola used ceramic petrography (optical mineralogy and macroscopic examination of 42 vessels) to assess Iroquois and Algonquin ceramic traits in eastern New York. Some abstracts are posted at <http://www.siftings.com/nysaaprog.htm>

The XXIII International Symposium on the Results of Excavations, Research and Archaeometry (XXIII. Uluslararası Kazi, Arastırma ve Arkeometri Sempozyumu) was held in Ankara, Republic of Turkey, 28 May to 1 June 2001. Of the 226 papers, the majority was given in English, with a few others in Turkish or French. Seven papers on ceramics were presented on the last day of the conference: “Evaluation of Some Artefacts from Altintepe (Van) by Using Radiography Techniques” (A.B. Tugrul- and S. Basaran); “TL Dating of Ceramics from Tekfur Palace Excavation” (Zehra Yegingil); “Characterization Study of Ceramics Recovered from Tekfur Palace” (A. Emel Geckinli); “Chemical Analysis of Iznik Tiles Using Atomic Spectrometry” (O.Y. Araman and S.Z. Can); “Archaeometric Analysis of Medieval Tiles” (O. Bakirer, S. Ozcilingir Akgun, E.N. Caner Saltik, and S. Demirci); “Archaeometric Analyses of Medieval Glazed Pottery” (A.

Demirci, E.N. Caner Saltik, A. Turkenoglu, O. Bakirer, A.M. Ozer); and “Karaz Pottery from Tepecik” (U. Yalcin and G. Yalcin). The nine-page program was posted on the Ministry of Culture website at <http://www.kultur.gov.tr/english/haberler/kazi-sempozyum.html> and is also posted on <http://groups.yahoo.com/group/anatolian-arch/files/symp2001.rtf>

The 2001 Pecos Conference cosponsored by The Museum of Northern Arizona, Coconino National Forest, Flagstaff Area National Parks, and Northern Arizona University was held 9-12 August at Coconino National Forest north of Flagstaff, AZ. Among the 71 papers and posters were four oral presentations of ceramic interest: “A Ceramic Occupation along Chupadera Arroyo, NM: Neo-Archaic or Bioturbaic?” by Richard C. Chapman (OCA); “Redware” by Irene Lopez-Wessell, with Bill Lucas (Institute for Archaeological Ceramic Research, Blanding); “Provenance and Technology of Alameda Brown Ware and San Francisco Mountain Gray Ware Ceramics,” coauthored by James Heidke, Elizabeth Miksa, Dani Montague-Judd, and Susan Roberts (Desert Archaeology, Inc.); and “Sherd-tempered Pottery of the Middle Verde Valley, AZ” by Andrew Christenson (no affiliation listed). Additional information is available on the website at <http://www.swanet.org/zarchives/pecos/2001/pc2001.html>

The 222nd annual meeting of the American Chemical Society held in Chicago from 26-30 August 2001 included sessions on Archaeological Chemistry organized by Kathryn A. Jakes (Consumer and Textiles Sciences, Ohio State University) and sponsored by the Division of the History of Chemistry. A total of 49 papers were scheduled in the history symposium, of which 16 concerned archaeological materials — four of these emphasized ceramics: E. Christian Wells (Arizona State University) “Chemical, Technological, and Social Aspects of Ceramic Manufacture in the La Quemada Region of Northwestern Mexico”; Christina Reith (New York State Museum) “Trace Element Analysis and Its Role in Analyzing Ceramics in the Eastern Woodlands”; Susan Reslewic (University of Wisconsin at Madison) “Completely Nondestructive Technique for Measuring Lead Isotope Ratios in Glazed Pottery and Implications for Understanding Majolica Production in New Spain”; and Charles C. Kolb (NEH) “Physicochemical Studies of Archaeological Ceramic Assemblages from Northern Afghanistan” [not read but will appear in the published volume]. Additional information is available on the ACS website; abstracts may be accessed by ACS members: <http://www.acs.org/portal/Chemistry?PID=acdisplay.html&DOC=meetings/chicago2001/index.htm>

Archaeological Science 2001, New Directions in Archaeological Science, was held at the University of Newcastle upon Tyne, UK, 29 August-1 September 2001. Among the symposia was “The Life Cycle of the Artefact,” organized by Mike Tite (Oxford) who also presented the keynote paper “Life Cycle Overview.” Three of the six papers concerned ceramics: “Getting Back to Nature? The Rare Earth Elements in Inorganic Materials” by Stern and Pollard; “Archaeometric Investigation of Neolithic Earthenware Surfaces from Billown, Isle of Man” by Andrews; and “Pots from Mars and Metals from Nowhere: The Analysis of Contrasting Material Biographies in the Early Bronze Age

Aegean" by Day and Doonan. There were six posters related to ceramics: "Amphoras as Roman Food-package: Archaeological and Archaeometrical Aspects" (Ehmig); "Rapid XRD Analysis of a Large Set of Archaeological Ceramics: Pilot Study" (Broekmans et al.); "An Interdisciplinary Approach for the Study of Archaeological Pottery from Oaxaca, Mexico" (Litvak et al.); "The Significance of the Grooved Ware Pottery Tradition in Neolithic Britain in Relation to Human Diet, Animal Husbandry and Ritual Practices" (Mukherjee et al.); "Absorbed Lipid Residues in Pottery from Qasr Ibrim as Indicators of Changing Vessel Use and Economy" (Copley et al.); and "Archaeometric Studies: Artisanal Production Organization and the Concept of Interdisciplinarity at Roman Sagalassos" (Degryse and Poblome). Additional information is available on the conference website <http://www.ncl.ac.uk/geography/conference/prog.html>

The *Second International Congress on Black Sea Antiquities: Local Populations of the Black Sea Littoral and their Relations with the Greek, Roman and Byzantine Worlds and Near Eastern Civilisations (8th Century BC - ca. AD 1000)* was held in Ankara, Turkey, 2-9 September 2001. Among the 75 papers and 80 posters, nine papers and six posters concerned ceramics. These papers included: Nadine Ludwig (Martin-Luther Universität, Halle-Wittenberg) "Chovle-Gora und Kvemo Kedi — Betrachtung zu möglichen Fremdeinflüssen in der ostgeorgischen Keramik des 6. Jhs.v.Chr."; Alexandra Villing (unaffiliated) "Miletos and Its Colonies: Coarse Ware Pottery as an Indicator of Cultural Contacts between Miletos, its Colonies, and Local Populations on the Black Sea Coast"; Pierre Dupont (Maison de l'Orient méditerranée, Lyon) "Les ateliers primordiaux de coupes ioniennes à la lumière des trouvailles de Mer Noire"; Dominique Kassab Tezgor (Bilkent University, Ankara) "Le réseau commercial des amphores sinopeennes aux premiers siècles de notre ère"; Owen Doonan (University of Pennsylvania) "The Sinop Province Regional Archaeological Project"; Ditmitar Nedev (Sozopol Archaeological Museum) and Martin Giuzelev (Institute and Museum of Archaeology, Sofia) "Archaic Painted Pottery from Apollonia Pontica: The Latest Finds on the Old Town of Sozopol"; Catherine Morgan (King's College, London) "Studying Attic Pottery in the Black Sea and Beyond: Piecing together the Evidence"; Tyler Jo Smith (University of Oklahoma) "Athenian Black-Figure Pottery in the Hermitage Berezan Collection — Preliminary Findings"; Lise Hannestad (University of Aarhus) "Greek Terracottas in a Rural Context in North-Western Crimea"; and Svetlana Danilchenko (Institut d'histoire de la culture matérielle, St-Petersbourg) "La céramique grecque à vernis noir de la colonie bosporéenne sur Elizavetskoye gorodutche." The posters were by Irina Demetraz (Centre for Archaeological Studies, Tbilisi) "Greek Imports in South Georgia"; Darejan Kacharava (Centre for Archaeological Studies, Tbilisi) "The Earliest Greek Imports from Non-Greek Contexts of the Northern Black Sea Area"; Tatiana Iliina (Pushkin Museum of Fine Arts, Moscow) "Greek Terracotta Statuettes from the Fortified Settlement of Chaika in North-Western Crimea"; Irina Vdovichenko (Tauric National University, Simferopol) "The Subject to the Pyrrhic Dance on Painted Vases from the Northern Black Sea Region";

Vladimir Stolba (Institute for the History of Material Culture, St Petersburg) "Trademarks and the Hellenistic Wine Trade in the North-Western Crimea"; and Sergey Vnukov (Institute of Archaeology, Moscow) "The Main Varieties of Amphorae from the Black Sea Region (1st Century BC-3rd Century AD)." Additional information and paper and poster abstracts are available on the Bilkent University web site at <http://www.bilkent.edu.tr/~arkeo/blacksea/programme.htm>

Medieval Imported Pottery Course, a practical training course subsidized by English Heritage, was held at the University of Southampton, 10-11 and 12-13 September 2001.

