



SAS Bulletin

Society for Archaeological Sciences

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From the President



As I write this, the International Archaeometry Symposium is less than a week away. Although we had a mini-version at the Society for American Archaeology meetings in Philadelphia last month, the main annual general meeting for the SAS will be in Mexico City this year. I'm really

excited about the conference next week because it will be an opportunity to hold an SAS meeting with a more international flavor. I hope all the SAS members attending the Archaeometry Symposium will participate in the meeting, and I hope even more that this will be an opportunity to entice additional Archaeometry attendees to join SAS. There are some exciting new developments on the way for the SAS which will be announced at the annual meeting.

Benefits of membership... and just what are those? During my two years as SAS president, I have two goals. As I wrote last time in the President's column for the *SAS Bulletin*, the first is to make SAS a more international organization in fact as well as intent. The second goal is to involve new people in its governance. The Executive Board we have now does a fantastic job, but it has been the same group of people for a few years now. I want to promote SAS activities outside of North America, I want to bring new members onto the Executive Board, and I want to increase the number of active members in SAS. None of these things can be accomplished unless there is some *benefit* to membership in the Society for Archaeological Sciences.

Each January when I fill in my credit card number on the membership form, I ask myself "why belong to SAS? What do I get out of it that makes spending this much money worthwhile?" Let's be honest: annual dues with a subscription to *Journal of Archaeological Science* added is a **lot** of money, particularly for those of us outside the USA who have to contend with unfavorable exchange rates. I assume that other SAS members ask themselves the same questions. The answer to the first has to be because as an 'archaeometrist', the SAS is my professional society. And the answer to the second is...well, that is what I want to change about the SAS. Membership **has** to have benefits beyond receiving the *SAS Bulletin*. We currently give members the option of receiving a sizeable discount to the *Journal of Archaeological Science*.

A choice of subscriptions to additional journals will be available soon. We have the Plenum Press book series. But what else?

What makes membership in a professional organization worthwhile? Is it communication with other members? A sense of community? Attendance at conferences? These occurred to me because they are things that I value. I look forward to Archaeometry and Radiocarbon conferences because of the opportunity for extended conversations with members of my discipline. What is it for you?

I'd like to start a dialogue among SAS members: what do you want from membership in the society? What do you need? Why belong to SAS? I hope the answers to these questions will guide the actions of the Executive Board for the next few years. Please write to me or any of the other officers (email addresses on the back cover). Write a letter to the *SAS Bulletin*. Post a reply to SASNet. Propose some wild and crazy ideas. Come to the meetings.

Participate.

Chris Prior

In This Issue

Conference Announcements	2
Radiocarbon News	5
Archaeological Ceramics (C. Kolb)	7
Book Reviews (M. Glascock)	
<i>Archaeological Ceramic Materials</i> (C. Kolb)	17
<i>Plant Technologies of the First Peoples of British Columbia</i> (D. Rhode)	21
<i>The Fenn Cache Clovis Weapons and Tools</i> (J. Speakman)	22
<i>Materials Issues in Art and Archaeology V</i> (H. Andersen)	23
<i>Sedentism and Mobility in a Social Landscape</i> (G. Bondar)	25
<i>An Archaeological Investigation of the Central Sinai, Egypt</i> (S. Sterling)	27
<i>Methodology of Geophysical Research in Archaeology</i> (J. Weymouth)	29
<i>Precolumbian Architecture in Eastern North America</i> (T. Riley)	30
Meetings Calendar (S. Mulholland)	31

American School of Classical Studies, Athens The Wiener Laboratory Announces for 2001-2002

A Research Fellowship in Faunal Studies

Eligible: Scholars with a Ph.D. and graduate students working on a doctoral dissertation.

Purpose: To allow individuals with a well-defined project, working either alone or in collaboration with local research institutions, to study faunal remains from archaeological contexts in Greece.

Other duties: To contribute to the development of the Lab; develop and curate the Lab's comparative collection; to assist with queries from excavators; to offer a lecture on his/her project; to participate in one Regular Program School trip; and to contribute to seminars on aspects of archaeological science as part of the School's annual curriculum.

Duration: Academic year, beginning in September, 2001. Projects must be carefully planned for completion during this time.

Terms: Stipend from \$15,500 to \$25,000, depending on seniority and experience. Waiver of School fees.

The J. Lawrence Angel Fellowship in Human Skeletal Studies

Eligible: Scholars with a Ph.D. and graduate students working on a doctoral dissertation.

Purpose: To allow individuals with a well-defined project, working either alone or in collaboration with local research institutions, to study human skeletal remains from archaeological contexts in Greece.

Other duties: To contribute to the development of the Lab; develop and curate the Lab's comparative collection; to assist with queries from excavators; to offer a lecture on his/her project; to participate in one Regular Program School trip; and to contribute to seminars on aspects of archaeological science as part of the School's annual curriculum.

Duration: Academic year, beginning in September, 2001. Projects must be carefully planned for completion during this time.

Terms: Stipend from \$15,500 to \$25,000, depending on seniority and experience. Waiver of School fees.

For more information

Prof. Nancy C. Wilkie, Chair, Committee on the Wiener Laboratory, fax 507-646-4223; Dr. Sherry C. Fox, Director, Wiener Laboratory, fax 011-301-725-0584

Application Guidelines

1. Cover letter naming the applicant and title of the project
2. Project description. In no more than three pages, describe the purpose, nature and methodology of the research project you are proposing. Include the following information:
 - a) aim, scope and significance of the project
 - b) timetable, including publication schedule
 - c) methodology to be used
 - d) equipment/resources needed while at the Wiener Lab

e) how the project relates to existing and current research on the topic

f) bibliography of works relevant to the project

g) transcripts or list of relevant course work.

3. Copies of permit(s) or letters from relevant authorities to study proposed materials, and copies of permission(s) from relevant excavation or project directors to study the proposed materials.

4. Budget. Itemized in as much detail as possible.

5. Curriculum Vitae.

6. Two letters of recommendation.

Please note that in the past, proposals have been declined because, the proposal either lacked sufficient scientific rationale, or the required letters of recommendation were never received.

Postmark Deadline: JANUARY 8, 2001. The award will be announced March 15, 2001. A final report is due at the end of the award period. Applications may be mailed or faxed to:

Wiener Laboratory Fellowships

American School of Classical Studies at Athens

6-8 Charlton Street

Princeton, NJ 08540

Fax: 609-924-0578

Archaeological Science 01

New Directions in Archaeological Science

September 3-5, 2001

University of Newcastle upon Tyne, UK

At the turn of a new millennium archaeological science appears to be distancing itself from other aspects of archaeology, as ever more powerful analytical tools are brought to bear on archaeological questions. The increasing trend towards more powerful scientific methods on the one hand and 'pure' archaeology on the other is also reflected in the tensions between funding bodies and the creation of new funding streams within both areas. This conference seeks both to review the advances in archaeological science and try to place them more firmly within the developments in theoretical and field archaeology.

The meeting is divided into five major themes, each of which will consider the contributions and detractors of archaeological science. Proceedings of the sessions will be published and speakers who wish to contribute to the publication are asked to bring manuscripts to the meeting.

The major sessions include: Food and Nutrition (Mike Richards, Oxford); Chronology (Mike Baillie, Queens, Belfast); The Lifecycle of the Artefact (Mike Tite, Oxford) Prospection and Geoarchaeology (Martin Bell, Reading); New Directions in Archaeological Science (Martin Jones, Cambridge); Funding of Archaeological Science (speakers from the key funding bodies); Archaeological Science: A Theoretician's View (Mike Shanks, closing address).

For further information please contact: Matthew Collins, FFEGI, Drummond Building, University of Newcastle upon Tyne, NE1 7RU, UK. Email m.collins@ncl.ac.uk

Australasian Archaeometry 2001

Australasian Connections and New Directions

February 5-9, 2001

University of Auckland, Auckland, New Zealand

Introduction

The Australasian Archaeometry conference meets every four years. This year for the first time the conference will be held outside Australia. In 1997 this conference was attended by several hundred scholars with involvement in the fields of Archaeology, Anthropology, Geography, Conservation, Museology, Material Science and Applied Nuclear Science (e.g. dating, materials analysis etc). Some topics covered at past conferences included advances in dating (14C, TL, OSL, OHD), bone chemistry, technological and provenance studies, prospection, environmental impact and geoarchaeology.

The conference is organized by a Local Organizing Committee which extends invitations to a broad range of researchers working in the Australasian region and beyond. The main host for 2001 will be the Centre for Archaeological Research and Department of Anthropology at the University of Auckland in collaboration with a number of other New Zealand research centers and academic institutions.

The theme session for this Symposium will be Issues and Developments in Australasian Chronology: New Directions for the New Millennium.

Sessions

1. Chronometry

Part 1: Radiocarbon Dating (Convenor: Tom Higham, Waikato University, Radiocarbon Lab)

Part 2: Other Dating Methods (Convenor: Martin Jones, University of Auckland, CAR)

Part 3: Modelling chronometric data (Convenor: Geoff Nicholls, University of Auckland, CAR)

2. Sourcing/Characterisation (Convenor: Marshal Weisler, University of Auckland, Anthropology)

3. Residue/Usewear (Convenor: Peter Sheppard, University of Auckland, Anthropology)

4. Palaeoenvironment (Convenor: Mark Horrocks, University of Auckland, CAR)

5. Diet/bone-chemistry/DNA (Convenor: Lisa Matisoo-Smith, University of Auckland, Anthropology)

6. Prospection/Conservation (Convenor: David Nobes, University of Canterbury, Geology)

7. Theme: Dating of SE Asia and Oceania including Australia (Convenor: Peter Sheppard/Harry Allen, University of Auckland, Anthropology)

Contacts

Email: archconf@car.ant.auckland.ac.nz

Web: <http://www.car.auckland.ac.nz/archconf/>

Fax : 649- 3737-643

Snail Mail:

Australasian Archaeometry Conference

CAR

Department of Anthropology

University of Auckland

Private Bag 92019, Auckland, New Zealand

Registration and Abstract Submission

Online registration and downloadable registration forms will be made available on the Archaeometry Conference Web site during the first week of July. This will be announced via email. In order to register interest in attending this conference and to be included in the mailing list please fill in this form.

Please submit abstracts as plain text according to the following format:

Paragraph 1: Title

Paragraph 2: Author list (first name last name with a comma between each author); Academic/institutional affiliation (principal author only); Address (principal author only); Fax (principal author only); Email (principal author only)

Paragraph 3: Keywords: (please provide up to 5 keywords for this abstract)

Paragraph 4: Abstract text

Abstract submission via either email (as an attachment or in the body of the message) or via an abstract submission form available on the Conference Web site is preferred. However if the abstract is submitted by mail it must be accompanied by an electronic version on diskette. The deadline for abstract submission is **October 31, 2000**.

Registration cost is \$NZ 150, and is payable by check (made out to Archaeometry 2001), international money order or credit card through the online registration form.

Proceedings

The conference proceedings will be published as an edited Monograph in the Research Papers in Anthropology and Linguistics series ISBN 0-9583686-0-0. It is intended that this will appear soon after the conference. Accordingly we request that all papers (both oral and poster) are accompanied by a completed paper for submission in the Proceedings.

Venue and Accommodation

The Conference will be held at The Conference Centre, 22 Symond St, University of Auckland.

Accommodation bookings and inquiries can be made through Paul Collins at travel.co.nz (email paulc@travel.co.nz; 52 Emily Place, P.O. Box 4141, Auckland. Tel 649- 3588 213; fax 649-3588 217; mobile 021 621 050) or alternatively at Tourism Auckland.

Timetable

4 days February 5-8, Field Excursion on the final day. Details of Social Activities will be announced in October. 3 Sessions per day.

**Practical Workshop on Renaissance
Bronze Casting and the Technical
Investigation of Bronze Sculptures**
September 12- 16, 2000

This 5-day workshop/seminar will familiarize the participants with the basic principles of artistic bronze casting. It will focus primarily on the lost wax process, but will also provide an introduction to sand casting. This practical experience will serve as a basis for understanding and recognizing the kinds of features, which one may encounter during the technical investigation of post-medieval bronze sculptures. The structure of the course will be informal, as it will be dictated to a large extent by the experimental work. The workshop will combine hands_on experience (in making a bronze and interpreting evidence), lecture presentations and discussions. Each of the participants will take a small hollow wax piece through the various stages of the "indirect" lost wax casting process and will also have the opportunity to work on a larger communal piece made by the "direct" lost wax casting process. We will use these objects to experiment with a variety of mold materials, waxes, alloys, texturing, repairing and joining methods, and surface coloration processes.

Documentation will be an important part of the experiments as it will help us gauge what kinds of alterations may occur in the course of the process. A selection of pieces will be radiographed at different stages of the process (the wax stage, once the mold has been burned out and after the piece is cast). We will also cut open one (or more) of them to ascertain what the features that have been interpreted in the radiographs look like from the inside. We will also take metal samples from the pieces produced by the participants for alloy composition analysis and metallographic analysis to be performed at a later date and the results will be shared with the group.

In the course of the workshop FB will give several informal slide presentations on the technical study of bronzes drawing to a large extent on material she has worked with over the years. She will provide handouts with information on key methods of analysis and examination and a select bibliography. No prior knowledge of bronze casting or of Renaissance bronzes is necessary but those participants who have technical material they may want to discuss are welcome to bring it along.

Tutors: Andrew Lacey (sculptor, bronze founder and archaeometallurgist), Francesca Bewer (Associate Curator for Research - in art technical matters - at the Straus Center for Conservation, Harvard University Art Museums) and Dana Goodburn-Brown (archaeological conservator and educator)

Cost of course is 360 Pounds Sterling. Course can accommodate 6-8 participants. This is one of a series of Hands-on Ancient Technology courses offered by Ancient Materials, Technology and Conservation (AMTeC) CO-OP Ltd. located in The Historic Dockyard in Chatham, Kent, ca. 1 hour SE of London. It is easily accessible by rail. Accommodations can be arranged nearby and will cost 30-40 Pounds Sterling/night.

For registration and more information on the course please contact Andrew Lacey at AMTeC CO-OP Ltd., tel. 44 (0)

1634 832 627; email: andrewlacey1@hotmail.com. Francesca Bewer is also available for information at (617) 495 0987, email: fbewer@fas.harvard.edu.

For more information on AMTeC CO-OP Ltd. you may also visit their website: <http://apollo5.bournemouth.ac.uk/consci/amtec/Amtec.htm> (Please note that Dana Goodburn-Brown, whose email is given as the contact address on the website, will be away for much of the time preceding the course and will not be able to respond to enquiries regarding it.)

