



SAS Bulletin

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From the Editor



With this issue I welcome you to the second quarter-century of the Society for Archaeological Sciences! Over the past 25 years we have certainly seen many significant developments in the application of scientific methods of analysis to archaeological materials. The accuracy of radiocarbon dating has improved tremendously with the development of detailed calibration curves, while the use of accelerator mass spectrometers has allowed the tiniest samples to be directly dated and thus avoids some of the contextual problems characteristic of many archaeological sites. The automation of many instrumental techniques of chemical analysis has also increased their precision, while reducing per sample costs. This has resulted in the creation of very large datasets for provenience studies of obsidian, ceramics, and other materials. In the case of obsidian, artifacts now may be attributed not only to a particular volcanic complex, but often to specific flows or outcrops, providing much more specific information about exploitation patterns and the cultural factors which regulated them. ICP mass spectrometers in particular have revolutionized the analysis of many materials, allowing for the measurement of most elements in the periodic table, and providing not only elemental concentrations but also isotope ratios. When equipped with laser ablation devices, samples may be rapidly analyzed with virtually no sample preparation and in a virtually non-destructive manner. Stable isotope analysis was first used for reconstructing ancient diets the year SAS was founded, and since 1977 this technique has been applied on all continents, and shown to be reliable even on samples many millions of years old. Controlled diet and other experiments have provided detailed evidence on how dietary carbon and nitrogen end up in different body tissues, with interpretations far more robust than simple estimates of C3 and C4 contributions to bone collagen. Recent studies have researched topics including age of weaning, population movement or individual migration, seasonal changes in diet, and individual variations based on sex, status, or other circumstances. There have also been tremendous advances in the development of remote sensing equipment, especially ground penetrating radar, for the detection and mapping of

archaeological sites without the cost of full-scale excavations and of course without any disturbance of the sites themselves. But perhaps the most exciting development has been the analysis of ancient DNA. From studies of Neanderthals who appear to be outside the range of modern humans, to documenting the lineages of early native Americans, to identifying the biological relationships of Egyptian pharaohs, to identifying the wild ancestor of maize, DNA studies have already made contributions to archaeology that just a short time ago were only dreams. In this issue of the *SAS Bulletin* we have several contributions in this area, including an overview of ancient DNA studies and practical information by Keri Brown (University of Manchester); a notice about the formation of a molecular-genetic center for archaeometry at the Institute for Anthropology in Mainz; and a report on an international collaborative research project on the origin of cattle breeding and dairy farming in Europe. I welcome similar contributions from our readers for future issues.

With this issue I also report that we have several new Associate Editors, and wish to thank those who have served in these roles up to this point. Susan Mulholland (University of Minnesota) was our Meetings Calendar editor for many years, keeping our readers aware of conferences all over the world and in a large range of subdisciplines, while Mike Waters (Texas A&M University) regularly contributed columns on geoarchaeology for the last several years. Colleen Stapleton, a recent graduate of the University of Georgia and a specialist in glass studies, is our new Meetings Calendar editor, and hopes that members will email her at cstaple@uga.edu with your notices of upcoming conferences and seminars. Frederic Pearl, a graduate of Texas A&M University who specializes in geoarchaeological applications in East Africa and elsewhere, is the new editor for Geoarchaeology, and hopes that members will submit to him (at fpearl@tamu.edu) notices about recent publications, conference papers, research projects, etc. Finally, Nora Reber (University of North Carolina) joins Michael Richards as associate editor for archaeological chemistry, and can be contacted at reber@uncwil.edu.

Robert H. Tykot 5 April 2003

SAS web page: <http://www.socarchsci.org>

In This Issue

Ancient DNA and Archaeology (K. Brown)	3
Molecular Archaeology in Mainz (R. Bollongino)	4
Archaeobiology (D.B. Landon)	6
Archaeometallurgy (M. Goodway)	7
Archaeological Ceramics (C.C. Kolb)	10
Book Reviews (M. Hall)	
<i>Before the Volcano Erupted</i> (R.J. Speakman)	27
Books Received	29
Meetings Calendar (C. Stapleton)	29

Postdoctoral Position for Research Archaeologist

We announce a Postdoctoral position in archaeology at the Archaeological Research Institute, Arizona State University (<http://archaeology.asu.edu>). Ph.D. in Archaeology required. Desired: interest/experience in interdisciplinary studies and conducting research on archaeological issues of central Arizona; interdisciplinary research experience or educational training relevant to modeling, hydrology, materials analysis, information management, or human/environmental impacts. The postdoctoral associate will work with and contribute to an ongoing interdisciplinary effort to understand the long-term prehistoric development of the Salt/Gila Basin. Position begins 8/15/2003. Send cover letter explaining interest in position and relevant expertise; a curriculum vitae; names, addresses, phone numbers and email addresses of 3 references; and reprints of relevant publications (limit of 3) to: Dr. Arleyn Simon, Post-Doc Search, ARI, Dept of Anthropology, PO Box 872402, Arizona State University, Tempe, AZ 85287-2402. Application deadline is 5/30/03; if not filled the 15th and 30th of each month thereafter until search closed. For inquiries, contact Arleyn Simon at 480-965-9231 or arleyn.simon@asu.edu. Position contingent upon funding. AA/EOE.

Funding Opportunity via the Claude C. Albritton, Jr. Award

The Albritton Award Fund of the Archaeological Geology Division of the Geological Society of America provides scholarships and fellowships for graduate students in the earth sciences or archaeology for research. Recipients of the award are students who (1) are working toward a postgrad (M.A./M.S. or D.Phil/Ph.D. degree in earth sciences or archaeology; (2) demonstrate an interest in applying earth science methods to archaeological research; and (3) express interest in a career in teaching and academic research. Awards in the amount of \$650 are given in support of thesis or dissertation research,

with emphasis on the field and/or laboratory aspects of the research.

Further information about these scholarships and links to the applications may be found at <http://rock.geosociety.org/arch/>

Characterising Waterlogged Burial Environments

Applications are invited for a three-year, fully funded, PhD studentship at the University of Hull. The project is jointly funded by English Heritage, The Countryside Agency and the University of Hull, and the student will be located in the university's Wetland Archaeology & Environments Research Centre.

Supervisors: Dr M.C. Lillie (WAERC, University of Hull) and Dr S. Ellis (Department of Geography, University of Hull), with additional supervision provided by the Department of Biology, University of Hull.

Background: Recent research funded by English Heritage, The Countryside Agency and the University of Hull has sought to advance our understanding and characterisation of waterlogged burial environments with the aim of ensuring effective in situ preservation of the archaeological resource. Given the continued degradation of wetland areas, and the preservation in situ as the preferred approach to such burial environments, further research into the modelling and characterisation of these environments is an important research priority for many regional and national agencies. A selection of contrasting sites will form the basis of the current study, which will examine parameters such as watertable dynamics, soil components, microbiology and groundwater quality.

Objectives: Developing from two recent PhD projects on watertable dynamics and the preservation of oak wood in a variety of burial environments, this research will seek to define the key parameters that impact on the buried resource. From this platform, methods will be developed for the quantification and recording of the buried resource, and techniques for promoting in situ preservation will be assessed. The research will provide the student with expertise in field and laboratory analytical techniques involved in studying burial environments and watertable dynamics, and their integration with other datasets, and the skills obtained will be relevant to a range of careers in archaeological and environmental sciences.

Application information: The studentship will start before 28 July 2003. Applicants should have (or expect to gain) a good Upper Second or First Class Honours degree, or a Masters degree, in a relevant discipline (e.g. archaeological sciences, geohydrology, or related aspects of environmental science) and be normally resident in the UK.

The closing date for applications is 28 April 2003. Application is by letter and a CV, giving the names and contact details of three academic referees, which should be submitted to Dr. M.C.Lillie by the above closing date. Further details are available at <http://www.hull.ac.uk/wetlands> or <http://>

Advertise your job, post-doc, and student opportunities here. Contact the Editor for further information.

www.hull.ac.uk/geog/ or by contacting Dr Malcolm Lillie, Wetland Archaeology & Environments Research Centre, University of Hull, Hull HU6 7RX (Tel: 01482 465325, Email: m.c.lillie@hull.ac.uk).

New Edition of CalPal

A new edition of CalPal (Cologne Radiocarbon Calibration & Paleoclimate Research Package) can be downloaded from <http://www.calpal.de>. Along with a number of refinements in graphic output, there are two main new features in the new edition, both supporting archaeological and palaeoclimate research in the Holocene and Glacial periods.

First, the CalCurveComparer is completed. This is a twin-window dialog with easy-to-use functions (e.g. Add & Remove files) to study the properties of all ^{14}C data sets and climate proxies that may be of interest in refinement and Glacial extension of the ^{14}C -age calibration curve. A climate box supports the synchronisation and visual fine-tuning of climate proxy age models (e.g. ice-cores) and corresponding (e.g. marine, lacustrine) ^{14}C -data sets.

Second, beginning with this edition of CalPal, all calibration programs are equipped with a slider, by which we have fingertip control over the shape of the calibration spline. This feature will be useful when studying the influence of the calcurve shape on radiocarbon age models. Additional details can be taken from the update-log: <http://www.calpal.de/calpal/update.htm>. For further information, email info@calpal.de

Ancient DNA and Archaeology – Practical Advice for Field Practice

Keri A. Brown, Department of Biomolecular Sciences, UMIST, P.O. Box 88, Manchester M60 1QD, United Kingdom; email keri.brown@umist.ac.uk

Ancient DNA (aDNA) is the name given to the short fragments of DNA that may be preserved in various types of biological material. Of huge interest to archaeologists is the fact that ancient human DNA can be recovered from human bones and teeth from archaeological sites where the preservation conditions are favourable. Ancient human DNA research has been around awhile now – the first report of DNA from human bone was published in 1989 (Hagelberg et al, 1989). Fourteen years later, what has ancient DNA achieved that is relevant for archaeology? Has it indeed realised its potential as a new tool for giving insights into past social organisation and population affinities? Many would say no. As well as being the enabling technology that made ancient DNA an exciting new research field, the Polymerase Chain Reaction (PCR) has also proved to be a source of great technical difficulties. These difficulties are particularly acute when ancient human DNA is used as the template for amplification. In fact, these difficulties are so great that at recent meetings, some aDNA researchers have suggested that all ancient human DNA results should be discarded, and even that research on ancient human DNA should cease. The problem can be summed up in one word – contamination.

The question that all ancient human DNA researchers face from their peers is ‘How do you know that’s authentic ancient human DNA and not contamination from modern human DNA?’ PCR can amplify (copy) from as little as one molecule of template DNA. If the ancient DNA extracted from human bone also contains a few molecules of contaminating modern human DNA, then this will be amplified in preference to the fragmented, damaged ancient DNA. A lot of time is spent in anti-contamination procedures in the laboratory – however it is suspected that contamination of ancient human samples takes place before the samples ever reach the scientist. The field archaeologist is the prime suspect, I’m afraid.

Sources of contaminating modern human include dead skin cells, sweat, saliva, blood, and dandruff. Handling human remains with bare hands will contaminate those remains with modern DNA. Washing bones in a bucket of water (as happens in the field) will contaminate them. The aDNA worker can take measures against contamination, such as UV irradiating and removing the outer surface of bone samples, and extracting DNA only from bone drilled from the interior portion, but doubts over the subsequent PCR results will always be present. Several years ago I published guidelines for taking DNA samples in the field - it is worth repeating these guidelines here for archaeologists who are interested in applying DNA analysis to their site and wish to incorporate the correct sampling methods into their excavation strategies.

1. Wear clean gloves when excavating and handling material for DNA analysis. Disposable medical latex gloves are ideal as the outer surfaces of these are sterile. Some

Journal of Nordic Archaeological Science

The journal JONAS (Journal of Nordic Archaeological Science) publishes papers within the field of archaeological science, with an emphasis on the Nordic-Baltic region. The aim is to solve archaeological problems through the integration of a wide range of scientific and technical methods, e.g. soil chemistry, bone chemistry/DNA, palaeopathology, archaeobotany, diet, metallurgy, textiles, analyses of the structure of various materials, prospecting, preservation of objects etc. The journal is addressed to archaeologists in general and any scientist working in an interdisciplinary context with an archaeological connection or interest. By placing this emphasis on problem solving and integration we hope to fill a gap between journals on general archaeology and those devoted exclusively to archaeological science. All articles are peer reviewed by distinguished scientists. Notes for Authors are found on the JONAS homepage.

JONAS is published yearly, and the subscription fee is 125 SEK (c. 14 EUR/USD), excluding postage and packing. Students are offered a reduced subscription fee of 50 SEK (<6 EUR/USD). Order and subscription details can be found on the JONAS homepage.

For more info, contact JONAS Editorial Board, Journal of Nordic Archaeological Science, AFL, Greens villa, SU, S-106 91 Stockholm, Sweden; fax +46 8 674 73 66; email jonas@arklab.su.se; web: <http://www.archaeology.su.se/arklab/jonas>

archaeologists do use these gloves routinely for excavations. Rubber gloves are acceptable, provided they are rinsed thoroughly with clean water after being put on. Beware of contaminating the gloves you are wearing by eg. scratching your skin or touching your hair. Change gloves for each new sample. Beware of 'bare arm syndrome' caused by a gap between gloves and sleeve edge. Prevent exposure of skin by taping the ends of the gloves to your sleeves if necessary.

2. Cover nose and mouth with a surgical mask or at least a clean scarf. There are no grounds as yet for banning beards in archaeology (pity!), unless yours has dandruff. Keep hair tied back or covered by a shower cap.

3. Do not smoke.

4. Keep sample dry at all costs. If it is already wet then place it on a clean surface and let it dry thoroughly. Prevent people from standing around gawping at it, sneezing or coughing or even breathing on it.

5. Do not allow the sample to come into contact with the ground once it has been excavated.

6. Store the sample in a clean (preferably sterile), dry, airtight container. A screw-cap bottle or container is ideal. Do not store in plastic bags as these encourage the growth of microorganisms.

7. Store samples in a cool, dark place, ideally a fridge (I realise that the dig's beer supplies may have to be moved out). Longer term storage requires a -20 C freezer. Keep out of direct sunlight.

8. Many archaeologists have asked 'How much bone do you need for DNA?' Just a few grams, but ideally samples should be taken from two or three different bones in the same individual (in separate bags, please) Any part of the skeleton is suitable, including teeth. Use clean, dry metal tweezers or similar implements – sterilise by flaming with a cigarette lighter frequently, and always between taking samples from different individuals.

9. Make a note of soil conditions around each bone sample – type of soil, pH, presence of other objects such as metal, dry or wet soil conditions etc.

10. Finally, unless a biomolecular archaeologist is taking the samples, all archaeologists involved in the excavation of the human remains should also have their DNA sampled (usually a saliva swab – non invasive). This is to eliminate sources of contamination in the laboratory.

The above may seem like a lot of additional work for the archaeologist – but it is no more difficult than taking samples for radiocarbon dating. The entire skeleton does not have to be excavated by someone wearing gloves, mask and shower cap – only the parts taken for DNA analysis need these precautions. Once sampling has been carried out, the rest of the skeleton can be excavated as normal, or even in the nude if you want.

Another frequently asked question is 'How much does aDNA analysis cost?' This is like asking how long is a piece of string. Because of the variable preservation of ancient DNA, we cannot carry out aDNA analysis as a scientific routine that will give a result every time. Just to have confidence in a DNA-based sex identification, a PCR may need to be carried out three or four times on two separate extractions from the same individual. A kinship analysis of a small burial group might take

two to three years to carry out. If ancient human DNA work was easy, it would by now have rewritten social archaeology. As with many other areas of science, the main limiting factor is money. There are no ring-fenced funds for aDNA work so it has to compete with other DNA research for the same pot of money. Molecular biology is a fast moving, but above all, expensive business, but the major cost involved in aDNA work is the scientist's salary. This kind of analysis demands highly skilled persons with enormous optimism. So before starting a project where the director might wish to have DNA analysis applied, the director should start talking to aDNA people about what is and what isn't possible with ancient DNA, about the questions that the director wants to ask and have answered by ancient DNA, and about the costs and where funds might be obtained from for the DNA work. I have had many phone calls from archaeologists who are excited by ancient DNA. They say things like 'We have just excavated 200 skeletons – can you get DNA out of them?' I say 'Yes, but what do you want to know? What questions do you want to address with DNA analysis?' In other words, what is the hypothesis they want to test via DNA. Sometimes they don't know. Often they have little idea of just how long it would take to analyse 200 skeletons to the standards established by the aDNA community – it would probably take 3-5 years. And the cost? This would be a major research project and should be funded as such.

I don't want to sound discouraging. If you have a good research question that you think can be answered by aDNA analysis, and you think you can get funding for it, then talk to the best and most reputable researchers and set up good collaborations. Invite them to give seminars, conference papers etc, take them out into the field to see the archaeology, get a good working relationship going. Get your collaborator into the field to take bone samples themselves, or make sure you take samples following the guidelines above. If the funding isn't in place and you can't get anyone to do the work immediately, bone samples can be kept in a -20 C freezer for quite long time. But above all, ask the right questions, and remember to use other approaches such as stable isotope analysis and strontium isotope analysis in conjunction with the DNA. A whole swathe of new scientific techniques are now available to archaeologists, and it might just be that one of these could answer the questions asked by archaeologists instead of DNA. But for many questions in archaeology, only DNA analysis may provide the answers.

Molecular Archaeology at Johannes Gutenberg-University Mainz

With the founding of a molecular-genetic centre for Archaeometry at the Institute for Anthropology in Mainz a large part of the scientific work is now targeted to resolve archaeological questions with newest scientific techniques. Four of the eleven laboratories established are trace-labs dedicated exclusively to the analysis of ancient DNA from (pre)historic specimens. The crucial aim of our research is the analysis of

population structures of passed societies. Both kinship and social differentiations within populations and the relationship between populations and migration are examined.

Since investigations of skeletal finds of different culture levels are still rarely performed regarding the DNA content, it is a helpful prerequisite for both archaeological and molecular-genetic co-operation in this field to first test skeletal collections for the preservation of biomolecules.

It would be of great interest to analyse human and bovine samples from the neolithic period in Europe, esp. those cultures which are associated to early farming and stock breeding. In order not to unnecessarily waste sample material and to avoid laboratory expenditure, it would be meaningful to investigate three individuals with preliminary tests regarding the preservation of endogenous ancient DNA. Teeth especially lend themselves to this purpose. If teeth are not available, then unbroken/closed bones like femora, humeri, phalanges or foot bones would be suitable.

Since the question is of high scientific interest for us, we will cover all laboratory costs. We ask however for your kind help concerning the retrieval of archaeological publications and for practical assistance with the selection and sampling of specimens. Of course we are at your disposal at any time for further inquiries and discussions. One of the co-workers will contact you soon concerning possible sampling. Thank you for your co-operation.

Ruth Bollongino Dipl. Biol., Dr. Barbara Bramanti, Wolfgang Haak M.A., Dr. Joachim Burger, Prof. Dr. Kurt Alt

The First Farmers in Europe and the Origin of Cattle Breeding and Dairy Farming Biomolecular Archaeometry of the Neolithic

Description of the project

In the context of a multidisciplinary project about the Neolithisation of Europe the main molecular-genetic and biochemical investigations will be carried out on meso- and neolithic human and bovine skeleton finds. The project is performed by the following four institutions: Institute for Anthropology, University Mainz; Department of Evolutionary Biology, University Uppsala; The Archaeological Research laboratory, University Stockholm; and Postgraduate Institute in Fossil Fuels and Environmental Geochemistry, The University Newcastle upon Tyne.

There are several divergent theories used to explain the so-called Neolithic Transition. These serve in this ongoing project as working hypotheses that will be tested by scientific methods. Both human and bovid samples will be collected as a basis for molecular-genetic, protein-chemical and physical examination. The following will be examined in detail: DNA will be isolated from Neolithic as well as pre-Neolithic human skeletons and the sequence transcribed, i.e. read. The neolithic DNA sequences will be compared with sequences from the Meso- and Late Palaeolithic. Possible differences or similarities should reflect population changes or continuity during the Meso-Neolithic Transition. In a second step, Central European Neo-

and Mesolithic populations will be compared with contemporary populations from Eastern Europe, the Balkans and Anatolia, to provide evidence of migration or movement patterns.

The same methodology will be applied to Neolithic aurochs and cattle samples, to provide evidence for the process of the domestication of cattle, i.e. to test whether the cattle were bred from local populations of Aurochs or imported from the southeast. We already have results from 13 different Neolithic sites from Middle Europe and the Balkans. The mitochondrial sequences clearly show that it is possible to distinguish aurochs from domestic cattle. The differences between the respective matrilineages give a hint to an import of cattle. Thus it is possible to find sufficient amounts of DNA in the ancient samples and to retrieve data that make it possible to reconstruct the course of the Neolithic Transition.

Since the preservation of biomolecules in the appropriate archaeological layer, esp. in the LBK can be poor, protein-chemical and mineralogical analyses will be used prior to the genetic investigations as screening methods. These are characterised by the fact that they can be carried out quickly and economically. With the aid of these preliminary investigations we can pre-select samples and continue with molecular-genetic methods only in cases where the preservation of biomolecules is good.

In addition to the analysis of the skeletal material, ceramic(s) will be examined biochemically for milk residues in Newcastle. This will provide information about the spread of dairy farming in the Neolithic and will hopefully lead, in connection with the data from the Aurochs and cattle, to a detailed overview of the early arable farmer and cattle breeder in Central Europe.

What samples do we need?

General: If possible 5 samples per individual (concerning human samples) from 2-3 different anatomical elements (tooth from right and left lower jaw, or 1 tooth and 1 phalange) but at least 3 samples minimum: (a) 3 samples for DNA analysis (each 0.5 g or more); (b) 1 sample for collagen- and mineral-analysis (protein preservation) (0.3 g); (c) 1 sample for the X-ray diffraction (general decomposition test) (0.1 g)

The samples should be: (a) a tooth in alveole (for human samples); (b) ca 1x1cm parts of intact long-bones, whose surface can be clearly removed or; (c) taken directly from the excavation site (in situ) by us or handled with gloves, face masks etc. (in case of human samples, bovine samples are not that sensitive against contaminations)

Bovine samples (please contact Ruth Bollongino): Mesolithic: Aurochs, only with good morphological preservation and not from damp soil; Neolithic: Aurochs and/or cattle, only in a good morphological preservation state and not from damp soil

Human samples (please contact Barbara Bramanti or Wolfgang Haak): (Paleolithic and) Mesolithic: any possible; Neolithic: only in a good morphological preservation state and not from damp soil.

Type of sample: The sampling will be discussed in detail with you on the telephone or per email (for addresses and numbers see below). Concerning human samples, we prefer to work with tooth roots, this has – if necessary – the advantage

of maintaining the tooth crown intact, which can be unnoticeably replaced in the original jaw. In case of bovine samples we prefer bone compacta, as teeth have only very thin layers of dentine.