Duncan Brown and Alan Vince, and geologist David Williams, served as instructors for these two-day courses which emphasized ceramics from Northern Europe, France, and Iberia. Further information is available from Sarah Jennings at English Heritage, Fort Cumberland, Eastney, Portsmouth PO9 4LD, UK. For further details, see the English Heritage website <http://www.english-heritage.org.uk/about-us/index.asp>

The 50th Anniversary Symposium on Scientific Research in the Field of Asian Art was held at the Freer Gallery of Art/Arthur M. Sackler Gallery, Smithsonian Institution, Washington, DC from 27-29 September 2001. The Department of Conservation and Scientific Research (DCSR) marked the occasion of this anniversary of scientific research at the Freer by inviting international scholars to present a broad overview of current scientific research on Asian art. It is anticipated that the papers presented and those scheduled but not presented due to the events of 11 September and ensuing travel difficulties will be published. The symposium audience of approximately 165 was treated to a series of splendid presentations. Twenty-two of 26 papers were read which concerned, in the main, metallurgy (jewelry, copper, bronzes, and iron), painting, pigments, and glass. One paper concerned ceramics: "Technological Families of East Asian Green Glazes" by Pamela Vandiver (Smithsonian Center for Material Research and Education), and Louise Cort (Freer and Sackler Galleries). Additional information is available on the DCSD website at <http://www.asia.si.edu/aboutus/dcsrsymposium.htm>

Sixth European Meeting on Ancient Ceramics: The 6th European Meeting on Ancient Ceramics (EMAC '01): Ceramics in Society, was held 3-6 October 2001 in Fribourg, Switzerland. Four sessions were devoted to ceramics: 1) social interactions and constraints in the fields of production and consumption, 2) history of the development of ceramic technology and driving forces for innovation, 3) ceramic materials used in pyrotechnologies (metallurgy, glass making, etc); and 4) scientific methods for the determination of the functions of ceramics (residue analysis, etc.). Paper abstracts were due 1 May 2001 and the organizing committee (M. Maggetti and V. Serneels) will be announcing plans to publish the proceedings. Further details are available on the conference website hosted by the University of Fribourg at <http://www.unifr.ch/mineral/emac01> and from Vincent Serneels (Institute of Mineralogy and Petrography, University of Fribourg, Pérolles, CH - 1700 FRIBOURG, Switzerland, e-mail vincent.eerneels@unifr.ch)

The Archaeological Ceramic Building Materials Group met on Saturday 20 October 2001 in the Board Room, Museum

of London, Barbican, London. The program included a half-dozen papers: "Introduction" by Ian Betts; "Hadham Roman Tile Industry" by Bernard Barr; "Zooarchaeology, Jim, but not as we know it" by Will Higgs; "A Knight on the Tiles: A Brief History of Floor Tiles in London" by Ian Betts; "Red Tiles in the Sunset: A Byzantine Church Roof in the Final Years of Early Christian North Africa (6th-7th centuries AD)" by Susan Pringle; "Some Aspects of Early Brick in London" by Terry Smith; and "Penn Tiles" by Laurence Keen. Members brought unusual ceramic building materials items for consideration or identification, including stove tiles, cuenca tiles, odd roof tiles, finials, etc. Kurt Hunter-Mann discussed the progress of the "Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material." For additional information, contact Ian Betts: ibetts@museumoflondon.org.uk

The Early Materials Forum (EMF), an informal meeting of individuals interested in the analytical study of archaeological and historical materials, was held on 1-2 November 2001 at the University of Bradford, West Yorkshire, BD7 1DP, UK. There were three sessions: "Recovery and Sampling of Early Materials," "Analytical Studies of Early Materials," and "Conservation and Curation of Early Materials." EMF is co-organized by Kathy Eremin (National Museums of Scotland), Aaron Shugar (Institute of Archaeology, University College London), David Dungworth (English Heritage), and Karen Leslie (British Museum). The local organizer was Lyn Wilson (Department of Archaeological Sciences, University of Bradford, Bradford, BD7 1DP, UK; telephone +44 (0)1274-2355539, e-mail L.Wilson2@Bradford.ac.uk). Further information is on the Internet at <http://www.brad.ac.uk/acad/archsci/>. The papers included: "Rapid XRD Analysis of a Large Set of Archaeological Ceramics: A Pilot Study" by Manolis Pantos et al. (Daresbury Laboratory); "Analysis of Organic Residues Associated with Amphoras and Coarsewares from Roman Britain" by Andrew Redford (Bradford University); "Searching for Patterns in the Production of Mudbrick in Bronze Age Crete" by Charles Frederick and Eleni Nodarou (Sheffield University); and "Potted Pyroxenes: Chemical Analysis of White Slip Wares from Bronze Age Cyprus" by Helen Hatcher (Reading University). Linda Roundhill (Arts and Antiquities Conservation, Seattle, WA) has submitted a poster entitled "Conservation of Maya Blue Pigment on Mayan Ceramics" [sic].

8th Neolithic Seminar: The Neolithisation of Eurasia - Perspectives from Pottery, was the title of a conference sponsored by the Department of Archeology, Faculty of Arts, University of Ljubljana in Ljubljana, Slovenia from 8-11 November 2001. Mihael Budja (University of Ljubljana) provided an "Introduction to the Seminar" in which there were 20 presentations. The presenters and their paper titles included: Andrew Sherratt (University of Oxford), "Diet and Cuisine: Farming and its Transformations as Reflected in Pottery" [Southwest Asia]; John Chapman (University of Durham), "Milking the Evidence - Rubbing Salt into the Meat? Secondary Products, Pragmatism and the Salt Trade in Neolithic and Copper Age Eastern Europe"; Kostas Kotsakis (University of Thessaloniki), "A New Technology for a New Way of Life: The Role of Ceramics in the Neolithic of Greece"; Richard P.

Evershed (University of Bristol), "Lipids in Ancient Ceramics as Carriers of Anthropogenic Signals from Prehistory"; Oliver Craig, John Chapman, Carl Heron, and Matthew Collins (Newcastle University), "The Identification of Milk Residues: Which Way Next in Europe?"; Mirko Prosek (National Institute of Chemistry, Ljubljana), "TLC, a Suitable Tool for Quantitative and Qualitative Analysis of Organic Residue"; Clive Bonsall and Gordon Cook (University of Edinburgh), "Direct Dating of Neolithic Pottery: Progress and Prospects"; Dushka Urem-Kotsou, Kostas Kotsakis and Ben Stern (University of Bradford), "Defining Function in Neolithic Ceramics: The Example of Makriyalos, Greece"; Peter Day and Peter Tomkins (University of Sheffield), "Local Pots for Local People? A Review of Analytical Studies of Greek Neolithic Ceramics and Their Interpretation"; and Eva Lenneis (University of Vienna), "The Combination of Different Methods for Analysing Early Neolithic Pottery." Other presentations included Masaki Nishida (Tsukuba University, Japan), "Another Neolithic in the Holocene Japan"; Yaroslav V. Kuzmin (Far Eastern Branch of the Russian Academy of Sciences, Russian Federation), "The Earliest Centers of Pottery Origin in Siberia and the Russian Far East: Review of Chronology and Palaeoeconomy of the Oldest Neolithic Cultures"; Zhang Chi (Peiking University, China), "The Early Pottery in China"; Helena Knutsson (Uppsala University, Sweden), "Pottery and the Northern European Groups, Some Problems and Possible Solutions" [Central Sweden]; Aleksandar Durman (University of Zagreb, Croatia), "Early Neolithic Pottery vs. The Rest of Prehistoric Pottery"; Ma. Dimitris Vlachos (University of Sheffield), "Changes in the Production and Use of Pottery from the 'Early Neolithic' to the 'Secondary Products Revolution': Some evidence from LN Makriyalos, Northern Greece"; Peter Tomkins (University of Sheffield), "Distance, Value and Status: Characterising the Exchange of Ceramic Vessels during the Early Neolithic on Crete"; Luiz Oosterbeek (Instituto Politécnico de Tomar, Portugal), "Potters and Users: A Fragile Neolithic Interaction"; Milos Bilbija (Museum of the City of Skopje, R. Macedonia), "Man, Bread and Pottery" [Skopje region]; and Kornelija Minichreiter (Institute of Archaeology, Zagreb, Croatia), "Potter's Workshops and the Use of Pottery in Early Starcevo Culture." The abstracts of these papers are on the Internet at <http://www.ff.uni-lj.si/arheologija/abstract.html>. For further information, contact Dr. Mihael Budja by e-mail at miha.budja@uni-lj.si or by telephone +386 1 241 15 58.