**Geological Society of America Session
The Employment of Geological Techniques
for Archaeological Provenance Studies**
Reno, NV, November 9-18, 2000

*Organizer: Philip C. La Porta, City University
of New York, Warwick*

Abstract

Academic archaeologists have long sought to answer sophisticated research questions concerning the trade and exchange behavior of cultures with the aid of petrographic and geochemical provenance techniques. More recently, contract archaeologists and geoarchaeologists have also shown an increasing interest in attempting to address cultural questions through more in-depth analyses of stone, ceramic and metal artifacts. A greater level of collaboration between geologists and archaeologists in addressing provenance issues has the potential to significantly advance our understanding of past lifeways. This is particularly true for prehistoric cultures in regions where climate and acidic soils result in the poor preservation of materials other than stone and ceramics.

However, poor communication between the two sciences poses a significant stumbling block to effective collaboration. Archaeologists without a geoscience background often do not fully understand the strengths and limitations of various petrographic and geochemical techniques, which can result in requests for inappropriate analyses or erroneous conclusions drawn from poorly understood analytical results. At the same time, geologists and geochemists that do not know or understand the archaeological research questions being asked, or the geographic context of the investigation, may inadvertently provide the wrong information. Worse yet, they may simply act as "black boxes," providing analyses without adequately conveying the limitations of the data they are providing.

By presenting case studies in various petrographic and geochemical techniques for archaeological provenance studies, this session seeks to better illustrate for archaeologists what techniques may be most appropriate for particular research questions. At the same time, the session seeks to educate geologists about the types of issues archaeologists are confronted with, and the kinds of information that are needed to address those issues.

All are welcome to submit abstracts for a presentation in this session. Presentations should illustrate how petrographic and/or geochemical methods were used to address a specific provenance problem. The materials examined may include, but are not limited to, lithic materials (e.g., cherts/flints, argillites, marbles, steatites, obsidian), metals, ceramics, or glasses. Studies from any geographical region are welcome. Ideally, a presentation will discuss the archaeological questions to be addressed by the provenance study; why a particular provenance method was chosen; what difficulties may have been encountered in trying to apply the chosen method; and whether or not it was successful. I'm hoping that this session will provoke some worthwhile interdisciplinary discussion about provenance issues and methods, and perhaps even some new ideas and/or collaborations that will help move the field of provenance studies forward.

Full details of the meeting, including forms for meeting registration, abstract submission and hotel reservations, are available at <http://www.geosociety.org/meetings/2000/>. Tel 303-447-2020 or 1-800-472-1988; fax 303-447-0648; email meetings@geosociety.org

International Council for Archaeozoology Membership Drive

ICAZ, the International Council for Archaeozoology, is beginning a drive to expand its visibility. Central to the success of ICAZ in promoting communication within the archaeozoological community is building a strong membership that represents the diversity of our profession. Researchers around the world are actively pursuing the study of human interaction with animals in universities, museums, foundations, private firms, and in their homes. People come to our discipline from a wide variety of backgrounds - zoology, anthropology, paleontology, archaeology, veterinary medicine and more.

Our membership must reflect this diversity in nation, perspective, expertise, and research context. This is why the newly launched ICAZ membership drive is so important to the future of ICAZ.

Our current membership roles boast 286 members from 39 countries. This is a good start, but we would like to expand our membership to make sure we reach all the different segments of this lively community of scholars.

We have compiled a list of almost 2000 names of practicing archaeozoologists around the world, and have mailed them all an inaugural newsletter. If you didn't receive our newsletter, somehow we missed you in our effort to build a comprehensive mailing list. If you've read this far, you are definitely ICAZ material, and we want you to join. Membership applications and additional information about ICAZ are available on our website: <http://www.nmnh.si.edu/icaz/>.

The yearly subscription fee for ICAZ membership is only US\$15. To keep administrative costs down we are collecting this sum in multiple year segments, the number of which is determined by the date of the next annual meeting (2002). Once ICAZ is up and running we hope to have four year

membership terms, on a schedule set by our International Conference cycle. The application form has instructions that will help you determine where in the membership cycle we are now. The website also has information about methods of payment and our sponsor a member program for students, self-employed researchers, and archaeozoologists in developing countries.

The benefits you receive through ICAZ membership include: receipt of a biannual newsletter, access to the "For Members" part of our website, reduced registration fees at meetings and the right to present papers and posters at ICAZ meetings, voting rights in electing the International Council, Vice-President, and President of ICAZ. You will also be helping support this reinvigorated effort to keep channels of communication open among this internationally and intellectually diverse community of researchers.

So don't delay. Join ICAZ today!

Radiocarbon Dating News

British Museum C14 Lab Closes

With the future of AMS radiocarbon dating in the UK now secured and the high number of samples that such facilities can process, the British Museum has decided to close its radiocarbon laboratory with effect from the end of July 2000. We would like to thank all of those with whom we have collaborated over a period of nearly 50 years of continuous operation. For further information contact J. Ambers, Dept of Scientific Research, British Museum, Gt Russell St, London WC1B 3DG. Email: J.Ambers@british_museum.ac.uk

New Version of OxCal

A new version of OxCal (3.5) is now available at: <http://www.rlaha.ox.ac.uk/orau/index.htm>

Recent changes in OxCal include: ability to mix calibration curves; input and output 'wizards' to help infrequent users with simple operations; improved access to the manual for on-line help; more help with specifying calibration curves; ability to set rounding resolution; more control over MCMC iteration number; various display and other bug fixes.

For further information: Dr. Christopher Bronk Ramsey, Radiocarbon Accelerator Unit, Research Lab for Archaeology and the History of Art, 6 Keble Road, Oxford OX1 3QJ UK. Tel 44 1865 273939; fax 44 1865 273932; email christopher.ramsey@rlaha.ox.ac.uk or orau@rlaha.ox.ac.uk; web: <http://www.rlaha.ox.ac.uk/orau.html>

Special Issue of Radiocarbon

Papers are now being accepted for a special issue of *Radiocarbon* to be published in late 2001: "The Peopling of the New World" will be guest edited by Yaroslav V. Kuzmin and P. Jeffrey Brantingham. If you are interested in submitting a paper, please contact the managing editor for deadlines and author's instructions: Kimberley T. Elliott, *Radiocarbon*, U. of Arizona, Dept. of Geosciences, 4717 E. Fort Lowell Road, Rm. 104, Tucson, AZ 85712-1201 USA. Tel 520 881-0857; fax 520 881-0554; email: kim.elliott@radiocarbon.org.

Professor Barbara E. Luedtke

In a world dominated by things made of metal, glass, concrete, plastics, and a host of other synthetic materials, it is easy to forget that stone was once the most important raw material used by humans for technological purposes (Luedtke 1992:1).

While geochemistry is a well-established branch of geology, the geochemistry of chert must be considered an underdeveloped twig (Luedtke 1992:39).

Archaeological Science, lithic technology, and North American Archaeology lost a major figure and mentor with the passing of Professor Barbara Luedtke, aged 51 on May 2, 2000. Like many of us in North American archaeology who straddle archaeometry and lithic technology, Barbara was a



mentor, and for me personally, a colleague who also grew up in San Diego. Although born in Milwaukee, in San Diego as a junior high school student she frequently took the ferry across the bay from her family's home

on Coronado Island to participate in San Diego State University's field projects, such as the Spanish Presidio Project. As an undergraduate at Pomona College, California, she continued her work in anthropology spending a semester in Australia working with aboriginal groups, where her interest in stone tools began to gain a prominent place in her academic life. Her Ph.D. dissertation from the University of Michigan in 1976 was entitled *Lithic Material Distributions and Interaction Patterns During the Late Woodland Period in Michigan*, and silicified a path she would follow for the rest of her life. She was a graduate student at Michigan at a time when the Museum of Anthropology was "involved in a long-term effort to explore the ways in which chemical analyses could be useful in archaeology", and although she remained a skeptic of the utility of chert materials analyses, she remained ever hopeful (Luedtke 1992:2). One of her most recent publications, on the archaeology of Thompson, Long, and Calf Islands near the University of Massachusetts, Boston where she taught anthropology for many years, exemplified her interest and expertise in North American archaeology. She believed strongly in interpreting the past for the public, and included public participation as part of her field research.

Perhaps most importantly, her 1992 volume *An Archaeologist's Guide to Chert and Flint* has become the primary reference for both assemblage level and materials

analyses of chert and flint in the world. It is, and will remain for many years, THE reference for the understanding of chert and flint as a raw material in prehistory, including its origin, composition, and potential for heat treatment. I assign it to all my students working on any aspect of stone tool technology. More recently she began a study of the stone tool assemblages from Fell's Cave and Palli Aike sites in southern Patagonia in the American Museum of Natural History's collections. I'm certain the result would have offered new insights into a new geographic region for Barbara.

Professor Luedtke was a pioneer and mentor, and will be sorely missed by those of us left behind.

M. Steven Shackley

Selected Bibliography (just a small sample)

- 1976. *Lithic Material Distributions and Interaction Patterns during the Late Woodland Period in Michigan*. Ph.D. dissertation, Department of Anthropology, University of Michigan.
- 1978. Chert sources and trace-element analysis. *American Antiquity* 44:413-423.
- 1984. Lithic material demand and quarry production. In J.E. Ericson, and B.A. Purdy, eds., *Prehistoric Quarries and Lithic Production*, pp. 65-76. Cambridge University Press.
- 1987. The Pennsylvania connection: jasper at Massachusetts sites. *Bulletin of the Massachusetts Archaeological Society* 48:37-47.
- 1992. *An Archaeologist's Guide to Chert and Flint*. Archaeological Research Tools 7, Institute of Archaeology, University of California, Los Angeles.
- 1984. Luedtke, B.E. & J.T. Meyers. Trace element variation in Burlington chert: a case study. In B.M. Butler, and E.E. May, eds., *Prehistoric Chert Exploitation: Studies from the Midcontinent*, 287-298. Center for Archaeological Investigations, Occasional Paper 2. Carbondale: Southern Illinois University.

Call for Papers

10th Archaeological Chemistry Symposium American Chemical Society, Chicago August 26-30, 2001

Papers in all areas of chemistry applied to the study of archaeological materials and chemistry employed to answer archaeological problems will be considered. Past symposia have included discussions of a wide range of instrumental methods of analysis applied to inorganic, organic, and biological materials. Problems in archaeology addressed by chemistry have included provenance, technology, dating, population migration, etc.

Abstracts may be submitted through the ACS Electronic submission system, <http://acs.comfex.com/oasys.htm>. The deadline for submission is April 27, 2001. If you do not have access to a computer to submit the abstract, contact the symposium organizer by April 15, 2001. Registration information will be available in a June 2001 issue of *Chemical and Engineering News* and at <http://www.acs.org/meetings>. For further information contact Kathryn A. Jakes, 1787 Neil Avenue, Columbus, OH 43210-1295, tel: (614) 292-5518, email: Jakes.1@osu.edu.



Archaeological Ceramics

Charles C. Kolb, Associate Editor

The column in this issue of the *SAS Bulletin* includes 10 major topics: 1) summaries of new books related to archaeological ceramics, 2) calls for papers, 3) summaries of significant new articles, 4) awards, 5) professional meetings held, 6) forthcoming professional meetings, 7) information on websites and organizations, 8) relevant exhibitions, 9) useful databases, and 10) news about colleagues in ceramic studies.

New Publication: Books

Recently published by Oxbow Books is *Old and New Worlds: Historical/Post Medieval Archaeology Papers from the Societies' Joint Conferences at Williamsburg and London 1997 to Mark Thirty Years of Work and Achievement*. The volume, edited by Geoff Egan (for the Society for Post Medieval Archaeology) and Ronald L. Michael (for the Society for Historical Archaeology), includes the papers from the 30th anniversary conference held jointly by the SPMA and SHA at Colonial Williamsburg and in London. *Old and New Worlds* (Oxford and Oakville, CT: Oxbow Books, 1999, ISBN 1-900188-92-9, x + 396 pp., \$60.00) contains 42 contributions and has a special introductory price of \$30.00 through 31 March 2000 (this date has been extended). Further information is available on the website <http://www.oxbowbook.com> and from Oxbow's American representative, David Brown Book Company (P.O. Box 522, Oakville, CT 06779, telephone 860/945-9329). These 42 revised papers originally presented at the two conferences have been grouped into five clusters: "Approaches to the Evidence" (5 chapters); "Communities of the Old and New Worlds" (13 chapters); "Bridges and Divisions – Crossing the Seas and Military Operations" (4 chapters); "Manufactured Goods: Production, Movement, and Consumption" (13 chapters); and "Humans, Animals, Plants, and Landscapes" (7 chapters). Of the 13 contributions on manufactured goods (Chapters 23 through 35), pp. 203-330), 10 concern ceramic materials. These include: "The Post Medieval Ceramic Revolution in Southern Britain c. 1450-1650" by David R. M. Gaimster, British Museum (pp. 214-225); "The Ceramic Revolution 1650-1850" by David Barker, Potteries Museum and Art Gallery (pp. 226-234); "Post Medieval Redware Pottery of London and Essex" by Beverley Nenck with Michael J. Hughes, both British Museum (pp. 235-245); "The Pottery Industry of the Surrey/Hampshire Borders" by Jacqueline Pearce, Museum of London (pp. 246-263); and "Tinglazed Ware in London: A Review" by Roy Stephenson, Museum of London (pp. 264-268). Two contributions consider British ceramics in American contexts: "A Review of the Donyatt Potteries, Somerset, with an Interim Report of its Products Recorded in the Colonies of America" by Richard Coleman Smith, Keyford House, Somerset (pp. 269-277) and "Producers, Distributors and Redistributors: The Roles of the South Western Ports in the 17th Century Ceramics Trade" by John Allan, Royal Albert Memorial Museum (pp. 276-288). There are two papers on materials from American contexts:

"Excavating the Pottery of John Bartlam: America's First Creamware Potter" by Stanley South, University of South Carolina (pp. 289-298) and "British Ceramics on the American Colonial Frontier 1760-1800" by Teresita Majewski, Statistical Research, Inc., and Vergil E. Noble, Midwest Archeological Center, National Park Service (pp. 299-309). The final contribution by David Higgins, University College Northampton, entitled "Little Tubes of Mighty Power: A Review of British Clay Tobacco Pipe Studies" (pp. 310-321), provides a delightful and informative assessment of white clay smoking pipes.