Short description of the methods

The Extraction of DNA is performed by means of a specialized phenol/chloroform protocol. This effectively removes not only proteins but also contaminating material from the soil, without destroying the DNA and should leave only pure DNA for further analysis.

The Duplication of the DNA molecules is obtained by means of the so-called polymerase chain reaction (PCR). This is the main part of the investigation and at the same time the most sensitive. Here the DNA molecules are read and copied by an enzyme. This works so efficiently that it is possible to obtain an analysable quantity of the molecules. Unfortunately, at the same time modern contamination could also be multiplied. Therefore, the modern DNA must be removed before extracting DNA if possible (for instance by UV irradiation of the surface) or separated afterwards and genetically identified (by cloning). Possible contaminations will be detected by blank controls that accompany every step in the laboratory.

Afterwards, the analysis of the multiplied DNA is performed with the technique of DNA-sequencing. This is a procedure, which reads the genetic code of the nucleic acids (= DNA). The evaluation of the data and the genetic interpretation concerning the population structure are carried out last.

Contacts

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Dipl. Biol. Ruth Bollongino (contact partner bovine samples), tel ++49 (0)6131 / 392 3574; email rbollongino@web.de

Wolfgang Haak M.A. (contact partner human samples), tel ++49 (0)6131 / 392 3575; email haakw@mail.uni-mainz.de

weeks of archaeological excavation and sample collection at Sylvester Manor; and five weeks of laboratory work studying excavated materials and field data.

The fieldwork takes place at Sylvester Manor, Shelter Island, New York, and the laboratory work takes place in the archaeology labs at UMass Boston. Sylvester Manor is a 250-acre site with extensive archaeological remains of a Late Woodland (pre-contact) Native American settlement, and a 1652-1735 agricultural plantation established to ship provisions to the Caribbean. UMass Boston is currently in its fifth season of work at the site. The primary goals of the research are to understand the patterns of cultural interaction and cultural change among the diverse groups on the plantation, and to reconstruct land use and landscape change through time. At UMass Boston the program participants will work in five Fiske Center archaeology laboratories which include a zooarchaeology type collection; equipment for making petrographic thin section; equipment for extracting pollen; reference collections for the identification of archaeological wood, seeds, and pollen; a Flote-Tech machine for processing archaeological sediment samples; and equipment and microscopes for extracting and identifying archaeological parasites.

Students receive a \$300 per week stipend with the project covering most living expenses. Participants must be US citizens or Permanent Residents enrolled in college. Applications are due April 4 each year for the following summer. Application forms can be downloaded from the web site: <http://www.fiskecenter.umb.edu/reu.html>

For more information contact: Dr. David B. Landon, Anthropology Department, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125; tel 617 287-6835; email david.landon@umb.edu

New Publications of Interest to Archaeobiologists

People and Plants in Ancient Eastern North America, by Paul E. Minnis. Smithsonian Institution Press, 416 pages; 70 b/w photographs. April 2003. Minnis's edited volume provides an overview on the interrelationships between people and plants in ancient eastern North America. It presents the latest information on three major topics: the use of native plants; the history of crops and their uses; and the impact of humans on their environment. A companion volume, *People and Plants in Ancient Western North America*, is also forthcoming. Web: <http://www.sipress.si.edu/>

Archaeobiology, by Kristin Sobolik. AltaMira Press, Archaeologist's Toolkit Series, estimated at 200 pages. April 2003. Sobolik's book provides a general overview of the major activities of archaeobiologists, the kinds of analyses they can provide to an archaeological project, and how biological specialists could and should be involved in project design and implementation. She also outlines factors that influence preservation of plant and animal remains and how project archaeologists should properly collect and analyze specimens. Web: <http://www.altamirapress.com/Catalog/>

Archaeobiology Research Experience for Undergraduates

Sponsored by the National Science Foundation and the Andrew Fiske Memorial Center for Archaeological Research, University of Massachusetts Boston

During the summers of 2003-2005, the NSF and the Fiske Center at UMass Boston are supporting a ten-week program of archaeological excavation and laboratory work focused on the collection and analysis of archaeological data, including animal bones, shells, macrobotanicals and pollen. The program is comprised of one week of orientation in the laboratory; four

Archaeometallurgy

Martha Goodway, Associate Editor

The big news in archaeometallurgy is that Radomir Pleiner has finally published his magnum opus, *Iron in Archaeology: The European Bloomery Smelters* (Prague 2000.) Pleiner promises a second volume on blacksmithing, but in the meantime this one [ISBN 80-86124-26-6] may be obtained from the publisher, Institute of Archaeology, Library, Letenská 4 CZ-118 01 Praha 1, Czech Republic; tel 02-57533782, fax 02-57532288, email knihovna@arup.cas.cz for £22 or DM22, which does not include shipping, or through dealers such as Beier&Beran - Archäologisch Fachliteratur, Thomas-Muntzer-Str. 103, D-08134 Langenweissbach, Germany, email verlag@beier-beran.de; Kubon&Sagner, Buchexport-Import, P. O. Box 341018, D-80328 Munich, Germany; Rudolf Habelt GmbH, Am Buchenhang 1, D-53115 Bonn, Germany; or Oxbow Books, Park End Place, Oxford OX1 1HN, United Kingdom.

Pleiner's book received an extensive and very laudatory review article by Peter Crew in *Historical Metallurgy*, volume 35 (2001) pages 99-102, who described it as magisterial. The same issue contained reviews of two other books of interest. My review of *The Domestication of Metals: The Rise of Complex Metal Industries in Anatolia* by K. Aslihan Yener [ISBN 90 04 11864 0, Volume 4 in the series, Culture and History of the ancient Near East edited by B. Halpern, M. H. E. Weippert, Th. P.J. Van den Hout, and I. Winter (ISSN 1566-2055,) Leiden, Boston, Köln (Brill) 2000, list price (hardcover) US\$76.00] appears on pages 103-104. Chapter 3 on Kestel, the cassiterite (tin ore) mine, and the smelting site of Göltepe, located in the Taurus Mountains of Anatolia, and chapter 4 on the smelting process are probably of the greatest interest. Mining activity dates to the EBA, perhaps before 3000 BC, and did not cease until about 2000 BC. From the workings so far reached a yield of at least 200 tons of tin is estimated.

David Crossley reviewed *The State and the Iron Industry in Han China* by Donald Wagner, Copenhagen (Nordic Institute of Asian Studies Reports, no. 44) 2001, on page 103 of the same issue. The volume is available in hardcover at £30 [ISBN 87 87062 83 6] or in paperback [ISBN 87 87062 77 1] for £14-99 or at the author's special price of £10 each plus delivery by sending to NIAS an email (books@nias.ku.dk) or fax (45 3296 2530) referring to author's offer. Wagner's book is highly readable and covers the period between 117 BC and about 25 AD. Unlike Europe, bloomeries apparently were absent and so did not present a local alternative to blast furnace technology, which could be centralized under state control.

Ore deposits from prehistoric times through the 17th century are presented in addition to major rock and mineral deposits, in *Archaeomineralogy* by George R. ("Rip") Rapp [ISBN3-540-42579-9 hardcover], published in 2002 as part of the Natural Science in Archaeology series. It can be ordered from Springer-Verlag New York Inc., New York NY 10010, for EUR 79,95 or US \$89.95. They will take Visa/Barclaycard/BankAmericard, Eurocard/Access/MasterCard, or American Express.

The Virtual Atlas of Opaque and Ore Minerals and their Associations, containing over 400 photomicrographs of ore-forming associations and opaque minerals, has been produced by Robert A. Ixer and Paul R. Duller in both hardback or on CD and is available from the authors. Contact Ixer at the Department of Geological Sciences, Birmingham University, England or Duller at Kerr McGee Oil (U.K.), 75 Davies Street, London, England. More information on the web at www.smenet.org/opaque-ore/Ixerfrnt.

The Proceedings of the Fifth International Conference on the Beginnings of the Use of Metals and Alloys (BUMA-V) that was held in Gyeongju, Korea, from April 21-24, *Messages from the History of Metals to the Future Metal Age*, edited by Gyo-Ho Kim, Kyung-Woo Yi and Hyung-Tai Kang, [ISBN 89-85670-84-X 93570] have already been published by the Korean Institute of Metals and Materials, 4F, East Wing, POSCO Center, 892 Caechi-4 Dong, Kaangnam-gu, Seoul 135-777, Korea. One of the more interesting papers, by Duk-Hyon (pages 29-34,) was on a technique used after the Korean war, from 1959 to the 1970s, to produce steel that required very little capital by combining a cupola with a side-blown converter. This paper appears to be the only record of the process and is based on interviews of the participants.

David A. Scott has produced a new but sensible combination of information on pigments and corrosion products in his book, *Copper and Bronze in Art: Corrosion, Colorants, Conservation*, published by the Getty Conservation Institute, 2002 [ISBN 0-89236-638-9.] It can be ordered from Getty Publications Distribution Center, Department CFB2, PPO Box 496659, Los Angeles, CA 90049-0659, tel 800-223-3431 or 310-440-7333, fax 818-779-0051, or online at getty.edu for US \$70.00, plus 8% sales tax for California residents or 7% GST for Canadian residents, plus \$4 shipping in the US or \$6 abroad. They will take a check or money order in US dollars, Visa, MasterCard or American Express. The book is well illustrated and the content wide ranging. In addition to a discussion of patinas and conservation treatments it goes into subjects such as turquoise, Egyptian blue and the production of verdigris.

Jim Charles has written a highly detailed autobiography of his professional life since his days as a student at the Royal School of Mines to his retirement from Cambridge. *Out of the Fiery Furnace: Recollections and Meditations of a Metallurgist* by J.A. Charles (hardback, ISBN 1 86125 106 8) is published by IOM Communication Ltd (order code B729) Shelton House, Stoke Road, Shelton, Stoke-on-Trent ST4 2DR, UK, tel 44-1782 221717, fax 44 1782 221722, for EU £18.95, including postage and handling, and non-EU \$27.50, which does not. Members of the Institute of Metals are entitled to a 20% discount. Major credit cards are accepted. It contains reference to his work in archaeometallurgy (he is Visiting Professor at the Institute of Archaeology, University College London) but much of the book requires a more advanced knowledge of metallurgy than most of us possess. Doubtless this will have great value to future historians of metallurgy.

Much easier going is R.W. Cahn's *The Coming of Materials Science*, 2001 [ISBN 0-08-042679-4] which can be ordered from the Materials Research Society, 506 Keystone Drive, Warrendale PA 15086-7573 (tel 724-779-3003 fax 724-

779-8313 email info@mrs.org) for \$64 plus \$4 shipping in the US.

The second edition of *Minerai, scories, fer: Cours d'initiation à l'étude de la métallurgie du fer ancienne et à l'identification des déchets de cette industrie / Erze, Schlacken, Eisen: Einführungskurs zum Studium der frühen Eisenmetallurgie und der Bestimmung der abfälle dieser Industrie* (Ores, slags and iron) by Cornel Doswald, Anika Duvauchelle, Ludwig Eschenlohr, Walter Fasnacht, Verena Schaltenbrand Obrecht, Marianne Senn-Luder, and Vincent Serneels is available for CHF 30- from VATG (Hansjörg Eichin, Archäologische Bodenforschung, Petersgraben 11, CH-4051 Basel, fax +41 (0)61 267 23 76). It contains the papers from the introductory course organized in November 1997 by the Swiss Association of Archaeological Technicians (ASTFA/VATG) and revised by the Swiss Working Group for Iron Archaeology (GSAF/SAGEA). The German and French are presented as parallel texts.

Paul T. Craddock's *Early Mining and Production* (1995) is on sale from The David Brown Book Company, PO Box 511, Oakville, Connecticut 06779 (tel 860-945-9329 or 1-800-791-9354, fax 860-945-9468) for \$19.98. Add \$4 for shipping. They will take Visa, MasterCard or American Express.

William O'Brien, the excavator of the copper mines at Mount Gabriel and Ross Island in southwest Ireland, has written *Bronze Age Copper Mining in Britain and Ireland* [ISBN 0-7478-0321-8], 1996, as part of Shire Archaeology series (Shire Publications Ltd., Cromwell House, Church Street, Princes Risborough, Buckinghamshire HP27 9AA, United Kingdom.) It is a solid introduction, being well illustrated (43 figures) and concise (64 pages).

Lars Norbach has edited *Early Iron Production: Archaeology, Technology and Experiments* ((Historisk Archaeologisk Forgoecenter Lejre Tech Rep 3, 1997), the proceedings of the 1996 conference held at Lejre, Denmark. It is available from David Brown for Pb£19.50 or US\$35.00.

This is also a source for *Prehistoric Gold in Europe*, edited by Giulio Morteani and J. P. Northover, of the papers given at a NATO Advanced Research Workshop held in Germany in 1993. It was published by Kluwer in 1995 and is a bit pricey at \$378. They also carry *Archaeometallurgy in India*, edited by Vibha Tripathi from a 1991 seminar held at Benares Hindu University (Sharada Publishing House 1998), for \$108.

According to T. M. Babu, in *Tin in India* (Mineral Resources of India 7) 1994 [ISBN -81-85867-10-0] published by the Geological Society of India (P. B. 1922, Gavipuram, Bangalore-560 019) the only tin-producing center in the country was Nurungo in Bihar. Aboriginal 'kols' used to dig up the ore and obtained white metal, mistaking it for silver.

The study by Helena Zoll-Adamikowa, Maria Dekówna and Elżbieta Maria Nosek of *The Early Mediaeval Hoard from Zawada Lanckorońska (Upper Vistula River)*, 1999, has been published by the Institute of Archaeology and Ethnology of the Polish Academy of Sciences (00-140 Warszawa, al. Solidarności 105, Poland, tel/fax (48 22) 624 11 63). It is fully illustrated, including scanning electron micrographs of the filigree and granulation that was liberally used in this jewelry.

Archaeometallurgy in the Central Europe, a special issue

of Vychodoslovensky Pravek, was edited by ěubomir Mihok and Elena Miroššayová and published by the C Archaeologický ústav SAV Nitra, Košice & Hutnícka fakulta TU Košice in 1999 [ISBN 80-88709-08-3]. The eighteen papers are almost all in English with Slovak summaries and cover many archaeological objects. It also includes a paper by Allan R. Williams on Bohemian armour (pages 27-40).

A few papers of interest to archaeometallurgists, such as one by Effie Photos-Jones and coworkers on metal threads in ecclesiastical textiles, and a summary of tin-covered pottery and its chemical analyses by C. Gillis, were published in *Archaeometry Issues in Greek Prehistory and Antiquity*, edited by I. Bassiakos, E. Aloupi and Y. Facorellis. More information is on the web at: <http://www.archaeometry.gr/publication/sybosio/index-eng.htm>.

Lars-Erik Englund's doctoral dissertation at Stockholm University, *Blästbruk: Myrjärnsbanteringen förändringar i ett långtidsperspektiv* (Jernkontoret Bergshistoriska Skriftserie nr 40), was published by Jernkontoret (Box 1721, S-111 87 Stockholm) in 2002. Only 16 pages of summary and the figure captions are in English.

Vincent C. Pigott's *The Archaeometallurgy of the Asian Old World* (University Museum Monograph 89, MASCA Research Papers in Science and Archaeology Vol. 16), 1999, is available from the University of Pennsylvania Museum of Archaeology and Anthropology Publications, 33rd and Spruce Streets, Philadelphia PA 19104-6324, (www.upenn.edu/museum_pubs/, tel 215-898-4124, fax 215-573-2497, email: publications@museum.upenn.edu). The order number is 0-924171-34-0 and lists for \$42. Shipping is \$5.50, \$7.50 international and they take Visa and MasterCard.

For those that knew Theodore Wertime well, the book by his son, Richard Wertime, *Citadel on the Mountain: A Memoir of Father and Son*, New York 2000 [ISBN 0-374-12378-0, US\$23] may be very unsettling in spite of good reviews. The citadel of the title was Ted's self-designed and energy-conserving home in the hills of Pennsylvania.

Interest in the Delhi iron pillar seems endless. Professor R. Balasubramaniam of the Indian Institute of Technology in Kanpur is the author of *Delhi Iron Pillar: New Insights* [ISBN 81-7305-223-9], which can be obtained for US\$90 including 1st class shipping from Aryan Books International, Pooja Apartments, 4B Ansari Road, New Delhi 100 002 India (tel 3287589, 3255799 fax 327 0385 email aryanbooks@vsnl.com, or bala@iitk.ac.in).

A doctoral thesis by Francine Papillon, *Contribution à l'Étude de la Paléoméallurgie du Cuivre et du Cuivre-Arsenic à Partir de l'Analyse des Éléments Légers et de Fusions Expérimentales*, [ISSN 0429-3460] was issued in November 1997 by CEA (Commissariat à l'Énergie Atomique) Saclay, Direction des Technologies Avancées, Centre d'Études et de Recherches sur les Matériaux, Département d'Études du Comportement des Matériaux, Section de Recherches de Métallurgies Physique as Rapport CEA-R5772. Papillon compared laboratory melts with those done in the field and with archaeological material, and found that the carbon and oxygen contents of those done in the field were closer to those of ancient artifacts.

A three-part series, “La sidérurgie ancienne et l’exploitation minière dans les Montagnes Sainte-Croix (Petite Pologne),” by Kazimierz Bielenin, Michel Mangin, and Szymon Orzechowski was published in *Dialogues d’Histoire Ancienne*: “I. Bilan des recherches 1955-1990” in volume 21 (1995) 203-224; “II. Ateliers, habitat, chronologie” in volume 22 (1996) 327-373; and “III. Archéométrie et histoire: les Montagnes Sainte-Croix et les régions productives européennes (fin de l’Âge du Fer - début du Moyen Âge)” in volume 24 (1998) 139-193. The bloomery furnaces in this area produced at least 10000 tons of iron in the Roman period alone.

The Archaeotechnology column in the *JOM, the Journal of the Mining, Metals, and Materials Society* presented papers on gold and silver from the Sipan tombs by Horz and Kallfass in December 1998; damascus steel blades by Verhoeven et al. in September 1998; “Kosovo mining, metallurgy, and politics: eight centuries of perspective” by Milovan Vukovic and Ari Weinstein in May 2002 (21-24). The column is now being conducted by Michael Notis, director of the Archaeometallurgy Laboratory at Lehigh University (www.lehigh.edu/~inarcmet).

The 34th International Symposium on Archaeometry (34th ISA) will be held for the first time in China, 4-8 May 2003 in Hefei. Information and forms are on the website at www.archaeometry.ustc.edu.cn.

Charcoal-making skills training is conducted at the Hopewell Furnace National Historic Site in Elverson, Pennsylvania, for up to ten days. The 5-chord burns require of the apprentices good physical condition and endurance to heat. For schedule and other information contact Park Ranger Dick Lahey, Hopewell Furnace NHS, 2 Mark Bird Lane, Elverson PA 19520 (tel 610-582-8773 ext. 227; email richard_lahey@nps.gov).

An international conference in Sweden on “Norberg-Nora: 700 Years of Iron Production” has been announced for 18-22 August 2003. There will be field trips to Lapphyttan and its reconstruction, Avesta, Koppardalen, Olsbenning, Engelsberg, Oljeön, Pershyttan, Gyttop, and Oxhyttorna. A trip to the copper mine at the World Heritage Site of Falun on 22-23 August can be added. The conference language will be English. For information the website is www.framtidshyttan.com. Conference secretary is Anna-Karin Collin, Framtidshyttan, Norbergs Kommun, Box 25, SE-738 21 Norberg, Sweden (tel +46 223 290 00; fax +46 223 219 38; email anna-karin@framtidshyttan.com).

The Annual Conference 2003 of The Historical Metallurgy Society will be held on Exmoor 12-14 September 2003 at the Yarn Market Hotel in Dunster. In addition to lectures and members’ contributions, field trips are planned to include lead-silver exploitation in Combe Martin, excavations at Sherracombe Ford and Roman Lode, the finery in Horner Wood and mining on the Brendon Hills. A deposit of £50 should be sent to Gill Juleff (HMS), University of Exeter, Department of Archaeology, Laver Building, North Park Road, Exeter EX4 4QW England.

The Society of Jewellery Historians is planning a trip to the Schmuckmuseum in Pforzheim 13-16 September for 25 of its paid-up members. For information for the Schmuckmuseum

visit, write The Society of Jewellery Historians, Department of Scientific Research, The British Museum, London WC1B 3DG England (fax +44 (0)1588 620 558). They want a stamped, self-addressed envelope (!) but I do not know where we in North America are supposed to find a British stamp. Membership in the society is £28 per calendar year payable by Visa or MasterCard and sent to the Membership Secretary at the above address.

The National Association of Corrosion Engineers (NACE) Northern Area Eastern Conference is to be held in Ottawa, Canada, 14-17 September 2003. There will be a session on “Preservation of Heritage Artifacts.” For more information contact Lyndsie Selwyn, Canadian Conservation Institute, 1030 Innes Road, Ottawa ON K1A 0M5 Canada (tel 613-998-3721, fax 613-998-4721, lyndsie_selwyn@pch.gc.ca).

An international conference “Archaeometallurgy in Europe” has been announced for 24-26 September 2003 in Milan, Italy, at the Museo Nazionale della Scienza e della Tecnologia, “Leonardo da Vinci” under the auspices of AIM, Associazione Italiana di Metallurgia. Papers on subjects up to the first half of the 16th century in Europe are expected but also those on archaeometallurgy in non-European countries will be allowed. English will be the conference language. The conference secretariat is Associazione Italiana di Metallurgia, Piazzale Rodolfo Morandi, 2, I-20121 Milano Italy (tel +39 0276.021.132 or 0276.397.770; fax +39 0276.020.551; P.IVA 00825780158; email aim@net.it). More information on the net at www.aimnet.it/archaeo.htm.

The first International Mining History Conference to be held in Asia is the 6th Congress, scheduled to be held 26 September-1 October 2003 in Akabira City, Japan. The conference secretariat is at 6th International Mining History Congress, Local Organizing Committee, 4-1 Izumimachi, Akabira, Hokkaido 079-1192 Japan (tel +81 125 32 2211 or +81 125 32 5033; email info@imhc2003.com), or 6th International Mining History Congress Registration Office, c/o EC Inc, President Bldg. SF, S-1, W-5, Chuo-ku, Sapporo Japan (tel +81-11-231-2289; fax +81-11-221-0496; email imhc2003@ec-inc.co.jp). More information at www.imhc2003.com.

Radomir Pleiner has announced that the CPSA (Comité pour la sidérurgie ancienne) Communications would no longer be distributed to members as offprints. The Communications will continue to be published in *Archeologické Rozhledy* twice a year as usual. Beginning with issue 67 the text will be available on the web site of the Archaeological Institute: www.arup.cas.cz/aktivita/comite/index.html. Corresponding members of the CPSA are kindly requested by the Secretary to send him their email addresses at Pleiner.Radomir@worldonline.cz.