The 68th Annual Meeting of the *Eastern States Archaeological Federation* (ESAF) was held 8-11 November 2001 in Watertown, New York, hosted by The 1000 Islands Chapter of the New York State Archaeological Association. A session entitled "Chasing Behavior: New Approaches to Native American Pottery Studies in the Northeast" was chaired by Christopher T. Espenshade, and had seven papers. These included: "Chasing Behavior in the Northeast: An Analysis of Ceramic Types and their Utility in Reconstructing Prehistoric Behavior," Christina Rieth (New York State Museum); "Micro-stylistics: Inter-type Analysis as a Tool for Answering Archaeological Problems," Holly Martelle and Nick Gormoff (University of Toronto at Scarborough); "Focus on the Vessel: The Importance of Weight and Vessel Units to Interpreting

Behavior,” Christopher T. Espenshade (Skelly and Loy, Inc.); “Population Continuity and Dispersal: Cordage Twist Analysis and the Late Woodland in the Glaciated Allegheny Plateau of Northwestern Pennsylvania,” William C. Johnson (Michael Baker, Jr., Inc.) and Andrew C. Myers (Appalachian Archaeological Consultants); “An Examination of Dan River and Related Ceramics from the Stewart (44PK62/2) and Graham-White (44RN21) Site,” Andrew J. Myers and Malinda Moses Myers (Appalachian Archaeological Consultants); “Ceramic Variability at the Winooski Site: The Early Middle Woodland Period to the Late Middle Woodland Period,” Joshua R. Toney and James B. Petersen (University of Vermont); and “Early Woodland Period Ceramic Technology in the Upper Charles River Basin, Massachusetts: Behavioral Implications of an Experimental Firing Feature,” Mary Lynne Rainey (Public Archaeology Laboratory). Claude Chapdelaine, (Université de Montréal), gave another paper, “Ceramic Variability and Seriation of Saint Lawrence Iroquoian Traditions,” and Anthony Wonderly (Oneida Indian Nation) presented “Oneida Pottery Effigies.” Additional information is available on the ESAF website <http://www.siftings.com/esaf01pre.html>

The annual meeting of the *American Schools of Oriental Research* (ASOR) was held 14-17 November 2001 at the Interlocken Resort, Boulder, Colorado. The program is available on the web site (Acrobat Reader required for this pdf file): <http://www.asor.org/AM/programbook2001.pdf> Among the 211 papers to be presented are nine on ceramics. Gloria London (Burke Museum) presided over a session, on 16 November entitled “Pottery Analysis and Interpretation,” which featured four papers: “The Distribution, Production, and Function of ‘Straight-Sides Pots’ in the Middle Bronze Age in the Levant,” Alexey Zelin (Israel Antiquities Authority); “MB IIB/C Cooking Pots from the Jericho Tell: A Statistical Approach,” Joseph Weinstein (BBN Technologies); “Cypriot Imports in MB IIC-LB IZ Tombs at Tell el Ajjul,” Celia Bergoffen (SCIEM) and Paul Holdorf (Khirbet Iskander Expedition); and “Pottery Vessel Repertoires in the Ancient and Modern Kitchen,” Susan Ellis (Wayne State College). Celia Bergoffen (SCIEM) chaired the session “Problems in Ceramic Typology” in which there were four papers: “Middle and Late Bronze Age Ceramic Assemblages at Tell Nebi Mend and the Relative Chronology of Central Syria in the Second Millennium B.C.; Stephen J. Bourke (University of Sydney); “The Ceramic Corpus from Level 12 at Tell ‘Arqa (Lebanon): A Reassessment of the LB I Pottery in the Northern Levant,” Hanan Charaf (IFAPO, Lebanon); “The Late Bronze Age Pottery from Tel Batash: Continuity and Change,” Nava Panitz-Cohen (Hebrew University); and “The Late Bronze I Ceramics from Shechem (Tell Balatah),” Catherine Duff (University of Toronto). S. Thomas Parker (North Carolina State University) gave a paper entitled “Economic Implications of the Pottery from Aila” in a session on the Roman Aqaba Project.

Raman Spectroscopy in Archaeology and Art History was a one-day international meeting organized by the British Museum with the Applied Mineralogy Group of the Mineralogical Society and the Molecular Spectroscopy Group of the Royal Society of Chemistry, and sponsored by Bruker Optics Ltd and Jobin Yvon-Horiba Ltd, held at the British

Museum, London, on 20 November 2001. The session had ten topics, ranging from general introduction to the technique to ceramics, minerals and mineral pigments, oil paintings, manuscripts, biomaterials, and dyes. Among the 14 papers and 22 poster presentations, were two oral presentations on ceramics: P. Colomban, N. Quang Leim, G. Sagon, X. Fauyrel, N. Ayed, and F. Treppoz (CNRS and University P. et M. Curie, Thiais, Institute of Materials Science, Hanoi, INSAT, Tunis, and Manufacture Nationale de Sèvres Sèvres) “Identification of Ancient and Modern European, Islamic and Asian Ceramics by Non-destructive Raman (Micro) Spectrometry” and A. Zoppi, C. Lofrumento, M. G. Migliorini, and E. M. Castellucci (Università di Firenze) “Micro-Raman Technique for Phase Analysis on Ancient Ceramics.” The contact person for the registration is Stephen Gallagher, Department of Scientific Research, British Museum, Great Russell Street, London WC1B 3DG, telephone 0207-323-8715, e-mail science@thebritishmuseum.ac.uk, website <http://www.thebritishmuseum/science>

Forthcoming Professional Meetings

The Eighth Biennial Southwest Symposium (2002) scheduled for Tucson, AZ, 10-12 January 2002, has as its theme “Society and Politics in the Greater Southwest.” Three sessions have been announced thus far: “Feasting and Commensal Politics in the Prehispanic Southwest,” “Social Identity and Cultural Affiliation: Convergence of Research in the Southwest,” and “Forty Years after the Joint Casas Grandes Project.” The symposium organizer is Barbara Mills, Department of Anthropology, University of Arizona, Tucson, A 85721-0039; e-mail bmills@u.arizona.edu Additional information is posted on the department’s website <http://w3.arizona.edu/~anthro/>

The *Second National Congress of the Association of Italian Archaeometry* (*Secondo Congresso Nazionale dell’AIAR: Associazione Italiana di Archeometria*), “Science for the Cultural Heritage” is scheduled for 29 January through 1 February 2002 at the Museo Civico Archeologica (Bologna Museum of Archaeology), via dell’Archiginnasio 2, Bologna, Italia. Among the planned activities are an Italo-German session on archaeometry entitled “Studies on Dating and Provenance of Materials for the Cultural Heritage,” 31 January and 1 February. Contact the Secretariat via Maria Carla Nannetti (telephone. ++ 39 051 2094910, e-mail nannetti@geomin.unibo.it). An outline of the program and information about registering and fees may be found on the website at <http://www.geomin.unibo.it/ORGV/aiar/congr2/secretariat.htm> The registration deadline was 30 September and abstracts were due 16 November 2001.

The *First International Conference on Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry* will be held in Barcelona, Spain, 14-16 March 2002. Among the conference subjects will be archaeological and archaeometric studies on Coarse Wares, Cooking Wares and Amphorae from the 5th century CE to the end of the Antiquity in the Mediterranean Basin. Invited papers will be given by M.G. Fulford (University of Reading), Paul Reynolds (American University of Beirut),

M. Bonifay (Centre Camille Jullien et Recherches d'Antiquités Africaines [to be confirmed], Roberta Tomber (Museum of London) [to be confirmed], D.F. Williams (University of Southampton), Sebastian Ramallo Asensio (Universidad de Murcia), and Sara Sanotoro (Università degli Studi di Parma) and G. Montana (Università degli Studi di Palermo). For additional information contact: Equip de Recerca Arqueomètrica de la Universitat de Barcelona (ERAUB) Departamento de Prehistòria, Història Antiga i Arqueologia Universitat de Barcelona C/ de Baldori i Reixac, s/n 08028 Barcelona (Catalonia, Spain) telephone 34-93 440 92 00 ext. 3192, fax: 34-93 449 85 10, e-mail eraub@trivium.gh.ub.es Additional information is available at the conference website <http://www.ub.es/prehist/noticies.htm>

The language of the meeting will be English although other languages may be used in order to help the circulation of valuable contributions; Catalan, Spanish, French, German and Italian will also be accepted. The deadline for submission of abstracts was 15 October 2001. Authors were invited to submit one-page abstracts (200-300 words), clearly showing the title (in capitals), the name of the author(s), and the affiliation of the author(s) and some keywords. Please indicate also your preference for an oral or a poster presentation. Both a hard copy and an electronic version (by email or 3.5" floppy disk) of the abstract should be submitted. Submissions must be made using Microsoft Word. The abstracts will be reviewed and recommended for oral or poster presentation. Poster sessions will be allocated special times and will be displayed for most of the meeting. The papers given at the meeting will be published in a refereed volume. Authors are encouraged to submit their papers at the conference or maximum two months later. Details will be announced at a later date.

The 33rd International Archaeometry Symposium will be held in Amsterdam, 22-26 April 2002. Additional information is forthcoming and listed on the Internet at <http://www.archaeometry.vu.nl/>



Book Reviews

Michael D. Glascock, Associate Editor

Michael Glascock, our Associate Editor for Book Reviews, will be stepping down after five years of service. Individuals interested in this important position should make themselves known to the Editor prior to the annual business meeting in Amsterdam in April.

Archaeological Parenchyma. J. G. Hather, Archetype Publications: London, 2000. xi + 100 pp., 215 figures, glossary, index. \$45.00 (paper). ISBN 0-873132-42-5.

Reviewed by David Rhode, Desert Research Institute, Reno, NV 89512 USA

Ever find a bunch of frothy glossy black stuff that resembled charcoal but lacked the typical grain structure of wood? If so, maybe you uncovered the archaeological residue of parenchyma, and maybe you are in luck. Parenchyma is a tissue found in many plant organs, composed of thin-walled, undifferentiated cells that form the matrix in which other more specialized cells reside. Parenchyma serves a variety of other physiological functions too, one of which is storage of sugars, solutes, and starches. Many roots and tubers are composed largely of parenchyma, and charred remnants of these important foodstuffs often find their way into archaeological contexts such as yours.

Hather's primer on parenchyma describes this material, its economic importance and its value in archaeological interpretation. The book actually includes much more than the title suggests, covering the morphology, anatomy, identification and taphonomy of various plant storage organs and their cell types, in full detail and profusely and admirably illustrated. If plant storage organs left their residues at your site, then this slender volume offers an excellent starting point for their analysis.