Maiolica in the North: The Archeology of Tin-Glazed Earthenware in North-West Europe, c. 1500-1600, edited by David Gaimster (London: British Museum Press, Occasional Paper No. 12, 1999, ISBN 1850745994, vi + 188 pp., \$45.00 paperback) contains 18 papers by 16 authors (all from Britain or Western Europe) that explore the production and trade of this ceramic type, considering archaeological contexts and new investigations (NAA) to shed light on the maiolica industry. The editor, David Gaimster, is with the British Museum's Department of Medieval and Later Antiquities, and is co-editor, with Mark Redknap, of *Everyday and Exotic Pottery from Europe: Studies in Honour of John G. Hurst* (Oxford: Oxbow, 1992) and with Ian Freestone of *Pottery in the Making: Ceramic Traditions* (Washington: Smithsonian Institution Press, 1996). Maiolica (or majolica), an Italian-style luxury tin-glazed ceramic spread from the Mediterranean, via the Alps and Central Europe to France, the Low Countries, and southern Britain during the 16th century. By the early decades of the 17th century tin-glazed earthenware production held a key position among the metropolitan industries of the English Channel region. The papers in this volume combine multidisciplinary approaches, including archival documentation, archaeological methods, and scientific analysis, (particularly chemical characterization), to enhance our comprehension of the production and distribution of this unique ware. Collectively, the volume includes 666 endnotes, 752 references, 64 monochrome illustrations, 13 color plates, 7 tables, and 3 artifact catalogs. Each chapter has its own references and illustrations. There are two distinct groups of papers: seven main chapters (varying in length from 6 to 34 pages) and 11 short descriptive and interpretive reports (varying from 1 to 10 pages) all of which concern British sites. Gaimster's introductory essay provides an appropriate historical and research context. The initial chapter by Timothy Wilson (Ashmolean Museum) provides background of Italian production from 1475 to 1525, and documents three Venetian potters who migrated to Antwerp, Belgium. Hugo Blake (Museum of London) uses NAA to prove that *De nomine Jhesu*, a maiolica thought to be Netherlandish in origin, was actually produced in the Arno Valley of Italian Tuscany. Michael Hughes (British Museum, Department of Scientific Research) and Gaimster, using NAA, contributes a comparative analysis of ceramics from London, Norwich, the Low Countries, and Italy. Earthenwares made from the 15th through 17th centuries in the Low Countries can be differentiated from those made in southern England, and centers of production in Antwerp, Amsterdam, Utrecht, and Haarlem are also distinguished from each other. Claire Dumortier (Musees royaux d'Art et d'Histoire, Bruxelles) reports the analysis of archival

information on Italian potters who settled in Antwerp, while Johan Veekman (Stad antwerpen) combines historical documentation and archaeological information (refuse deposits, kiln sites, and waster dumps), and to confirm major Italian influence through 1572. Jan Baart (Stedelijk Beher, Amsterdam) contributes an assessment of North Netherlands 16th century maiolica vessel and tile forms, and decorations. Additional information about the book may be found on the website of the British Museum Company, British Museum, Great Russell Street, London WC1, <http://www.britishmuseum.co.uk/> A review of this volume by Charles C. Kolb will appear in *Historical Archaeology* 34(3) later this year.

Historical Archaeology in Wachovia: Excavating Eighteenth-century Bethabara and Moravian Pottery by Stanley A. South (New York, Boston, Dordrecht, London, and Moscow: Kluwer Academic/Plenum Publishers, 1999, xv + 442 pp., ISBN 0-306-45658-3, \$90.00 hardcover) was originally published under a different title in a limited edition of 12 in 1975. This volume documents research at the Moravian town of Bethabara founded on November 17, 1753 near Winston-Salem, North Carolina. The original settlers were 12 Pennsylvania Moravian men who came as missionaries to the Cherokee. All of German, Norwegian, or Danish ancestry, they were skilled and talented craftsmen who established the community and were joined by more Brethern and Sisters from Pennsylvania in 1755 and began construction of homes, shops, and fortifications. The land was called Wachovia, named for the home of Count Zinzendorf, the benefactor of the Moravians in Austria, while Bethabara signified "house of passage" – the Moravian's entrance into the new lands (Biblically, "crossing the Jordan River"). Gottfried Aust, a German potter who arrived on November 4, 1755, was a talented but "forceful eccentric" whose skill as a potter resulted in his becoming a major economic force in this Moravian community. However, most of the "industries" at Bethabara – the miller, baker, gunsmith, millwright, tailor, distiller, brewer, potter, and even the apothecary and the physician – had relocated to Salem by 1772, and the town became a farming community. At its peak there were 130 inhabitants but only 54 by 1772, and even fewer by the 1960s. In essence, the archaeological site encapsulates a 20-year period of craft and domestic activities.

The author of this important site report, Stan South, is a well-known and respected pioneer in historical archaeology. He has for more than 30 years been affiliated with the South Carolina Institute of Archaeology and Anthropology as well as the Institute for Southern Studies at the University of South Carolina in Columbia. South led investigations at the Bethabara site beginning in 1963, and his archaeological report published in 1975 documented the results of his excavations at fortifications dating to the French and Indian War and in the ruins of 20 shops and domestic residences in the town. He also devised unique methods of historic site excavation and site stabilization, including the replacement of palisade posts in the original fort as a part of developing the archaeological site as Historic Bethabara Park. In addition, his analysis of the ceramic materials demonstrated the blending of two traditions of pottery and stoneware production. Excavations in the potting shop and in the kiln waster dump of the master potter Gottfried Aust,

who practiced during the period 1755-1771, represent the first of these. Aust's journeyman potter Rudolph Christ represents the second. Christ had studied with the Staffordshire potter William Ellis and fabricated ceramics during the period 1766-1789 that combined both German and English characteristics, as exemplified by specimens from Christ's waster dumps at Bethabara and in Salem. Gottlob Krause continued ceramic production at Christ's shop in Salem from 1789-1802. South's detailed, well documented, and highly illustrated report of the excavations and artifact analysis includes important assessments of Aust's pottery shop, his 28 pottery types and 35 forms, kiln furniture, and tobacco pipes. Christ's production, including 4 wares, 40 forms, kiln furniture, "fayance" (faience), stoneware, and fine ceramics, are similarly chronicled. Notably, the 15-year association of Aust and Christ was not smooth and their strong personalities often necessitated arbitration by Moravian community leaders. South also uses historic records to document the significance of the potters to the maintenance of the Moravian community, pottery sales days, and Aust's move to Salem in 1771. The implication is that this relocation "finished" Bethabara as a viable town. The dissemination of South's original 1975 study was limited by the problem of the size of that report's 12 complex maps and plans (each 3 x 5 feet in size). In reduced size and segmented, these are included in the current edition. The 1999 publication has also been emended, statements clarified, footnotes added, and captions added to photographs. In addition, the narrative is now divided into two parts: Part I (22 chapters, pp. 1-186) on the archaeology of Bethabara (written in 1966), and Part II (9 chapters, pp. 187-372) on the Moravian potters, Aust and Christ, and their ceramics (written between 1966 and 1972). An appendix (pp. 373-399) deals with the Fifth House lot excavation conducted in 1968 and 1969 by Gary Wheeler Stone. The narrative is accompanied by a list of 49 references (five of which postdate the original 1975 report), 316 black-and-white figures, 54 maps and drawings, 7 tables, and an eight-page double column index of conflated topics and proper nouns. This is a compelling, detailed, and exceedingly well-illustrated site report includes an analysis of the excavations and ceramic artifacts from a significant region and time period. The volume is essential reading for Colonial historians, historical archaeologists, and scholars of ceramic production. The publisher, Kluwer/Plenum, may be reached at 233 Spring Street, New York, NY 10013-1578, telephone 212/620-8000, e-mail info@plenum.com and has a website at <http://www.wkap.nl>

Chris Green is the author of *John Dwight's Fulham Pottery: Excavations 1971-79* (London: English Heritage, *Archaeological Report* No. 6, 1999, ISBN 1850745994, 380 pp., 259 figures, \$45.00 paperback). The volume illustrates hundreds of newly excavated specimens of Dwight's innovative ceramics in a narrative that combines documentary and archaeological evidence to elucidate the Fullham Pottery from its origins through the 20th Century. The book may be obtained from the David Brown Book Company (P.O. Box 522, Oakville, CT 06779, telephone 860/945-9329).

Charles C. Kolb is preparing a comparative book review essay of Elizabeth S. Chilton's edited volume *Material Meanings: Critical Approaches to the Interpretation of*

Material Culture (ISBN 0-87480-632-1, \$55.00 cloth; ISBN 0-87480-633-X, \$25.00 paperback) and James M. Skibo and Gary M. Feinman's edited work, *Pottery and People: A Dynamic Interaction* (ISBN 0-87480-576-7, \$55.00 cloth; ISBN 0-8740-577-5, \$25.00 paperback). The review is published in *Bulletin of the History of Archaeology* 10(1), Spring, 2000. Both books were published in 1999 in the University of Utah Press Foundations of Archaeological Inquiry series, edited by Jim Skibo. The contents of Chilton's book was outlined in this column in the previous issue of the *SAS Bulletin*.

Life of the Average Roman: A Symposium, edited by Mary R. DeMaine and Rabun M. Taylor, was published in 1999 and is available from the publisher (White Bear Lake, MN: PZA Publishing, ISBN 0-967-3471-0-1) for \$30.00 plus \$3.50 shipping and handling. Inquiries may be made by e-mail: pzpublish@earthlink.net Two of nine papers concern ceramics, one by Verena Vidrih Perko is entitled "A Survey of Recent Research on Roman Amphorae, Trade and Diet in the Northern Adriatic and its Hinterland" (pp. 1-23), is accompanied by a paper by Irena Lazar, "The Roman Tile Factory at Vransko near Celeia (Noricum)" (pp. 24-34).

Ceramics and Community Organization among the Hohokam by David R. Abbott (Tucson: University of Arizona Press, 2000, xii + 259 pp., 33 illustrations, 22 tables, ISBN 0-8165-1936-6, \$40.00 cloth) was published in February. Abbott, Research Associate at the Arizona State Museum, was the 1995 Society for American Archaeology Dissertation Award winner for this research. He earned a M.S. in statistics from the University of Arizona and M.A. and Ph.D. in anthropology from Arizona State University. In this innovative analysis, he examines ceramics from Classic period sites in central Arizona such as Pueblo Grande to demonstrate that ceramic production sources and exchange networks may be deduced from the composition, surface treatment attributes, and size and configuration of pottery vessels. He establishes the geographical source of temper used in pottery making and he provides a physicochemical analysis of the ceramic clay fractions prior to a discussion of vessel form and technological variation at Pueblo Grande. Abbott considers the results of David Schaller's (1994) petrographic microscopy that showed that not all sources of rock fragments were acceptable to Hohokam potters, and Abbott also reviews the chemical assays of Hohokam ceramics performed by Patricia Crown and her colleagues (1983, 1988). Using electron microprobe analysis, Abbott examined five reference groups; looked at bowl and jar differences; and differentiated South Mountain granodiorite, Squaw Peak schist, and phyllite. He confirms that the pottery made at Pueblo Grande was tempered largely with arkosic sand derived from the Camelback-Granite sand-composition zone, and he also documents Schaller's hypothesis that there was an association between temper and clay types in plainware and redware pottery. Prehistoric potters selectively chose angular or platy rock and sand types to temper their wares but also minimized their effort to acquire them by exploiting the closest acceptable source, thereby confirming Dean Arnold's (1985) distance to raw material resources paradigm. The distribution networks provide evidence for community boundaries and social

patterning. Abbott demonstrates that the reconstruction of Hohokam social patterns based solely upon settlement pattern data provides only a limited insight into prehistoric social relationships. He provides analytical data on ceramic exchange patterns that challenges extant paradigms of sociopolitical organization among the Hohokam. He postulates a formerly unrecognized horizontal cohesiveness in Hohokam organizational structure and suggests how irrigation was an integral part of the fabric of social evolution. Abbot demonstrates the contribution that ceramic research can make toward resolving questions about community organization, and his analysis enhances the breadth and depth of ceramic studies in the American Southwest. Further information about this volume may be obtained from the University of Arizona Press, 1230 North Park Avenue, Tucson, AZ 85719, telephone and FAX 1-800/426-3797, or the press website <http://www.uapress.arizona.edu>

Ceramic Production in the American Southwest edited by Barbara J. Mills and Patricia L. Crown, originally published by the University of Arizona Press in 1996, has just been reissued in an affordable paperback edition useful for the classroom (2000, 312 pp., ISBN 0-8165-2046-1, \$19.95 paperback). In 11 chapters, the 14 contributors document nearly 1,000 years of Southwestern prehistory and history, and the organization of ceramic production within frameworks of current research and paradigms. The editors are highly regarded anthropologists; Mills is associate professor at the University of Arizona, while Crown is professor at the University of New Mexico.

Just published by the University of Alabama Press is Rebecca Saunders's *Stability and Change in Guale Indian Pottery, A.D. 1300-1702* (Tuscaloosa and London: University of Alabama Press, 296 pp., 2000, ISBN 0-8173-1012-6, \$29.95 paper). This important assessment documents changes in the ceramic assemblages at Guale and Guale-related archaeological sites located on the South Carolina, Georgia, and Florida coasts. Additional information can be obtained from the University of Alabama Press, Box 870380, Tuscaloosa, AL 35487-0380, telephone 773/568-1550, or their website at <http://www.uapress.ua.edu>

Delayed since last autumn's publication announced date of publication, the long-awaited volume, *Ancient Egyptian Materials and Technology*, edited by Paul T. Nicholson and Ian Shaw (Cambridge, New York, and Melbourne: Cambridge University Press, xxxii + 702 pp., 2000, ISBN 0-521-45257, \$160.00) was published on 23 March 2000. Nicholson is senior lecturer in Archaeology at Cardiff University and Shaw is lecturer in the Institute of Archaeology, University College London; both author-editors have numerous publications on Egyptian technology and culture. This corpus, written by 37 authors, is divided into three parts ("Inorganic Materials," "Organic Materials," and "Food Technology") containing 25 chapters, 326 figures, 28 tables, and an index. Each chapter has its own set of references. The chronological coverage is for the period 5500-332 BCE. Of particular interest to readers of this column are Chapter 3 "Soil (including mud-brick architecture)" by Barry Kemp (pp. 78-103); Chapter 5 "Pottery" by Janine D. Bourriau, Paul T. Nicholson, and

Pamela J. Rose (pp. 121-147); Chapter 7 “Egyptian Faience” by Paul T. Nicholson with Edgar Peltenburg (pp. 177-194); and Chapter 8 “Glass” by Paul T. Nicholson and Julian Henderson (pp. 195-223).