Michel Brosse (list owner: arsenic-owner@yahoo.com) announced an international Arsenic Group on the internet at arsenic@yahoo.com to which you can subscribe by sending a message to arsenic-subscribe@yahoo.com (and unsubscribe through arsenic-unsubscribe@yahoo.com) as a forum for all seriously interested in arsenic, antimony, cadmium, selenium and the like. The URL is <http://groups.yahoo.com/group/arsenic>.

Professor Michael R. Notis and Dr. Asaron N. Shugar have established an Archaeometallurgy Laboratory at Lehigh University. They already organized the North East Archaeometallurgy Group, or N.E.A.R.-Group, last spring to interact with local academic programs and museums that are interested in the study of archaeometallurgy and archaeological metals conservation. For more information contact either Prof. Notis or Dr. Shugar at the Archaeometallurgy Laboratory, Lehigh University, Department of Materials Science and Engineering, 5 East Packer Avenue, Bethlehem PA 18015 (<http://www.lehigh.edu/~inarcmet>; tel 610-758-4701; fax 610-758-3526.)

Among the Master's Degree programs at the Institute of Archaeology, University College London there is one on the Technology and Analysis of Archaeological Materials. The Programme Co-ordinator is Professor Thilo Rehren. For further information contact the Graduate Admissions Tutor, Institute of Archaeology, University College London, 31-34 Gordon Square, London WC1H 0PY, England (<http://www.ucl.ac.uk/archaeology> tel +44 20 7679 7495; fax +44 7383 2572; email: ioa-pgadmissions@ucl.ac.uk). IAMS (Institute for Archaeometallurgical Studies), which is headquartered at the Institute of Archaeology, held a summer school in 2002 that presented "History of mining technology" and "Ancient smelting and metallurgy" run by Xander Veldhuijzen (h.veldhuijzen@ucl.ac.uk/iams). The IAMS website is www.ucl.ac.uk/iams.

Prof. Dr. Ernst Pernicka has moved from Heidelberg to Freiberg to establish a new Lehrstuhl für Archäometallurgie in the Fakultät für Werkstoffwissenschaften und Werkstofftechnologie at the Technische Universität Bergakademie Freiberg. It is located at Gustav-Zeuner-Strasse 5, 09599 Freiberg (Sachs.), tel 03731/39-3353; fax 03731/39-3657.

Professor Judith A. Todd, formerly the Associate Dean for Research at the Illinois Institute of Technology, was appointed the P.B. Breneman Department Head Chair of Engineering Science and Mechanics at Pennsylvania State University as of last July 1st. Her address is now 212 Earth-Engineering Sciences Building, The Pennsylvania State University, University Park PA 16802-6812 (tel 814-863-0771; fax 814-865-9776; email jtodd@psu.edu).

Dr. Sharada Srinivasan is the DST-SERC Young Scientist Awardee and Associate Fellow at the National Institute of Advanced Studies, Indian Institute of Science Campus, Bangalore 560012. Her email address is sharada@nias.lisc.ernet.in (tel 080-3344351 ext. 262; fax 0091-80-3346634.)

Robert Maddin has moved to the Washington DC area since the death of his wife last year. His email address is bobmaddin1@adelphia.net. Alice Kimball Smith, the widow of Cyril Stanley Smith, passed away on February 6, 2001. Leo Biek, the first head of the Ancient Monuments Laboratory of English Heritage passed away, shortly after his 80th birthday. And John D. Light of Parks Canada passed away in his fifties, leaving his wife Marilyn and five children.

The Principat d'Andorra inaugurated the Farga Rossell Centre d'Interpretacio on the 16th of December 2002. More

information is on the web at www.fargarossell.ad.

Thus far I have had no word of the 2003 Programme of Mining Interest Tours from James Thorburn of Atalaya Tours Ltd., Ceinionfa, Capel Dewi, Aberystwyth SY23 3HR, United Kingdom (+44 (0)1970 82 89 89).

Did you notice the news that Ötzi, the Copper Age Iceman found in the Alps now formally referred to as Similaun man, did not die of the cold but of a wound in his chest caused by a flint arrowhead less than an inch long? So much for the supposed advantage of carrying a copper axe!

Many of you may already know that the Secretary of the Smithsonian Institution planned to close a number of units by December 31st, 2001, among them the Center for Materials Research and Education (see volume 24 number 1/2). Congress subsequently restored the necessary funding in the US budget and a Science Commission appointed to investigate has just submitted a very supportive report so – if you have any archaeometallurgical news to share or comments to make, you can still write or call me at the Smithsonian Center for Materials Research and Education (SCMRE), 4210 Silver Hill Road, Suitland MD 20746-2863 USA; tel. 1-301-238-3700 x164; fax 1-301-238-3709; e-mail GoodwayM@scmre.si.edu. (Do not post snail mail to the central Smithsonian address (zip code 20560) because this mail is sent away to be irradiated against the possibility of anthrax contamination from the downtown postal sorting center and will be seriously delayed if not destroyed)



Archaeological Ceramics

Charles C. Kolb, Associate Editor

This issue includes 16 topics: 1) Carol Kramer (1943-2002); 2) Update on the SCMRE; 3) New Books related to archaeological ceramics; 4) Other New Publications; 5) Amphora Research Center; 6) Clay Tobacco Pipe Research; 7) Ceramic Type Collections Catalogs; 8) Ceramic Standards; 9) Exhibition; 10) New Traveling Folk Ceramic Exhibit; 11) Previous Meetings; 12) Forthcoming Meetings; 13) Internet Resources; 14) Ceramic Research Queries; 15) Ceramic Research at Bar-Ilan University; and 16) Brief Notes and Other News.

Carol Kramer (1943 - 2002)

Carol Kramer, 59, Near Eastern archaeologist and leader in the field of ethnoarchaeology, died in Tucson, Arizona, on December third after a short illness. She excavated Iron Age levels at Dinkha Tepe in Iran as well as at other sites in Iran, Guatemala, and Turkey. She was a pioneer in the development of ethnoarchaeology, the study of present-day material culture as a means of deriving models for interpreting archaeological remains. Her research on household patterns in an Iranian village and on the production and distribution of pottery in Rajasthan, India provided the basis for her considerable methodological and theoretical contributions to

ethnoarchaeology. A member of the generation of women who broke all the remaining barriers to the participation of women in Near Eastern archaeology, she was a passionate advocate for the professional development of women in anthropology. She received the Squeaky Wheel Award of the Committee on the Status of Women in Anthropology of the American Anthropological Association in 1999 in recognition of her great success as a role model for women graduate students and an inspiring mentor for young professionals. She taught at Queens and Lehman colleges of the City University of New York and as a Visiting Professor at Yale University and the University of Arizona before joining the Department of Anthropology at the University of Arizona in Tucson in 1990. Although some of her most productive years were spent in Arizona Kramer always considered herself a New Yorker. She was born in New York, May 3, 1943 to Aaron Kramer, a poet at Dowling College on Long island, and Katherine Kolodny, a social worker. She attended the High School of Music and Art in New York and graduated from City College in 1964. She studied at the University of Chicago and the University of Pennsylvania, where she earned her doctorate in anthropology in 1971. Carol is survived by her sister Laura Kramer of Montclair, New Jersey, and two nieces, Nora Gordon of San Diego, California and Joanna Gordon of New York. (Text prepared by Raymond H. Thompson)

The Department of Anthropology at the University of Arizona is very pleased to announce the creation of an endowed memorial scholarship honoring Carol Kramer. Her contributions to research and teaching are enormous and her loss especially grievous to all of us. We established this scholarship to recognize her excellence in research and teaching. We encourage people to make donations to the fund by sending a check payable to the UA Foundation/Anthro. In the memo section of the check please indicate that the gift is for the Carol Kramer Memorial Scholarship. Funding will be provided to graduate students interested in the archaeology of the ancient Near East or in ethnoarchaeology, research areas so dear to her. Please send your donations to: Department of Anthropology, c/o Norma Maynard, University of Arizona, PO Box 210030, Tucson, AZ 85721-0030. (Text prepared by William A. Longacre)

Carol was the author of *Ethnoarchaeology: Implications of Ethnography for Archaeology*, New York: Columbia University Press (1979); "Ethnographic Households and Archeological Interpretation," *American Behavioral Scientist* 25:663-675 (1982a); *Village Ethnoarchaeology: Rural Iran in Archaeological Perspective*, New York: Academic Press (1982b); *Ceramic Ethnoarchaeology*, *Annual Review of Anthropology* 14:77-102 (1985); "Ceramics in Two Indian Cities," in William A. Longacre (ed.), *Ceramic Ethnoarchaeology*, Tucson: University of Arizona Press, pp. 205-230 (1991); "A Tale of Two Cities: Ceramic Ethnoarchaeology in Rajasthan," in Bridget Allchin (ed.), *Living Traditions: Studies in the Ethnoarchaeology of South Asia*, New Delhi: Oxford and IBH Publishing Co., Oxford: Oxbow Books, pp. 307-322 (1994); and *Pottery in Rajasthan: Ethnoarchaeology in Two Indian Cities* Washington, DC: Smithsonian Institution Press (1997). She also coauthored (with John E. Douglas) "Ceramics, Caste, and Kin: Spatial Relations

in Rajasthan, India," *Journal of Anthropological Archaeology* 11:187-201 (1992); and (with Nicholas David) *Ethnoarchaeology in Action*, Cambridge and New York: Cambridge University Press (2001).

SCMRE Report: Smithsonian Science Commission Report

On 7 January 2003, the long awaited report of the Smithsonian Institution Science Commission was issued and is available at, www.Smithsonian.org/sciencecommission. It is the result of a 15-month study by an 18-member commission headed by Jeremy A. Sabloff, Director of the University of Pennsylvania Museum of Archeology and Anthropology. The 160-page document challenged Secretary Lawrence Small, the Regents, and other members of senior management to renew their dedication to science at the Institution by improving leadership, communications, and funding. The report stated that "the science mission of the Smithsonian is vital to the future of the Institution and "that senior management must strategically focus on short- and long-term growth of science, and (to the relief of several members of Congress) that no research centers should be shut down. Without the much needed "inspired leadership" the research functions of the Institution can, warned the Commission's Chair, devolve into "a state of mediocrity."

The Smithsonian Center for Materials Research and Education (SCMRE), established in 1963, is the support facility dedicated to research and education to improve the preservation and conservation of museum collections and related matter. The Center also seeks to enhance the interpretation of objects and artifacts in the context of material culture and history. The staff numbers 24 ("cannibalized" down from 36 a few years ago) and the Center has a budget of about \$3.5 million. While the eleven-chapter report deals generally with science and research and is designed to serve as a blueprint for revitalizing the Smithsonian Institution's research program, of particular interest are 76 recommendations made to improve scientific research at the Smithsonian. The report was strongly endorsed by a resolution of the Regents.

New Books

The Origins of Pottery and Agriculture, Yoshinori Yasuda (editor). New Delhi: Roli Books Pvt. Ltd in association with International Research Center for Japanese Studies, Kyoto and Yangtze River Civilization Programme, 2002, ISBN: 8174362037, 400 pages, illustrations (partly in color), maps, list of contributors, index; \$74.80. Yoshinori Yasuda, Professor at the International Research Center for Japanese Studies, Kyoto, Japan, and the editor of this volume holds the opinion that until recently the history of human civilization has been viewed mainly through the Western perspective, which gives an impression that the Western part of the world was central to the development of culture. He contends that with this anthropocentric view, the Eastern world, particularly the Far East, was overlooked and neglected. Recent research by Japanese and Chinese scholars has demonstrated that this region witnessed the developments of the world's earliest human civilization, based on rice cultivation and the exploitation of marine resources, especially fisheries. Professor Yashuda

writes that as we enter the 21st century, it has become increasingly important to reconstruct the history of human civilization, taking into consideration the concepts and values of both the Eastern and Western civilization in order to understand them better. To focus on the differences between the East and West, this volume of collected essays brings together authors who discuss the origins of pottery, as well as the traditions of wheat and rice cultivation. This book incorporates the results of the most recent works carried out in the Eastern and Western worlds in relation to the man-land relationship and in order to understand the basic differences in the origin of Eastern and Western civilization discusses the origins of pottery as well as the traditions of wheat and rice cultivation. Therefore, the book “completely reverses the conventional view that the East was behind the West and makes it clear that the origins of pottery and agriculture in the East precede those in the West. This book aims to rediscover the values of Eastern civilization in the history of human civilization which have often been overlooked. Based on a pluralistic view with comparative studies of the East and the West, this book takes a step forward in the construction of a new history of human civilization.” Following Professor Yasuda’s “Introduction: Significance of Agriculture in Human History, the volume is organized into five parts, the first four of which contain 22 chapters. Part 1: Origins of Agriculture in West Asia, contains six contributions: 1. “The Second East Side Story: Origin of Agriculture in West Asia” by Yoshinori Yasuda (Professor at the International Research Center for Japanese Studies, Kyoto, Japan); 2. “The Role of the Younger Dryas in the Origin of Agriculture in West Asia” by Ofer Bar-Yosef (Professor, Peabody Museum, Harvard University, Cambridge, USA); 3. “Holocene Environmental Change and the Transition to Agriculture in South-west Asia and North-east Africa” by Fekri A. Hassan (Professor, Institute of Archaeology, University College, London, UK); 4. “Late Glacial and Holocene Palaeoenvironmental Changes and the Origin of Agriculture in Central Europe” by Bernd Zolitschka (Professor, Geomorphologie und Polarforschung [GEOPOLAR], Institut fuer Geographie, Universitaet Bremen, Germany) and Jorg F. W. Negendank (Professor, GeoForschungsZentrum Potsdam, Potsdam, Germany); 5. “The Earliest Agriculture and Pottery in South Asia” by Dharma P. Agrawal (Emeritus Professor Physical Research Laboratory, Ahmedabad, India); and 6. “The Emergence, Development and Spread of Agricultural Communities in South Asia” by Vasant Shinde (Associate Professor, Department of Archaeology, Post Graduate & Research Institute, Pune, India). Part 2, Origins of Pottery and Agriculture in East Asia, has nine chapters: 7. “Origins of Pottery and Agriculture in East Asia: by Yoshinori Yasuda (Professor, International Research Center for Japanese Studies, Kyoto, Japan); 8. “Origin of Rice Cultivation in the Yangtze River Basin” by Yo-Ichiro Sato (Associate Professor, Shizuoka University, Shizuoka, Japan); 9. “The Origins of Rice Agriculture, Pottery and Cities” by Yan Wenming (Professor, Beijing University, Beijing, China); 10. “Rice and Pottery 10,000 Yrs. BP at Yuchanyan, Dao County, Hunan Province” by Yuan Jiarong (Director, Institute of Archaeology and Cultural Relics of Hunan Province, Hunan Province, China); 11. “Rice Paddy

Agriculture and Pottery from the Middle Reaches of the Yangtze River” by Pei Anping (Vice-Director, Hunan Province Research Center for Historical Archaeology, Hunan Province, China); 12. “Early Pottery and Rice Phytolith Remains from Xianrendong and Diaotonghuan Sites, Wannian, Jiangxi Province” by Zhang Chi (Professor Beijing University, Beijing, China); 13. “The Nanzhuangtou and Hutouliang Sites: Exploring the Beginnings of Agriculture and Pottery in North China” by Guo Ruihai (Director, Institute of Cultural Relics, Hebei Province, China) and Li Jun (Institute of Cultural Relics, Hebei Province, China); 14. “The Bi-Peak-Tubercle of Rice, the Character of Ancient Rice and the Origin of Cultivated Rice” by Zhang Wenxu (Professor, China Agricultural University Beijing, China); and 15. “New Perspectives on the Transition to Agriculture in China” by David Joel Cohen (International Center for East Asian Archaeology and Cultural History, Boston University, Boston, USA). Part 3, Origin of Pottery and Rice Cultivation in Japan, contains five parts: 16. “The Meaning of Agriculture for Humans” by Masaki Nishida (Professor, Institute of History and Anthropology, Tsukuba University, Tsukuba, Japan); 17. “Origins of Pottery and Human Strategies for Adaptation During the Termination of the Last glacial Period in the Japanese Archipelago” by Takashi Tsutsumi (Miyota_machi Board of Education, Nagano, Japan); 18. “The Origin and Spread of Rice Cultivation as Seen from Rice Remains” by Shuichi Toyama (University Professor, Japan); 19. “The Origin and Development of Rice Paddy Cultivation in Japan Based on Evidence from Insect and Diatom Fossils” by Yuichi Mori (Aichi Prefectural Meiwa Senior High School Aichi, Japan); 20. “Commentary on the Productive Capacity of Early Japanese Rice Farming” by Kaoru Terasawa (Major Director, Monuments and Site Division, Nara Prefecture, Nara, Japan); and “Column: The Origin and Development of Rice Cultivation in Japan” by Yoshiyuki Kuraku (Director, Programme Operation Department, Asia/Pacific Cultural Centre for UNESCO, Nara, Japan). Part 4, Global Environmental and Food Problems in the 21st Century, has two chapters: 21. “Global Climate Change and Food Problems” by Tsuneyki Morita (Director, National Institute for Environmental Studies, Tsukuba, Japan) and Yuzuru Matsuoka (Department of Environmental Engineering, Kyoto University, Kyoto, Japan); 22. “The Special Characteristics of the International Rice Markets and their Implications for Rice Self-sufficiency Policy in the 21st Century” by Hiroshi Tsujii (Professor, Kyoto University, Kyoto, Japan); and “Column: Rice Planting and the Global Environment Crisis: The Message from Japanese Rice Planting Folk Customs” by Kanichi Nomoto (Professor, Kinki University, Higashi-Osaka, Japan). Part 5 contains “Conclusion: Shift from Monistic to Pluralistic View of Civilization” by Yoshinori Yasuda. The book may be ordered from K. K. Agencies Online Store of Indian Publications, H-12 Bali Nagar, New Delhi 110015, India; Internet site www.kkagencies.com, fax: (+0091/11)25173055, tel (+0091/11)25465925; e-mail inquiries may be sent to info@kkagencies.com or kkagen@nda.vsnl.net.in. Individual orders for this book may be pre-paid through thru credit card or personal checks drawn in US dollars (payable to K.K.AGENCIES). A discount price is available at the time of this review (February 2003).

Roxanna M. Brown and Sten Sjostrand, *Maritime Archaeology and Shipwreck Ceramics in Malaysia* (Kuala Lumpur, Malaysia: Department of Museums and Antiquities in collaboration with Nanhai Marine Archaeology Sdn. Bhd., 2002, ISBN 968-995-16-7, 118 pp., 58 figures [most in color], 121 color plates, \$20.00 US plus postage; orders: correspond with the junior author at: sten@tm.net.my). Roxanna Brown, a well-known scholar of Southeast Asian ceramics and the author of *The Ceramics of South-East Asia: Their Dating and Identification*, 2nd ed. (Singapore: Oxford University Press, 1988; reprinted Chicago: Art Media Resources, 2000), is the editor of *Guandong Ceramics from Butuan and Other Philippine Sites* (Manila: Oriental Ceramic Society of the Philippines/Oxford University Press, 1989) and coeditor, with J. Adraian, of *South-East Asian and Chinese Trade Pottery: An Exhibition Catalog* (Hong Kong, 1979). She is also a contributor to *Oriental Art* (Preliminary Report on the Koh Khram Sunken Ship, *Oriental Art* 21(4):356-370, 1975; Exhibition Review: Chinese and Vietnamese Blue and White Wares Found in the Philippines, *Oriental Art* 43(2):41-44, 1997; Xuande-marked Trade Wares and the "Ming Gap," *Oriental Art* 43(2):2-6). Currently, she is a doctoral candidate in the Department of Art History at UCLA and preparing her dissertation of Southeast Asian shipwreck ceramics, kiln sites, provenance, and chronology. Brown and her colleague, Sten Sjostrand, a naval architect and professional diver (Nanhai Marine Archaeology Sdn. Bhd.), have collaborated on the volume *Turiang: A Fourteenth Century Wreck in Southeast Asian Waters* (Pasadena, CA: Pacific Asia Museum, 2000) and *Turiang: A 14th Century Chinese Shipwreck, Upsetting Southeast Asian Ceramic History* (2000, <http://www.maritimeasia.ws/>). Their current collaboration is a well-written, superbly illustrated catalog prepared on the occasion of the exhibition "Malaysian Maritime Archaeology" for the Department of Museums and Antiquities, Kuala Lumpur, Malaysia. This is the first ever exhibition of such materials in Malaysia. *Maritime Archaeology and Shipwreck Ceramics in Malaysia* provides a significant synthesis of the current status of ceramics from shipwrecks in the region of the Malay Peninsula. Following the obligatory acknowledgments, message, forward, and preface by Malaysian officials (pp. 6-9), the authors provide a series of essays encompassed under "Malaysia at the Crossroads" (pp. 10-69). The narratives begin with a discussion of the ceramic trade, Marco Polo's visit to China (1275-1292) during the Yuan Dynasty (1280-1368), the India to China sea trade, and the report of a sea voyage from India/Sri Lanka to China by the Chinese monk Faxian in 414 CE. A very useful chronology for Thai, Vietnamese, and Chinese production, 1300-1600 ("the hunt for a precise chronology," pp. 16-21) is presented. The attempted Ming "ban" on overseas trade (1368-1644), decrees by Emperor Yongle (1404-1424), Portuguese accounts by Tomé Peres, and trade that resulted despite the ban are reviewed. A discussion of three European-built ships (the *Diana* and the *Desaru*, both carrying Chinese wares) and the 1727 Dutch ship, *Risdan*, provide an appropriate context for comparing four types of Southeast Asian ships and Chinese vessel construction methods. The authors review Chinese trade pottery for the Tang Dynasty (609-960) and

summarize the evidence from the *Turiang* wreck and its cargo prior to a discussion about Thai trade ceramics, notably Suphanburi and Maenam Noi (with an absence of blue and white ceramics), and the Sukhothai kilns and vessel types. Vietnamese ceramics, underglaze wares, the stylistic evolution of Sisatchanalai wares known from shipwrecks, celadon plate production, and Sukhothai and Sisatchanalai ceramic kilns and stacking methods (p. 36, 70-71, Figure 18 and two unnumbered color figures), and ringhandled jars from four shipwrecks are elaborated. The Suphanburi and Maenam Noi kiln sites/production centers are located in southern Thailand north of Bangkok, while the Sukhothai and Sisatchanalai centers are situated in central Thailand toward the western border with present-day Myanmar (formerly Burma). A proposed chronology for a dozen shipwrecks in the Malay region is next considered. This chronology is based on ceramic production dates and radiocarbon analyses and begins with the 3rd-5th century Pontian boat, a plank ship discovered at Kuala Pontian in southern Mahang State in 1926. The *Turiang* (1370 +/-) with its mixed cargo of Chinese, Vietnamese, and Thai products was discovered in 1998 (the ceramic cargo has a wide variety of vessel forms and is 57% Thai, 35% Chinese, and 8% Vietnamese). Notably there is an absence of blue and white wares but more products from the Sukhothai kilns than from Sisatchanalai. Underglaze ceramics with fish and flower motifs radiocarbon dated 1305-1440 help to assign the wreck's chronology. The unexcavated *Nanyang* (1380 +/-) has Sisatchanalai celadon plates as cargo as well as storage jars (most with 260 liter capacities) produced at the Suphanburi kilns. The *Longquan* (1400 +/-) has Chinese and Thai wares (again, with an absence of blue-and-white wares) in a cargo estimated to exceed 100,000 pieces (the ceramics are 40% Chinese, 40% Suphanburi, and 20% Sukhothai wares). The *Royal Nanhai* (1460 +/-) found in 1995 has some blue-and-white ceramics among an estimated 21,000 specimens. The famous *Hoi An* junk (1500 +/-, excavated 1997-1999), a wreck off the Vietnam coast, had a mixed cargo of Chinese, Vietnamese, and Thai ceramics. Interestingly the cargo of 180,000 to 200,000 vessels is a blend of poor and quality wares (see Butterfield's Auction Catalog, *Treasures from the Hoi An Hoard*, 2 vols., San Francisco: Butterfield's, Inc., 11-13 October 2000, for illustrations). The *Xuande* wreck (1540 +/-), found in 1997, had Ming copies of Xuande wares, Sisatchanalai jarlets (but no celadon plates), and Sukhothai bowls as cargo. The *Singtai* (1550 +/-), found in 2001 near Pulau Redang, northeast peninsular Malaya, had as its main cargo underglaze black and monochrome white glaze storage jars from the Maenam Noi kilns at Sukhothai. The Dutch ship *Nassau* sunk near Port Dickson, Straits of Malacca after confrontation with a Portuguese fleet on August 18, 1806, was discovered in 1993 and excavated in 1995. The ship had a cargo that included Spanish silver coin and Bellarmine drinking jugs manufactured in 1604. (Bellarmine stoneware bottles are now designated as Bartmann bottles.) The Dutch East India Company ship *Risdan*, lost in 1727 was discovered in 1984 and excavated in 1985, had storage jars from the Maenam Noi kiln in its cargo. The *Diana*, sunk in 1817 and discovered in 1993, was lost enroute from China to Madras. Her cargo of