Parenchyma, by itself, leaves rather little to be diagnosed morphologically or taxonomically. Fortunately, it typically combines with other cell types and tissues that, in association, provide clues to indicate the plant part or taxon from which a particular specimen came. Thus, in addition to parenchyma per se, the text explores a wide range of other areas of basic plant morphology and anatomy, with a clear focus on the storage organs.

Hather begins with a descriptive classification of stem and root storage structures, using a combination of morphological, developmental, and functional characters. Diagrams and photographs of a variety of tropical and temperate plants illustrate the range of different storage organs types (rhizomes, various kinds of tubers, roots and bulbs). Next, the surface morphology of these organs is discussed, covering the nature and importance of scars left by detached leaves, rootlets or rhizomes, and the diagnostic value of various buds, prickles and spines. While these characters are often of diagnostic value, other elements of surface topography – basic warts, bumps, and grooves – are usually too widespread across various taxa and parts to be of much use in identification.

Hather follows these morphological considerations with an examination of microscopic anatomy, starting with parenchyma. The structure of cells and cell complexes reflects the different functions that parenchyma serves, as well as the part of the plant in which the parenchyma cells occur. Hather attempts an overall view of the variation expressed by parenchyma in storage tissues, including cell sizes and shapes, thickenings on more specialized parenchyma cells such as endodermis or epidermis, and certain cell contents such as crystals and starch

grains (but curiously not phytoliths). He also discusses the factors involved in preservation of parenchymatous tissues archaeologically, especially the importance of the content of water, sugars and oils present at the time of charring, and the formation of cavities and torn tissue often seen in archaeological specimens.

With parenchyma as background, Hather then describes the anatomy of more specialized tissues, including vascular tissues of the primary stem (considering various layouts of xylem, phloem, and pith into different stele types), root tissues (primary as well as secondary, and tertiary tissues in roots, since secondary tissues comprise large parts of root-based storage organs), and sclerenchyma (including fiber and sclereid cell types). These chapters identify the major cell types and characteristics of the tissues, illustrate some of the variability in these tissues, and then devote considerable attention to what parts might preserve archaeologically and under what conditions of carbonization. Throughout these sections, Hather covers the relevant topics in a style that I found thorough, usually easy to follow, and sufficiently but not overwhelmingly jargon-heavy as botanical treatises go.

The final chapter, concerning practical methods of analysis, is a wealth of information about the taphonomy of parenchymatous tissue, recovery techniques, preparing storage tissues for study under the microscope, and collecting and preserving specimens. Some texts focusing on morphology or anatomy leave out such practical expertise and tricks of the trade; including them makes this text invaluable as a training tool.

Did I mention the terrific illustrations? This book contains one of the finest and most appropriate collection of scanning electron and stained thin section micrographs of plant storage tissues that I have seen in any single volume, all of them very well reproduced and all pertinent to the text at hand. As the author points out, the photographs and their captions easily carry as much or most of the information in the entire volume.

Now to a few quibbles. First, I am not sure how useful the book would be to someone starting out fresh, without some basic grounding in plant anatomy. The text requires some familiarity in fundamental plant science before the information is really accessible. Graduate students seeking to become archaeobotanists, certain advanced undergraduates, and their teachers will find most to gain from this volume. Second, Hather often discusses characters that may be diagnostic, especially to particular plant organs. However, the author stops short of providing a good survey of characters that are diagnostic to either plant organs or taxonomic groups. You cannot use this book to key out particular taxonomic groups, though it will definitely help you figure out the type of plant organ you are dealing with. In part, that is the nature of the beast: storage organs of a single taxon can vary in some characters by quite a bit, as Hather ably illustrates using the gross morphology of *Dioscorea* roots. For greater specificity on characters diagnostic to particular taxa, you will need to go elsewhere or, better yet, develop your own reference collection. Finally, some archaeological residues often associated with parenchyma were not considered in detail, notably phytoliths and secondary vascular tissue (wood). This lack is not much of a drawback,

however, since these plant remains have seen increasing attention recently, including textbook coverage elsewhere, and in any case they are not particularly germane to the topic of storage tissues that is the main thrust of this book.

These drawbacks aside, the excellent illustrations and overview of botanical morphology and anatomy of tissues associated with storage organs make this volume a welcome part of any archaeobotanist's library. I highly recommend the volume as a tool to demonstrate the analytical and interpretive possibilities of studying parenchymatous plant storage tissues preserved in archaeological sites.

The Identification of Northern European Woods: A Guide for Archaeologists and Conservators. Jon G. Hather, Archetype Publications: London, 2000. ix + 187 pp., 53 plates, 131 maps. \$45.00 (cloth). ISBN 1-873132-47-6.

Reviewed by David Rhode, Desert Research Institute, Reno, NV 89512 USA

The archaeological record may have its stones, bones, and burned dirt. But in the real past, wood ruled. People fashioned raw wood into a huge range of utilitarian artifacts, from spoons to boats to cradle boards; wood provided shelter from the elements; it was the fuel for heat, light, cooking those bones, readying that stone for flaking, and firing those pots. Wood's only problem is that it tends to decay, so its true importance in the past is archaeologically under-represented. But the archaeological record does still contain some leftover pieces of wood that decay forgot, pieces that are usually charred, waterlogged, or desiccated. This book provides anatomical keys and illustrations to aid in the identification of many woods found in northern Europe.

The book is divided into three parts. Part One covers methods of identifying woods from archaeological contexts. The author begins with a consideration of basic elements of wood anatomy, including the main dimensions of 'grain' in wood anatomy of wood, the three principal observational sections used to investigate the details of this grain, and the principal cell types and cellular organization that are identified. Following this is a very practical discussion of different methods needed to prepare for study those fragile archaeological specimens that are either charred, soggy, or dried out. Methods covered include locating the wood grain for appropriate sectioning, proper use of razor blades, alcohol and mineral spirits, microscopic firepower (epi-illuminated, transmission, or all-out scanning electron), and the good advice to do as little harm as possible to wooden artifacts, especially when the collections manager or curator is watching.

Part Two is the heart of the book, a key-based treatment of wood anatomy allowing the identification of some 52 identifiable northern European woody taxa (including over 130 species). According to the author the northern European woody flora contains only 200-250 different species, so this volume covers over one half of the total, including all trees and larger shrubs. Smaller shrubs (such as numerous Ericaceae) are not included, for the good reason that one has to stop somewhere

and for the less supportable assumption that these taxa were less frequently used in the past and do not appear in archaeological contexts.

To use the book for taxonomic identification, one first sorts a specimen into one of eight basic anatomical groups, based on differences in the organization of vessel elements in the wood observable in cross section (ray or axial anatomy is not part of the identification at this stage). One of these groups (the gymnosperms) has no vessels at all, while the others (the dicotyledons) have vessels arranged as ring-porous or diffusely-porous in various clusters and agglomerations. I found the anatomical groups to be relatively straightforward to use, though some woods (e.g., those characterized by “semi-ring porous” vessel structure) may appear to fall in more than one group, or “between” the groups. Once a specimen is given over to a particular anatomical group, it can be further distinguished using group keys, which in short order take one to the identifiable plant family (such as the wood of the pea family), genus (such as oaks or roses), and occasionally to species or species group (e.g. *viburnums*). Usually the level of taxonomic resolution falls somewhere between genus and family. The keys themselves tend to conform (but not always) to the standard “A – Not A” style; but they are not labeled as such and can initially be confusing. Once one gets the hang, however, the distinctions are straightforward. Once the specimen is identified, the reader is rewarded with a variety of information about the taxon, its wood characteristics, maps of its present distribution in northern Europe, and excellent photographs of thin sections of wood showing various characteristic features. The description of the wood and especially the photographs are most useful.

Of course, the level of taxonomic resolution that one can achieve from a specimen depends in large part on what can be observed through the available equipment. The keys presented herein tend to mix levels of observational resolution, so that the presence or absence of resin ducts (visible with a hand lens in the field) is treated as equivalent with counting the number of uniseriate ray cells or observing the nature of cross-field pits (high microscopy required, don't try this at home). There is a value in having keys specially constructed to accommodate different levels of observational resolution, low power vs high power, with the understanding that there is a trade-off between observational resolution and the level of confidence in taxonomic identifiability. Separate keys for low-power observation and high-power observation are not available here, but Part Three solves some of the problem. It contains a series of tables that presents the wood anatomy characters in a different way, useful if not all characters are easily visible (for example, if the wood is compressed or charred, or if the observational resolution is not sufficient to pick up minute anatomical detail). In these tables, all taxa that contain some particular character state (for example, large multiseriate rays) are listed together, so that if this character state is known a subset of the total list of taxa can be readily obtained. Likewise, all woods with, say, scalariform perforation plates between vessels are also listed together. Intersect a few of these known characters, and the number of likely taxa drops down to one or a very few. Part Three thus offers a valuable alternative approach to the key-

based system, both approaches leading generally to the excellent taxonomic descriptions that make up Part Two.

There are by now a number of texts treating the identification of archaeological woods from different parts of the world. I found this one to be particularly well produced and illustrated, and (apart from the initially off-putting key structure) very easy to use and adaptable to the contingencies of imperfect archaeological samples. It will serve as a valuable reference for the identification of northern European wood samples and a worthy model for wood identification manuals elsewhere.