Chapter 5 (pp. 121-147) begins with an introduction in which prior studies such as Alfred Lucas’s are reviewed, then considers raw materials; primary processing; fillers, firing, and function; secondary and tertiary processing (firing); the composition of Egyptian pottery, the relationship of pottery fabric to clay; fabric properties; classification of fabrics (the Vienna System); Nile (n = 5) and marl fabrics (n = 5); petrographic analysis; and chemical and mineralogical analysis. The authors also review the socioeconomic context of the pottery industry, artistic and textual evidence, archaeological evidence, vessel usage, the future of pottery studies, and references (n = 146). The chapter on faience (pp. 177-194) commences with an introductory orientation, a review of terminology, a consideration of artistic and documentary evidence, and chronological development (Predynastic Period, Old Kingdom and First Intermediate Period, Middle Kingdom and Second Intermediate Period, New Kingdom, and Third Intermediate to the Roman Period). Discussions of raw materials, primary and secondary processing, efflorescence, cementation, application, firing, analytical technology, and references (n = 67) complete this chapter. Chapter 8 “Glass” (pp. 195-224) has an historical summary, a discussion of raw materials and procurement, secondary and tertiary processing (glass and glass artefacts), industrial organization, and related materials. The chapter also contains a useful discussion of the chemical analysis of glass (AES, AAS, XRD, XRF, SEM, PIXE, and EMPM), archaeological interpretations, the use of electron microprobe analysis of Eighteenth Dynasty glass from Amarna, the working properties of soda-lime glass, and references (n = 290).

The Nicholson and Shaw volume (2000) may be compared to Alfred Lucas’s *Ancient Egyptian Materials and Industries* first published in 1926 (revised by J. R. Harris, 4th ed., London: Arnold, xiv + 523 pp., 1962), its illustrious predecessor. Lucas’s book covers the period ca. 5000 BCE to CE 640, quite different than *Ancient Egyptian Materials and Technology*, which documents the period 5500-332 BCE. The Lucas volume contains 19 chapters, an appendix, addenda, and an index, but has no illustrations. Three chapters in Lucas are notable: Chapter IX “Glazed Ware” (pp. 155-178); Chapter X “Glass and Glass Making” (pp. 179-194); and Chapter XV “Pottery and Pottery Making” (pp. 367-385). The chapter on pottery considers clays, kneading, shaping, wash and slip, drying, polishing, baking, and color prior to discussions of seven wares (Brown, Black, Red, Black and Red, Grey, Drab, and Buff), and decoration. Chapter IX “Glazed Ware” documents glazed steatite, varieties of faience, origins, making a glaze, and binder mediums (clay, lime, silicate of soda, organic materials, alkalis, and salt). *Ancient Egyptian Materials and Technology* edited by Nicholson and Shaw considers the procurement and processing of raw materials during five millennia and also documents the changes in technologies that includes innovation and culture borrowing. Each chapter has been written by one or more specialists and is highly illustrated. This volume is

destined to become a standard for the history of technology yet, for the study of pottery and other material culture, may be used with Lucas’s classic *Ancient Egyptian Materials and Industries* (revised by J. R. Harris). Cambridge University Press may be reached at 40 West 20th Street, New York, NY 10011-4211, telephone 914/937-9600, the website URL is <http://www.cup.org>

Also reprinted and once again available is P.R.S. Moorey’s *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence*, a reissue of the 1994 edition (Oxford: Clarendon Press, xxiii + 414 pp., 8 plates, 24 figures, 5 maps). The volume has six main chapters, 31 subdivisions, a bibliography, and index. Moorey, Keeper of Antiquities at the Ashmolean Museum, Oxford, prepared a systematic and detailed survey of the archaeological evidence for crafts and craftsmanship of the Sumerians, Babylonians, and Assyrians of ancient Mesopotamia for the period 8000-300 BCE. The chapters on ceramics, glazed materials and glass, and building materials are relevant to readers of this column. In Chapter 4 “The Ceramic and Glasswork Crafts” (pp. 141-215), Moorey assesses the craft of the potter (archaeological and historical evidence, workshops and kilns), faience (an historical survey and methods of manufacture), Egyptian blue (an historical survey, composition, and manufacture), and glass and glass-making (an historical survey, technology, composition, and references in ancient texts). The reprint of *AMMI* as it sometimes known (ISBN 1-57506-042-6, \$89.50, cloth, large format) is available from Eisenbrauns, P.O. Box 275, Winona Lake, IN 46590 (telephone 219/269-2011, e-mail orders@eisenbrauns.com). Additional information may be obtained on the website at <http://www.eisenbrauns.com>

The Burial Theme in Moche Iconography by Christopher B. Donnan and Donna McClelland was published in 1979 by Dumbarton Oaks as *Studies in Precolumbian Art & Archaeology* No. 21, and has long been out of print. The importance of the volume has not diminished and the work, including the iconographic assessment of ceramic vessels, has now been made available electronically over the Internet at the Dumbarton Oaks website: <http://www.doaks.org>, choose “Pre-Columbian Studies,” then choose “Electronic Texts,” and download a pdf file or an Adobe Acrobat Reader to obtain the paper and its illustrations (7+ Megabytes). Jeffrey Quilter, Director of Pre-Columbian Studies at Dumbarton Oaks, anticipates that this will be the first of many publications that will be made available in electronic format.

Calls for Papers

Mike Tite (Research Laboratory for Archaeology and the History of Art, University of Oxford), writing in the new issue of *Archaeometry* 42(1):1 (February 2000), states that “... in the future, *Archaeometry* would welcome the submission of papers in which archaeological, ethnographic and materials science data, relating to technological innovation, choice, and change, are presented and are then discussed within the wider social and cultural contexts in which technologies are embedded.” Visit the website at <http://www.rlaha.ox.ac.uk/arch.html>; the e-mail address is archaeometry@rlaha.ox.ac.uk

A poster symposium entitled “Cultural Resource

Management and Archaeometry: Entering the Mainstream” is being developed for the 2001 SAA meeting in New Orleans, 18-22 April. Jim Cogswell, Michael Glascock, Hector Neff, and Jeff Speakman, who are all affiliated with the Missouri University Research Reactor in Columbia, MO, are organizing the session. They report that “the goal of the [poster] symposium is to demonstrate that archaeometric techniques have a significant place in contract archaeology and provide a cost-effective means of doing research-oriented archaeology in a CRM framework.” Additional information is available from Jim Cogswell, Research Reactor Center, Reactor Park, Columbia, MO 652111, e-mail CogswellJ@missouri.edu

Papers are being solicited for the continuing annual symposium “Ceramic Ecology XV: Current Research on Ceramics” for the November 2001 session. These symposia are held at the annual meetings of the American Anthropological Association. The 2001 meeting is scheduled from 14-18 November 2001 in Washington, DC. If you, a colleague, or student are interested in presenting a paper on current ceramic research or interpretation, technical or sociocultural, regardless of chronological period or geography/culture area, please contact Charlie Kolb at ckolb@neh.gov as soon as possible to receive the session abstract and prospectus.

New Publications: Articles

A Special Issue of *Engineering Geology* 54(1-2) (August 1999) was devoted to clay minerals. “Microstructural Modelling with Special Emphasis on the Use of Clays for Waste Isolation,” edited by Roland Pusch, Raymond N. Yong, and Peter Gindrod, contains a selection of 27 papers presented at the Symposium on Microstructural Modelling of Natural and Artificially Prepared Clay Soils with Special Emphasis on the Use of Clays for Waste Isolation, Lund, Sweden, 12-14 October 1998. The published contributions are from Sessions I: Modelling of Clay Microstructure (9 papers), II: Application of Microstructural Models (11 papers), and III: Chemical Aspects (7 papers). Papers on the microstructural evolution of buffers, resistivity measurements, gas migration, modeling mechanical behaviors of expansive clays, investigations of clay microstructures, and porewater chemistry are of special interests to physicochemical research on archaeological ceramics. The abstracts and complete contents of the 27 papers are available free of charge on the Elsevier website at <http://www.elsevier.nl/cas/tree/stor.engeo/>

The abstracts of all articles published in *Engineering Geology* are available gratis on the same website beginning with Vol. 9(1-2), 1995; from 52(3-4), April 1999, both the abstracts and full texts are available without cost up to and including the current issue, 56(1-2), April 2000. Other Special Issues with abstracts include “Thermomechanics of Clays and Clay Barriers,” edited by T. Hueckle and A. Peamo, 41(1-4), January 1996, and “Hydro-Thermo-Mechanics of Engineered Clay Barriers and Geological Barriers,” edited by A.P.S. Selvadurai, 47(1), September 1997.

The latest issue of *Archaeometry* 42(1) (February 2000) contains 18 articles. A portion of this issue is devoted to “Technological Choices in Ceramic Production,” and includes four papers (pp. 1-76) from the session of the same name

organized by Bill Sillar (Institute of Archaeology, University College London) and Mike Tite (Research Laboratory for Archaeology and the History of Art, University of Oxford). This session was held in January 1999 at WAC4 (World Archaeology Congress 4), Cape Town, South Africa. Tite provides a contextual introductory note to the four papers which include: “The Challenge of ‘Technological Choices’ for Materials Science Approaches in Archaeology” by Sillar and Tite (pp. 2-20); “Processing Clay for Pottery in Northern Cameroon: Social and Technical Requirements” by A. Livingstone Smith, Universite Libre de Bruxelles (pp. 21-42); “Dung by Preference: The Choice of Fuel as an Example of How Andean Pottery Production is Embedded within Wider Technical, Social, and Economic Practices” by Sillar (pp. 43-60); and “Why a Kiln? Firing Technology in the Sierra de los Tuxtlas, Veracruz (Mexico)” by Chris Pool, University of Kentucky (pp. 61-76). In addition, this issue of *Archaeometry* includes three other contributions on ceramics: Gomez and Dougherty writing on the petrography of Cypriot White Slip II ware, Perez-Arantegui and Castillo elucidating red-colored slips on Spanish Islamic ceramics, and an XRF analysis of Song-Yuan Chinese porcelain from Ding kilns authored by Leung, Stokes, Tiemei, and Dashu.

The journal *Archaeometry* also has a website at <http://www.rlaha.ox.ac.uk/arch.html> The site has the contents and abstracts for current and recent issues beginning with Volume 40, Part 1 (February 1998), including the abstracts of the papers cited above.

“A Bronze Age Larnax from Crete Revived: Where Old and New Meet on Crete – Conservation at INSTAP-SCEC: A Case Study,” authored by Ann Brysbaert, appears in *Anistoriton* issue P001 for January 2000 (an electronic journal). The author is a practicing archaeologist and also holds a BSc (Honors) in Archaeological Conservation (University College London), an MA in Archaeology (Catholic University Leuven-Belgium), and is a Ph.D. research student at the University of Glasgow, Scotland. The large ceramic triglyph larnax (a type of rectanguloid coffin with a separate peaked trapezoidal-shaped lid) was recovered during excavations in a Late Minoan III (LMIII) cemetery at Mochlos, East Crete. Brysbaert discusses the larnax in terms of its archaeological background, tomb context and grave goods, condition prior to treatment, solubility and consolidation tests, cleaning, consolidation techniques and materials, reconstruction, photographic documentation, and provides a conclusion about acceptable treatment methodology within a tight deadline. The article may be accessed at <http://users.hol.gr/~dilos/anistor/places/p001.htm>

“Optical Plotting and AutoCAD® for Drawing Pottery: A New Device for Pottery Drawings” by Vinod Nautiyal (HN Gharwal University, India) appears in *CSA Newsletter: Computer Technologies for Archaeologists and Architectural Historians* 11(3):4-7 (Winter 2000). This very informative article extends contributions on the same topic by Harrison Eiteljorg II and others that are referenced on the CSA (Center for the Study of Architecture) website reviewed in this column in the last issue of the *SAS Bulletin*. In the Winter 2000 issue of the newsletter, Eiteljorg, who also serves as the editor, announced that hardcopies will no longer be produced and mailed to subscribers and that *CSA Newsletter* would be

come an Internet product. The website is <http://csaws.brynmawr.edu:443/web1/newslet.html>

Awards

On 28 December 1999, Edward V. Sayre received the Archaeological Institute of America's "Pomerance Award for Scientific Contributions to Archaeology" at the at the AIA's 101st annual meeting held in Dallas, TX. Sayre worked for many years at Brookhaven National Laboratory, the Metropolitan Museum of Art, and Boston Museum of Fine Arts. The Pomerance Award was presented, in part, for his pioneering work in the application of nuclear analytical methods to resolve artifact provenance, elucidate authenticity, raw material resources, and trade patterns. He was also honored for having "served as a critical mentor to the developing field of archaeological chemistry." "Patterns and Process" A Two-day Symposium in Honor of Dr. Edward V. Sayre," was reported in *SAS Bulletin* 21(3):6-10 (Fall 1998).

The Society for American Archaeology's "Award for Excellence in Ceramic Studies" was initiated in 1994. The initial recipients were Patricia L. Crown and William A. Longacre, the 1995 awardees were Frederick R. Matson and Prudence M. Rice, and in 1996 Dean E. Arnold was the sole recipient. In 1997 Ronald L. Bishop and James Hill (now deceased) received the award, while the recipient in 1998 was Robert L. Rands, and the 1999 awardee was Warren R. DeBoer. The recipient for the year 2000, announced on 7 April 2000, is Owen S. Rye, currently on the art faculty at Monash University in Churchill, Victoria, Australia, where he continues to be active as a teacher, researcher, and potter. Rye's work on ceramics and ceramic technology is well known. His seminal book, *Pottery Technology: Principles and Reconstruction* (Washington: Taraxacum, *Manuals on Archeology* 4, 1981), is required reading in archaeological ceramic courses and has become a classic. A monograph co-authored with the late Clifford Evans, *Traditional Pottery Techniques of Pakistan: Field and Laboratory Studies* (Washington, DC: Smithsonian Institution, *Contributions to Anthropology* 21, 1976), is an unsurpassed model of ethnographic description and scientific investigation of raw materials and pottery from South Asia. Likewise, Rye's article, "Keeping Your Temper Under Control," *Archaeology and Physical Anthropology in Oceania* 11(2):106-137 (1976), and his contributions in *Archaeometry* on X-ray studies (1977) and PIXE (1982) have been prominent. The award also noted that Rye influenced an entire generation of American archaeologists and other ceramic specialists, and his contributions reached beyond archaeology to scholars and researchers in many other fields. He was unable to attend the award ceremony. A full account of the SAA meeting appears in the subsequent section.