24,000 intact pieces included white monochrome and blue and white ceramics as well as organic remains. The *Desaru* (1830 +/-) discovered in 2001 had a cargo that contained Chinese blue and white vessels produced at the Jingdezhen and Dehua kilns, Yixing teapots, and covered jars. The authors conclude with some general observations about shipwrecks and the changing styles of Sisatchanalai wares, Thai ceramic production centers, and the Chinese loss of their monopoly on trade ceramics and the rise of Thai and Vietnamese centers. They note that the 14th-16th century shipwrecks consistently have a mixture of Chinese, Thai, and Vietnamese ceramics. The narrative is accompanied by 32 endnotes, and a bibliography of 21 publications plus two websites: Southeast Asian Shipwrecks <http://www.maritimeasia.ws> and the Internet site for Nanhai Marine Archaeology Sdn. Bhd. <http://www.ming-wrecks.com> The remainder of the volume consists of a detailed catalog with 121 color plates that document ceramic wares found in the Malay Peninsula region. Brown and Sjostrand have prepared a very informative and exceedingly well-illustrated catalog and assessment of the current status of ceramic studies from shipwrecks along the Malay coast. Although the exhibition in Kuala Lumpur is apparently closed, the volume nonetheless provides an excellent and invaluable appraisal of ceramics from a key region of Southeast Asia and is a splendid adjunct to Brown's still valuable *The Ceramics of South-East Asia: Their Dating and Identification* (1988, reprinted 2000). A cadre of international scholars of Southeast Asian archaeology, history, and ceramics await the completion of her dissertation in which she ties up loose ends for the broader area.

Ceramics in America 2002, published by the Chipstone Foundation by the University of New England Press (300 pp., 350 illustrations, \$55.00 paper, ISBN 1-58465-156-3, 2002) became available in late October and is the second volume in what promises to be a splendidly illustrated and compelling series. The color images are faithful and the volume produced on heavy high-quality coated paper. Like the inaugural issue, Robert Hunter edited this second volume in the continuing annual series. Rob was the founding director for the Center for Archaeological Research at The College of William and Mary and served on the curatorial staff at Colonial Williamsburg Foundation. The book may be ordered directly from University Press of New England at www.upne.com or at a discount from bookstores on the Internet. The series provides a significant, much needed addition and new dynamic to the field of ceramics history, and has become a primary source for new information on historic ceramic objects, historical archaeology, and related documentary research. The new issue of *Ceramics in America* has contributions of interest to a variety of historical archaeologists and range from an analysis of early Caribbean Colono wares to Portuguese earthenware in Newfoundland to World War I terracotta airplane bombs in New Jersey. Other articles include a synthesis by Merry Outlaw of North Devon sgraffito wares at Jamestown, while Al Luckenbach reports on a London Town, Maryland early 18th-century tavern assemblage. The contents include: "A Pot Potpourri" by Ivor Noël Hume (pp. 1-16); "Scratched in Clay: Seventeenth-Century North Devon Slipware at Jamestown, Virginia" by Merry Abbitt Outlaw (pp. 17-38); "Antique

Porcelain 101: A Primer on the Chemical Analysis and Interpretation of Eighteenth-Century British Wares" by J. Victor Owen (pp. 39-61); "Parian Porcelain Statuary: American Sculptors and The Introduction Of Art In American Ceramics" by Ellen Paul Denker (pp. 62-79); "'And Freedom To The Slave': Antislavery Ceramics, 1787-1865" by Sam Margolin (pp. 80-109); "The Very Man for the Hour: The Toussaint L'Ouverture Portrait Pitcher" by Jon Prown, Glenn Adamson, Katie Prown, and Robert Hunter (pp. 110-129); "Ceramics from the Edward Rumney/Stephen West Tavern, London Town, Maryland, circa 1725" by Al Luckenbach (pp. 130-152); "Richard Schalck, Stoneware Potter of Marblehead, Massachusetts" by Robert F. Trent (pp. 153-169); and "Brown Mugs and Jugs: A Personal Foray into the Field of Collecting" by James Glenn (pp. 170-190). The section of brief papers (pp. 193-232) entitled "New Discoveries" is introduced by Merry Outlaw and incorporates: "La Vega Cerámica Indo-Hispano: An Early Sixteenth Century Caribbean Colono-ware" by Kathleen Deagan; "A Peacock's Flight . . . across 100 Years" by Beverly A. Straube; "Terra Sigillata From a Seventeenth-Century Settlement in Newfoundland" by James A. Tuck and Barry Gaulton; "The Seventeenth-Century 'Lloyd Plate' from the Broadneck Site in Maryland" by Al Luckenbach; "A Collection of Curious 'Canns'" by Merry Abbitt Outlaw; "A Cache of Eighteenth-Century Flowerpots in Williamsburg" by William Pittman and Robert Hunter; "The American Foundation of The Chelsea Porcelain Manufactory, 1745-1784" by Stephen E. Patrick; "Two Eighteenth Century Vanity Plates" by Joyce Hanes; "American Export Wares Excavated in Tunstall, Stoke-on-Trent" by Jonathan Goodwin; "Archaeology at the United States Pottery Company Site in Bennington, Vermont" by Catherine Zusy; "The Search Continues: New Insights into Old Edgefield Folk Potters" by Mark M. Newell; and "Bombs Away!: Unearthing a Cache of Terra Cotta Practice Bombs from the First World War" by Richard Veit and Mark Nonestied.

There are also six book reviews edited by Amy C. Earls which encompass: *Women and Ceramics: Gendered Vessels* by Moira Vincentelli, reviewed by Rita P. Wright; *Country Pottery: Traditional Earthenware of Britain* by Andrew McGarva, reviewed by Greg Shooner; *Maiolica in the North: The Archaeology of Tin-Glazed Earthenware in North-West Europe c. 1500-1600* edited by David Gaimster, reviewed by Ivor Noël Hume; *The Limehouse Porcelain Manufactory: Excavations at 108-116 Narrow Street, London, 1990* by Kieron Tyler and Roy Stephenson, with J. Victor Owen and Christopher Phillpotts, reviewed by Robert Hunter; *Imagining Consumers: Design and Innovation from Wedgwood to Corning* by Regina Lee Blaszczyk, reviewed by Amy C. Earls; and *Adams Ceramics: Staffordshire Potters and Pots, 1779-1998* by David A. Furniss, J. Richard Wagner, and Judith Wagner, reviewed by Teresita Majewski. Amy C. Earls also compiled and contributed "Checklist of Articles, Books, and Electronic Resources on Ceramics in America Published 1998-2001" (print resources pp. 253-262; electronic resources pp. 263-270). Both the print and Internet resources are valuable contributions. There are more than 280 print references plus 130 websites tabulated. Among the latter are: American

Ceramic Society <http://www.acers.org> and <http://www.ceramics.org>; Ashmolean Museum at Oxford University <http://www.ashmol.ox.ac.uk/PotWeb>; Society for Post-Medieval Archaeology <http://www.britcrag.ac.uk.spma>; Australian ceramic magazines <http://www.ceramicart.com.au>; The Gardiner Museum of Ceramic Art <http://www.gardinermuseum.on.ca>; a bibliography on transfer-printed ceramics <http://www.inform.umd.edu/EDRes/Colleges?ARHU/Depts/americanStudies/MatCultureBib>; Majolica International Society <http://www.majolicasociety.com>; Northern Ceramic Society [Australia] <http://www.members.ozemail.com.au/~ceramics/ncs>; New York State College of Ceramics at Alfred <http://www.nyscc.alfred.edu>; an annotated bibliography from a Dutch material culture website <http://www.nysl.nysed.gov:80/edocs/parks/dutchbin>; the Hill-Fulper-Stangl Museum (situated in a kiln) <http://www.stanglpottery.org>; The Pottery Museum and Art Gallery <http://www.stoke.gov.uk/museums>; Wedgwood International Seminar <http://www.w-i-s.org>; and Wedgwood Society of New York (*Ars Ceramica* journal) <http://www.wsny.org>.

Pamela B. Vandiver, Martha Goodway, and Jennifer L. Mass (eds.), *Materials Issues in Art and Archaeology VI*. Symposium Proceedings 712. Materials Research Society, Warrendale, PA, 2002, xxvii + 593 pp. Fourteen of the 59 articles are on ceramic materials. The volume begins with an introductory essay by the editors: Vandiver, P. B., Goodway, M., and Mass, J. L. (2002). Archaeomaterials research: An introduction, pp. xxi-xxvii. The other contributions include: R.C. Henrickson, "Investigating ceramic technology during archaeological field seasons," pp. 207-211; C.B. Rieth, "Analyzing style and technology in the Eastern Woodlands," pp. 213-219; G.W.L. Hodgins, E. Farrell, and R.D. Mowry, "AMS radiocarbon dating of a Western Han period (3rd-1st century BC) lacquer-coated earthenware jar," pp. 223-233; P.S. Griffin, "Reconstructing the materials and technology of Egyptian faience and frit," pp. 323-255; J.J. Hooper and P.B. Vandiver, "The technological tradition of Korean Black Ware and the indigenous development of glass technology in Korea during the first millennium AD," pp. 357-364; W. Ling, J. Wu, J. Li, and J. Guo, "Study on the green glaze from Qionglai kiln site in Sichuan: One of the earliest phase-separated opaque glazes in China," pp. 365-373; W. Liu and B. McCarthy, "Analysis of Cizhou monochrome green enamels and lead glazes from Guantai kiln in northern China, Song to Jin dynasty," pp. 375-382; G. Padeletti, P. Fermo, and S. Gilardoni, "Technological investigations of luster decorated ancient majolicas," pp. 383-389; R.C. Henrickson, P.B. Vandiver, and M. J. Blackman, "Lustrous Black fine ware at Gordion, Turkey: A distinctive sintered slip technology," pp. 391-399; B. McCarthy, C. Downie, and P. Mohanty, "Early historic period ceramic smoking pipes from Budhighar, in Kalahandi district of Orissa, India," pp. 401-407; H.F. Beaubien, E. Kaplan, and M. Shah, "Textile-clay laminates: A new-found craft technology from ancient Mesoamerica," pp. 409-419; P.B. Vandiver and V.S.A. Vasil'ev, "A 16,000 year-old ceramic human-figurine from Maina, Russia," pp. 421-431; P.B. Vandiver, "Recovering and Re-discovering craft," pp. 535-543; and C. Riccardelli, J. Mass, and J. Thornton, "Egyptian faience inlay techniques: A

process for obtaining detail and clarity by refiring," pp. 545-570.

Other New Publications

- Penelope M. Allison, *Pompeian Households: An Analysis of the Material Culture*. Cotsen Institute of Archaeology Monograph 42. Los Angeles: University of California at Los Angeles, 2002, ISBN 0917956966, \$50.00 paper with CD.
- E. Fabbriotti e G. Martella, *La Ceramica a Tenda: Diffusione e centri di produzione*. British Archaeological Reports International Series S1008, Archaeopress, Oxford, UK, 2001, ISBN 1841711993, £35.00 paper.
- Erzsébet Jerem and Katalin T. Biró (eds), *Archaeometry 98*, 2 vols. British Archaeological Reports International Series S1043, Archaeopress, Oxford, UK, 2002, 842 pp., ISBN 1841714216, \$180.00 paper.
- Faraj Mohmoud Elrashedy, *Imports of Post-Achaic Pottery into Cyrenaica*. British Archaeological Reports International Series S1011, Archaeopress, Oxford, UK, 2002, ISBN 14038, \$68.00 paper.
- V. Kilikoglou, A. Hein, and Y. Maniatis (eds.), *Modern Trends in Scientific Studies on Ancient Ceramics*. BAR International Series S1022, Archaeopress, Oxford, UK, 2002, 402 pp., ISBN 1841712892, \$90.00 paper.
- J. Cameron Monroe, *Negotiating African-American Ethnicity in the 17th-Century Chesapeake: Colono Tobacco Pipes and the Ethnic Uses of Style*. British Archaeological Reports International Series S1042, Archaeopress, Oxford, UK, 2002, 96 pp., ISBN 1841714208, \$44.00 paper.

Amphora Research Center

Centre Alexandrin d'Étude des Amphores was established recently in Alexandria Egypt and solicits publications on amphorae from all periods, according to Dr. A. Kaan Senol. The research center is located at 50 rue Soliman Yousri, 8^{eme} etage, 21131 Alexandrie, Egypte (tel 00.20.3.3 90.69.62; fax 00.20.3.391.13.70) and is a branch of Centre d'Études Alexandrines (CEA) and welcomes researchers who study on amphorae from any period. A website <http://www/cea.com.eg> provides additional information about the amphora project and ceramic restorations (including an illustrated discussion of the restoration of a krater). Dr. Senol writes "Our aim is to complete our library with the latest publications on amphoras and amphora stamps and provide a full satisfaction for the colleagues who would like to make his or her library researches here. By this purpose, as we need the original copies of the papers, we would like to make contact with the authors who study on amphoras like you. We would like to thank you for your interest and we are looking forward to having your aid for our new center with your publications." Dr. A. Kaan Senol is at Ege Üniversitesi, Edebiyat Fakültesi, Arkeoloji Bölümü, Bornova 35100 Izmir - Turkey (e-mail kaan@edebiyat.ege.edu.tr, senol@egenet.com.tr, tel 0090 232 388 40 00 / 22 18, fax 00 90 232 388 11 02).

Clay Tobacco Pipe Research

Clay Pipes is a newly established Internet site created by J. Byron Sudbury, a man well known to scholars interested in

ceramic smoking pipes. His website is designed to educate people about clay pipes, announce new publications, elucidate links to useful sites, and provide professional contacts and literature. There are a dozen links from the homepage that consider the site's purpose, provide features (currently on researcher Paul Jung), and include an educational quiz (currently on diagonal ribbed reed stem pipes). The news item presently posted is a tribute by Richard Le Cheminant to the late Adrian Oswald (and a list of Oswald's 88 publications and 18 archival manuscripts), a request for information, lists of past and soon to be published works, a comprehensive list of British Archaeological Reports on clay pipes (including tables of contents), links to other sites, an interest survey, and information on copyright and Digimarc Digital Watermarking. The URL for the site is <http://www.claypipes.com/index.html>

The Society for Clay Pipe Research (SCPR) was formed in 1984, to bring together researchers, archaeologists and collectors interested in clay tobacco pipes. It has a worldwide membership of about 150 people, who cover all aspects of clay tobacco pipe research on local, national and international levels. The first Newsletter was published in January 1984, and is now twice yearly. A conference is held each year in the UK, and groups of members have visited the Netherlands, France and Jersey. Many SCPR members specialize in different aspects of research, including pipe kilns, 19th-century pipes and pipemakers, and Scottish factories; it is hoped that such work, and much more besides, will be reflected in these web pages in the future. The website will expand over the coming months, providing details of membership; addresses and details of places to visit to see pipes and related subjects; where to see demonstrations of pipemaking, and pipemakers to contact worldwide; related organizations; and the National Clay Tobacco Pipe Archive located at <http://www.scpr.fsnet.co.uk/pages/homepage.htm> There is a short useful bibliography at <http://www.scpr.fsnet.co.uk/pages/bibliog.htm>

The Pijpelogische Kring Nederland (P.K.N.) is a group of people that is interested in the clay tobacco pipes. The main purpose of the organization is to enlarge the knowledge of the Dutch clay pipes and the pipemakers. Special attention is given to dating, origin, and distribution of the tobacco pipe. Since 1978 the PKN has published (in the Dutch language) four journal numbers per year containing articles about historical pipes, manufacturing investigations, and reviews. There is an annual meeting with lectures and the opportunity to exchange data, pipes and publications. See the P.K.N. Internet site at <http://www.tabakspijp.nl/> or contact J. van der Meulen in Leiden at lidmaatschap@tabakspijp.nl

KnasterKOPF, a specialist periodical dealing with the history of clay pipes and tobacco, is produced on behalf of the Hamburg Museum for Archaeology and the History of Harburg, the Helms Museum Hamburg, Germany. The editors are Ralf Kluttig-Altman (Zum Kleingartenpark 41, D-04318 Leipzig, telephone 0049-(0)341/6887918, email: tonpfeifen_kluttig@arcor.de) and Dr. Martin Kügler (Bergstrasse 3, D-02826 Görlitz; tel 0049-(0)3581/401213, email tonpfeifen_kuegler@t-online.de). *KnasterKOPF* is published annually and contains research reports, accounts of recent finds in Germany, Austria, and Switzerland; book reviews; and a list of new literature on

clay pipes. Although the publication deals predominantly with clay pipes, it also covers general aspects of the history of tobacco and more specific aspects such as porcelain and meerschaum pipes. *KnasterKOPF* also provides a scientific forum for experts as well as amateur archaeologists and historians, and as collectors. The journal is closely associated with the activities of the German Society for Clay-Pipe Research and appears annually (normally to coincide with the annual meeting of the Society in April or May). Abstracts are provided in English, Dutch, and French. The journal's homepage (also with multilingual translations) has hotlinks to the Tables of Contents with abstracts and color illustrations from each of the published issues from 1989 through the projected issue for 2003. The URL is <http://www.knasterkopf.de/htm/einen.htm>

A comprehensive *Index Volume for KnasterKOPF - Fachzeitschrift für Tonpfeifen und historischen Tabakgenuss* (the *Journal of Clay-Pipe Research and History of Tobacco*) Vols. 1 (1989) to 10 (1997), the Organ of the "German Society for Clay-Pipe Research," was published in November 2001. This Index Volume is the result of evaluation not only of all the individual papers in *KnasterKOPF* but also the other sections, i.e., notices, book reviews, recent literature, footnotes, figure captions and the clay_pipe inventories of the authors. The volume also contains several general and specialized indexes, which will provide invaluable extra help to those searching for information on clay pipes. Conventional Author and Subject Indexes cover all the papers and short notes that have appeared in the journal; the Books Reviewed are listed by author. The Index of Names (including organizations) follows these for which the person's occupation and/or context in which he or she is mentioned is given. The first specialized index is the Index of Clay-Pipe Makers, who are listed together with where they lived and/or where they worked. An Index of Place Names includes rivers and other topographic and geographical names. A similar index lists places where clay pipes were produced and another lists places where pipe-clay figures were produced, and two complementary indexes list the places where clay pipes and/or pipe-clay figures have been found. A third index of this kind lists all clay-pipe finds by provenance. Therefore, these three indexes not only list towns or villages where clay pipes were manufactured and those where clay pipes were found, but also supply information on where pipes made in a certain town have been found and, just as important, where in *KnasterKOPF* these particular pipes are described and figured. The Index of Marks on Clay Pipes distinguishes marks portraying letters, figures and objects. The Index of Inscriptions on Clay Pipes is divided into two sections: pipe-stem inscriptions and pipe-bowl inscriptions. There is also an Index of Pipe-Bowl Decorations. It is unfortunately not yet possible to produce an index of pipe-stem decorations since this requires a systematic classification of stem decorations - a catalog that does not yet exist. The Index Volume (DIN A4 format) contains 72 pages and can be obtained direct from the publishers. It costs 15,80 Euro plus postage and packing or 114,00 Euro plus p & p for subscribers to *KnasterKOPF*.

In addition, the German Society for Clay-Pipe Research maintains a link to a contribution by Ralf Kluttig-Altman

entitled "Guidelines for Preparing Drawings of Clay Pipes Including Editorial Requirements for Publishing in KnasterKOPF - Fachzeitschrift für Tonpfeifen und historischen Tabakgenuss" at <http://www.knasterkopf.de/html/akreis/enzei.htm> There are very useful hints for artifact illustrators in general, not just those concerned with smoking pipes.

Clay Tobacco Pipes from Dawnmist Studios. Heather Coleman (Dawnmist Studios, P. O. Box 348, Exeter EX4 2YQ, Devon, UK), a ceramic artist and amateur archaeologist, makes and buys and sells clay tobacco pipes, and crafts jewelry and art/studio pottery. She has an interesting, extensive Internet site at <http://www.dawnmist.demon.co.uk/pipdex.htm> in which she presents information about her CD ROM, "The Art and Archaeology of Clay Tobacco Pipes" (Release F dated 2002, £12 or \$19.00 postpaid US cy) with 600+ photographs of clay pipes from around the world and her book *378 Clay Tobacco Pipe Designs* (A4 size document, 1997, £12 or \$19.00 postpaid US cy) which includes all 378 line drawings of pipes shown on the website and "was created as an add-on complement of my CD ROM."