Archaeological Displays and the Public: Museology and Interpretations. Paulette M. McManus, ed., Archetype Publications: London, 2000. Second edition. xvii + 168 pp., 33 black and white figures. UK£24.50 or US\$37.50 (paper). ISBN 1-873132-67-0.

Reviewed by Linda Ellis, Museum Studies Program, San Francisco State University, San Francisco, CA 94132 USA

Archaeological Displays and the Public: Museology and Interpretations consists of a Forward, Introduction, and 12 essays whose authors originate from the UK (7), Australia (3), Spain (1), and the US (1). The essays are divided into three sections: The Institutional Setting; Archaeology Indoors: Museum Exhibitions; Archaeology Outdoors: Site Interpretation and Education. This is a volume of case studies of the results of either individual or site specific research on the presentation of archaeology to the public; it is not a textbook nor a handbook. The intended audience appears to be professionals and students in the UK, primarily, and western Europe, but a couple of articles (especially Specht and MacLulich) will have a broader appeal. Because of the diverse content and presentation styles of the articles, a summary essay is difficult; therefore, the articles are detailed individually, but the reader is admonished that the confines of this space will not do justice to the authors.

“Cultural Tourism,” by G. Richards, describes the results of systematic visitor studies across Europe and in the UK and analyzes the tourism market for museums and archaeological sites vs. other types of cultural attractions (e.g., performing arts events). This apparently is a relatively recent area of research for museums in Europe, whereas the field of museum visitor studies has a long tradition of research in the US (since the 1920s) which is not indicated in the bibliography. I recommend that the author also examine the research published through the Visitor Studies Association.

“The Development of Empúries, Spain, as a Visitor-Friendly Archaeological Site,” by J. Pardo, details how the management of one Spanish archaeological site was transitioned from the government to a non-profit privatization scheme for efficient development of archaeological research, site conservation, and visitor education facilities. Basically, cultural heritage professionals in Europe are tiring of the bureaucracy and inertia embedded in governmental control over museums and archaeological sites and this NGO has provided superb results with increases in both local and international visitation.

"Archaeology and Interpretation at Old Sturbridge Village," by D. M. Simmons, concerns the application of historical archaeology to the interpretation of 18th and 19th century New England life and also involves industrial archaeology in their recreation of work operations, not just a showcase of arts and crafts. It would have been useful for the author to place OSV in the broader context of open air museums (what G. B. Thompson has called 'architectural zoos'), whose buildings, often by necessity, have come from different locations and different periods of construction and use and therefore do not constitute a single 'village'. But Simmons' meticulous work to recreate the entire social life of a building and associated farmstead throughout the generations is impressive in its detail.

"Changes and Challenges: The Australian Museum and Indigenous Communities," by J. Specht and C. MacLulich, is the most well written, exceptionally informative, and thorough article in this volume. This article is an eye-opener on the history of museums and Aboriginal-white relations in Australia, and by itself should be required reading for *all* university students in archaeology, anthropology, and museum studies both in North America and in the UK. I cannot do the article justice here, but suffice it to say that the Australian Museum in Sydney has an exceptional record of community outreach to the Aboriginal, colonial white, and non-white immigrant communities; an equally remarkable record of repatriation, nationally and internationally; a genuine policy of employment of, and consultation with, Aboriginals in the museum; a conservation outreach program to museums in the western Pacific islands; a 30-year history of experimental and innovative exhibitions which are forward-looking and gender-balanced; and an outstanding program for the loan of museum objects to Aboriginal communities. The authors are disarmingly honest and forthright and have included an extensive and useful bibliography. It is a sad admission by this reviewer that no American museum has yet to match this record of accomplishment.

In "University Museums and the Public: The Case of the Petrie Museum," S. MacDonald reports on the state of crisis of university museums in the UK—sadly, many university museums in the US also suffer the same issues she clearly describes. University museums were usually founded on the basis of early aggressive collecting campaigns by one or more interested scholars, but this 'collecting instinct' soon turns into a 'neglecting instinct' to the point where many faculty prefer to use books and slides, rather than objects, for teaching archaeology. MacDonald's own creative initiatives to expand the audience from exclusively specialists to greater public visitation are laudable and a good example for other university museums to follow. I also applaud her outreach efforts to Egyptian audiences—Egypt has been so badly pillaged for centuries that such museum diplomacy to the mother country of these collections is long overdue!

"Roman Boxes for London's Schools: An Outreach Service by the Museum of London," by J. Hall and H. Swain, describes the dilemma this museum experiences with its schools programs: Not only are they too popular to accommodate all requests for free tours, but many schools in the poorer parts of London cannot afford to get their children to the museum because of

prohibitive transportation costs. Schools in major US cities have exactly the same problem, which reflects shamefully on public school funding. So, the museum created 'school boxes' (what we call in American museums, 'traveling trunks'). Their ingeniously simple design (ready-made craftsmen's tool boxes, subsidized by the manufacturer!!) also gives new uses to archaeological objects from London's excavations which now overflow in MOL's repository. Our own CRM repositories in the US could emulate this example for collections not subject to NAGPRA.

"Written Communications for Museums and Heritage Sites," by P. McManus, addresses a continuing major problem of "lexical complexity" (university-level language with specialized terms) in written materials for heritage interpretation. Interesting is her discussion of the emotional investment when curators and archaeologists write interpretive text and the psychological resistance to outside editing. Studies of visitor reactions to museum labels do provide useful guidelines, although more attention to low literacy issues would have been timely. Moreover, the bibliography could have been diversified to acknowledge the decades of substantive research on museum labeling from the US.

"Heritage Marketing in the Not-for-Profit Sector: The Case for Branding," by C. Scott, echoes a theme mentioned throughout the book on the necessity for marketing museums and heritage sites to ensure their own survival in the 21st century. Her discussion of the Powerhouse Museum in Sydney and the problems of correlating the museum's name with its broad range of collections reminds this reviewer of focus group sessions for the J. Paul Getty Museum, during which one Los Angeles resident thought the Getty was a museum of the oil industry! The results of demographic studies of the Sydney population and how they use their leisure time are discouraging for museums, and the author is correct in admonishing more proactive PR and marketing by museums.

"Peopling the Past: Current Practices in Archaeological Site Interpretation," by E. Sansom, gives a thorough and comprehensive analysis of the use of costumed interpreters at museums and archaeological sites. Her criticism of the 'edutainment' experience is amplified by her quoting of R. Hewison's definition of military re-enactments as "historicism hooliganism on Bank Holidays." While there is justifiable concern over authenticity, stereotyping, and sanitized history when costumed interpreters are utilized to generate income and new visitors to heritage sites, the author also provides examples of well-done costumed interpretation in the UK, US, and Canada and provides an excellent bibliography.

"Conservation 'As Found': The Repair and Display of Wigmore Castle, Herefordshire," by G. Coppack, is an intriguing study of experiments in conservation to stabilize a site as a ruin, i.e., in the "as found" condition. The topographic, photogrammetric, and ecological surveys prior to conservation of this extremely fragile site were meticulous. The author admits that not even all conservators and archaeologists accepted the program, but this is a very innovative approach to *in situ* conservation which deserves further study. Perhaps unintentionally, the author also provides insight on how to

prevent visitors from ruining a ruin (planting nettles and briars!)—yet another chapter in the continuing saga of preservation vs. public access which has forced the closure of many archaeological sites around the world.

Whereas the audio tour has for a long time been a standard option of museum interpretation, B. Bath (“Audio-tours at Heritage Sites”) provides a useful cost-benefit evaluation of the quite recent adoption of various forms of audio technologies at archaeological and historic sites in the UK. Particularly relevant here are their effective role for making those educational services accessible to visitors who have mobility, visual, and learning disabilities.

Finally, “A Visitors’ Guide to the Contents and Use of Guidebooks,” by P. McManus, is a thin contribution on the results of a survey of a limited group of older visitors’ attitudes towards guidebooks.

All UK-based authors, with the exception of Sansom, failed to include comparative references to important research on interpretation of archaeology in North America (for US and Canadian efforts, see J. H. Jameson, ed., *Presenting Archaeology to the Public: Digging for Truths*, AltaMira Press, 1997). While no publication can be encyclopedic, it was disturbing that no representatives from heritage services or museums in Canada appeared in this slim volume. A glaring omission is any mention of the Head-Smashed-In-Buffalo Jump Interpretive Centre, located on the Blackfoot Reservation, Alberta, and a UNESCO World Heritage Site, whose meticulous archaeological site documentation, unique architectural design, and museological and pedagogical initiatives made it worth my 1,800-mile drive from San Francisco! Equally important, and particularly relevant to this volume, would have been some mention of the work from Eastern Canada on how museums have developed innovative programs to serve illiterate adults (L. Dubinsky, ed., *Literacy and the Museum: Making the Connections*, Canadian Museums Association, 1990). Illiteracy is still a major problem worldwide; museums, and particularly archaeologists, cannot afford to ignore this issue.