Professional Meetings: Held

"Lighten Our Darkness: Cultural Transformations at the Beginning of the First Millennium BC – From the Alps to Anatolia" was the title of an international conference organized by the University of Birmingham and the British School at Athens that was held 6-9 January 2000 at Birmingham. Three of 40 papers were on ceramics: "Subminoan Pottery and

Cultural Identity in Progeometric Crete" by Margaret S. Mook (Iowa State University); "Philistines and the Historical Dating of LH III Coarse Wares" by Agata Maria Ulanowska (Institute of Archaeology, Warsaw University); and "Eteocretan Pottery Revisited" by Metaxia Tsipopoulou (National Archaeological Museum). Additional information, including the abstracts of the papers, is available on the Internet at <http://www.artsweb.bham.ac.uk/aha/LOD/lighten.htm>

The Sheffield University Archaeology Society and the Prehistoric Society organized a two-day conference entitled "Food, Identity, and Culture in the Neolithic and Early Bronze Age," which was held 4-5 February 2000 at the Student's Union, University of Sheffield. The 15 papers presented emphasized new studies of lipids, isotopes, tooth wear, and botanical analyses. Two presentations concerned ceramics: "Organic Residues within Pottery from the Danish Neolithic: New Ways of Interpreting the Sacrificial Area Outside the Megalithic Tombs" by Marcia Taylor, and "Recent Advances in the Analysis of Lipids in Food Residues from Neolithic Pottery" by Richard Evershed (School of Chemistry, University of Bristol). Additional information may be accessed at the conference website: <http://www.shef.ac.uk/uni/academic/A-C/ap/conf>

The "Symposium on Mediterranean Archaeology" was held at the University of Sheffield, 18-20 February 2000. Nearly 50 oral presentations and four posters were presented; the five ceramic contributions included: "Aghia Korifi (Gebel Musa), Sinai, after the Coming of Islam: Pottery Evidence" by Georgios Manginis (School of Oriental and African Studies, London); "Producing, Consuming, and Exchanging Pottery at the Late Neolithic Site of Makrivalos, Northern Greece" by Elissavet Hitsiou (University of Sheffield); "Replicating the Pottery Production Process: New Insights into Technology, Technique, and Tradition in Cypriot Pottery" by Jenny Shiels (University of Glasgow/University of Edinburgh); "Store, Stir, and Serve: Do We Know What Minoan Domestic Pots Were Used For?" by Paraskevi Stamataki (University of Southampton); and "Consuming Objects, Worlds, and Ideas: Towards an Understanding of the Roles and Significance of Craft Goods in Early Minoan II" by Despina Catapoti (University of Sheffield).

The Archaeological Society of South Carolina's 26th Annual Conference on South Carolina Archaeology was held on 19 February 2000 at the USC Columbia campus. Among the more than a dozen papers presented was Sarah Travis's contribution entitled "'In the market showed their brown and pictured pottery': The Changing Ceramic Market in Charleston throughout the Colonial Period."

"Artists of the Ancient America" was the title of an all-day symposium held on 4 March 2000 at North Carolina Museum of Art in Raleigh. One of the five presentations was by Rex Koontz (University of Texas at El Paso) and was entitled "Classic Vera Cruz Civilization: Ceramic Masterpieces and Archaeological Enigmas."

"Preserving Brick and Terra Cotta" was the title of a one-day workshop led by Martin Weaver (Director for Preservation Research at Columbia University) on 16 March 2000 at the University of Victoria's Cultural Resource Management Program (CRMP), Victoria, British Columbia V8W 3N6.

Additional information is available on the Internet at <http://www.uvcs.uvic.ca/crmp/> or from Joy Davis, Program Director, Cultural Resource Management Program, Division of Continuing Studies, University of Victoria, telephone 250/721-8462, e-mail joydavis@uvcs.uvic.ca

The Middle Atlantic Archaeological Conference was held in Ocean City, Maryland, 23-26 March 2000. Three of the more than 40 papers presented concerned ceramics: "Stonewares from the African Burial Ground: Not All Spiral Motifs Come from New Jersey" by Meta Janowitz; "Functional Classes of Susquehannock Pottery by Alisa Strauss (Penn State University); and "Come and Get It: A Recipe for Protein Residue Analysis" by Robert M. Jacoby. See <http://siftings.com/maacorel.html> for additional information.

The Medieval Pottery Research Group (MPRG) conference this year has the theme "25 Years of Pottery Research." The conference was held at Exeter College, University of Oxford, 29-30 March 2000. Additional information is available on the website is at <http://www.pmiles.demon.co.uk/mprg/mprgc.htm>

The 65th annual meeting of the Society for American Archaeology was held from 5-9 April 2000 in the Marriott Hotel and Pennsylvania Convention Center, Philadelphia. This meeting was attended by 2,938 registrants (the SAA had 6,569 members in December 1999) and set new records for the number of papers and posters accepted for presentation. Overall, more than 1,900 papers were presented in 212 sessions including symposia, sponsored symposia, invited forums, sponsored forums, forums, general sessions, public sessions, and poster sessions. Ceramic studies were well represented at the meeting and the ceramics-oriented symposia and individual papers on pottery topics frequently drew significant audiences. At least 136 papers were presented that have been identified as involving ceramic analyses, archaeological ceramics, ceramic ethnoarchaeology, and/or ceramic chronology, among other related topics on pottery production and distribution. A major topical trend represented among the papers given at the 1997 and 1998 meetings in Nashville and Seattle was the chemical sourcing of ceramics. That trend began to change at last year's meeting in Chicago, but the entire range of ceramic studies was well represented. Greater emphasis this year was placed on pottery production, distribution, consumption, and discard.

There were seven symposia devoted exclusively (or nearly so) to pottery: "Ceramic Production and Distribution in the Southwest: Recent Results and New Analytical Directions" (9 posters); "Pottery Economics in Mesoamerica: Integrated Approaches" (organized and chaired by Christopher Pool and George J. Bey III, 10 papers, Prudence Rice as discussant); "Ceramics in Archaeological Contexts" (8 posters); "Chemical and Geochemical Analyses" (chaired by Judith Habicht-Mauche, 7 of 9 papers on ceramics, no discussant); "Terminal Classic Socioeconomic Processes in the Maya Lowlands through a Ceramic Lens" (organized by Sandra Lopez Varela and Antonia Foias, 9 papers, Foias as discussant); "Culinary Equipment of Early States: The Political Dimensions of State Pottery" (organized and chaired by Tamara Bray, 6 papers, Joan Gero as discussant); and "Artifacts and Evolution" Case Studies in Evolutionary Archaeology" (Teresa D. Hurt

organizer and chair, 5 of 8 papers on ceramics, Hector Neff as discussant).

Since 1992 Charlie Kolb has tabulated the papers and summarized major symposia and significant papers on ceramic topics presented at the SAA's annual meetings. These have been published in *La Tinaja: Newsletter of Archaeological Ceramics* issues 5(2):1-4 (1992), 6(2):1-5 (1993), 7(2):1-4 (1994), 8(4.2):5-11, 9(4):2-7 (1996), 10(2):1-7 (1997), 11(2):1-12 (1998), and 12(2):3-10 (1999). The eighth annual report on ceramic-related topics will be published in *La Tinaja* during the summer of 2000. The numbers of ceramic papers have varied dramatically during the past nine years: 1992, Pittsburgh, n = 48; 1993, St. Louis, n = 56; 1994, Anaheim, n = 39; 1995, Minneapolis, n = 68; 1996, New Orleans, n = 68; 1997, Nashville, n = 71; 1998, Seattle, n = 125; 1999, Chicago n = 145; and 2000, Philadelphia, n = 136.

"Current Approaches to Medieval Archaeology," a forum to discuss archaeological and related material remains of the medieval period, was held 15-16 April 2000 at the Department of Archaeology, University of Durham. Among the 7 papers presented in "Material Culture and Medieval Archaeology" (organized by John Naylor and Barry Taylor) were "Two Cnidian Early Medieval Unguentaria: An Assessment of the Function of Unguentaria in Early Medieval Asia Minor" by Erguen Lafli, "Medieval Pottery Workshops in the Hungarian Kingdom" by Zsolt Vagner, and "Ceramics and Regional Identity in Late Saxon England" by Paul Blinkhorn. The session discussants were Blinkhorn and Chris Cumberpatch. Abstracts of the papers and additional information are on the website at <http://www.dur.ac.uk/~drk8zz1/mater.html> or from the organizers by e-mail med.conf@durham.ac.uk

The annual meeting of the Society for Pennsylvania Archaeology held 5-7 May 2000 in Williamsport, PA includes 35 papers, two of which concern pottery: "Two Native Potters 'Speak' About Punctates: Harding Flats Data and the Clemsons Island Concept" by Christopher Espenshade (Skelly and Loy, Inc.) and "Functional Aspects of Susquehannock Pottery" by Alisa Strauss (Penn State University). The banquet guest speaker, Dean Snow, Professor and Department Head of Anthropology, Pennsylvania State University) chose as a topic "Telling Time: Some Curious Facts about How We Know How Old Things Are." On Sunday, 7 May, a "Special Session in Honor of James Hatch" has 10 papers presented by Hatch's students and colleagues. Jim Hatch, an associate professor at Penn State, who directed field schools and was well known for his research on jasper and paleodemography, passed away unexpectedly in December.

A symposium on archaeological clays and ceramics held at the Clay Minerals Society in Chicago, 26 June 2000 was noted in the previous column in the *SAS Bulletin*. The abstract deadline was 14 April 2000. Christina Schriener (Department of Geological Sciences and Department of Classical Studies, Indian University at Bloomington), has kindly provided a list of the papers. Abstracts of the papers will be available on the website at <http://cms.lanl.gov> through which registration information may also be obtained. The symposium entitled "Archaeology, Ceramics, and Clay Minerals" (Bruce Velde, Christina Schriener, and Isabelle Druc co-organizers) has the

following abstract: "This symposium is aimed at a better understanding of what contributions clay mineralogy can make to studies of ceramics in an archaeological context. In order to initiate a dialogue, we hope to present some solved and unsolved problems of identity of ceramic based upon the raw materials used to make them (largely clays, and their accompanying silt and sand particles). Some chemical and physical studies of ceramics will be presented to indicate some methods of investigation which might be useful to archaeologists in the study of ceramics. Some explanation of clay mineral study and the behavior of clays in the laboratory, protocol of mineral identification will be discussed as it directly effects the behavior of clays under conditions of ceramic production will be presented. Clay mineral resources in their geological context will be discussed."

At press time, the following Old World papers are scheduled: "Classification of Etruscan Ceramics from Tarquinia by Multidimensional Statistical Analysis of their Chemical Composition" by F. Caroato; "Spectroscopic Characterization of Etruscan *depurata* an *impasto* Pottery from the Excavation at Pian di Civita in Tarquinia (Italy): A Comparison with Local Clay" by G. Artioli; "Archaeometric Investigations of Ceramics from Two Ancient Settlements in Anatolia" by E. Gokturk, and "Ceramic Technology at Lerna, Greece in the Third Millennium B.C." by Christrina Shriner (Indiana University). From the New World: "Soil Sources for Ceramic Production in the Andes" by Isabelle Druc (University of Wisconsin); "Ceramic Raw Materials available to Native American and Early European Culture of the Midcontinent" by Randall Hughes (University of Illinois) concerning Illinois, Indiana, and Ohio sources; "Application of a PIMA (Portable Infrared Mineral Analyzer) to Pipestone Flint Clay Studies of Two Native American Cultures" by Mary Hynes; and "Technological Styles of Peten Postclassic Slipped Pottery with Regard to Mineralogical and Chemical Analyses of Clay Minerals" by Leslie Cecil (Southern Illinois University). Velde will talk on grit size determination and clay source treatment techniques.

Professional Meetings: Forthcoming

The 33rd Annual Chacmool Conference, "Art for Archaeology's Sake: Materials Culture and Style Across the Disciplines," will be held 8-12 November 2000, at the University of Calgary. The deadline for the submission of abstracts was 23 April. The conference will attempt to bridge the gap between archaeology, art history, and material culture studies, and access the concept of "style" as a cornerstone of archaeological analysis which has long been used to distinguish temporal patterns and cultural affiliations. Ian Hodder is the invited plenary speaker. Additional information on this highly successful student organized annual conference is available from the Chacmool 2000 Committee, Department of Archaeology, University of Calgary, Calgary, Alberta T2N 1N4 or on the Internet at <http://www.ucalgary.ca/UofC/faculties/SS/ARKY/chacmool.html>

"Ceramic Ecology XIV: Current Research on Ceramics, 2000," co-organized by Charles C. Kolb (National Endowment for the Humanities) and Louana M. Lackey (Maryland Institute, College of Art), has been submitted for consideration as a

symposium to be held at the American Anthropological Association annual meeting in San Francisco, 15-19 November 2000. Miriam T. Stark (University of Hawai'i) is the discussant for the ten papers submitted for this year's session. Kolb, the symposium's chairman, will provide an introduction to the session. The presentations include two papers on Mesoamerica, James J. Sheehy (Pennsylvania State University), "Quantifying Teotihuacan Ceramics," and Elin C. Danien (University of Pennsylvania Museum of Archaeology) "Pots, Politics, and Propaganda at Chama" [Late Classic Maya]. There are three papers on South and East Asia and Oceania: Judy Voeker (State University of New York at Buffalo) "Ceramic Production in Prehistoric Thailand with Emphasis on Phimai Black Pottery"; Christophe Descantes (Saint Mary's University, Halifax, Nova Scotia) "The Loss of Ceramic Technology: A Yapese Example"; and Robert K. Harding (University of Cambridge, Cambridge, UK) "New Research on the Manufacture of NBP" [Northern Black Polished Ware of Early Historic India]. Southeastern Europe and the Mediterranean are the settings for four papers: Michael O. Sugerman (Harvard University) "Pots, Ports, and Power: Trade and Transport in the Late Bronze Age East Mediterranean"; Effie Athanassopoulos (University of Nebraska at Lincoln) and Ian Whitbread (British School of Archaeology, Athens) "Pottery Production, Agriculture, and Trade: The Amphora Workshop at Tsoukalia, Greece, 4th Century BCE"; Kostalena Michelaki (University of Michigan) "Craft Production in Tribal Societies: A Ceramic Case from Bronze Age Hungary"; and Linda Ellis (San Francisco State University) "Demographic Transformations and Ceramic Ecology in the Periphery of the Roman Empire in the Balkans." The final presentation by Louana M. Lackey is "More to Come: Recent Research in Ceramic Studies."