Ceramic Type Collection Catalogs

Two Online digital ceramic catalogs are available for the American East coast in the Chesapeake Bay region, one for Virginia and another for Maryland: Jamestown Ceramic Research Group and Diagnostic Artifacts in Maryland.

The Jamestown Ceramics Research Group was formed to identify and define all the ceramic ware types that appear on pre-1650 Jamestown and vicinity sites. Bly Straube, Merry Outlaw, Taft Kiser, and Seth Mallios are responsible for the catalog of types. The impetus for this work was a conference entitled "Capital and Countryside: Jamestown and its Hinterland" held in 2000. The objective of the conference was to gather and study the data that has been collected through the years on 17th-century archaeological sites in the Chesapeake. Pottery comprises an important component of this study for, of all the classes of artifacts, it yields the richest record of date, social status, household routine, and trade. Valid comparisons of the ceramic information, however, require a standard nomenclature for both ware and form. The Jamestown Ceramics Research Group proposes to do this by maintaining an on-line study collection of these wares. A more detailed proposal of the goals and methods can be found on the Internet at <http://www.apva.org/resource/crpgoals.html> This project is an initial attempt to standardize the nomenclature of ceramic types found on pre-1650 sites in Virginia and to identify where those wares are being found. Eventually, this work may be extended to the latter half of the 17th century, and perhaps even the 18th century, and encompass much more of the Chesapeake region. It is anticipated that Native American ceramics may also be incorporated into this format. Additional input is needed for this project, particularly where 17th-century wares are being found, in what form, and in what context. Contact Bly Staube for details at bly@apva.org

The Jamestown Ceramic Research Group provides their online ceramic catalog at <http://www.apva.org/resource/jcrg.html> This website documents the project's Methods and Goals, pointing out that the definitions of forms follows the

Guide to the Classification of Medieval Ceramic Forms (Medieval Ceramic Research Group). The discussion is organized by county and wares within each country and has the format: description, discussion, sources, and archaeological sites, and is accompanied by color images of the ceramics and includes a cross-section of the paste. Nine countries are represented in the index: China, England, France, Germany, Italy, Local Wares (America), Netherlands, Portugal, and Spain. Six of these have entries: China (n = 3 types: Kraack, Swatow, and Wan Li porcelains); England (n = 10 types, with 7 actual entries: Metropolitan Slipware, Midlands Purple, North Devon whiteware, Donyatt, West Somerset, Totnes-type, and Verwood); France (n = 4: Beauvois, Martincamp, Normandy, and Saintonge with only the first two described); Germany (n = 2: Raeren and Westerwald stonewares); Italy (n = 3: Montelupo Tin-glazed Earthenware, North Italian Sgraffito slipware, and North Italian Marbled Slipware); and Spain (n = 5: Standing Costrels, Mercury Jars, Santo Domingo Blue-on-white, Olive Jars, and Yayal Blue-on-white). Jamestown ceramics (color images with general descriptions) are found at <http://www.apva.org/ngex/xceramic.html> and include: Bartmann Jug, North Italian Slipware, Delft Drug Jar, Jamestown Cooking Pot, Swatow Ware Bowl, Borderware Drinking Jug, and Borderware Double Walled Dish.

Julie King, Director of the Maryland Archaeological Conservation Laboratory at the Jefferson Patterson Park and Museum (JPPM) has developed and posted a digital type collection for ceramics commonly found in Maryland. The Museum is part of the Maryland State Historic Preservation Office (SHPO), and the Internet materials were prepared by Katherine J. Dinnel, Edward E. Chaney, and Sara Emmert with funds from the National Center for Preservation Technology and Training. Nearly 40 ceramic wares or types are described in detail and are accompanied by numerous photographic illustrations and an extensive bibliography. Plans are currently underway to expand the number of types. The site address is: <http://www.jefpat.org/diagnostic/index.htm> "Diagnostic Artifacts in Maryland" include a variety of organic and inorganic materials including metals and ceramics. The latter has separate sections on *Prehistoric Pottery* and *Historic Ceramics*. *Prehistoric Pottery* begins with an overview and a consideration of type distributions viewed geographically (Western/Great Valley, Piedmont, Western Shore, and Eastern Shore) and the Paleoindian, Archaic, and Woodland culture periods are defined. A useful, well described section entitled "Prehistoric Sherd Identification" reviews temper types (steatite, sand, quartz, crushed rock, shell, hornblende, gneiss, and limestone), surface treatments, decoration, other defining characteristics, and associated ceramic wares. Each ware or type is considered in the following format: defining attributes, chronology, distribution (with an accompanying map), description (paste/temper, surface treatments, decoration, morphology), published literature (reference to a single bibliography), associated radiocarbon dates. The Early, Middle, and Late Woodland periods are differentiated and associated ceramic types detailed. Early Woodland, 1000 B.C. to 200 B.C. (n = 8: Marcy Creek, Dames Quarter, Selden Island, Acokeek, Wolf Neck, Vnette, Popes Creek, and Coulbourn). Middle

Woodland, 200 B.C. to A.D. 900 (n = 2: Watson and Mockley). Late Woodland, A.D. 900-1600 (n = 12: Clemson Island, Page, Shepard, Townsend, Minguannan, Sullivan Cove, Moyanone, Potomac River, Shenks Ferry, Keyser, Yeocomico, and Monongahela & Susquehannock). The prehistoric section is accompanied by a comprehensive separate list of radiocarbon dates, a maps depicting 39 major prehistoric sites, and a bibliography (105 items). Every listed ceramic in *Historic Ceramics* includes ware descriptions, names, defining attributes, chronologies, descriptions (fabric, glaze, decoration, and form), notes, and references. Nine entries are listed in Earthenware (Astbury-type, Border Wares, Brickly-type, Creamware, Jackfield-type, Manganese Mottled, North Devon, Staffordshire-type Slipware, and Tin-glazed). Porcelain is not further differentiated, while Stoneware has five entries (English Brown, English Dry-Bodied, Nottingham-type, Rhenish, and White Salt-glazed Stoneware). A "Glossary of Historic Ceramic Terms" contains 71 items and the conflated bibliography has 63 entries.

Ceramic Standards

Ceramic Building Material: Minimum Standards for Recovery, Curation, Analysis and Publication was issued as a draft document in early November 2002 by the Archaeological Ceramic Building Materials Group (ACBMG) in the UK with comments due by the end of the month. Ceramic building material (CBM) is defined as clay material that has been deliberately fired for use as part of a structure. The main categories are brick, roof tile, floor tile, wall tile and hypocaust elements. The document is located at <http://www.tegula.freeseerve.co.uk/acbmg/CBMGDE3.htm> Comments were to be sent to kurt@tegula.freeseerve.co.uk, after which time English Heritage was to be contacted with a request to publish these standards. According to Sandra Garside-Neville, additional information is available at <http://www.tegula.freeseerve.co.uk> and <http://www.yorkarchaeology.co.uk>

The October 2001 issue of *Clays and Clay Minerals* 49(5) is a special number with ten articles devoted to the assessment of Clay Minerals Society source clays. These include: Costanzo, Patricia M., "Baseline studies of the Clay Minerals Society source clays: Introduction," 49:372-373; Moll Jr., William F., "Baseline studies of the Clay Minerals Society source clays: Geological origin," 49:374-380; Mermut, Ahmet R. and Angel Faz Cano, "Baseline studies of the Clay Minerals Society source clays: Chemical analysis of major elements," 49:374-380; Kogel, Jessica E. and Susan A. Lewis, "Baseline studies of the Clay Minerals Society source clays: Chemical analysis by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)," 49:387-392; Mermut, Ahmet R. and G. Lagaly, "Baseline studies of the Clay Minerals Society source clays: Layer charge determination and characteristics of those minerals containing 2:1 layers," 49:393-397; Chipera, Steve J. and David L. Bish, "Baseline studies of the Clay Minerals Society source clays: Powder X-ray Diffraction Analysis," 49:398-409; Madejová, Jana and Peter Komadel, "Baseline studies of the Clay Minerals Society source clays: Infrared methods," 49:410-432; Guggenheim, Stephen and A. F. Koster van Groos, "Baseline studies of the Clay

Minerals Society source clays: Thermal analysis," 49:433-443; Borden, D. and R. F. Giese, "Baseline studies of the Clay Minerals Society source clays: Cation exchange capacity measurements by the ammonia-electrode method," 49:444-445; and Wenju Wu, "Baseline studies of the Clay Minerals Society source clays: Colloid and surface phenomena," 49:446-452.

Exhibition

Cerámica y Cultura: The Story of Spanish and Mexican Mayólica is the title of an exhibition at the Museum of International Folk Art, Santa Fe, New Mexico, from 17 November 2002 through 7 September 2003. The exhibition was inaugurated on 15 November with a lecture by Alfonso Pleguezuelo (University of Sevilla) entitled "Jan Floris, Tilemaker in 16th century Talavera de la Reina." Sunday, 17 November, began with a book signing for *Maiolica Olé: Spanish and Mexican Decorative Traditions* with author Florence Lister and a chocolate tasting with Mark Sciscenti. A lecture entitled "Ceramics and Painting: Documents of Daily Life" was presented by Antonia Casanovas (Chief Curator, Museo de Cerámica, Barcelona) and there were performances of traditional Mexican dances by Los Niños de Santa Fe y Compañía, and artist demonstrations by Gorky Gonzáles, Sr. (Guanajuato, Mexico) and Juan Antonio Froilan (Talavera de la Reina, Spain), hands-on activities with tile painting artist Amy Bower clay artist Nancy Sue Sierra. The exhibition is funded by the National Endowment for the Humanities, the International Folk Art Foundation, the New Mexico State Office of Cultural Affairs, the Museum of New Mexico Foundation and the US-Mexico Fund for Culture. A symposium will be held in the early summer of 2003 (information forthcoming). For additional information, contact Robin Farwell Gavin, Curator of Spanish Colonial Collections, Museum of International Folk Art, P.O. Box 2087, 706 Camino Lejo, Santa Fe, New Mexico 875041 tel 505/476-1213, fax 505/476-1300, email RGavin@moifa.org See also the museum's website <http://www.moifa.org/>

New Traveling Folk Ceramic Exhibit

Posted on the Museum_L listserv in late November is the announcement that an exhibit "Women in Clay: The Potters of La Chamba - 35 Years of Ethnographic Photography and Ceramics/Las mujeres en arcilla: Las alfareras de la Chamba - 35 Años La fotografia ethnografica y ceramica." This photographic and ceramic exhibit documents a centuries-old folk ceramic technology and considers the impact of rapid social change on a peasant village in southern Colombia and was curated by Laurence Kruckman. In addition to color and black and white images there are information panels describing ceramic technology and social and cultural issues such as changing gender roles and child labor. The exhibit is primarily 72 small, medium and large color and black and white photographs mounted on ¾ inch (1.9 cm) Gatorboard (various dimensions of photos provided upon request). Not all photos need to be displayed. The entire photographic exhibit is shipped in 3 wooden containers approximately 5'h x 7'1 x 1'd. (1.5 x 2.1 x .3 meters). Information labels are provided for all photo panels. There are, in addition, 3 large exterior entrance panels, as well as curator and photographers statement panels. There

are no special needs or interactive environments. An 18-minute documentary on the village ceramic technology is optional and available through Penn State Media at <http://tango.outrreach.psu.edu/Tango/wpsx/medianew2.taf?function=search>. The original exhibit contained approximately 200 ceramic artifacts. The *ceramic aspect of the exhibit is optional*. The original exhibit was housed in 6 medium sized rooms; the exhibit would be suitable for a wide variety of environments and can be set up according to the needs of the facility. The original show utilized approximately 180 linear feet (49 meters) of wall space. One large panel is 6'x12' (1.8 x 3.7 meters). There are no ceiling height limitations. A video, "Women in Clay: A Sample Museum Layout" is available that suggests various ceramic displays and provides a sample floor plan. The exhibit catalog, *Women in Clay: The Potters of La Chamba - 35 Years of Ethnographic Photography and Ceramics* (Imogene Waugh, Michael Milligan, and Laurence Kruckman; The University Museum, Indiana University of Pennsylvania, 2002, 28 pp., 33 b-w and 8 color illustrations), is also available. Kruckman's dissertation, *Women in Clay: The Potters of La Chamba* (Carbondale: Southern Illinois University, 1977) is a primary bibliographic reference. The listserv notice did not mention the ethnographer, Ronald J. Duncan. He is the author of *The Ceramics of Ráquira, Colombia: Gender, Work, and Economic Change* (1998) and *Crafts, Capitalism, and Women: The Potters of La Chamba, Colombia* (2000), both published in hardcover by the University Press of Florida, Gainesville. The recent volume is cited in the exhibition catalog.

For further information on the rental fees and dates of availability, please contact Michael Hood, Dean College of Fine Arts, Indiana University of Pennsylvania, Indiana, Pennsylvania 15705; email mhood@iup.edu or telephone 724/357-2397. Laurence Kruckman is in the Department of Anthropology at Indiana University of Pennsylvania; email kruckman@iup.edu or telephone 724/357-2841.

Previous Meetings

The 12th Mogollon Conference was held at New Mexico State University, Las Cruces, NM 17-19 October 2002. Among the 46 oral presentations were four concerned directly with ceramics: Maren Hopkins "What about All those Redwares?: An evaluation of Redware Pottery of the Eastern Mimbres Region"; Tiffany Clark, Darrell Creel, and Hector Neff "The Production and Long Distance Exchange of Chupadero Black-on-white Pottery in the Post-A.D. 1130 Mimbres Region"; Alexa Smith and David R. Abbott "Chronology-building with Ceramics in the Safford Basin, Southeastern Arizona"; and Darrell Creel "Neutron Activation Analysis of Salado Ceramics from the Lower Mimbres Valley." Additional information is available on the Internet at <http://www.swanet.org/zarchives/misc/12mc.pdf>

The *American Anthropological Association* held its 101st annual meeting in New Orleans 20-24 November 2002. The only session devoted to pottery was *Ceramic Ecology XVI: Current Research on Ceramics - 2002*, the 16th annual ceramic ecology symposium, co-organized by Charles C. Kolb (National Endowment for the Humanities) and Louana M. Lackey (Maryland Institute College of Art) and chaired by Kolb. Sandra

L. López Varela (Universidad Autónoma del Estado de Morelos, Cuernavaca, México) served as discussant. The papers included: Peter Grave (University of New England, NSW, Australia), Lisa Kealhofer (Santa Clara University), and Ben Marsh (Bucknell University), "Ceramic Characterization and GIS Modeling of Ancient Land Use at the Phrygian Sanctuary of Dumrek, Central Anatolia"; Dean E. Arnold (Wheaton College, IL), "Linking Society with the Compositional Analyses of Pottery: A Mode; from Comparative Ethnography"; Marilyn Beaudry Corbett (Cotsen Institute of Archaeology, UCLA) and Thomas W. Cuddy (University of Maryland) "Using Ceramic Themes to Determine Cultural Corridors in North Central and Northeastern Honduras"; Joseph Mountjoy (University of North Carolina at Greensboro) "Ceramic Strainer Pots of Middle Formative Mesoamerica"; Frances Ahern (Retired) "Coastal Mixtec and Amuzgo Pottery Differences, Mexico"; Mary S. Thieme (Gulf Coast Community College) "Changes in the Style of Production and Distribution of Pottery in Santa Maria Atzompa, Oaxaca"; Cynthia Pinkston (University of Maryland), "Fragmentary and Disputed Witnesses: Amplifying Current Knowledge of Oaxacan Ceramic Sculpture by Studying a 19th Century Collection"; Mary Hopkins (Independent Scholar) "Ya esta terminando la loza rojo - The Redware is Ending"; and Louana M. Lackey (Maryland Institute College of Art), "Putting Together the Pieces: Current Research in Ceramic Studies."

The session "Twenty-five Years after the Individual in Prehistory," organized by Scott Van Keuren, Margaret Hardin (both Natural History Museum of Los Angeles) and William Longacre (University of Arizona), featured several papers on ceramic topics: Patricia Crown (University of New Mexico) "Life Histories of Pots and Potters: Situating the Individual in Prehistory"; van Kueren and Hardin "A New Look at Old Assemblage: The Delineation of Individuals in Tarascan Pottery"; and Susan Stinson (University of Arizona) "Fingerprints as an Indicator of Sex: A Study of Figurine Production in the Hohokam Household." A paper by Brenda Bowser (Washington State University) "Understanding Variation in Pottery Design from an Actor-based Perspective," was not presented. Other ceramic-oriented papers in other AAA sessions included: Billie Follensbee (Southwest Missouri State University) "The Child and the Child-like in Olmec Art and Archaeology"; Georgia Fox (California State University) "Interpreting Socioeconomic Change in 17th-century England and Port Royal, Jamaica, through the Analysis of the Port Royal Clay Pipe Collection"; Maren P. Hopkins (University of Arizona) "What about All those Redwares?: An Evaluation of Redware Pottery of the Eastern Mimbres Region"; Brigitte Kovacevich (Vanderbilt University), Ron Bishop (Smithsonian Institution), and Hector Neff (University of Missouri at Columbia [currently California State University at Long Beach]) "Production, Exchange, and Political Economy in the Classic Maya World: New Evidence and Challenges from Cancun"; Rosemary Joyce (University of California at Berkeley) and John S. Henderson (Cornell University) "Before there was a Periphery: Early Formative Honduran Archaeology"; Philip Arnold (Loyola University) "Got Olmec?: Comments on the Heartland Homogenized"; and Jeb Card (Tulane University)

“Early Colonial Society and the Use of Ceramic Vessels and Vases as a Test Case.” Warren Barbour (SUNY Buffalo) did not present his contribution “Child’s Play: Incorporating Children in the Teotihuacán Web of Life.”

The Neolithization of Eurasia - Reflections in Archaeology and Archaeogenetics was the subject of the 9th Neolithic Seminar held at the Department of Archaeology, University of Ljubljana, 28 November-1 December 2002. Mihael Budja (Department of Archaeology, University of Ljubljana) gave the keynote paper entitled “Neolithization of Europe - Introduction to the Seminar.” A number of presentations focused on ceramics: Laurens Thissen (Independent Researcher, Amsterdam) “Dating the Neolithization Process in Southeast Europe”; Mehmet Ozdogan (Prehistorya Anabalin Dal Edebiyat Fakultesi, Istanbul University) “The Transition from Pre-Pottery to Pottery Neolithic: Insights of a New Excavation, Mezraa-Teleilat”; Ivan Vajsov (Institute of Archaeology, Bulgarian Academy of Science) “Early Monochrome Neolithic in Bulgaria”; Detlef Gronenborn (Johann Wolfgang Goethe-Universität, Frankfurt) “Migration, Acculturation and Culture Change in Temperate Europe and Eurasia, 6500-5000 cal BC”; Chaohong Zhao (Department of Archeology, Peking University, Beijing) “The Early Neolithic Site Dong Huling in Beijing: Excavation and Research”; and Xiaohong Wu (Department of Archeology, Peking University, Beijing) “The Direct and Indirect Dating of Neolithic Pottery.” In the latter presentation different methods (AMS-radiocarbon direct and indirect, and thermoluminescence dating) were used to date pottery from the sites of Dong Huling at Beijing, Po Tang Shan Bei in Zhejiang Province, Xian Ren Dong at Jiangxi Province in China and pottery sherds from Slovenia. Paper abstracts and additional information are posted on the Internet site <http://www.ff.uni-lj.si/arheologija/neolitik/seminars/s9.html>

AIA, the *Archaeological Institute of America* held its 104th annual meeting in New Orleans from 3-6 January 2003. Further information is available on the website at <http://www.archaeological.org/webinfo.php?page=10096> There were 29 papers or posters concerning ceramics - many more than the usual number of contributions; five of these employed archaeometric techniques of analysis. The oral presentations included: “Excavations at Azoria, Eastern Crete” by Donald C. Haggis (University of North Carolina at Chapel Hill), Margaret S. Mook (Iowa State University), and Lynn M. Snyder (Smithsonian Institution); “Ceramic Evidence for Function in the West Sanctuary at Troy” by Carolyn Aslan (Koç University); “Evidence for the Continued Function of the Sanctuary of Iliion in the Classical Period” by Kathleen M. Lynch (Truman State University); “Hellenistic and Early Roman Ritual Activity at the West Sanctuary of Troy” by Billur Tekkök (Bilkent University); “Pottery and Luxury Roman Glass from a Roman Maritime Villa at Cumae, Italy” by Nancy Pinto-Orton (University of Pennsylvania Museum); “Tell el-Far’ah (South): Persian, Hellenistic, and Roman Periods” by Martha K. Risser (Trinity College); “Geometric Occupation of the Paximadhi Peninsula, Southern Euboea” by Cynthia Kosso (Northern Arizona University and Southern Euboea Exploration Project); “Provincial Minoan Pottery: The Case of Pera Galenoi (Crete)”

by Eleni S. Banou (Greek Archaeological Service); “Making Kamares Ware Pottery in Middle Bronze Age Central Crete” by Peter M. Day (Sheffield University); “Western Anatolian Pottery from Late Minoan Crete: Evidence for Direct Contacts between Arzawa and Keftiu?” by Jeremy B. Rutter (Dartmouth College); “Were Minoans Right or Left Handed?” by Aleydis van de Moortel (University of Tennessee); “Rural Ceramic Industries and Questions of Craft Specialization in Minoan Crete” by Kellee A. Barnard (Colby College); “Survey Pottery from Leptiminius: Beyond Center and Periphery at the Level of the Roman Town” by Karen Eva Carr (Portland State University); “Classical Helike and Its Early Bronze Age Predecessor” by Dora Katsonopoulou (Ancient Helike Society) and Steven Soter (American Museum of Natural History); “The Excavation of Petsas House at Mycenae: Drinking and Dumping” by Kim S. Shelton (Archaeological Society of Athens); “Mycenaeans in the Corinthia: The Pottery” by Ioulia Tzonou-Herbst (ASCSA Corinth Excavations); “Analysis and Classification of the Late Helladic I Pottery from the Northeastern Peloponnese” by Jeffrey L. Kramer (University of Cincinnati); “Mass Production, Standardization, and Variation: A Study of a Deposit of Undecorated Mycenaean Pottery from Mycenae” by J. Hofstra and J. Verstraete (British School at Athens); “Virgin Territory: An Archaeology of Early Greek Maidenhood” by Susan Langdon (University of Missouri at Columbia); “Gendered Spaces: Men at the Tomb in Late Archaic Attic Black-Figured Pottery” by Elizabeth Langridge-noti (American College of Greece); “The Hellenistic Habitation and Workshop at Podere Funghi (Poggio Colla)” by Michael L. Thomas (University of Michigan) and P. Gregory Warden (Southern Methodist Church); “Herodian Jerusalem: A Cultural Melting Pot” by Andrea M. Berlin (University of Minnesota); “Plaster as a Clue to Reconstructing Architectural Appearance and Archaeological Event: The Case of a Painted Stoa and Adjacent Spaces in the Minoan Palace at Kommos, Crete” by Maria C. Shaw (University of Toronto); “Ceramic Analysis as a Tool to Explore the Second Story” by Jeremy B. Rutter (Dartmouth College); “The Politics of Women’s Adornment: A Patriarchal Discourse” by Sue Blundell (Birkbeck College, University of London); and “Recent Research on the Phoenicians and Carthaginians in Sicily” by Maria Luisa Famà (Soprintendenza BB. CC. AA., Trapani). The poster presentations were: “Replicating Minoan Fabrics: Experiments in Production and Usage” by Marie Archambeault (University of South Florida) and Jerolyn Morrison (University of Houston); “Ceramic Production and Consumption during the Early Mycenaean Period at Tsoungiza” by Martina Dalinghaus (University of Cincinnati); and “Results of Ceramics Collections for the 2001 Rough Cilicia Survey” by Nicholas Rauh (Purdue University), LuAnn Wandsnider (University of Nebraska at Lincoln), Mette Korsholm (George Sammlings Museum), and Matthew Dillon (Loyola Marymount University).