Equally welcome for a volume such as this would have been some discussion of the long-term effectiveness of school visits to museums and heritage sites. Much has been written about the genuinely admirable work museums are doing for schools, but how much are children (often in large groups) actually learning and retaining from these experiences and does this pedagogical effort transfer to museum visitation into adulthood? It is easy to study white, middle- and upper-class adults, and it is easy to see why one’s own history is important to preserve. However, all ‘English-speaking’ nations are now multicultural as well as multilingual; therefore, how do we make the cultural heritage of one group important to another within a diverse society? How do we make Roman archaeology boxes interesting to children of South Asian descent in London’s schools? How do we make the archaeology of slaves’ dwellings important to white children in the southern US? Such a critical analysis of the long-term effects of heritage education on visiting schoolchildren would be a complicated study indeed, with undoubtedly complicated recommendations (but see K. Smardz and S. J. Smith, eds., *The Archaeology Education Handbook: Sharing the Past with Kids*, AltaMira Press, 2000, which is a

substantial contribution in this direction). More than anything else this issue is a wake-up call: If we cannot reach more children, either on-site or through outreach, to appreciate the different ‘pasts’ of our fellow citizens, *but more importantly to have that understanding continue into adulthood*, will adult visitation to museums and heritage sites really improve in a world filled with “depthless leisure” options? Scott’s dismal statistics of adult preferences for pubs over museums is not unexpected (although amusingly, reporters during the 1850s genuinely thought late night hours at the Victoria & Albert Museum would pull men out of the pubs!). But realistically, if we do not imbue schoolchildren with long-lasting appreciation of the world’s heritage, our marketing efforts will be too little too late, and we may never hope to even out the odds!

Hunter-Gatherers: An Interdisciplinary Perspective.

Edited by Catherine Panter-Brick, Robert H. Layton and Peter Rowley-Conwy, Cambridge University Press: Cambridge, 2001. xii + 341 pp., 16 tables, 23 figures, glossary, index. \$29.95 (paper). ISBN 0-512-77672-4.

Reviewed by Bettina Beer, Institut für Ethnologie, Universität Hamburg, Germany

This publication aims to re-establish an interdisciplinary debate, presenting critical issues commanding an ongoing interest in hunter-gatherer research. Such an interdisciplinary perspective has been missing in research on hunters and gatherers in social and cultural anthropology for the last decades. The volume includes contributions to research on foragers in archaeology, social anthropology and biological anthropology, covering topics such as evolution and history, demography and biology, technology, social organization, art and language of diverse ethnic groups. Most of the articles raise the question under which conditions is it possible to make comparisons between anatomically modern hunter-gatherers in the archaeological record, other hominids such as the Neanderthals, and present-day populations studied ethnographically. All articles give the most important references for the topics discussed, and every article presents critical questions, discussions and different viewpoints. The editors start with the question is ‘hunter-gatherer’ a meaningful category. They emphasize the variability and range of behaviors and the flexibility of foragers which are reflected in most of the contributions as well.

Bruce Winterhalder introduces behavioral ecology models and applications to explain key features of foraging economies. This approach makes the assumption of *constrained optimization*, borrowed from micro-economics and evolutionary biology. It is used to clarify hunter-gatherers’ resource selection, their choice of patches and habitats and residence time. Behavioral ecologists have developed a series of models that not only address production but also distribution. Winterhalder outlines the main concepts of these intergroup transfers of resources (scrounging, reciprocity, sharing, exchange, and trade). Peter Rowley-Conwy shows in his article *Time, change and the archaeology of hunter-gatherers:*

how original is the 'Original Affluent Society'? the most basic assumptions of the progressivist views of complexity and criticizes them. He argues in favor of local responses and local historical trajectories, and against any progressive trend in the development of foragers. In her contribution on hunter-gatherer technology, Robin Torrence outlines macro scale theories, which use a comparative approach and emphasize environmental context, energy, raw materials and tools, and micro scale theories focusing on particular cases, concentrating on social context, actors and knowledge. In *The antiquity of hunter-gatherers* Steven L. Kuhn and Mary C. Stiner concentrate on two fundamental dimensions of recent forager behavior – subsistence and technology – both of which have robust archaeological consequences. They draw the conclusion: "While the lifeways of particular Upper Palaeolithic groups were unlike those of recent foragers, Late Upper Palaeolithic hunter-gatherers responded to ecological and demographic factors in ways similar to modern foraging societies. ... While Middle Palaeolithic hominids hunted and gathered, they were a different kind of hunter-gatherer from any presently known." (128).

Patrick McConvell gives a very informative summary of theories on language shift and language spread among hunter-gatherers favoring a geographical approach but taking migration into account. The expansion of Pama-Nyungan languages in Australia exemplifies McConvell's approach. For someone not familiar with historical linguistics his article is a useful introduction. Renee Pennington explains patterns of demographic change among foragers as they accept a sedentary lifestyle. He strongly argues for the significance of the impact of venereal diseases on fertility among hunter-gatherers. Low growth rates in general are *not* typical for foragers as commonly believed. That has a great impact on assumptions about population growth in the past, he concludes: "If the demographic rates evident in these data characterize hunter-gatherers past and present, the idea that we have been a slowly growing species throughout the millennium is not plausible. It seems more likely that periods of rapid growth and decline are characteristics of our species' history." (198)

Mark R. Jenike (*Nutritional ecology: diet, physical activity and body size*) and Alain Froment (*Evolutionary biology and health of hunter-gatherer populations*) present data from physical anthropology. They, like most of the contributors to this volume, emphasize diversity among hunter-gatherers, and that these populations are not a 'biological entity' with recognizable health or morphological profiles. Margaret W. Conkey outlines the history of research on art in the context of hunter-gatherers studies in social and cultural anthropology. She asks what is 'art' in non-western societies? How could art be understood? Robert H. Layton shows how some of the Western 'myths' concerning hunter-gatherers and their environment have influenced government's policy. Layton also summarizes the arguments of the 'Kalahari debate' between Richard Lee and Edwin Wilmsen. The debate was centered on the question how isolated hunter-gatherers had been before colonial times. Layton gives an overview over the diverse ways in which contemporary foragers live in contact and interact with other groups and nation states.

The editors of 'Hunters-Gatherers' provide undergraduate and postgraduate students with a set of accessible and balanced reviews of topics, which are currently discussed. The volume is a very useful reference text for teachers and especially students of cultural and social anthropology, archaeology, biological anthropology and human sciences.

The Practical Impact of Science on Near Eastern and Aegean Archaeology. Scott Pike and Seymour Gitin (editors), Archetype Publication Limited: London, 1999, Wiener Laboratory Publication Number Three. ix+169 pp., 77 b&w images. \$30.00 (paper). ISBN 1-873132-17-4.

Reviewed by Rob Sternberg, Department of Geosciences, Franklin & Marshall College Lancaster, Pennsylvania, 17604-3003, USA

The papers in this volume followed from a series of workshops co-organized by the W.F. Albright Institute of Archaeological Research (<http://www.aiar.org/>) and the Wiener Lab of the American School of Classical Studies at Athens (<http://www.ascsa.org/Directory.html>) that were held in Jerusalem and Tel Aviv in 1996.

I approach this review as a geologist who has primarily done archaeomagnetism (some in Israel) and archaeological geophysics (some in northern Greece). Where I comment below on items I thought might have needed elaboration, this may just reflect my own areas of expertise and ignorance.

The three sections of the volume focus on botanical remains (6 papers), osteological remains (5), geological and other material studies (11). Articles range in length from 3 to 5 pages, with a median length of 7 pages. The newly published *Handbook of Archaeological Sciences* (HAS), edited by D.R. Brothwell and A.M. Pollard, John Wiley, Chichester, 2001, 762 pp., provides a useful benchmark for comparing the topical coverage. Using HAS's subject organization, and doing my best to classify the interdisciplinary papers in Pike and Gitin (P&G), the number of articles compares as follows:

	HAS	P&G
dating	9	2
paleoenvironments	8	2
human paleobiology	8	1
biomolecular archaeology	5	3
biological resource exploitation	6	7
inorganic resource exploitation	6	5
archaeological prospection	5	0
burial, decay, conservation	6	1
statistics and computation	7	1
total	60	22

I'm not about to do any statistics, but P&G looks depleted in dating and geophysics, but well represented in biological and resource exploitation. One might argue that in the Aegean and Near East regions, with long histories and some very obvious sites (e.g., tells), location and dating are not as important as elsewhere. Perhaps HAS leans towards newer techniques and

the promise they hold for the future of archaeometry, while P&G favors papers on resource exploitation and the consequent implications for social organization which can be inferred with methods that we already use.

The opening section on botanical remains covers a variety of topics. Hansen provides a lucid review of sampling strategies for macroscopic plant remains. Not much data are presented, and more commentary on the validity of the “intensity” of occupation patterns suggested in Figures 1.2 and 1.3 would have been helpful. Hansen’s comments on the use of control samples appropriate for the region are a good reminder that could be generalized for many types of archaeometric studies.

Baruch looks at pollen and charred wood remains, introducing me to a term describing the latter—anthracology. Among the interesting findings, the rapid increase of olive pollen at about 3 ka BP reflects the precipitous rise of this tree to horticultural importance. Anthracology turns out to be useful on a more localized scale, where charcoal can be directly associated with the archaeological record, sometimes using plants or contexts where pollen is not well represented. One must allow for the effects of anthropogenic site formation processes on taxonomic frequency distributions, a theme appropriately repeated several times in this volume. A small mistake—the correct spelling for the natural short-term wiggles in radiocarbon concentration is the “de Vries” effect.

Also at the macroscopic level, Lipschitz gives a short but useful overview of the use of tree remains for archaeological and environmental analysis. As in the previous article, the author reminds us that plant remains are related to both climatic change and human activities, such as importation of exotic woods and deforestation. I wondered how important differential preservation of wood is in this arid environment. I was also waiting for at least a paragraph to inform us of the status of dendrochronology in the Near East; despite the inclusion of some references on this topic, no comments were included herein.