Websites and Organizations

"Ceramic Petrology" and "Chemical Analysis" are components of a British website created by Alan Vince at <http://www.postex.demon.co.uk/petrology.htm> The "Ceramic Petrology" site includes: What is it?; Why should I want it?; Techniques; Identifying inclusions; Clay preparation; Sourcing; Inter-site comparisons, and information about the Ceramic Petrology Group (CPG). "Chemical Analysis" incorporates: What is it?; Why should I want it?; Techniques' Statistical Analysis; Sources of Error; Sourcing; Use; and Contact. The Prehistoric Ceramics Research Group (PCRG), combining the membership of the Iron Age Pottery Research Group and the First Millennium BC Ceramic Research Group, promotes contact between specialists and with other archaeologists. Since 1994, the scope of the organization has widened to include ceramics from the Neolithic and earlier Bronze Age periods. The PCRG is associated with the Ceramic Petrology Group (CPG) at the British Museum, Department of Scientific Research, and they publish, three times per annum by subscription, a joint newsletter, *Old Potter's Almanack*. Subscription information and information regarding the groups may be obtained from Andrew Middleton, telephone 0171-636-1555, FAX 0171-323-8276, or by e-mail amiddleton@british-museum.ac.uk

The British Brick Society founded in 1972 promotes the

study and recording of all aspects of the archaeology and history of bricks, brickmaking, and brickwork. A majority of the 300 members are from the United Kingdom, but there are overseas members from Australia, South Africa, Austria, Belgium, and the United States. This membership organization maintains an Internet site at <http://www.britishbricksoc.free-online.co.uk/index.htm> This website has 15 website links plus “Tiles on the Web,” with 15 additional links (books, galleries, studios, resources, etc.), as well as “Tile Image Gallery.” One link is to the European Ceramic Tiles Circle, created by the Stichting Vrienden van het Nederlands Tegelmuseum (Foundation of Friends of the Dutch Tile Museum in Otterlo) in The Netherlands, which issues the *ECTC Bulletin*. Eight bulletins beginning with No. 1 (September 1995) are available on their website at <http://www.aimnet.com/~tcolson/pages/tileorgs/ectcdesc.htm>

The Medieval Pottery Research Group (MPRG) was founded in 1975 to bring together people with an interest in ceramics that were made, exchanged, and used in Europe between the end of the Roman period and the 16th century. The new address for MPRG is c/o Potteries Museum and Art Gallery, Hanley, Stoke-on-Trent ST1 3DW, UK. The president, Clive Orton, may be contacted at c.orton@ucl.ac.uk while the group’s website is at <http://www.pmiles.demon.co.uk/mprg/mprgc.htm> Current and previous newsletters (3/year) are on line, as is information on membership, publications, the annual journal *Medieval Ceramics*, and the first in a series of Occasional Papers, *A Guide to the Classification of Medieval Ceramics*. The website also has links to 21 other sites.

Jan-Erik Nilsson is the owner and developer of the Antique Chinese Porcelain list that emphasizes Chinese porcelain and the Swedish East India Company. There is a search function with 75 links, “free advice” questions and answers (responses within 24 hours), and book lists (English, Swedish, Chinese languages). The links include “Beginners Help,” “Blanc-du-chine to Imari,” and “Wreck finds—Kangxi in Florida.” The URL is <http://www.gotheborg.com/main.shtml>

The Potteries of Trenton Society (POTS) was formed last year when a group of individuals having an interest in the ceramic industry of Trenton, New Jersey, met to discuss ways to collect, preserve, and disseminate historical information concerning the industry. For membership information, please contact Patricia A. Madrigal, Potteries of Trenton, c/o Hunter Research, 120 West State Street, Trenton, NJ 08608, e-mail madrigal@hunterresearch.com

“A Brief History of Takatori Ware” is the title of a website contribution by Andrew Maske. Takatori ware, dating since the Edo period (1615-1867), is a well-known ceramic associated with the Japanese tea ceremony. Maske provides information on the production seven successive kilns: Eimanji Takuma (1600-1614), Uchigaso (1614-1620s), Yamada (mid-1620s-1630), Shirahatayama (1630-1660s), Tsuzumi (1660s-1680s), Oganotani (1680s-1704), and Higashi Sarayama (1716-1871). The beginning of the Meiji Period (1867-1912) and the transfer of the style are also explicated, and the revival of the Takatori tradition in the early 1950s are also considered. There are superb illustrations and a useful bibliography (in Japanese with English translations accompanying the narrative). The site is

accessible on Morgan Pitelka’s website at <http://www.princeton.edu/~mpitelka/takatori.html> Also affiliated are Pitelka’s “Japanese Ceramic Terminology” (79 entries) and “Japanese Ceramic Links” (90+) at <http://www.princeton.edu/~mpitelka/ceramics.html>

Exhibits

“‘I made this jar ...,’ The Life and Work of the Enslaved African-American Potter, Dave” is the title of a traveling exhibition developed by the McKissick Museum at the University of South Carolina. Dave was a master potter and poet who lived in Edgefield, South Carolina and may have been by 1852 the first African-American to sign his stoneware vessels. Jill Beute Koverman, assistant curator at the Atlanta History Center, who undertook a study of the potter for her masters’ thesis and also organized the exhibition, estimates that Dave, who was born into slavery ca. 1800, made more than 40,000 pieces in his lifetime working initially for a ceramics producer named Harvey Drake in the community of Pottersville, one mile northeast of Edgefield. The record is not clear about how Dave learned to read and write, but although he lost a leg in a railroad accident by 1840, he continued to make pottery. Freed after the American Civil War, he took the family name of Drake and is listed in the 1870 Federal census but not in the census a decade later. His pottery dates from the 1820’s through the 1860s. The exhibition of Dave’s work has 24 specimens ranging in size from one quart to 35 gallons, and date from 1834 to 1862. The exhibit has appeared at the High Museum of Art in Atlanta (16 May-31 July 1999) and the Charles H. Wright Museum of African-American History in Detroit (9 October 1999-2 January 2000), and the Henry Francis duPont Winterthur Museum, Winterthur, Delaware (5 February-25 June 2000). Fortunately, there is a very informative website at the McKissick Museum: <http://www.cla.sc.edu/MCKS/dave/index.htm> A book entitled *I Made this Jar: The Life and Works of the Enslaved African-American Potter, Dave* by Dave and Jill Beute Koverman (Columbia: University of South Carolina Press, 1998, ISBN 0938983121, \$20.00 hardcover) is also available

The Hong Kong Museum of Art has a website that includes the depiction of artifacts from the Warring States Period and “Cultural Relics from the State of Zhonshan, Hebei Province.” A current exhibition, “Glazed Teaware: The K.S. Lo Collection,” features more than 100 items of glazed teaware, and is open through 30 May 2000. “Chinese Tea Drinking,” emphasizing the Tang Dynasty (1618-1907) to the present, and “Chinese Ceramics and Seals Donated by the K.S. Lo Foundation,” an exhibition of 25 pieces of rare Chinese ceramics and a collection of seals, are among the permanent exhibitions. Additional information about these collections is available on the museum’s website at <http://www.lcsd.gov.hk/exhibitions/english/exhibitions-hkma.html>

The Ho-Am Art Museum in Seoul, Korea provides general art information about Korean art and culture, and links to major foreign museums, as well as research resource links. The museum is home to more than 15,000 artifacts and works of art ranging from prehistoric relics to contemporary art, including Koryo celadon, and Punch’ong stoneware. The site is Internet

accessible at <http://www.hoammuseum.org/english/index.html> Within "Collections" on the website is the category "Korean Traditional Art" which, in turn has a subcategory "Ceramics." That subcategory in turn has four subdivisions: Earthenware (15 vessels), Celadon (23 specimens), Punch'ong Ware (22 vessels), and White Porcelain (32 specimens). Excellent images and the accompanying narratives (including chronologies and vessel dimensions) make this a useful resource on Korean ceramics.

Databases and Websites

Among the Internet resources reviewed in *CHOICE: Current Reviews for Academic Librarians* 37(4), December 1999, is "British and Irish Archaeological Bibliography" <http://ads.ahds.ac.uk/catalogue/biab.cgi?> a database from the Archaeological Data Service at University of York that contains 92,000+ entries organized alphabetically in a single list with an introductory search screen at the top. Currently the database ends in 1991. A search for "ceramics" produced 153 citations and for "pottery" 2,051 entries.

CARL Corporation, an information management and document delivery provider, serves a majority of the major public libraries in the United States (Chicago, Los Angeles, Phoenix, San Antonio, Atlanta-Fulton, Denver, and Baltimore County). Scholars may search the UnCover Database and the family of CARL databases without charge from the website <http://www.carl.org/> For example, a keyword search produced no titles for "ceramics" but 1,232 keyword matches and 2 author or name matches for "pottery."

Recently announced by the University of Missouri University Research Reactor (MURR), at Columbia, Missouri, is "The MURR Archaeometry Lab On-Line Database," maintained by Hector Neff. The site makes available a number of downloadable data sets, associated with recent publications, for prehistoric North American ceramics and steatite. The databases are available in a variety of formats: dBASE, Excel, and Lotus 1-2-3. Among the ceramic databases are: "Large-Scale Patterns in the Chemical Composition of Mississippian Pottery" (Steponaitis, Blackman, and Neff, *American Antiquity* 61:555-572, 1996). "An Assessment of the Acid-Extraction Approach to Compositional Characterization of Archaeological Ceramics" (Neff, Glascock, Bishop, and Blackman, *American Antiquity* 61:389-404, 1996). "Appendix 1: Results of Neutron Activation Analysis at MURR" (Slane, Elam, Glascock, and Neff) in Berlin and Slane *Tel Anafa, II, i, Hellenistic and Roman Pottery*, edited by Sharon Herbert, *Journal of Roman Archaeology Supplement X*, Vol. II(I):294-401, 1997). "Neutron Activation Analysis of Pottery from Pinson Mounds and Nearby Sites in Western Tennessee: Local Production vs. Long-Distance Importation" (Mainfort, Cogswell, O'Brien, Neff, and Glascock, *Midcontinental Journal of Archaeology* 22:43-68, 1997). More sites will be added once an article is published, thereby placing the raw data in the public domain. The URL is for this important MURR database is <http://web.missouri.edu/~reahn/archdata.htm>

A new source for information on reported chemical data for ceramics and other chemical and petrologic techniques may be found at a website maintained and updated continually by

Michael S. Smith, Department of Earth Sciences, University of North Carolina at Wilmington. Smith's website may be accessed at the following URL: <http://www.uncwil.edu/people/smithms/cerpnet.html>

Begun in April 1996, ChemConnect provides "over 500 links to various chemistry journals." The current comprehensive list of chemistry journals on-line and 51 with no access limitations, an additional 200 journals which have some limitations (e.g., require a fee), and 293 which show the Table of Contents and/or abstracts of their paper editions. ChemConnect is accessible through a free membership but you must register. Appropriate "Areas of Interest" for our readers include, for example: Physical Chemistry, Geochemistry, Archaeological Chemistry, and Library-Information. Visit the website at <http://www.chemconnect.com/index.html>

The Mineralogical Society (41 Queen's Gate, London SW7 5HR) has established an important website at <http://www.minersoc.org> The homepage has links to information about the society, meetings, special interest groups, publications, membership applications, the library, and other websites. The society publishes *Mineralogical Magazine* (ISSN 0026-461X), six issues per annum; contents are available on the website beginning in 1997 (No. 405) through 2000, with abstracts and full papers available free of charge (until further notice) for 1999 and 2000. In addition, the society also publishes *Clay Minerals: Journal of the European Clay Groups* (ISSN 0009-8558), four issues per year; contents are available on the website from 1997 to date, with abstracts and full papers available free of charge (until further notice) for 1999 and 2000. The Mineralogical Society Series publications (8 volumes) are available through Kulwer Academic Publishers. There is also a *Cumulative Index for Clay Minerals (1948-1997)*, 152 pp., available in PDF free of charge by contacting the Society's Production Editor, Kevin Murphy at Kevinmurphy@esatclear.ir

News about Colleagues

Illinois, and especially Chicago, continues to be a mecca attracting notable scholars in ceramic studies. The latest colleague relocate is William K. Barnett who moved from the American Museum of Natural History in New York City where he was the Director of Network Systems and Interdepartmental Laboratories. As of 10 April 2000, Bill has assumed the duties of Vice President and Chief Information Officer at the Field Museum of Natural History in Chicago, where he has also negotiated research time so that he will be able to continue his studies of western European pottery, especially prehistoric Portuguese ceramics. Bill Barnett is the senior co-editor, with John W. Hoopes, of *The Emergence of Pottery: Technology and Innovation in Ancient Societies* (Washington: Smithsonian Institution Press, 1996), which was one of four books in anthropology selected by the editors of the professional journal *CHOICE: Current Reviews for Academic Libraries* as one of the 100 "Outstanding Academic Books for 1996" from all academic disciplines. Bill joins Gary Feinman who became Chairman of the Anthropology Department at the Field Museum in September 1999, having been Professor of Anthropology at the University of Wisconsin-Madison for many years. Gary and his wife, Linda Nicholas, who is affiliated with the

department as a research scholar, have conducted longitudinal research on settlement patterns and ceramic and other craft activities in the Valley of Oaxaca, Mexico. More recently, Gary has become interested in Chinese ceramic production. They join another husband-and-wife team at the Field Museum, curators Bennet (Ben) Bronson and Chuimei Ho, who are experts on prehistoric and contemporary Southeast Asian and East Asian pottery manufacture and distribution. They have been the co-organizers of three Asian ceramic conferences (ACRO, Asian Ceramic Research Organization) held at the Field Museum in 1994, 1996, and 1998 that brought together distinguished international scholars. In addition, the department at the Field Museum has other scholars of ceramic materials on the permanent staff or as affiliated faculty: Anna Curtenius Roosevelt (South and Central America, especially the Amazon Basin), Winifred Creamer (Southwestern United States), and Anne Underhill (East Asia, especially China).