Of particular note, Nancy Pinto-Orton’s research, “Pottery and Luxury Roman Glass from a Roman Maritime Villa at Cumae, Italy,” involved ceramic analysis of pastes using grain size, density measurements, and Munsell system fabric colors. “Making Kamares Ware Pottery in Middle Bronze Age Crete” by Peter M. Day employed thin section petrography, SEM,

and chemical analyses. Especially interesting was “Ceramic Analysis as a Tool to Explore the Second Story” by Jeremy B. Rutter. The abstract reads: “Ceramic analysis can be helpful in exploring the second stories of Minoan buildings in two quite different ways. Specific examples to illustrate these two methods are taken from the ongoing analysis of House X at Kommos, but comparisons will also be made where appropriate with the rich ceramic data published from the Unexplored Mansion at Knossos. First, careful recording of sherd size and date in the stratigraphic excavation of individual rooms can reveal the presence of collapsed floors from upper stories, even in the absence of a destruction by fire and any evidence for burnt timbers or roofing (examples of large Room 4 of LM IIIA2 Early date and of small sottoscala Room 16 of LM IIIA1 date in House X). Second, the typological analysis of discrete deposits of mendable pottery to be associated with ground and second stories respectively permits altogether different kinds of activities to be identified at the two levels of what is, in plan, often a space of identical or very similar size (example of Room 7 of LM IIIA2 Early date, in addition to the two preceding spaces).”

A poster presentation entitled “Replicating Minoan Fabrics: Experiments in Production and Usage” by Marie Archambeault (University of South Florida) and Jerolyn Morrison (University of Houston) deserves mention. “Fabric replication of ancient clay vessels provides practical anthropological insight into how civilizations used technology and natural resources for pottery production and food storage. These experiments are not intended to reinvent ancient ceramic industries but to investigate how people used the natural resources in their environment to perform daily tasks. The experimental methodology employed is derived from archaeological evidence for Minoan ceramic production, environmental evidence for Bronze Age fuel and clay resources, and practical potting experience. To illustrate this process, the Plakias Red Serpentine Clay (PRSC) from the Aghios Vasilios Valley in Crete is being tested for its potential use in the production of liquid storage containers. The PRSC is a plausible Bronze Age clay source based on geological connections (i.e., serpentine and red clay outcrops to red serpentine figurines and cooking fabrics) and the geographical proximity of the PRSC outcrop to both the excavated Atsipadhes Korakias Minoan Peak Sanctuary and the Minoan sites located during the Aghios Vasilios Valley Survey Project. The experimental variables are used to test the absorption and permeability of the PRSC interior surface finishes (unaltered, burnished, and slipped). Each surface variable will be tested with both honey and olive oil for long-term storage ability. We are interested in discovering if the storage efficiency of the PRSC is influenced by interior surface finishes and/or liquid substance thickness. Methods of macroscopic observation for permeability and laboratory testing for substance absorption will be used to determine the efficiency of the PRSC as a liquid storage fabric.”

The *Society for Historical Archaeology* (SHA) and the Advisory Council for Underwater Archaeology Conference on Historical and Underwater Archaeology held their 36th annual conference 14-19 January 2003 in Providence RI. The conference was hosted by The Public Archaeology Laboratory,

Inc. A symposium entitled “Portuguese Ceramics in the Context of Global Trade” was organized by Maria das Dores Cruz and Christopher R. DeCorse and included six papers. These were presented by G. D. Cook, M. das Dores Cruz, C. R. DeCorse, P. Dordio Gomes, S. R. Pendry, and P. E. Zanettini. Additional information may be found on the SHA website at <http://www.sha.org/mt2003.htm>

Terracotta and Tiles was the title of a symposium held in the Department of Archaeology, University of York, York, UK, YO1 7EP, 20-22 January 2003. The aim was to present the rich and varied historic use of burnt clay in building cultures; to explore the decay mechanisms, and appropriate methodology and techniques for conservation and repair, and to investigate the use of ceramic building materials in York itself. The course fee was £150. Additional information is available on the conference Internet site at <http://www.york.ac.uk/depts/arch/gsp/openshort/menu.htm>

The Associazione Italiana di Archeometria 2003 Conference was held 6-7 February 2003 at Ravello and had the theme “Archeometria del costruito. L’edificato storico: materiali, strutture e rischio sismico.” Prof. Marco Martini (Dipartimento di Scienza dei Materiali, Milan) is the organization’s president. Ceramic studies appear to be peripheral to the meeting. There is additional information (all in Italian) on the Internet site at <http://aiar.mater.unimib.it>

The Middle Atlantic Archaeological Conference was held 14-16 March 2003 in Virginia Beach, Virginia. Among the 82 papers presented, there were four papers on ceramics: Beatrix Arnold “Acquire This: A Study of Ceramic Stylistic Variability at Monticello, Mount Vernon, and Stratford Hall”; Jillian E. Galle and Frasier D. Nieman “Patterns of Tea and Tableware Consumption on Late Eighteenth-century Slave Quarter Sites”; Alison Bell “Articulation of Ceramic Use and Socio-Economic Circumstance: Investigations of Late 18th-century Virginia Sites using the Digital Archaeological Archive of Chesapeake Slavery”; and Joe Herbert “Woodland Culture and Ceramic Styles of Coastal North Carolina.”

Forthcoming Meetings

The 6th Conference of Italian Archaeology has the theme “Communities and Settlements from the Bronze Age to the Early Medieval Period,” and will be held 15-17 April 2003 at the University of Gronjngen, The Netherlands, and is being organized by the Institute of Archaeology at the university. Abstracts of papers were due 1 December 2002 with notification of acceptance in January 2003. Seven parallel sessions concentrate on thematic topics: New Developments in Fieldwork, Chronology, Theory and Aims in Italian Archaeology, Burials and their Interpretation, Transformations in Technology and Exchange, Urbanism, and Domestic Pottery and Food Systems. Dr. A. Zifferero is coordinating the latter which will be held on 15 April. The authors and 11 paper titles are: Giuliana Gardelli “Vengono dalle Marche le più antiche terrecotte Italiane? Ritrovamenti archeologici nel Castello Brancaleoni a Piobbico”; Enrico Procelli and Francescaromana Alberghina “Focolari, fornelli e ceramica da cucina dal villaggio dell’antico Bronzo da Manfria (Gela, CI)”; Andrea Dolfini “Spatial distribution and functional analysis: the dwellings of

Sorgenti della Nova dating to the late Bronze Age - early Iron Age"; Rosa Maria Albanese "Pratiche alimentari nella Sicilia protostorica e arcaica tra tradizione e innovazione"; Mirella T.A. Robino and Elena Smoquina "Lo scavo di San Cassiano di Crespino (Rovigo, Italia): problematiche relative allo studio della ceramica commune"; Wim Jongman "Roman meat consumption"; Luisa Mazzeo Saracino e G. Giannotti "Romanizzazione e mutamenti del costume alimentare in territorio marchigiano: studio delle fonti e analisi dei materiali ceramici"; Enrico Giannichedda "Alimentazione in Lunigiana tra innovazione e persistenze"; Eric de Sena "What is common ware? Problems in defining a class of 'Roman' pottery"; Denis Sami, L. Albelli and Roberta Baldassari "Lo scavo subacqueo di Scauri, Isola di Pantelleria. Primi dati sulla Pantellerian ware e sui contenitori da trasporto"; and Janne P. Ikäheimo "To imitate or to specialize? The effect of imports on the production of domestic cooking wares in Rome between AD 50-550." There are four posters: Paola Puppo and Fabio Mosca "La diffusione delle coppe 'tipo Sarius' lungo l'Adriatico"; Francesca Spatafora "Complessi vascolari domestici nell'insediamento arcaico di Monte Maranfusa (Palermo): interazione e acculturazione"; Manuela Merlo "La diffusione della ceramica in impasto chiaro sabbioso in Italia"; and Marina Castoldi, Silvia Bruni e Vittoria Guglielmi "La ceramica bicroma dell'Incoronata di Metaponto; Analisi dei Pigmenti." Additional information is available on the conference website at <http://odur.let.rug.nl/ItalianArchaeology/>

Euroclay 2003, The Meeting of the European Clay Group Association, will be holding its 10th Euroclay Conference on June 22-26, 2003 in Modena, Italy. One of the sessions will be "Clays in Volcanic Environments." The organizers invite contributed poster or oral presentations to this session. The session conveners are Saverio Fiore (fiore@imaa.cnr.it) and F. Javier Huertas (javier.huertas@eez.csic.es). Dr. Huertas is at SIC, Estacion Experimental del Zaidin, Dpt. Earth Sciences and Environmental Chemistry, Prof. Albareda 1, 18008 Granada, Spain; telephone 34 958 181 600, ext. 226; fax 34 958 129 600. The abstract submission deadline is 31 March 2003. Details of the conference, including submission of abstracts, can be obtained from the meeting Internet site at <http://www.unimo.it/euroclay2003>

UK Archaeological Science 2003 (detailed in a previous column) will be held 2-5 April 2003 at St. Anne's College. Further information may be obtained at UKAS 2003, Research Laboratory for Archaeology and the History of Art, 6 Keble Road, Oxford, OX1 3QJ; FAX 01865 273932, email: ukas2003@rlaha.ox.ac.uk The conference website is <http://users.ox.ac.uk/~ukas2003/>

Egypt and Cyprus in Antiquity is the title of an international conference which is to be held in Nicosia, Cyprus from 3-6 April 2003, under the sponsorship of the Cyprus American Archaeological Institute (CAARI) and the Archaeological Research Unit of the University of Cyprus. Many new discoveries and findings have been made in both Egypt and Cyprus since the principal works on this theme were published. It is timely to bring the results of recent fieldwork and research together in a forum where their bearing on the process of historical reconstruction can be expertly and collectively

evaluated. This conference will cover the period from the 3rd millennium BCE to the 6th century CE, and will comprise three large chronological areas: A: from the Chalcolithic to the Late Bronze Age; B: from c. the 11th to the end of the 4th century BC; and C: The Ptolemaic and Late Roman periods. The languages of the conference will be English, French and Greek. Among the 50 papers are three concerned directly with ceramics: Annie Caubert "Egyptian-Egyptianizing Faience from Cyprus: Recent Laboratory Results"; Jolanta Mlymarczyk "Sailors and Artisans: Egyptian Connections of Ceramic Finds from Yeronisos"; and Edgar Peltenberg "Egyptian Faience in Cyprus." Additional information is available on the CAARI Internet site at <http://www.caari.org/conferences.html>

The Society for American Archaeology annual meeting in Milwaukee, 9-13 April 2003 includes two symposia that concern ceramic materials. The first, scheduled for 10 April, "Rethinking Craft Production: The Nature of Producers and Multi-Craft Organization," organized and chaired by Izumi Shimada (Southern Illinois University) has the following abstract: "In the study of ancient craft production there has been undue reliance on ethnographic and ethnoarchaeological data and associated models of production organization and a seemingly widespread propensity to emphasize hierarchical relations between elite individuals and non-elite producers. Taking advantage of recent excavations of craft workshops in various parts of the world, this symposium reassesses the directions and emphases of the archaeological study of past craft production examining the nature of crafters and "horizontal relations" among crafters working coterminously in proximal locations." The papers and their authors are: "The Nature of Crafters and Multi-craft Organization: Issues, Approaches and Pre-Hispanic Andean Examples" by Izumi Shimada (SIU); "Middle Sicán Multi-craft Production: Resource Management and Labor Organization" by David J. Goldstein (SIU) and Izumi Shimada (SIU); "A Peek Inside the City" [Conchopata] by William H. Isbell (Binghamton University); "A Reason for Being: Artisans in the 16th Century" [Andean region] by Susan E. Ramírez (Department of History, DePaul University); "Classic Maya Craft Specialists at Aguateca, Guatemala" by Takeshi Inomata (University of Arizona); "Diachronic Change in Crafts and Centers in South-Central Veracruz, Mexico" by Barbara L. Stark (Arizona State University); "'Hecho en México,' or Where Were These Ceramic Artifacts Fabricated in Classic Period Teotihuacán, México (ca. 50-750 CE)" by Charles C. Kolb, (National Endowment for the Humanities); "Flexibility in Household Craft Production: Multicrafting and Production" [Silver Creek Archaeological Research Project in east-central Arizona] by Barbara Mills (University of Arizona); "Dynamics of Craft and Community in Late Prehistoric Europe" by Peter Wells (University of Minnesota); and "Patterns of Craft Organization for Multiple Crafts in the Indus Valley Civilization" by Mark Kenoyer (University of Wisconsin, Madison) and Heather Miller (University of Toronto, Mississauga). The discussant is Elizabeth Brumfiel (Albion College).

Another symposium is "Mesoamerican Ceramic Figurines IV: Further Interpretations" organized by Charles C. Kolb (National Endowment for the Humanities) and Cynthia Otis

Charlton (Independent Scholar) and chaired by Kolb is on 10 April. The symposium abstract reads: "The study of ceramic figurines from archaeological sites in Mesoamerica has experienced a resurgent interest and interpretation. Figurines are surfacing from relegation as mere counts in final reports to being used to help to provide direct and indirect evidence of the sociocultural, economic, and belief systems of the people who made and used them. The contributions to this symposium focus on figurine assemblages from Preclassic, Classic, and Postclassic cultures in Mexico. They include new analyses and interpretations that can and are being done using "old" collections as well as recent finds." The papers and their presenters are "A Tie to the Land: Domestic Symbolism and Figurines from Early Agricultural Sites in the Tucson Basin" by Susan Stinson (University of Arizona); "Ceramic Figurines: A Neglected Resource for Understanding Sculpture' [Formative Period Gulf Coast] by Billie Follensbee (Southwest Missouri State University); "Snapshots from the Pyramid of the Moon" by Janet Montoya (Arizona State University); "Faces from Afar: Figurines from a Rural Teotihuacán Household" by Cynthia Otis Charlton; and "Fragments of Figurines - Evidence from an Old Collection" by Cynthia Pinkson (University of Maryland). Otis Charlton and Kolb will lead an interactive discussion with the presenters and members of the audience.

Archaeometrie 2003: Colloque du GMPCA (Groupe des Méthodes Pluridisciplinaires Contribuant à l'Archéologie) conference is scheduled for Bordeaux, France, 16-19 April 2003. Contact gmpca2000@montaigne.u-bordeaux.fr The Internet site is <http://www/gmpca2003.montaigne.u-bordeaux.fr>.

The 34th International Archaeometry Symposium (detailed in a previous column) is scheduled for 4-8 May 2003 in Hefei, Anhui, Peoples Republic of China. The official language of the symposium is English. Seven sessions (no parallel sessions) are scheduled. These are: 1) Field archaeology (remote sensing and prospection) and environmental archaeology; 2) Dating (organic and inorganic materials); 3) Biomaterials (including agricultural archaeology); 4) Technology and provenance (stone, plaster and pigments); 5) Technology and provenance (ceramics and glass); 6) Technology and provenance (metals); and 7) Special reports (achievements and perspectives on Chinese archaeometry). The latter has been selected by the organizing committee. Contact Yao Hu or Changsui Wang, Department of Scientific History and Archaeometry, University of Science and Technology of China, Hefei 230026, China; telephone 86/551-3603914, or email wangcs@ustc.edu.cn or ywhu@ustc.edu.cn The Internet site for additional information is <http://www.archaeometry.ustc.edu/cn>.

The Second International Conference on Soils and Archaeology will be held in Pisa, Italy, 12-15 May 2003. Additional information is available on the Internet site at <http://soilarch.humnet.unipi.it> and from Giovanni Boschian, Dipartimento di Scienze Archeologiche, Università di Pisa, 53, via Santa Maria, 56126 Pisa - ITALY; tel +39 050 847310, fax +39 050 847316, email soilarch@arch.unipi.it

The 4th Symposium on Archaeometry of the Hellenic Society of Archaeometry is scheduled for 28-31 May 2003 in

Athens. The official languages are Greek and English; oral papers are limited to 20 minutes and there is a poster session. The conference theme is "Archaeometry Studies in the Aegean: Reviews and Recent Developments." There are eight sessions: Science-based dating; Technology and Provenance of archaeological materials (ceramics, metals, glass, stone, mortars, pigments, etc.); Remote Sensing; Geoarchaeology; Bioarchaeology; Study of organic residues; Research in Conservation Science; and Mathematical Methods. Authors' names, paper titles and abstracts were not posted by February 2002. Contact Professors K. Polikreti or N. Zacharias at kpolikreti@ims.demokritos.gr; zacharias@ims.demokritos.gr. The Internet site is <http://www.archaeometry.gr/symposium2003/4thSymposiumHSAEn.htm>

The European Materials Research Society (E-MRS Meeting), "Materials Aspects of Art Characterization, Conservation & Restoration," is scheduled for 10-13 June 2003 in Strasbourg, France. The Symposium will provide a multidisciplinary forum for scientific and technological issues in art, archaeology, conservation and preservation/restoration. Contributions will explore the importance of materials science and its analytical techniques in understanding and appreciating ancient objects and technologies used to produce them. Materials science and analytic characterization is of particular importance in the fields of Conservation and Restoration because it promotes understanding of the mechanisms of aging, stabilization and consolidation. Other important questions that can be approached are related to dating of art objects and their authentication, as well as the characterization of the sources of ancient materials used and the production processes developed for manufactured goods. The aim of this symposium is to identify and solve those problems in art, archaeology and ancient technology that can best be answered by the methodology and techniques of materials science. Interdisciplinary collaborations and expertise are encouraged, especially that which conceptualized and resolves problems related to ancient technology, preservation and conservation science, weathering and dating with the aim of understanding, maintaining and preserving material culture. Topics include: Ancient and historic technologies and modern craft; archaeological science and archaeometry; weathering, dating, and authentication; preservation science and conservation; and characterization sources and production of ancient manufactured goods. Abstracts were due by 14 January 2003. Among the invited papers related to ceramic are presentations by A. Bouquillon, "French and Italian Renaissance Ceramics" and by J. Pérez-Arategui "Aspects of the Characterization of Decoration on Ceramic Glazes." The organizers include the primary contact, G. Padeletti, ISMN-CNR7 Monterotondo/Roma (I), pad@mlib.cnr.it. His colleagues include Michel Menu, CNRS/Louvre, Paris (F), michel.menu@culture.gouv.fr; P. Vandiver, Smithsonian Institution, Washington, DC (USA), vandiverp@scmre.si.edu; and M. Stuke, MPI f. biophys. Chemie, Goettingen (D), mstuke@gwdg.de. Additional information is available on the conference website at <http://www.emrs.cstrasbourg.fr>.

The First International Conference on the Ancient Cultural Relations Between Iran and Western Asia sponsored

by the Office of Deputy Minister for Cultural Affairs at the Ministry of Culture and Islamic Guidance is scheduled to be held 16-18 August 2003 in Tehran, Iran. The aims of the conference are to study cultural relations and exchanges between Iran, its neighbors of Western Asia from earliest times to the end of the Achaemenian period. Papers are being solicited for a number of symposia: 1) The most ancient eras, from the 10th to the 4th millennium BC, including human impact on nature and agricultural/economic developments and environmental changes, and the period covering the formation of states in Iran and Western Asia, and the invention of writing. 2) Iran and its Western neighbors during post literate times, including political, cultural, and commercial relationships from Early Dynastic to Neo-Babylonian periods. 3) Iran and its North-Western neighbors during post literate times: 3-1 Early Bronze Age, 3-2 Urartian civilization, 3-3 Languages and literary forms, and 3-4 Religions and mythology. 4) The Achaemenian period: 4-1 Origins of Assyrian, Babylonian, and Elamite empires; 4-2 Administrative system of the empires; and 4-3 Reactions of subject peoples to the Achaemenian rule. The official languages of the Conference are Persian and English; all papers, either in abstract or in the whole, should be delivered to the Conference in one of these languages. However, the contributing scholars may read their papers to the meeting in any language they desire. Contributors were required to 1) fill out application form and 2) to send it along with a two-page typewritten abstract of their paper (sources included) to the Conference secretariat no later than 21 January 2003. An Academic Board, composed of Iranian and non-Iranian scholars, will "pronounce their approving or disapproving opinions about the abstracts" by 20 February 2003. Writers of the approved abstracts should send the complete text to their papers to the conference secretariat by post or by email by 9 May 2003. The postal address of the Conference Secretariat is: Secretariat of the First International Conference on the Ancient Cultural Relations Between Iran and Western Asia, 1178 Enqelab Ave. between Felestin St. and South St. 3rd Fl., Postal area code 1315773411, Tehran, IRAN (tel + 98 21 641 52 62, fax + 98 21 641 54 98, email contact@ficiwa.org A three day scientific trip is also being planned.

An international scientific committee includes 23 persons from half a dozen nations. The Scientific Committee Secretary is A. Majid Arfaee (a.m.arfaee@parsonline.net and majidarfaee@hotmail.com). The members of the Scientific Committee are: Alizadeh, Abbas: alizadeh@babylon-orinst.uchicago.edu; Amoozgar, Zhaleh: ayeggane@chamran.ut.ca.Ir; Boucharlat, Remy: remy.boucharlat@free.fr; Fuchs, Andreas: andreas.fuchs@uni-tuebingen.de; Garrison, Mark: mgarriso@trinity.edu; Gasche, Hermann: hermann.gasche@rug.ac.be; Jones, Charles: cejo@midway.uchicago.edu; Kouchoukos, Nicholas T.: nkouchoukos@uchicago.edu; Krebernik, Manfred G.N.: Tel.Uni.: +49 36 41 98 48 70; Kuhrt, Amelie: ucraatk@ucl.ac.uk; Laleh, Heydeh: hlaleh@sinasoft.net; Leichty, Erle: fax: +1 215 898 06 57; Madjidzadeh, Youssef: ymadjidzadeh@aol.com; Malek-Shahmirzadi, M.-S.: smalek@marva.com; Mazdapour, Katayoun: bahman@ned.net; Miller, Naomi: nmiller@sas.upenn.edu; Mofidi, Behzad: MofidiBehzad@aol.com; Salvini, Miroslavo: m.salvini@

ime.rm.cnr.it; Stein, Gil: g_stein@northwestern.edu; Stolper, Matthew: mwst@midway.uchicago.edu; Voigt, Mary: mmvoigt@wm.edu; Volk, Konrad: konrad.volk@uni-tuebingen.de; and Winter, Irene: iwinter@fas.harvard.edu.