In an excellent paper combining methods, results, and limitations, Rosen describes how some plants, especially in arid regions, can produce phytoliths. These durable microscopic mineral particles can be preserved at archaeological sites and used to inform us about environmental change, paleodiet, agricultural systems, and analysis of use-areas on site. Rosen reminds us in general that the Near East has its own characteristic types of archaeological sites, e.g., tells and rock shelters. A large slice of archaeological time is spanned by these sites, so some very interesting problems, such as the origins of wheat and barley agriculture, can be pursued.

The paper by Kislev is written as a very extended abstract. He suggests that about 8000 archaeobotanical specimens must be compiled into a reference collection to properly identify the nearly 3000 species known from modern Israeli botanical assemblages, a large endeavor when one person-year is needed for preparation of about 1000 samples. A computerized key offers an alternative. It does not work as a taxonomically organized database, or a strictly dichotomous key; a couple of examples showing how grass samples keyed out would have clarified the process actually used.

Gorski notes that jute and date palm cordage can easily be confused, which calls into question the Biblical identification of jute, a plant not thought to come out of East India until the 18th century CE. Date palm fibers can be misidentified because they are not always found in reference collections. Optical microscopy was used to examine jute and date palm fibers. Although these appear quite similar, the phytoliths produced after ashing the samples are more distinctive. The text here is short, but if a picture is worth a thousand words, the excellent photos of fibers and phytoliths more than compensate. The comparative table showing properties of the two fiber plants is also useful.

There are five papers in the section on osteological remains. I learned from Cook’s article that the degree of burning of cremated bones depends on the fuel (including the body), temperature, duration, and atmosphere—sounds just like the firing of ceramics. Bones can also be affected by defleshing, weathering, scavenging, and reburial. The on-site presence of a physical anthropologist with forensic experience is not only useful concerning legal issues, but also maximizes the information recovered from ancient bones that are uncovered. One small error—the name of C.K. Brain is misspelled as Brian in the text.

The opening to Dayan serves as a pithy presage to the remainder of the paper: “Humans and many of the animals that surround them have had a longstanding relationship, most notably a culinary one.” To tease out spatial and temporal anthropogenic effects on distribution of zooarchaeological (and botanical) remains, in particular domestication, climatic and coevolutionary effects must be deconvolved. The excellent text could have been augmented with some data presentation. The following paper on a similar topic by Klippel and Snyder is exemplary in this respect; the age distribution of ovicaprid (sheep and goat) bones is compared with model distributions based on different resource exploitation strategies. For example, Late Minoan IIIC bone and tooth data from Crete are generally consistent with a model for meat cropping, as opposed to wool and milk. Horwitz’s paper also considers cull patterns of economic bone resources, but further suggests that faunal remains as well as architecture can be used to understand ritual contexts. Spatial relationships of bones, species, body parts, ages and genders represented, and bone modification might all be helpful in distinguishing ritual/sacred from domestic/secular contexts. These ideas were compared with data from three sites to suggest that two of the sites had cultic significance. Differences between these sites could be explained by environmental, chronological or ethnic differences. Sorry, but I really dislike those three-dimensional plots, and why were two types of plots used to display relative frequencies?

Smith and others (the winning paper in this volume for most co-authors) present the one paper on DNA analysis, briefly but clearly discussing how this burgeoning technique might help to engender archaeological studies. DNA studies will complement the traditional methods of inferring gender from osteological investigation and grave goods. Gender determinations from bones are poor for infants, and in situations where bones have been mixed. Indicating how such results

could be used in the future, the authors' preliminary DNA-based gender determinations for infants buried in jars at Tel Teo in Israel show all five reliable identifications to be male.

Rip Rapp's paper sets the stage for the geoarchaeology section. He uses the broad definition of geoarchaeology that I prefer: it "entails the use of geological concepts, methods, and knowledge base in the solution of archaeological problems." Yet this paper focuses on the more traditional geoarchaeological areas of landforms, sediments, and soils, which comprise the physical framework for an archaeological site. Rapp does indicate the need to understand a site in two (or even three) dimensions using peels, cores, and geophysics as complements to excavation. (However, magnetic anomalies are frequently dipolar, not just positive or negative. Rapp also reverses the usual configuration of current and voltage electrodes for resistivity surveying; current flow generates a voltage difference in the ground, not vice versa.). This fine overview would have benefitted from a concluding summary.

The two dating papers in this section deal with ESR (Garrison) and radiocarbon (Broshi). Garrison's paper presents both the "good news" (stable trapping mechanisms) and "bad news" (complex trapping mechanism in burnt flint) for ESR dating. Garrison focuses on how the trapping mechanisms make the determination of the accumulated dose difficult, but barely mentions the dose determination. Despite the emphasis on the method, some more case study information would have interested the non-ESR specialist. Broshi's paper, on the other hand, focuses on a particular problem—the dating of the Dead Sea Scrolls. Radiocarbon dating of these precious texts was made possible by the development of AMS C^{14} dating, requiring only about 10 mg of material. The resulting archaeometric dates were consistent with paleographic dates, confirming that the scrolls were older than the Christian authors suggested by some scholars, and consistent in age with authorship by the Qumran Essenes. A table or graph of the dates would have been useful, although the published source of this information is referenced.

The papers on materials are on silica-rich components of ash (Weiner et al.), asphalt (Nissenbaum and Connan), lipids (Evershed and Dudd), glass (A. Fischer), and ceramics (Vaughan; Porat and Killebrew; Goren and P. Fischer; Yellin). Weiner et al. discuss the identification of siliceous aggregates from hearth fires using FTIR. A description of the FTIR method, or an appropriate reference, would help the non-specialist. The paper shows how comparative studies from different sites, Kebara and Hayonim Caves here, can help to solve perplexing questions that arise at individual sites. On-site use of FTIR gave the archaeologists the opportunity to generate and test new hypotheses in the field, without needing to transport samples back to the lab. Perhaps miniaturization of electronics and computers will allow even more field-based archaeometry in the future.

Nissenbaum and Connan discuss the fascinating geologic origin and multiple uses of asphalt in the Near East during different time periods, going back to 40,000 years ago. Methods are too briefly discussed, and the results shown in Figure 14.3 are not clear to the non-specialist. The absence of a conclusion left me wondering how widespread the use of this material

was around the world. Some of these methods were explained by Evershed and Dudd is their excellent overview of the use of lipid biomarkers, clear enough even for a biological tyro like myself. Their review of lipid analysis, with accompanying figures and case studies, points out both strengths and potential weaknesses. My own specialty of archaeomagnetism requires demagnetization to detect whether the original magnetization of a sample has been overprinted; this article nicely describes the analogous situation of testing for lipid preservation and decomposition. Illustrative examples of results are given for studies in the United Kingdom, although references to some work from the Mediterranean are provided at the end.

Fischer describes the use of a scanning electron microscope with an energy-dispersive spectrometer to look at the composition of Early Roman glass from Sepphoris. This period encompasses one of the most important changes in glass technology, the transition from thicker grooved and fluted cast bowls to blown vessels. The blown bowls were lower in natron, which would give them a higher melting temperature. The question why the shift to a higher melting temperature material took place can't yet be answered. The higher natron also lowers the load strength of these vessels. The direct correlation between composition and strength would have been better illustrated with a scatter plot using these two variables. Even though this article was not a long one, the organization would have been enhanced with subheadings.

Yellin utilizes neutron activation and gamma-ray spectrometry (unexplained for the novice) to analyze the chemistry of the ceramics of the Ma'agan Micha'el shipwreck. The ceramics are durable, but has their chemistry been affected by spending 2,400 years in sea water (that problem of post-depositional alteration again)? Sodium has comparable concentrations in sea water and ceramics, so would not be a good diagnostic for sea water contamination. Chemical comparison of the composition of one bowl and one jug from the shipwreck with Cypriote reference groups suggest a good match, and thus some connection between Israel and Cyprus in the 4th-5th centuries BCE.

The largest number of papers on a particular theme are the three petrographic studies of ceramics. Vaughan's paper is an excellent overview of the goals and challenges of petrographic analyses of ceramic materials, along with general and specific goals for such studies in the Mediterranean area. She makes a good case for the integration of archaeometric (i.e., geologic) and archaeological information, beginning at the outset of the project and continuing through to publication. The geologic information must also be provided at the appropriate level of detail to be useful. Again, the point is well made that not only are the raw materials transformed through manufacture, but the wares are altered by post-production processes such as burial.

Goren and P. Fischer save the bulk of their results for further publication, but suggest two useful strategies for petrographic studies: the use of a portable thin section preparation and microscope system that can be taken into the field, and a regional approach to geological analysis of potential source material for temper. The former approach reinforces

Vaughn's imperative that interaction between the archaeometrist and archaeologist be as much as possible, ongoing and dynamic. The latter approach uses the geography of drainage systems to examine potential sources of temper within a watershed.

In considering more recent ceramic assemblages, Porat and Killebrew find a good correlation between typology and petrographic characteristics. They also indicate the utility of finding less common geologic components in ceramic temper, in this case the inclusion of basalt from the Golan Heights. They also highlight the determination of ceramic firing temperature by looking at matrix vitrification, the presence or absence of index minerals detected petrographically and with x-ray diffraction, glaze texture, and also the determination of reducing vs. oxidizing atmosphere from color and vitrification.