Mesoamerican Gulf Coast archaeologist and ethnoarchaeologist Philip J. (Flip) Arnold III is at Loyola University of Chicago as is his spouse, Shannon Fie, who works with Central and Eastern American archaeological ceramics (Iroquois and prehistoric Illinoian). Shannon just completed her SUNY-Buffalo dissertation defense — congratulations!! A short train ride away at Wheaton College is Dean E. Arnold, notable for his diachronic and in-depth ethnoarchaeological and ethnographic research in the Yucatan of Mexico and the Peruvian Highlands, and for his important contributions to the method and theory of ceramic studies, including *Ceramic Theory and Cultural Process* (1985). James M. (Jim) Skibo, who works in North America and in the Philippines on ceramics and contributes to ethnoarchaeology, experimental archaeology, and ceramic theory, is at Illinois State University in Normal, IL. He is the author of *Pottery Function: A Use-Alteration Perspective* (New York: Perseus, 1992) and is the editor for the “Foundations of Archaeological Inquiry” series at University of Utah Press. Prudence M. Rice, the author of *Pottery Analysis: A Sourcebook* (1987), who specializes in ceramics from Mesoamerica and the Andes, and Izumi Shimada, an Andean specialist on technology and craft production and the editor of *Andean Ceramic Technology, Organization and Approaches* (MASCA Papers in Science and Archaeology, 1999), are at Southern Illinois University at Carbondale. Emeritus Professor Robert L. (Bob) Rands who was at Carbondale and is a Maya ceramic expert, has recently left the area.

Late Breaking News: *La Tinaja*

La Tinaja: A Newsletter of Archeological Ceramics, ably edited by James E. Corbin (Stephen F. Austin State University, Nacadoches, Texas) since its inception 12 years ago, is changing editors and publication venue. Jim began *La Tinaja* as a labor of love because of his perception that archaeologists working with ceramic materials needed to keep informed of the work being conducted by colleagues. He has carried out this calling most admirably and we are very grateful for his sincere efforts to enhance the subscription base, obtain university funding, and solicit current material for the newsletter. Because of the press of other duties, Jim has decided to relinquish the editor's job

and hand over the editing and publication responsibilities to George G. Bey III at Millsaps College, Jackson, Mississippi. George is an expert on Maya ceramics. Charlie Kolb will act as “sage advisor.” *La Tinaja* as before will continue to carry news, symposium notices, the annual report on ceramics at Society for American Archaeology, etc. as it has before. The publication schedule (quarterly) and fee structure (US \$10.00/year domestic and \$15.00/year foreign) will remain the same, and it is anticipated that the informal agreement for sharing material with Andrew Middleton at the British Museum Department of Scientific Research, publisher of *Old Potter's Almanack*, will remain in effect. The legal transfer from SFASU to Millsaps was accomplished in early April 2000. Readers of *La Tinaja* owe a debt of gratitude to Jim Corbin — thanks, Jim, for your concern, diligence, and comradeship over the past dozen years.

La Tinaja will now be published by Millsaps Institute of Central American Studies (MICAS) but will *not* be limited to Central America — that is merely the entity that will have responsibility for its production. The official address and venue for further information is: MICAS, George Bey, Director; c/o Department of Anthropology/ Sociology; Millsaps College; Jackson, MS 39210-0001; telephone 601/974-1385, FAX 601/974-1397; email Beygj@millsaps.edu



Book Reviews

Michael D. Glascock, Associate Editor

Archaeological Ceramic Materials: Origin and Utilization. Bruce Velde and Isabelle C. Druc. Springer [Verlag], Berlin, Heidelberg, New York, London, Paris, and Tokyo. *Natural Science in Archaeology Series*, 1999. xii + 299 pp., illustrations, tables, bibliographies. \$109.00 (cloth), ISBN 3-440-64469-5.

Reviewed by Charles C. Kolb, Division of Preservation and Access, National Endowment for the Humanities, Washington, DC, USA

This volume represents Springer Verlag's initial publication in its *Natural Science in Archaeology Series* edited by Professor Dr. Gunther A. Wagner (Institute of Archaeometry, Max-Planck-Institute of Nuclear Physics, Heidelberg, Germany) and Professor Dr. Bernd Herrmann (Institute of Anthropology, University of Gottingen, Gottingen, Germany). The authors Velde and Druc bring very different backgrounds to this collaborative work. Chicago-born geophysicist Bruce Velde, currently Directeur de Recherche, Laboratoire de Geologie de l'Ecole Normale Supérieure, CNRS [Centre Nationale de la Recherche Scientifique], Paris, earned his doctoral degree from the University of Montana in 1962 and conducted postgraduate research at the Carnegie Geophysical

Laboratory, Washington, DC. He is the author of *Clay Minerals A Physicochemical Explanation of their Occurrence* (Amsterdam: Elsevier, 1983), *Introduction to Clay Minerals* (London: Chapman and Hall, 1992), and he edited *Origin and Mineralogy of Clays* (Berlin: Springer Verlag, 1995). Co-author Isabelle C. Druc received her Ph.D. in anthropology at Canada's Universite de Montreal in 1997, defending her dissertation on the physicochemical characterization and provenance of Chavin de Huantar Peruvian ceramics. Currently she is a postdoctoral fellow in the Division of Anthropology at Yale University's Peabody Museum of Natural History, in New Haven, CT.

Structurally, the volume has a preface and ten chapters (the latter varying in length from 8 to 63 pages, with a total of 295 text pages) supplemented by 98 figures, 6 tables, 180 references, and a subject index (five pages with double columns). Each chapter has its own endnote references varying in number from none to 38. Some of the book's parameters have changed since the prospectus for the book was published on Springer's website in 1998; notably, the claim of "136 figures, 38 in color" – all 98 are black-and-white images. However, the projected cost of this slim volume remained constant at \$109.00. The book is rendered in British English style and spellings (e.g., analyse, metre, colour, behaviour, etc.) with notable exceptions such as in the subtitle *Origins and Utilization* (z rather than s). I have retained these spellings in direct quotations. Following a physical science format, topics, and subtopics within chapters are numbered making for easier cross-referencing (e.g., Section 3.2.2). In this review I shall report the author's objectives, summarize the contents of each chapter, critique the volume, and compare the book with other standard works.

From the outset the authors emphasize that the subject of our study is "a fragment of a pot" (p. 9) rather than complete ceramic vessels. Their volume, designed for students, professors, and researchers in mineralogy, archaeology, and materials science, combines pedagogically selected aspects of the disciplines of sedimentary geology, mineralogy, and petrography. Velde and Druc state further that the purpose of their book is "to introduce students in archaeology and perhaps others to the materials that form ancient ceramics. It is by studying ceramic materials, their nature and function in making the object, that their use by potters through the ages can be explained, and this will lead to a better understanding of the potters behaviour and the influences on his ceramic production" (p. 1). They also write (p. v) that their narrative is based largely on their own personal experiences and that "their collective experience covers both the old (European) world and the new (American) one." The authors comment that the problems of analysis and explanations differ in these two worlds because the contexts of production, distribution, and use are different. Their overall objective is to provide a foundation for understanding the origins of ceramic materials, getting at the age-old questions: when was an object made, where was it fashioned, and why was it made? The authors stress that in this book they address only the first two queries and do not attempt to describe the chemical and physical methods of analysis – "archaeometry is not our subject" – and they stress empirical processes above measurements. Likewise, they

comment that there is no single text that relates geology to ceramics and archaeology, and that in this book they are "attempting to explain the *origin* of the components of ceramic materials, which involves the *choice* of these materials by potters as a function of their physical properties and the eventual use of the pot, i.e. the effect of *firing* on ceramic materials. Further, it is necessary to know the means which can be used to *analyse* the ceramics in a post-use context" (p. 2).

Chapter 1, "Introduction" (10 pp., 4 sections, 1 figure, no references), provides an orientation to the structure of the book and includes a vocabulary (glossary) of 26 terms. Later in the narrative (p. 130) the authors comment on the problems of imprecise terminology and language differences, and the scientific versus anthropological understanding of basic terms (e.g., clay, temper, etc.). In Chapter 2, "Rocks and Minerals" (23 pp., 21 sections, 3 figures, 1 table, 23 references), the authors consider elements (major, minor, and trace), differentiate rock types (sedimentary, metamorphic, igneous, volcanic, and intrusive), and review silicates, carbonate, and oxide minerals and their formulae. The third chapter, "Clay Minerals and Their Properties" 23 pp., 15 sections, 14 figures, 15 references), details clay chemistry and mineralogy, chemical constitutions, physical properties, thermal stability, and kinetics. Illite, celadonite, glauconite, smectite, kaolinite, and chloritic clays are detailed; curiously, montmorillonite clays are mentioned only once in the volume (p. 129). In Chapter 4, "Origin of Clay Resources" (16 pp., 12 sections, 7 figures, 1 table, 23 references), weathering profiles and variables, wind and water transport, hydrothermal alteration, the formation of new minerals, and sources of materials suitable for ceramic clays are elaborated. These four chapters are clear and concise overviews and depend upon the expertise and publications of the senior author. Chapter 5, the longest in the volume, is entitled "Physical and Chemical Processes of Making Ceramics" (63 pp., 41 sections, 21 figures, 38 references). The authors observe that the making of ceramics is the reverse of the weathering process or hydrothermal alteration. The physical states of a paste (brittle, plastic, or fluid), mineral tempering grains, effects of decantation and levigation, tempering materials, the mixing of clay sources, decoration and surface treatments (smoothing, slips, paints, glazes) are reviewed. The firing process variables of chemical composition, time, and temperature are discussed, as are the five stages of transformation (green, unfired, pottery, stoneware, and porcelain). There is an excellent discussion of paste composition and fusing agents and variables affecting firing practices (time, temperature, atmosphere, composition, and grain size), and bonfire, pit fire, and kiln firings are related. Porosity, pore structure, thermal properties, temper material, hardness, and oxidation-reduction cycles and their effects are reviewed admirably. A particular strength of the chapter is the candid discussion of nine mineral reactions that occur during firing (dehydroxylation, carbon-organic loss, calcium and iron transformations, quartz inversion, minor and trace element volatilization, crystallization of new minerals, and vitrification). The chapter ends with a discussion of "families" of ceramic products: earthenware, pottery, faience, stoneware, and porcelain. The discussion of kiln firing (pp. 109-110, 173) is

unacceptably brief.

With Chapter 6 "The Making of Pots" (38 pages, 25 sections, 16 figures, 4 references) the authors move from considering physical properties to a discussion of the "potter's art." Among the topics considered are raw materials (clays, tempering materials, temper identifications), physicochemical reactions (drying, shrinking, and material expansion) as related to the potter's needs, vessel uses, and functional characteristics (durability, hardness, porosity, density, permeability, and thermal stress). The preparation of materials, forming techniques (pinching, drawing, coiling, slab building, casting, and wheel throwing), surface coatings (slips, paints, and glazes), and the relationships of paste types to types of firing are reviewed.

In Chapter 7 "Optical Observation of Ceramics" (27 pp., 16 sections, 10 figures, 28 references), the authors introduce the technique of computer scanning to the standard methods of binocular and petrographic microscopy. However, they fail to consider the problems of scale and distortion that computer scanning can create. Velde and Druc also discuss characteristics that may be observed (slips, glazes, and paints; types, size, and distribution of temper grains; crystal shapes, and paste texture) and the determination of techniques used in paste preparation. Five case studies and three characterization techniques derived from the published literature are reviewed in Chapter 8 "Ceramics and Archaeology" (54 pp., 24 sections, 26 figures, 4 tables, 17 references). The studies include the analyses of Roman amphorae (conducted by Velde and his colleagues), Iron Age pottery from southwestern England (the work of D.P.S. Peacock), production sources and sigillate ware workshops in France (done by Picon and his associates), petrographic and chemical characterizations of Chavin de Huantar ceramics (Druc's dissertation), and modern Peruvian ceramic production (based on Druc's publications). A revision of Druc's French language dissertation, translated into English, has been published since *Archaeological Ceramic Materials* was submitted to Springer Verlag. This work is entitled *Ceramic Production and Distribution in the Chavin Sphere of Influence (North-Central Andes)* (Oxford: British Archaeological Reports, *International Series*, S731, 1998). Clay characterization by Scanning Electron Microscopy (revised from Druc's Universite de Sherbrooke, Quebec, thesis, 1994), the determination of firing temperature by thermal expansion studies, and Mossbauer spectroscopy are also documented.

Chapter 9 "Some Current Analysis Methods" (28 pages, 34 sections, 29 references) covers three of the primary objectives of ceramic analyses: classification, the study of pottery technology, and provenance. Qualitative and quantitative studies, sample sizes and sampling techniques, and physicochemical analyses are discussed. Among the latter are optical or visual methods (binocular and petrographic thin section microscopy, and computer scanning from direct or photographic data), mineral identification (XRD, SEM, DTA, TGA, TEM, IR, and HRTEM), chemical analysis (NAA, XRF, and Mossbauer), and age determination (TL). These are outlined but not elaborated – just as the authors had promised (p. 2). The final contribution, Chapter 10 "How to Acquire the Knowledge to Do the Job" (8 pp., 2 sections, no references), is unique to this book and reflects its pedagogical orientation.

For the student of archaeological ceramics Velde and Druc suggest specific courses in geology, mineralogy, materials characterization, chemistry, and physics, and data analysis in archaeometry. The authors also list six major journals, seven other journals or monograph series, 16 laboratories and education centers (MURR and ATAM are among them), nine special interest books, and ten other volumes dealing with ceramic materials. They list the *Journal of the American Ceramic Society* (p. 291) as a major source but it actually has very few articles on archaeological ceramics, nor does its companion *The American Ceramic Society Bulletin*. The Smithsonian's Conservation Analytical Laboratory (p. 292) was renamed the Smithsonian Center for Materials Research and Education (SCMRE) in the autumn of 1998.

More than a decade has passed since the publication of Prudence Rice's *Pottery Analysis: A Sourcebook* (Chicago: University of Chicago Press, 1987) which some archaeologists regard as the "New Testament" in comparison to Anna Shepard's "Bible," *Ceramics for the Archaeologist* (Washington, DC: Carnegie Institution of Washington, 1954). Rice has more recently summarized and provided references to many of the new developments in the field of archaeological ceramic analyses and interpretations: "Recent Ceramic Analysis: 1. Function, Style, and Origins" and "Recent Ceramic Analysis: 2. Composition, Production, and Theory" published in *Journal of Archaeological Research* 4:133-163, 165-202 (1996). Velde and Druc cite neither article.