7th *European Meeting on Ancient Ceramics (EMAC 03)* is scheduled to be held in Lisbon, Portugal, 27-31 October 2003, and has the theme of "Understanding Man Through His Pottery." The deadline for submissions is April 2003. Additional information may be obtained from the organizers at EMAC '03, c/o Instituto Tecnológico e Nuclear, Estrada Nacional 10, 2686-953 Sacavem, Portugal; email emac03lisbon@itn.pt. There is a website at <http://www.itn.pt/EMAC03>.

Ceramic Ecology XVII: Current Research on Ceramics, 2003 is the title of a symposium that will be held at the American Anthropological Association annual meeting in Chicago, 19-23 November 2003. Organized and chaired by Charles C. Kolb (National Endowment for the Humanities), this 17th annual symposium includes ten papers with ceramic subject matter varying from the Seneca Iroquois, Yap, and Maya, to Teotihuacán and eastern Mediterranean. Among the confirmed presenters are: Kathleen M. Allen (Pittsburgh); Christophe Descantes (Berkeley); Chris Gunn (Kentucky); John Hoopes (Kansas); Sandra L Lopez Varela (Morelos), Malgorzata Daszkiewicz, and Gerwulf Schneider; Cynthia Pinkston (Maryland), Wes Stoner (Kentucky), and Kristin Sullivan (Arizona State). Michael L. Galaty (Millsaps College) will be the discussant. Mike, a past Ceramic Ecology symposiast, holds an M.A. and Ph.D. from the University of Wisconsin, Madison. Among his interests are European prehistory (specifically the Bronze Age and earlier in Greece and Albania), the origins of complex societies, chemical and petrographic analysis of ceramics, the construction and organization of burial monuments, and GIS. He is the author of *Nestor's Wine Cups: Investigating Ceramic Manufacture and Exchange in a Late Bronze Age "Mycenaean" State* (British Archaeological Reports S766, 1999, and coauthored *Rethinking Mycenaean Palaces: New Interpretations of an Old Idea* (with William A. Parkinson; UCLA Cotsen Institute of Archaeology Monograph Series 41, 1999). The abstracts of the papers will be published in the next issue of the *SAS Bulletin*.

35th *International Symposium on Archaeometry* will be held in Zaragosa, Spain, 3-7 May 2004. Details are forthcoming.

32nd *International Geological Congress: Geoscience for Cultural Heritage* is scheduled for Florence, Italy, 20-28 August 2004, and has a theme "Geoarchaeometry: Geomaterials in Cultural Heritage." Oral and poster sessions will be held. Additional information may be obtained from Dr. Marino Maggetti, Department of Geosciences, Mineralogy and Petrography, University of Fribourg, Pirolles CH-1700 Fribourg, Switzerland; tel +41-026/300-89-30, fax +41-026/300-97-65, email marino.maggetti@unifr.ch

Internet Resources

California Academy of Sciences: Nampeyo Ceramic Tiles: A corpus of 70 of ceramic tiles found recently in the collections of the Department of Anthropology at the California Academy of Sciences in San Francisco was made by Nampeyo, one of the most celebrated Native American potters in the

United States. The academy's webpages describes the discovery as follows: "It was a most sophisticated archaeological discovery. In February, two collectors from New Mexico were scouring the cool, comfortably lit storeroom of the Academy's anthropology department, when they stumbled upon an assortment of 70 hundred-year-old ceramic tiles in near-perfect condition. They were products of the Hopi, a Native American group that has lived in northeastern Arizona for centuries, yet the tile artisan, until now, had remained a mystery. Both experts on Southwestern artifacts, the researchers knew the exquisite artwork could be only that of Nampeyo, the matriarch of Hopi potters." For further information see <http://www.calacademy.org/research/anthropology/hopi-tiles.html>.

The identification of the pottery "broadens the range of known styles attributed to Nampeyo," which could help identify other collections elsewhere, says Academy anthropology collections manager Russell Hartman. The postcard-sized tiles, which depict animals, geometric designs, and deities, were originally purchased by Jacob and Maria Breid, who were resident doctors on the Hopi Indian Reservation from 1904 to 1906. The Breid's daughter donated them to the Academy in 1987. Nampeyo (ca. 1860-1942) was an ordinary Hopi woman who readily responded to a growing interest in native pottery by early tourists and museums in the late 1800s. Her success was in the details. With nothing more than a section of yucca stem, its end chewed to give it rudimentary bristles, Nampeyo painted with the symmetry and precision of someone with a pencil and ruler. Her work would become a favorite among collectors, which as early as the 1890s, included the Smithsonian Institution." All 70 Nampeyo tiles in the Academy's collection can be viewed in the anthropology on-line collection database. Search on Maker's Name: "Nampeyo" and Object Name: "Tile." <http://www.calacademy.org/research/anthropology/Collections/Search.htm>

Nanhai Marine Archaeology: Archaeologists and historians, among others, hold strong opinions about nautical archaeology, marine salvage archaeology, and the recovery and sale of objects from shipwrecks and other marine contexts. The website "Ming Wrecks" was mentioned in an earlier *SAS Bulletin*, and has recently been enhanced and expanded and bears re-examination. Nanhai Marine Archaeology Sdn. Bhd. (25 Jalan Wawasan Jaya, 26 820 Kuala Rompin, Malaysia; telephone and fax 609-41-31-002, URL <http://www.mingwrecks.com/>) maintains this Internet site. The home page begins with the following statements: "Interested in Ming pottery, shipwrecks, archaeology, diving or adventure? If you want to buy genuine ceramic artifacts or learn about historical pottery, then you will enjoy navigating this site. The best things we do, at Nanhai Marine Archaeology, is to supply museums, universities and private collectors with provenanced antiques, proper excavated from our shipwreck sites." Thirteen home page hotlinks lead the reader to a variety of topics many of which are useful summaries and syntheses of shipwreck research in Southeast Asian waters, the recovery of vast quantities of ceramics, and the attempts to identify provenance vis-à-vis kiln sites and document the chronologies and ports of call of ships that never reached their destinations. These hotlinks

include: Museum Exhibition, Our Museum Collections, Pottery for Sale, Publications, the Shipwrecks, Basic Types of Pottery, FAQs, Participating, Diving Pictures, and Latest News.

A number of well-known museums have displayed or are collecting ceramics from the shipwreck located and excavated by Nanhai Marine Archaeology. These include the Victoria and Albert Museum, London; National Museum, Kuala Lumpur, Malaysia; Pacific Asia Museum, Pasadena, California, USA; Asian Art Museum, San Francisco, California, USA; Far Eastern Antiquities Museum, Stockholm, Sweden; Los Angeles County Museum of Art, Los Angeles, California, USA; Ulricehamn's Art Museum, Ulricehamn, Sweden; Pekan Museum, Pekan, Malaysia; Shanghai Museum, Shanghai, Peoples Republic of China; and Tioman Island Museum, Pulau Tioman, Malaysia.

The Singapore National University Museum will hold an exhibition similar to the *Malaysian Maritime Archaeology Exhibition* currently held at the National Museum in Kuala Lumpur. After talks with Nanhai Marine Archaeology and the Department of Museums and Antiquities the latter decided to support the Singapore exhibition with materials and other assistance requested. The University Museum has already purchased some of the items to be exhibited from the company. The exhibition is scheduled to open in the first quarter of 2004. Nanhai Marine Archaeology Sdn. Bhd. signs new contract with the Malaysian Government. On 30 September 2002 Sten Sjostrand signed a contract to excavate the Desaru shipwreck site. Dato' Dr. Adi Haji Taha, Director General of the Department of Museums and Antiquities signed on behalf of the Government.

The *Maritime Archaeology Malaysia* exhibition opened in November 2001 at Muzium Negara, Kuala Lumpur, Malaysia, and included a section prepared by Nanhai Marine Archaeology Sdn. Bhd. that provides extensive information on 22 ceramic related topics: Time capsules: the advantages of shipwreck sites; Southeast Asian and Chinese ships and traders; Basic types of pottery; Underglaze decorated ware; Celadon; Blue-and-white; Thai exporters; Stylistic development at Sisatchanalai: plates; Stylistic development at Sisatchanalai: ring-handled jars ; 'Royal gifts' in a hidden compartment on the *Royal Nanhai*; The *Turiang* shipwreck, c.1370; The *Nanyang* shipwreck, c.1380; The *Longquan* shipwreck, c.1400; The *Royal Nanhai* shipwreck, c.1460; The *Xuande* site, c.1540; The *Singtai* shipwreck, c.1550; The *Desaru* shipwreck, c.1830; Summary: seven shipwrecks; clay and slip, spur discs and tubular supports; Firing temperature; reduction atmosphere; glaze fastenings; Fish bones; ship's timber; Cosmetics, beads and bangles, and other currency. An exhibition of the historic shipwrecks discovered around Malaysia, opened in November 2001 at Muzium Negara in Kuala Lumpur. A major section of the exhibit, "*Discovering Asia's Ceramic Development*," draws on the seven shipwrecks, spanning half a millennium, which have been investigated by Sten Sjostrand. There is a virtual exhibition on the Internet at <http://www.maritimeasia.ws/>

The publications profiled on the Internet site include a monograph entitled *Turiang: A Fourteenth Century Shipwreck in Southeast Asian Waters* written by Roxanna

M. Brown and Sten Sjostrand (Pasadena, CA: Pacific Asia Museum, 2000, ISBN 1-877921-17-3, 64 pp. 95 colored photographs, black and white sketches, \$25.00 USD paper) provides a splendid introduction to that vessels and her ceramic cargo. Sten Sjostrand and Claire Barnes authored "The Turiang: A Fourteenth-Century Chinese Shipwreck Upsetting Southeast Asian Ceramic History," *Journal of Malaysian Branch of the Royal Asiatic Society* 74(1)[280] (2002). This 38-page article has been reprinted and is sold for \$5.00 USD. Sten Sjostrand and Jan Virgin (Far Eastern Museum Antiquities Museum, Stockholm) authored *Skatter Fran Sjunkna Skepp: vrakfynd fram Sydinessiska havet* (Stockholm: Far Eastern Museum Antiquities Museum, 1977, in Swedish only, available gratis) and Sjostrand has prepared a draft report entitled *Royal Nanhai and its Ceramic Cargo* (2002) available on the company's website <http://www.maritimeasia.ws/> The Nanhai Marine Archaeology website includes an interesting reflection on the age of China's and Southeast Asian traditional pottery [verbatim quote]: "The Turiang ship (1370) that was loaded with Chinese celadon and Thai underglaze black wares, sank more than a century before Christopher Columbus found the 'New World'. When the Swedish East India Man *Gotheborg* sailed to China in 1745 to buy what is [sic.] antiques today, she sailed right over the *Royal Nanhai* (1460) shipwreck that, already then had three century old celadons onboard!"

Internet Sites with Information of Ceramic Shape Analysis: S.H.A.P.E. Center at Brown University <http://www.lems.brown.edu/vision/extra/SHAPE/>; PRISM group at Arizona State University <http://prism.asu.edu/> Princeton University and NEC Research Institute 2001 Workshop on Shape-Based Retrieval and Analysis of 3D Models. <http://www.cs.princeton.edu/gfx/shape01/>; and North Dakota State University (NDSU) Archaeology Materials and Technologies Laboratories Digital Archive Network for Anthropology (DANA) <http://atl.ndsu.edu/archive>

Ceramic Research Queries

Paul Åström (Paul Åström Förlag, email paul.astrom@swipnet.se) inquired on the AegeaNet list on 4 November 2002 about computerized implement for drawing pottery. "For the processing of the ceramic finds from our excavations at Dhromolaxia-Vizaja ("Hala Sultan Tekke") in Cyprus we are pondering to use a computerized implement for drawing ceramics. Semi_automated systems (ARCOS, SAMOS and ceramografo) or an automated system (PRIP, cf. preliminary presentation in R. Sablatnig, C. Menard and P. Dietsis, "A Preliminary Study on Methods for a Pictorial Acquisition of Archaeological Finds", in *Archaeology and Natural Science* 1, 1993, 143-151) seem to exist, but we would be grateful if pottery specialists who are actually using such an instrument during an excavation campaign could share their experiences with us."

In early November, Richard Wright richwright@tig.com.au wrote to archcomp-l@listserv.buffalo.edu with the inquiry "Can anybody point me towards studies of, or software for, the matching of breaks in large collections of pottery and masonry. I am interested in algorithms that make use of such variables as dimensions, angles, radii of breaks." This question elicited several responses that may be of interest to readers. Alistair

Carty (Archaeoptics Ltd) reported that "We're currently testing a module for our Demon software that matches broken sherds or masonry together. The software is semi-automatic and can handle breaks that are not exactly clean." See Low-Cost 3D Laser Scanning and Digital Recording of Archaeology at <http://www.archaeoptics.co.uk>

Subscription information to the ARCHCOMP list is available at http://listserv.acsu.buffalo.edu/cgi_bin/wa?SUBED1=archcomp_1&A=1 while the list archives are at <http://listserv.buffalo.edu/archives/archcomp-l.html>

Ceramic Research at Bar-Ilan University

David Adan-Bayewitz reports on recent and ongoing ceramic research at Bar-Ilan University undertaken by him, his students, and colleagues. They are affiliated with The Martin Szusz Department of Land of Israel Studies, an interdisciplinary unit that covers Israel's history, archaeology, physical and human geography, nature, and demography. His mailing address is Land of Israel Studies, Faculty of Jewish Studies, Bar Ilan University, 52900 Ramat-Gan, Israel; email bayewitz@mail.biu.ac.il

1) A major effort is devoted to the methodological development of high-precision X-ray fluorescence analysis and instrumental neutron activation analysis to enable intrasite differentiation of ceramics. In this project, funded by the National Science Foundation, the applications relate to Roman Judaea/Palestine and contemporary Yucatan. The research team includes: Frank Asaro (P.I.), Robert D. Giauque (Lawrence Berkeley National Laboratory), Moshe Wieder (soil micromorphologist, Bar-Ilan University), Dean Arnold (Wheaton College, IL), and Hector Neff (California State University at Long Beach), and David Adan-Bayewitz. For the application of this new method (high-precision XRF) to the analysis of archaeological pottery, see D. Adan-Bayewitz, F. Asaro, and R. D. Giauque's article "Determining Pottery Provenance: Application of a New High-precision X-ray Fluorescence Method and Comparison with Instrumental Neutron Activation Analysis" in *Archaeometry* 41:1-24 (1999).

2) In another project, funded by the Binational United States - Israel Science Foundation, a team including Adan_Bayewitz (P.I.), Richard A. Muller, Frank Asaro, Robert D. Giauque, and Moshe Wieder is studying social and cultural relationships in Roman Judaea/Palestine as determined by high-resolution analytical studies of archaeological ceramics.

3) Adan-Bayewitz presented an oral paper at the International Archaeometry Symposium, held in Amsterdam in April, 2002, on high-resolution provenance work at Bar-Ilan. The title of the session was: Post-depositional Alteration of Ceramics, and the title of the presentation: "The Role of Chemical, Micromorphological and Archaeological Evidence in Determining Site-specific Production Provenance of Archaeological Ceramics, and Post-depositional Alteration of their Composition." The paper dealt with distinguishing pottery provenance groups evidently produced within about 2 km of each other, and also presented results on post-depositional alteration of ceramics.

4) Adan-Bayewitz is writing a book that will complement his earlier volume, *Common Pottery in Roman Galilee: A*

Study of Local Trade (Ramat-Gan, Israel: Bar-Ilan University, 1993, 303 pp.), on pottery production and distribution in Roman Galilee. The analytical problems for this book were more complex than for the first volume, and led to the development and application of high-precision XRF for archaeological problems. The research team for the analytical work included, Asaro, Giauque, Wieder, M. J. Baxter (Nottingham Trent), and Adan-Bayewitz.

5) Moshe Wieder and Adan-Bayewitz are continuing work on the relationship between soil materials and pottery. The latter researcher writes “this, of course, has important implications for ceramic ecology.” Their most recent paper appeared in the *Geoarchaeology* 17:393-415 (2002), M. Wieder and D. Adan-Bayewitz, “Soil Parent Materials and the Pottery of Roman Galilee: A Comparative Study.”

6) Adan-Bayewitz has also completed two other papers relating to archaeological ceramics. The first deals with methodology for determining ceramic chronology. The second, he reports “is, to the best of my knowledge, the first paper in Hebrew on ceramic ecology.” These papers will appear in two different collections of studies.

7) In recent years, Adan-Bayewitz has been collaborating with several of his graduate students on a systematic comparison of various methods of archaeological field survey. The main focus of this work has been on the ceramic evidence collected using each method.

Brief Notes and Other News

Backdirt, an informative newsletter published by UCLA’s Cotsen Institute of Archaeology has published articles relevant to ceramic studies. These include a brief report of the Ceramics Research Group Symposium on Residue Analysis “Using Gas Chromatography/Mass Spectrometry to Identify Organics in a Vessel” by Marilyn Beaudry-Corbett. See <http://www.sscnet.ucla.edu/ioa/backdirt/fall01/symposium.html>.

Heather M.-L. Miller is the author of “Locating Indus Civilization Pyrotechnological Craft Production,” in which she applies surface survey methods and geomagnetic techniques. See <http://www.sscnet.ucla.edu/ioa/backdirt/spr02/miller.html>.

An article by Gwilym Hughes, “Ming Pottery in an African Sun,” recounts the discovery of a broken Ming dynasty Chinese platter at Great Zimbabwe (*British Archaeology* 64, April 2002 <http://www.britarch.ac.uk/ba/ba64/column2.shtml>).

“Mycenaean Pottery Scholar Develops New System For Overlooked Wares Of Ancient Greece” is the title of a news release that reviews Jeffrey L. Kramer’s presentation at the Archaeological Institute of America’s 2003 meeting. He is a doctoral candidate at the University of Cincinnati and Gisela Walberg directs his dissertation research. Kramer introduced a classification system that he is developing for the vast array of Mycenaean pottery that has been largely ignored by scholars. He observes that historians of Aegean antiquity devote much attention to Late Bronze Age pottery known as “Mycenaean decorated,” thought to be highly influenced by Minoan influences from Crete. Kramer points out that the “Mycenaean decorated” category accounts for less than five percent and in some excavations, zero percent, of the pottery found from that period. This research also calls into question some of the

assumptions scholars have made about Minoan influence on Mycenaean culture. Walberg invited Kramer to study this material among her excavated finds the Mycenaean citadel of Midea (Late Bronze Age, 1650-1050 BCE). “Mycenaean decorated” pottery was traded and valued for its attractiveness, as well as its contents. The ware appeared in predominantly in three colors including pink/tan decorated with red and black or mixtures of the two, as well as green and gray decorated with black.

Previously, the other types of pottery from this period on mainland Greece have been largely referred to as “other wares.” Before all these “others” can be understood and studied in a coherent way, Kramer says a classification system is needed. He suggests using a multi-faceted system based on shapes, colors, decorations and clay fabric. “The goal of any of this research is not the objects themselves, but better ways to understand the people and the civilization that existed. What I am doing is just the first step in a very long process,” he says. While it may be true that Minoans influenced various aspects of Mycenaean culture, Kramer found that the influence on the earliest Mycenaean pottery may not be as profound as previously thought. He has also examined ceramics from the sites of Korakou (excavated by the late Carl Blegen), Tsoungiza (also associated with Blegen), Lerna (excavated by the late John Caskey), and Midea (excavated by Walberg in the 1990s). Information is available on the Internet at <http://www.nr.uc.edu/read.asp?ID=12223> and <http://www.sciencedaily.com/releases/2003/01/030102223928.htm>

A definition of “clay” (without comment): In *Science News* 162:344 (November 30, 2002), Janet Raloff writes that “Clay is dirt made from especially small mineral particles.”



Book Reviews

Mark Hall, Associate Editor

***Before the Volcano Erupted: The Ancient Cerén Village in Central America.* Payson Sheets (ed.) 2002. The University of Texas Press, Austin. 238 pp., 75 figs, 38 tables. \$60.00 (Cloth). ISBN 0-292-77761-2.**

Reviewed by Robert J. Speakman, Research Reactor Center and Department of Anthropology, University of Missouri, Columbia, Missouri 65211 USA

Around A.D. 600, the eruption of Loma Caldera completely buried, the Maya Classic Period site of Cerén Village beneath five meters of volcanic ash. Located in the Zapotitán Valley of Western El Salvador, Cerén is located only 600 meters from Loma Caldera. The volcanic eruption forced the population to flee their village leaving their houses, workshops, civic and

religious buildings, and gardens intact. The rapidity with which the village was abandoned, and the accompanying five meters of ash created a time capsule or *New World Pompeii*, which provides an exceptional research opportunity for archaeologists. This volume and supporting data in the form of an accompanying CD (*An Interactive Guide to Ancient Cerén: Before the Volcano Erupted*) and associated website (<http://ceren.colorado.edu>) present an extraordinary picture of village life during the Maya Classic Period.

The 22 chapters of *Before the Volcano Erupted* are divided into five thematic sections: Multidisciplinary Research, Household Archaeology, Special Buildings, Artifacts, and Topics and Issues of Cerén Research. An abbreviated glossary comprised primarily of Mesoamerican-archaeology-specific terms is provided for readers with a limited background in the archaeology of this region. The accompanying CD and website provide an excellent solution for disseminating data generated from each field season and discipline during the course of research at Cerén while at the same time minimizing publication costs. Additionally, the website and CD contain numerous figures and photographs of the site not published in the volume.

In the introductory chapter, Sheets provides a discussion of the natural and cultural environment of Cerén, the theoretical context within which research was conducted, and background information on the site. A discussion by Brian McKee on radiocarbon dating and chronology are also included.

Part One, Multidisciplinary Research, is comprised of three chapters (Chapters 2–4) that present the volcanology, geophysical explorations, and paleoethnobotany at Cerén. Dan Miller's chapter on volcanology reconstructs the different phases of the eruption of Loma Caldera and the effects on the adjacent village. With more than five meters of volcanic ash covering the site, identification and excavation of features would have been hindered without the use of geophysical instrumentation. Lawrence Conyers and Hartmut Spetzler's chapter on Geophysical Exploration at Cerén provides an overview of the wide range of geophysical techniques used at Cerén (magnetometry, electromagnetic induction, electrical resistivity, and ground penetrating radar), their ease of use, overall effectiveness, and interpretation. Conyers and Spetzler conclude that ground-penetrating radar provided the best means to identify structures and reconstruct the prehistoric landscape of the valley in which Cerén is located. Chapter 4, "Cerén Plant Resources" by David Lentz and Carlos Ramírez-Sosa, emphasizes how the rapid deposition of volcanic tephra resulted in excellent preservation conditions for plant materials. As a consequence of this outstanding preservation, researchers have learned a great deal about the paleoethnobotany of Cerén.