Overall, this book would be a particularly useful addition to the library of any archaeologist or archaeometrist working in the Aegean or the Near East. The reasonable price and good topical coverage makes it a book that any archaeometrist should consider. Congratulations to the editors on compiling a volume where all papers are all well written and well produced, with very few mistakes or typos, crisp photos and figures, and a uniform style including abstracts and references.

Society for Archaeological Sciences
2000 Budget

January 1, 2000 to December 31, 2000

PROJECTED INCOME

Membership Income	\$ 7,000.00
Interest Income	\$ 10.00
J.Arch.Sci. subscription payments	<u>\$30,000.00</u>
Projected Total Income	\$37,010.00

PROJECTED OPERATING EXPENDITURES

Annual Meeting	\$ 200
Banking Costs	\$ 800
Bulletin printing/postage	\$ 3,500
Office expense – President	\$ 100
Office Expense – Bulletin	\$ 200
Office Expense – Gen. Sec.	\$ 500
Web Service	\$ 300
Postage – other	\$ 500
Printing – other	\$ 400
Payment to Academic Press for JAS	\$30,000
Taxes	\$ 20
Miscellaneous	<u>\$ 490</u>
Projected Total Expenditures	\$37,010

Society for Archaeological Sciences
2001 Budget

January 1, 2001 to December 31, 2001

PROJECTED INCOME

Membership Income	\$ 7,000.00
Interest Income	\$ 10.00
Archaeometry subs. Payments	\$ 3,000.00
J.Arch.Sci. subscription payments	<u>\$30,000.00</u>
Projected Total Income	\$40,010.00

PROJECTED OPERATING EXPENDITURES

Annual Meeting	\$ 200
Banking Costs	\$ 800
Bulletin printing/postage	\$ 3,500
Office expense – President	\$ 100
Office Expense – Bulletin	\$ 200
Office Expense – Gen. Sec.	\$ 500
Web Service	\$ 300
Postage – other	\$ 500
Printing – other	\$ 400
Payment to Academic Press for JAS	\$30,000
Payment to Blackwell for Arch.	\$ 3,000
Taxes	\$ 20
Miscellaneous	<u>\$ 490</u>
Projected Total Expenditures	\$40,010

Meetings Calendar

Susan Mulholland, Associate Editor

* = new listings; + = new information for previous listings

2002

Jan 9-12. 35th Conference on Historical and Underwater Archaeology. Adam's Mark Hotel, Mobile, Alabama, USA. Amy Young, Dept. of Anthropology and Sociology, PO Box 5074, University of Southern Mississippi, Hattiesburg, MS 39406, USA; fax: 601-266-6373; email: amy.young@usm.edu.

Jan. 29-Feb. 1. Congresso dell'Associazione Italiano d'Archeometria. Web: www.geomin.unibo.it/ORGV/aiar/congr2/index.htm. AIAR President: Claudio D'Amico, Dip. Scienze della Terra e Geologico Ambientali, Piazza San Donato, 1, I 40126 Bologna, Italy. Tel. 39 0512094923; fax: 39 0512094903/04; email: damico@geomin.unibo.it

*Feb. 23-24. 13th Annual "Workshops in Archaeometry" Conference, Buffalo, New York. Contact: Hex Kleinmartin, Conference Director, Archaeometry Research Graduate Group of the University at Buffalo. Email: hfk@acsu.buffalo.edu

*March 20-24. Society for American Archaeology, Denver, Colorado. 67th Annual Meeting. Society for American Archaeology, 900 Second Street NE #12, Washington, DC 20002-3557, USA. tel 1+ 202-789-8200; fax: 1+ 202-789-0284; email: headquarters@saa.org; web: <http://www.saa.org/>

*April 2-6. Computer Applications and Quantitative Methods in Archaeology Conference, Heraklion, Crete, Greece. Details concerning the organization of the conference, submission of paper, poster and workshop proposals, registration, travel and accommodation will be posted on the CAA2002 web page: <http://www.caa2002.gr>. Contact: CAA 2002 Institute of Computer Science, Foundation for Research and Technology - Hellas, PO Box 1385, 711 10, Heraklion, Greece. Email: caa2002@ics.forth.gr

+April 9-13. Fourth Symposium 14C and Archaeology, Oxford, UK. Deadline for submission of abstracts: February 1, 2002. Contact: Oxford Radiocarbon Accelerator Unit, Research Laboratory for Archaeology and the History of Art, 6 Keble Road, Oxford OX1 3QJ, England; fax: + 44 0 1865 273932; email: orau@archaeology-research.oxford.ac.uk; web: <http://www.rlaha.ox.ac.uk/c14conf.html>

April 22-26. 33rd International Symposium on Archaeometry. Amsterdam, The Netherlands. Theme Session: Conservation Studies-Science and the in situ Preservation of Archaeological Heritage. E.A.K. Kars, Rijksdienst voor het Oudheidkundig Bodemonderzoek, P.O. Box 1600, 3800 BP Amersfoort, the Netherlands; tel: 31 33 422 76 06; fax: 31 33 422 77 99; email: e.kars@archis.nl; web: www.archaeometry.vu.nl

*April 26-28. 2nd MIT Conference on Technology, Archaeology, and the Deep Sea. Email: ajbrody@mit.edu; web: <http://web.mit.edu/sts/deeparch>

*May 13-17. Recent Archeological Prospection Advances for Non-destructive Investigations in the 21st Century, Fort Vancouver National Historic Site, Vancouver, Washington. Contact: Steven DeVore, National Park Service, 100 Centennial Mall North, Room 474, Lincoln, Nebraska, 68508-3873. Tel: (402) 437-5392, ext. 141; fax: (402) 437-5098; Email: steve_de_vore@nps.gov

*June 2-6. ART 2002. 7th International Conference on Non-destructive Testing and Microanalysis for the Diagnostics and Conservation of the Cultural and Environmental Heritage. Congress Centre Elzenveld, Antwerp, Belgium. Conference secretariat: University of antwerp (UIA), Dept. Chemistry, ART2002 Secretariat, Universiteitsplein 1, BE-2610 Antwerp-Wilrijk, Belgium. Tel/fax: 32-3-820.23.43; email:

vantdack@uia.ua.ac.be; web: chem-www.uia.ac.be/art2002/

July 21-25. The 6th International Conference of Ancient DNA and Associated Bio-molecules, Jerusalem, Israel. Contact: Mark Spigelman. Email: dna6@md.huji.ac.il

Aug. 14-21. 17th World Congress of Soil Science, Bangkok Thailand. Arid and Semi-Arid Soils: Records of Past Climates, Carbon Sequestration, Genesis and Management. Convenor: Brenda J. Buck; University of Nevada Las Vegas, Department of Geoscience, 4505 Maryland Parkway, Las Vegas NV 89154; tel 702-895-1694; email buckb@nevada.edu; web: <http://www.17wcss.ku.ac.th/>

August 28-31. 4th International Meeting on Phytolith Research, McDonald Institute for Archaeological Research, University of Cambridge, UK. For further information: Marco Madella, The McDonald Institute for Archaeological Research, Downing Street, Cambridge CB2 3ER. Tel: 44-(0)1223-333537; fax: 44-(0)1223-339285. Website available soon.

*Oct. 23-25. International Symposium on Ancient Gold Technology. Madrid. Contact Alicia Perea, Depto. de Prehistoria, Instituto de Historia, CSIC, Serrano 13, 28001 Madrid, Spain. email: sitoea@ceh.csic.es

2003

March 29-April 2. 3rd International Congress of Limnogeology. Tucson, Arizona, USA. Andy Cohen; email: acohen@geo.arizona.edu

June 21-26. The Fifth World Archaeological Congress, Washington, DC. To be held at the Catholic University of America, in partnership with the Smithsonian National Museum of Natural History & National Museum of the American Indian. Web: www.american.edu/wac5; email: wac5@american.edu; fax: 202-885-1837.

*Aug. 23-26. Common Ground: Archaeology, Art, Science, and Humanities. The XVI International Congress of Classical Archaeology of the Associazione Internazionale di Archeologia Classica (AIAC). To be held at the Sheraton Boston Hotel. Abstracts due November 2002. Contact: Amy Brauer, Department of Ancient and Byzantine Art and Numismatics, Harvard University Art Museums, 32 Quincy Street, Cambridge, MA 02138 USA. Tel: 617 495-3393; fax: 617 495-5506; email: AIAC2003@fas.harvard.edu; web: <http://www.aiac.org>

Sept. 1-5. 18th International Radiocarbon Conference, Wellington, New Zealand. Hosted by the Rafter Radiocarbon Laboratory and held in the Museum of New Zealand, Te Papa Tongarewa. For further information: Rafter Research Centre, PO Box 31 312, Lower Hutt, new Zealand; tel 64-4-570-4650; fax 64-4-570-4657; email 14Conf-info@gns.cri.nz

+Sept. 24-26. Archaeometallurgy in Europe, Milan, Italy. International Conference organized by the Associazione Italiana di Metallurgia. For more informatoin: AIM - Associazione Italiana di Metallurgia, Piazzale Rodolfo Morandi, 2. 1-20121 Milano, Italy. First announcement available on the conference website: <http://www.fast.mi.it/aim/archaeo.htm>

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Society for Archaeological Sciences

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