Household Archaeology, the theme of Part Two includes four chapters detailing the excavation results of Households 1–4. Chapter 5, by Marilyn Beaudry-Corbett, Scott Simmons, and David Tucker, presents a discussion of Household 1, currently the most completely exposed household at the site. This household contains four structures: a domicile, a ramada, a storeroom, and a kitchen. Artifacts recovered from this household suggest that fiber spinning, maize processing, ceramic production, and ground stone fabrication were activities conducted by members of the household. The interpretations

of Household 2 are discussed by Brian McKee in Chapter 6. Household 2 is similar to Household 1, but to date the kitchen has not been located and excavated. The kitchen of Household 3 is briefly discussed in Chapter 7 by Inga Calvin. In Chapter 8, Andrea Gerstle and Payson Sheets focus on the storehouse-workshop that comprises Household 4.

The third section of the book contains four chapters (Chapters 9–12) concerning the investigation of special buildings at Cerén. Chapter 9, The Civic Complex authored by Andrea Gerstle, suggests that the social and economic power exerted by elites needs to be reconsidered in light of the discovery of a well established civic center at the village (denoted by structures 3 and 13 and an adjacent plaza area) despite its close proximity to the larger site of San Andrés 5 km away. Chapter 10, authored by Brian McKee discusses the sweat bath feature (Structure 9), which may have been used for both physical and spiritual cleansing. In Chapter 11, Linda Brown and Andrea Gerstle discuss feasting and village festivals at Cerén, which are indicated at Structure 10. This structure is interpreted to be a ceremonial facility utilized for the production of community festivals and the storage of festival paraphernalia. The construction of this building indicates that festivals were frequent enough that permanent structures were built and maintained for this purpose by the community. Associated artifacts also indicate this structure was use not only for public feasting but was also involved in deer ceremonialism. In Chapter 12 Scott Simmons and Payson Sheets discuss Structure 12 an unusual building interpreted only five meters from the civic complex. The proximity of this structure to the civic center combined with the unique decorative motifs, architecture, gender specific artifacts, and artifacts interpreted to have been ritual nature led the authors to suggest that Structure 12 was used by a diviner who was most likely a woman.

Five chapters (Chapters 13–17) relating to the analysis of ceramics, lithics, faunal material, and artifacts produced from plant materials are the thematic topics covered in Part Four. Marilyn Corbett's chapter on ceramic analysis (with Ron Bishop) and instrumental neutron activation analysis (INAA) is presented in Chapter 13. Thus far more than 200 ceramic vessels have been recovered from the nine excavated structures at Cerén. Based on the INAA data, most of the cream paste serving-vessels were produced outside of the Zapotitán Valley, whereas the majority of the red paste pottery appears to be locally produced. In the next two chapters, Payson Sheets discusses the 62 chipped stone artifacts and the various groundstone artifacts recovered from the site. Of the 62 chipped stone artifacts, 60 were manufactured from obsidian and thought to originate from the nearby Ixtepeque obsidian source. Of particular interest in these chapters is similarity in the distribution of the lithic artifacts within each structure and that almost every structure contains lithic artifacts that were components of functioning assemblages. Exploitation of animal resources including deer, dogs, peccaries, birds, rodents, turtles, snails, and marine shells for food and personal adornment are the topic of Chapter 15 by Linda Brown. In Chapter 17, Harriet Beaubien and Marilyn Beaudry-Corbett discuss some of the artifacts produced from plant materials that were preserved as a result of Cerén's unique archaeological history.

Special Topics and issues of research at Cerén comprise the final section of the volume (Chapters 18–22). In Chapter 18, Harriet Beaubien considers an important aspect of the excavation program at Cerén, the conservation of artifacts and structures. Household production and specialization at Cerén is summarized by Payson Sheets and Scott Simmons in Chapter 19. In Chapter 20, Payson Sheets and Michelle Woodward summarize the agro-economic system practiced by the ancient Cerénians, which was based primarily on maize cultivation. A comparison between the modern day cantón (district) of Joya de Cerén and the prehistoric village of Cerén focusing on the material culture and economic life is the topic of Chapter 21. In the concluding chapter, Sheets summarizes the main points of each chapter.

Sheets has done a superb job of bringing together excavation data spanning several seasons and interpreting the data and artifacts derived from the Cerén excavation program. The volume is well written, edited, and illustrated and should appeal to professionals, students, Mesoamericanists and non-Mesoamericanists. I believe the strongest asset of the volume lies in the accompanying CD and website. All too often archaeologists either overlook the importance of disseminating their research data to a wider audience or are hindered by publication costs. The CD and website for *Before the Volcano Erupted* provide a cost effective answer to problems associated with publication costs and present several additional figures not illustrated in the volume. Cerén is a unique archaeological site and Sheets has done an exceptional job of documenting the research.

Books Received

- Doolittle, William E. (2001) *Cultivated Landscapes of Native North America*. Oxford Geographical and Environmental Studies. New York: Oxford University Press. ISBN 0-19-925071-5.
- Fitzhugh, Ben and Habu, Junko, editors. (2002) *Beyond Foraging and Collecting: Evolutionary Change in Hunter-Gatherer Settlement Systems*. New York: Kluwer Academic/Plenum Publishers. ISBN 0-306-46753-4.
- Habu, Junko. (2001) *Subsistence-Settlement Systems and Intersite Variability in the Moroiso Phase of the Early Jomon Period of Japan*. International Monographs in Prehistory, Archaeological Series 14. Ann Arbor: International Monographs in Prehistory. ISBN 1-879621-33-9.
- Pietrusewsky, Michael and Douglas, Michele Toomay. (2002) *Ban Chiang, A Prehistoric Village Site in Northeast Thailand. I: The Human Skeletal Remains*. Philadelphia: University of Pennsylvania. ISBN 0-924171-92-8.
- Rothman, Mitchell S. (2002) *Tepe Gawra: The Evolution of a Small, Prehistoric Center in Northern Iraq*. Philadelphia: University of Pennsylvania. ISBN 0-924171-89-8.
- Soressi, Marie and Dibble, Harold, editors. (2003) *Multiple Approaches to the Study of Bifacial Technologies*. Philadelphia: University of Pennsylvania. ISBN 0-931707-42-1.

Meetings Calendar

Colleen P. Stapleton, Associate Editor

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

2003

- *April 3-6. Roman Archaeology Conference and Theoretical Roman Archaeology Conference, University of Leicester School of Archaeology & Ancient History. Sessions: Roman Landscapes I: Mining and Quarrying (session organizer, David Mattingly), and Roman Landscapes II: Full coffers, empty spaces: the archaeology of rural production (session organizer: Lin Foxhall). URL: <http://www.le.ac.uk/archaeology/rac/index.html>
- *April 4. Early/Middle Pleistocene Transitions: The Land-Ocean Evidence, The Godwin Institute for Quaternary Research, INQUA Commission on Stratigraphy, University of Cambridge, Cambridge, UK. Contact: Martin J. Head and Philip L. Gibbard, Godwin Institute for Quaternary Research, Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN, UK. Email: mh300@cam.ac.uk
- April 8-12. Enter the Past. The E-way into the four Dimensions of Cultural heritage. CAA 2003. Workshop 8-Archäologie & Computer. For more information, contact: Wolfgang Börner, Friedrich-Schmidt-Platz 5/1, 1082 Vienna, Austria; email bor@gku.magwien.gv.at; web: www.archaeologie-wien.at
- *April 9-13. 68th Annual Meeting of the Society for American Archaeology, Milwaukee, Wisconsin. URL: <http://www.saa.org/Meetings/>. Email: meetings@saa.org.
- Apr. 16-19. Archeometrie 2003, Bordeaux, France. Contact: Colloque Archéométrie 2003, Centre de Recherche en Physique Appliquée à l'Archéologie; Maison de l'Archéologie; Esplanade des Antilles; F-33607 Pessac Cedex; fax : +33 (0)5 57 12 45 50; email: gmpca2003@montaigne.u-bordeaux.fr.
- *April 22-23. Annual Paleoanthropology Society Meeting, in conjunction with the 73rd Annual Meeting of the American Association of Physical Anthropology, Tempe Mission Palms Hotel, Tempe, Arizona, USA. URL: <http://www.paleoanthro.org>. Mail registration fee (\$15.00) to "Paleoanthropology Society" to John Yellen, 810 E, Street SE, Washington DC 20003. Contact: jyellen@nsf.gov.
- May 4-8. 34th International Symposium on Archaeometry, Hefei, Anhui Province, P.R. China. For more information, please contact: Yaowu Hu, Department of Scientific History and Archaeometry, University of Science and Technology of China, P.R. China, tel +86 551 360 3914; fax +86 551 360 3576; email: ywhu@ustc.edu.cn; web: www.archaeometry.ustc.edu.cn
- May 12-15. Second International Conference on Soils and Archaeology, Pisa, Italy. For more information, contact: Giovanni Boschian, Dipartimento di Scienze Archeologiche, Università di Pisa, 53, via Santa Maria, I-56126 Pisa, Italy; fax +39 050 911665; +39 050 847316; web: <http://soilarch.humnet.unipi.it>

- May 28-31. 4th Symposium on Archaeometry, Hellenic Society of Archaeometry. URL: <http://www.archaeometry.gr/symposium2003/>. Contact: Yorgos Facorellis, Laboratory of Archaeometry, Institute of Materials Science, N.C.S.R., Demokritos, 153 10 Aghia Paraskevi, Attiki, Greece, tel.: +32-10-6503958-9, 7, fax.: +32-10-6519430, e-mail: yfacorellis@ims.demokritos.gr.
- *May 29-June 1. 32nd Annual Conference, Society for Industrial Archeology, Montreal, Canada. URL: <http://www.siahq.org/conference/montreal/montreal2003.htm>. Contact: James Bouchard, tel: 514-251-5148, fax: 514-251-5126, email: jamesb@aei.org.
- *June 10-13. Materials Aspects of Art Characterization Conservation & Restoration, Symposium O, European Materials Research Society, Strasbourg, France. URL: <http://www-emrs.c-strasbourg.fr>. Contact: Giuseppine Padeletti, pad@mliib.cnr.it.
- *June 22-26. Euroclay2003, Modena, Italy. Session: Clays and Cultural Heritage. Contact: Luciano Poppi, Dipartimento di Scienze della Terra, Università di Modena e Reggio Emilia, Via S. Eufemia 19, 41100 Modena, Italy. Tel: +39 059 2055805, fax :+39 059 2055887, email: ec2003@unimo.it.
- June 21-26. Imperial Legacies: The health and environmental impacts of ancient industrial activities, from ancient times to the present day. A theme proposed for World Archaeological Congress 5, Washington, DC. For more information, please visit the website: <http://www.ehlt.flinders.edu.au/wac5/indexhomepage.html> or contact the convenors: John Grattan, The Institute of Geography and Earth Sciences, The University of Wales, Aberystwyth, UK, email jgg@aber.ac.uk; Brian Pyatt, The Dept. of Life Sciences, The Nottingham Trent University, Nottingham, UK, email Brian.Pyatt@ntu.ac.uk; Robert G. Schmidt, Scientist Emeritus, U.S. Geological Survey, email rgschmidt@erols.com; Ziad al Saad, The Institute of Archaeology and anthropology, The University of Yarmouk, Irbid, Jordan, email zalsaad@yu.edu.jo
- July 23-30. XVI International Union for Quaternary Research (INQUA), Reno Hilton Resort and Conference Center, Reno, Nevada, USA. Abstract deadline: March 31. URL: http://inqua2003.dri.edu/inqua_home.htm. Contact: Marjory Jones, Congress Secretary, Division of Hydrologic Sciences, Desert Research Institute, 2215 Raggio Parkway, Reno, NV 89512 USA, email: inqua03@dri.edu.
- *Aug. 26-30 Aug. Conservation of Ancient Sites on the Silk Road, Second International Conference of Grotto Sites, China. Contact: Kathleen Louw, The Getty Conservation Institute, 1200 Getty Center Drive, Suite 700, Los Angeles, California 90049, USA. Tel: (310)440-6216, fax: (310)440-7709, email: klouw@getty.edu.
- Sept. 1-5. 18th International Radiocarbon Conference, Wellington, New Zealand. Registration and Abstract Submission will only be made via the Conference website: www.14Conference2003.co.nz; if you have any problem accessing this site, please send them an email message at 14Conf-info@gns.cri.nz
- *Sept. 3-6. International Conference on the Application of Raman Spectroscopy in Art and Archaeology. Ghent, Belgium. URL: <http://allserv.rug.ac.be/~7Evpdenabe>. Abstract deadline: March 15. Contact: ArchaeoRaman Secretariat, Peter Vandenabeele, Proeftuinstraat 86, B-9000 Ghent, Belgium; tel: +32 9 264 66 23; fax: +32 9 264 66 99; email: peter.vandenabeele@rug.ac.be
- *Sept. 7-13. International Association for the History of Glass (AIHV). London, UK. URL: <http://www.historyofglass.org.uk>. Contact: Hilary Cool, 16 Lady Bay Rd, West Bridgford, Nottingham, NG2 5BJ, UK; email hilary.cool@btinternet.com
- *Sept. 8-10. UK Luminescence and ESR Meeting, Aberystwyth, Wales, UK. URL: <http://www.aber.ac.uk/quaternary/uk2003>. Registration deadline: 31 May. Contact: Dr. Geoff Duller, tel: +44-1070-622606, fax: +44-1970-622659, Lum2003@aber.ac.uk.
- Sept. 10-14. 5th International Conference on Archaeological Prospection. 17 S³awkowska Street, Cracow, Poland. Institute of Archaeology and Ethnology, Polish Academy of Sciences, Commission on the Prehistory of the Carpathians, Polish Academy of Arts and Sciences. Contact address: Archaeological Prospection 2003, c/o Tomasz Herbich, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Al. Solidarności 105, 00-140 Warsaw, Poland. Email: ap@iaepan.edu.pl. tel: (+48 22) 620 28 81 ext. 148, 102; fax: (+48 22) 640 01 00; web: <http://www.iaepan.edu.pl/ap2003.html>
- *Sept. 10-14. 9th Annual Meeting, European Association of Archaeologists, St. Petersburg, Russia. URL: <http://www.eaa2003am.spb.ru>. Abstract deadline: Apr. 1. Contact: EAA AM 2003, Meeting Secretariat, Dr. Nicholas Petrov, European University at St. Petersburg, 3 Gagarinskaya st., St. Petersburg 191187 Russia, tel: +7 812 279 44 08, fax: +7 812 275 51 39 or +7 812 279 44 08, email: info@eaa2003am.spb.ru.
- *Sept. 11-13. Towards Technoarchaeology, Srem, Poland. Sponsor: A. Mickiewicz University at Poznań, Faculty of Chemistry, Laboratory for Materials Physicochemistry and Nanotechnology, Archaeometry Research Group. Contact: Prof. Jerzy J. Langer, A., Marciniaka 2, PL-63100 Srem, orsel@sigmaxi.org
- *Sept. 12-14. Historical Metallurgy Society Annual Conference, Exmoor, UK. URL: <http://www.hist-met.org>.
- *Sept. 15-20. 7th International Conference of Association for the Study of Marble and Other Stones Used in Antiquity (ASMOSIA), Thassos, Greece. Abstract deadline: April 18. URL: <http://web.ims.demokritos.gr/archae/Asmosia2003.html>. Contact: ASMOSIA Conference, Laboratory of Archaeometry, Institute of Materials Science, N.C.S.R. Demokritos, Aghia Paraskevi, 15310 Attiki, Greece; tel: +30 1 6503389; fax: +30 1 6053323; email: asmosiaVII@ims.demokritos.org.
- Sept. 19-21. International meeting on experimental metallurgy in Italy. For more information, contact Angelo Bartoli, Director of the Centre for Experimental Archaeology 'Antiquitates', email: archeosperimentale@antiquitates.it; web: www.exarc.org
- *Sept. 22-26. 17th International Congress on X-ray Optics and Microanalysis, Chamonix Mont-Blanc, France. Session V: Art and Archaeometry. Abstract deadline: May 1. URL: <http://>

- www.esrf.fr/conferences/ICXOM/congressmain.html. Contact: ICXOM XVII, ESRF, PO Box 220, F-38043 Grenoble, France; email: ixcom@esrf.fr.
- Sept. 24-26. Archaeometallurgy 2003. Archaeometallurgy in Europe, Milan, Italy. For further information, visit the website: <http://www.aimnet.it/archaeo.htm>. Gilberto Artioli (University of Milano) and Andreas Hauptmann (Bergbau Museum, Bochum) are organizing a particular session on "Slag Investigations in Archaeometallurgy: What Can Slag Tell Us about Ancient Metallurgical Operations?" for which they particularly encourage contributions.
- Sept. 26. 6th International Mining History Conference, Japan. This is the first International Mining History Congress to be held in Asia. The Congress will include interests ranging from social and economic historical aspects of mining, mining technology and engineering, to business history, industrial relations, safety, gender and ethnic issues, regional history, preservation and heritage concerns and other relevant areas of mining history. For more information, contact: Secretariat for the 6th International Mining History Congress, Local Organizing Committee 4-1, Izumimachi, Akabira, Hokkaido 079-1192; tel +81 125 32 2211; +81 125 32 5033; email: info@imhc2003.com; web: <http://www.imhc2003.com>
- *Sept. 30-Oct. 3. V Congreso Iberico de Arqueometria, El Puerto de Santa Maria, Cadiz, Spain. URL: <http://sapac.hispagate.com>. Contact: M^a José Feliu Ortega, Dpto. Química-Física, Facultad de Ciencias; Polígono Río San Pedro, s.n., Puerto Real, Cadiz, Spain; tel: 956016467 – 956016179; fax: 956016288 – 956016471; email: congreso@arqueometria@uca.es.
- Oct. 27-31. The 7th European Meeting of Ancient Ceramics (EMAC '03), Lisbon, Portugal. Organized by Cultural Heritage and Sciences Group, Instituto Tecnológico e Nuclear Estrada Nacional 10, 2686-953 Sacavém, Portugal. For information, contact: M.I. Prudêncio, M. I. Dias, or J. C. Waerenborgh; email: emac03lisbon@itn.pt; fax + 351 21 9941455; tel + 351 21 994 6222 (6223, 6202, 6220); web: <http://www.itn.pt/EMAC03>
- *Nov. 2-5. Geological Society of America Annual Meeting, Seattle, Washington. The Archaeological Geology Division of the Geological Society of America is proposing a Topical Session on the Geoarchaeology of Historic and Urban Sites. Abstracts due: July 15. Contact: David L. Cremeens (d.cremeens@gaiconsultants.com) or Julie K. Stein (jkstein@u.washington.edu). Further information about the 2003 GSA meeting can be found at <http://www.geosociety.org>
- *Nov. 12-16. 2003 Chacmool conference, Calgary, Canada. The conference theme is Flowing Through Time: Exploring Archaeology Through Humans and Their Aquatic Environment. Session organizers are: Jason Gillespie, jdgilles@shaw.ca; Elizabeth Robertson, ecrobert@ucalgary.ca; Laura Roskowski, lroskowski@hotmail.com For information, visit the conference website: <http://www.arky.ucalgary.ca/arky1/conferencemainpage.htm>.
- *Nov. 18-19. 10th Annual Conservation Science and Archaeometry, 2003 Eastern Analytical Symposium, Somerset, New Jersey, USA. URL: <http://www.EAS.org>. Sessions are being organized on X-ray based analytical methods for study of cultural heritage materials, deterioration of inorganic materials, and on dyes and colorants. Contact: Dr. Matija Strlic, email Matija.strlic@uni-lj.si, <http://rcul.uni-lj.si/kem>; Dr. Jana Kolar, email: jana.kolar@nuk.uni-lj.si, <http://infosrvr.nuk.uni-lj.si/jana/preservation.html>; <http://www.infosrvr.nuk.uni-lj.si/jana/stran.html>; Dr Gerhard Eggert, Faculty of Cultural Heritage Conservation, Staatliche Akademie der Bildenden Kuenste, Stuttgart, Gerhard.Eggert@t-online.de.
- *Nov. 19-22. American Schools of Oriental Research, Atlanta, Georgia, USA. URL site: www.asor.org. Abstract deadline: Apr. 1. Sessions include Artifacts: The Inside Story, Elizabeth Friedman, email: esf@hydepark-chicago.org; Organic Approaches to Near Eastern Archaeology, Edward F. Maher, email: efmaher@hotmail.com.

2004

- *Jan. 2-5. 105th Annual Meeting, American Institute of Archaeology, San Francisco, California. Abstract deadline: March 20, 2003.
- *Jan. 7-11. Conference on Historical and Underwater Archaeology (SHA), St. Louis, Missouri, USA.. URL: <http://www.sha.org/mt2004.htm>. Abstract deadline: June 1, 2003.
- *March 31-Apr. 4. Society for American Archaeology, Montreal, Canada. URL: <http://www.saa.org/Meetings/index/html>.
- *May 3-7. 35th International Symposium on Archaeometry, Zaragoza, Spain. Contact: Josefina Perez-Arategui, Dpto. Química Analítica, Facultad de Ciencias. Email: jparante@unizar.es; web: <http://www.archaeometry2004.info>
- *June 4-8, 2004. 10th International Conference on Particle-induced X-ray Emission and its Analytical Applications, Ljubljana, Slovenia. URL: <http://pixe2004.ijs.si>. Scientific program includes applications in art, archaeometry, and archaeology. Abstract deadline: Feb. 6, 2004. Contact: PIXE 2004, Jozef Stefan Institute, p.p. 3000, SI – 1001, Ljubljana, Slovenia; tel: +386-1-588-5266; fax: +386-1-561-2335; email: pixe2004@ijs.si.
- Aug. 20-28. 32nd International Geological Congress, Florence, Italy. URL: <http://www.32igc.com>. Theme: Geology, Natural Hazards and Cultural Heritage. Abstract deadline: Nov. 30, 2003. Sessions include: Geologic Hazards (S08), Cultural Heritage (S09), Geoarchaeometry: Geomaterials in Cultural Heritage (T13.1; this session will include oral and poster presentations as well as visits to Florentine museums and monuments that are related with the topic. Contact: M. Maggetti, Department of Geosciences, Mineralogy and Petrography, University of Fribourg, CH-1700 Freiburg, Switzerland, tel + 41 026 / 300 89 30; fax + 41 026 / 300 97 65; email marino.maggetti@unifr.ch).

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