There are some typographical mistakes — Wedgewood (pp. 98-99) and Bristish (p. 137) – as well as errors of commission – the measurement scale for Figure 7.8c (p. 194) should read 0.3 mm rather than 3 mm, and EPS Peacock (p. 209) should be D.P.S. Peacock. References to Mohs scale of hardness should be Mohs' (pp. 220-223, 282-283). References (p. 101, 137) to Shepard's chapter in Matson's *Ceramics and Man* should be 1965 instead of 1963. The journal *Archaeometry*, edited by Mike Tite, is published twice per annum rather than three times per year (p. 291) as the authors assert. Unfortunately the authors did not use a standard scale of measurement in the black-and-white microphotographs so that "by-eye inspection" can be misleading. A number of the images of tempering materials or aplastic grains are half the size of their counterparts so that care must be exercised in examining these pictures; scales, in the main, are 0.30 mm but range from 0.18 to 0.60 mm. The quality of the microphotographs is generally quite poor and some are unacceptable, nearly useless, reproductions. I wonder if these black-and-white images were originally derived from color microphotographs or, perhaps, these are poorly scanned reproductions. On the other hand, the volume has excellent line drawings, although many of the photographic illustrations are indistinct (for example Figures 6.15 and 6.16 (p. 171, 173); the former image, beautifully rendered in color, appears on the book's cover. The references cited in the initial chapters tend to emphasize British rather than American publications, but the authors succeed in their pedagogical goal of restricting the references given to the more available sources (p. vi) such as *Archaeometry* and *Journal of Archaeological Science*. Only some chapters (3, 5, 6, and 7) have summaries. The authors do

not mention the Munsell Color System as a standard of description and they use unacceptable color terminology such as brown, rose, earth-coloured (p. 131).

The term ceramic ethnoarchaeology does not enter into the authors' discussion, so that the authors cite none of the significant longitudinal research conducted by Dean Arnold (for example, *Ceramic Theory and Cultural Process*, Cambridge: Cambridge University Press, 1985); they should reference Arnold's work as early as p. 3. On the other hand, the authors do cite (p. 292) Gordon Bronitsky's edited volume, *Pottery Technology: Ideas and Approaches* (Boulder: Westview, 1989), which has been rejected unanimously by its professional reviewers because of substantive and typographical errors, incorrect and incomplete citations, and other problems (see *American Scientist* 70:572-574, 1990; *American Anthropologist* 93:506, 1991; and *American Antiquity* 57:178, 1992).

As Velde and Druc stated in their Preface, "the major point we would like to make is that one can do much research of archaeological ceramics by simply using one's eyes" (p. vi) and that in the not too distant past "one needed only a sharp pencil and a good memory to master the basic logic of ceramic study" (p. 2). I would insert the added dimensions of training and experience into this statement. One must perceive the leaves and branches on the trees and the trees in the forest, as well as the reverse, and understand the ecosystem in which the trees grew and clays were deposited, how the wood products were extracted and modified and pottery vessels were fabricated, and the sociocultural phenomena associated with the final disposition of the lumber or fiber products and the pots and sherds.

If we examine the major reference works that ceramic archaeologists have used for the past seven decades, we find that Velde and Druc's volume is part of a growing trend toward collaborative scientist-archaeologist co-authored works and attempts at holistic coverage of a vast, dynamic topic. For a discussion of this topic through 1988, see C. C. Kolb "The Current Status of Ceramic Studies" in *Ceramic Ecology, 1988: Current Research on Ceramic Materials*, edited by C. C. Kolb (Oxford: British Archaeological Reports, *International Series*, S513, pp. 377-421). The following table relates some basic characteristics of recent volumes:

Author and Year of Publication	Total Pages	Total Figures	Glossary Entries	Total Refs
March 1934	55	12	0	10
Colton 1953	86	18	0	61
Shepard 1956	423	59	33	148
Shepard 1965	446	59	33	179
Rye 1981	160	119	105	110
Rice 1987	583	134	262	1003
Sinopoli 1991	250	64	76	267
Gibson & Woods 1990	314	239	300	305
Gibson & Woods 1997	320	239	308	342
Orton et al. 1993	286	66	0	473
Velde & Druc 1999	311	98	26	180

Colton's (1953) slim volume is a handbook oriented to the American Southwest, while the Gibson and Woods (1990, 1997) and Orton, Tyres, and Vince (1993) books emphasize European, particularly United Kingdom, contexts. Rye (1981) draws most examples from the Asian Subcontinent and Melanesia. Shepard, Rice, and Sinopoli each take a more global perspective, while Velde and Druc emphasize Europe, the Circum-Mediterranean, and western South America. Only Rice's volume presents a holistic overview of archaeological ceramics (including the "origins and utilization" components found in Velde and Druc). Gibson and Woods's volumes are, in the main, highly illustrated glossaries: 199 of 314 pages (1990) and 203 of 220 pages (1997).

Archaeological Ceramic Materials is an adequate, well organized and carefully written discourse on the analysis of potsherds, and does what the authors set out to do. However, it might have been an even better volume; the primary difficulties are the poor black-and-white images and the price rather than the errors noted above. Several of the chapters (1-5, 7, and 9, for example) are superb discourses, but there are troublesome omissions such as a discussion of montmorillonite clays, an inadequate consideration of firing methods, and lack of information on thin section and point counting analyses. Nonetheless, institutional libraries and ceramic archaeologists should acquire the volume; students will not be able to afford it and should consult Rice's (1987) "Bible," her 1996 journal articles, and relevant materials in journals such as *Archaeometry* and *Journal of Archaeological Science*. An analogy may suffice: Michael O'Brien and R. Lee Lyman's *Seriation, Stratigraphy, and Index Fossils* (New York: Kluwer/Plenum, 1999) is a solid, well written analysis on the basics of relative dating, and may be contrasted with the detailed, technical assessments of absolute dating procedures appearing in Taylor and Aitken's *Chronometric Dating in Archaeology* (New York: Plenum, *Advances in Archaeological and Museum Science* 2, 1997). Both of these volumes concern chronology, albeit different aspects. Velde and Druc's volume as a basic primer on archaeological ceramics compares similarly with Rice's holistic compendium, *Pottery Analysis* (1987).

References

- Colton, Harold S. *Potsherds: An Introduction to the Study of Prehistoric Southwestern Ceramics and their Use in Historic Reconstruction*, Flagstaff: Northern Arizona Society of Science and Art, Museum of Northern Arizona, *Bulletin* 25, 1953.
- Gibson, Alex and Ann Woods. *Prehistoric Pottery for the Archaeologist*, Leicester and New York: Leicester University Press, 1990.
- Gibson, Alex and Ann Woods. *Prehistoric Pottery for the Archaeologist*, 2nd ed., Leicester and Washington, DC: Leicester University Press, 1997.
- March, Benjamin. *Standards of Pottery Description*, Ann Arbor: University of Michigan, Museum of Anthropology, *Occasional Contributions* 3, 1934.
- Orton, Clive, Paul Tyers, and Alan Vince. *Pottery in Archaeology*, Cambridge: Cambridge University Press, *Cambridge Manuals in Archaeology*, 1993.
- Rice, Prudence M. *Pottery Analysis: A Sourcebook*, Chicago: University of Chicago Press, 1987.

Rye, Owen S. *Pottery Technology: Principles and Reconstruction*, Washington, DC: Taraxacum, *Manuals on Archeology* 4, 1981.
 Shepard, Anna O. *Ceramics for the Archaeologist*, Washington, DC: Carnegie Institution of Washington, *Publication* 609, 1956; Foreword "Ceramic Studies 1954-1964" added to 1965 and later printings.
 Sinopoli, Carla. *Approaches to Archaeological Ceramics*, New York: Plenum, 1991.

Plant Technology of the First Peoples in British Columbia, Including Neighboring Groups in Washington, Alberta, Alaska and Montana. Nancy J. Turner. 1998. UBC Press: Vancouver, Canada. 2nd edition. 288 pp., 2 appendices, glossary, index. \$24.95 (paper). ISBN 0-7748-0687-7.

Reviewed by David Rhode, Desert Research Institute, 2215 Raggio Parkway, Reno NV 89512 USA

Lost in the Great Northwest American forests? Has Y2K closed down civilization as we know it, and you need some survival tips? Or do you want to learn how the native First Peoples of western Canada and adjacent United States made their lives in the coastal rainforests, mountains, and interior valleys of the Pacific Northwest? If the answer to any of these questions is yes, you will want this handbook nearby as a trusty guide. In it you will find descriptions of nearly 150 plants native to British Columbia, and the ways that native First Peoples people employed them in their various technologies. This book is the completely revised and updated second edition of Turner's 1979 book, *Plants in British Columbia Indian Technology*. It nicely complements her two books on food uses, *Food Plants of Coastal First Peoples* (1995, UBC Press) and *Food Plants of Interior First Peoples* (1997, UBC Press).

The phenomenally abundant plant life of the Pacific Northwest was critical for building life's necessities. Over the millennia, different native peoples developed rich systems of knowledge relating to the harvest, preparation, and use of these plants, that are essential and lasting elements of the region's native cultural identities today. These complex systems of knowledge, sometimes referred to simply as "traditional ecological knowledge," encompass a wide array of important decisions: how and when to harvest particular plant materials so that the plants will continue to grow and supply resources in the future, how to prepare and store the harvested materials for later use, which materials are best for certain applications, and ultimately how to craft the houses, clothing, canoes, boxes, baskets, bowls, mats, nets, fishhooks, leisters, spears, cradles, totem poles, toys, perfumes, and most other material elements of native life. Fortunately, this traditional ecological knowledge is experiencing a renaissance of sorts in Canada, as First Nations communities develop educational and cultural programs and attempt to re-apply the traditional ecological precepts to regional land and resource management issues. This second edition touches on some of these recent developments.

The book's introductory chapter sets the stage, presenting a discussion of the physical environment of British Columbia

with brief descriptions of fourteen 'biogeoclimatic zones' and the plants that characterize them. The numerous groups of British Columbia's First Peoples are then briefly introduced, with a map of their territories and a very useful correspondence list of current group names (and how to pronounce them) and what those groups were formerly called in the historical and anthropological literature. (For example, the people once called Kwakiutl are now the Kwakwaka'wakw, which is easier to say than it looks.) Following this is an overview describing how different plant materials were used for a wide variety of purposes: how they were harvested, prepared, and occasionally traded among groups, especially between coastal and interior groups.

Now comes the core of the book: detailed descriptions of 78 of the most important taxa used in First Peoples' technologies. Plants (and plant-like taxa) are arranged at the chapter level in broad taxonomic divisions (algae, lichens, fungi, mosses, ferns, conifers, monocots, and finally dicots). Within each chapter, descriptions are ordered alphabetically by scientific family name and within each family by the genus name. The discussion of each plant (usually comprising one species, sometimes one or two more) includes its common English name or names, a botanical description of its typical growth form and distinguishing characteristics, a brief note about its typical habitat, its range in British Columbia, and a compendium of aboriginal uses.

The versatility of some plants in native technologies is sometimes quite amazing. Western red-cedar (*Thuja plicata*), the "tree of life", was used in literally dozens of different ways. Turner reports that the wood alone was used to make "dugout canoes, house posts and planks, totem poles and mortuary posts, and storage and cooking boxes? dishes, arrow shafts, harpoon shafts, spear poles, barbecuing sticks, fish spreaders and hangers, dipnet hooks, fish clubs, masks, rattles, benches, cradles, coffins, herring rakes, canoe bailers, ceremonial drums, combs, fishing floats, berry drying racks and frames, fish weirs, spirit whistles, and paddles? wedges, spear handles, and splints for basketry" (p. 71). That's just the wood; the roots, boughs, and bark all had many other uses. Other plants had more specialized roles, depending on their particular characteristics or availability. Yellow cedar (*Chamaecyparis nootkatensis*), for example, had some of the same uses as red-cedar, but its usage was more limited, partly because of its more restricted subalpine distribution and also because the wood and bark had slightly different characteristics: the wood is a little tougher to work, the bark is preferred because it is softer, finer, and lighter in color.

Archaeologists can draw many useful insights and specific hypotheses from these descriptions. Two general considerations come to mind. From a materials science perspective, the distinctions in wood and fiber characteristics alluded to in Turner's descriptions clearly have important engineering consequences. Some materials are obviously much more suitable for certain functions than others. These criteria can be used to develop a general model or set of models of plant utility, providing the basis for more generalized functional inferences of archaeological remains. Such models, which have been constructed for different lithic raw materials and for the

engineering properties of different kinds of bone, have been very useful for understanding why certain tools are crafted from certain kinds of materials, and why technological systems change as functional needs change. Such a classification for different woods and fiber plants would be equally valuable. Turner's descriptions could provide a basis for developing a classification in a setting where plants made up the major part of the technology's raw materials.

A second consideration that comes to mind, also relating to functional inference, is that knowing all the varied uses to which some of these plants were put, ought to make the archaeologist hesitate a bit before making detailed functional interpretations from a few scraps of archaeobotanical materials. Turner's text closes with a fairly large appendix (Appendix 1) providing capsule descriptions of the uses of "minor plants" in First Peoples' technology. Following these descriptions is a correspondence list of common and scientific names (Appendix 2) and a helpful but very basic botanical glossary. The through list of references covers much of the historic and more recent (and rapidly growing!) ethnobotanical literature of the Pacific Northwest; related ethnobotanical work in California and elsewhere; the more important botanical references for the region; and a good supply of applications of traditional ecological knowledge systems in British Columbia and Canada. The reference list is a good place to start for more extensive research in these topics, though many materials cited may not be easy to find outside of western Canada. Finally, the extremely helpful index is broken down by First Peoples, Usage, and Everything Else (mostly scientific and common plant and animal names), so that one can easily track down the plants used by the Gitksan people, or those used to make snowshoes, or anything involving birch bark.

Digressing slightly, each plant description is accompanied by a small photograph, which can be used for general identification. Photographs of tools, such as fishhooks, baskets, mats, nets, hats, or herring spawn on hemlock branches, illustrate the ways the plant parts are used. These little photos admirably convey key characters of the subject, are of excellent print quality, and give eye-pleasing color to the page. But like most small photos, they are usually too small to be relied upon for detailed technical identification of plant species. This may be an important consideration in certain cases (for example, Cow Parsnip) in which somewhat similar-looking plants can be deadly poisonous (the author provides warnings in these instances).

Digressing even further, scientific names generally follow traditional usage *a la* Hitchcock's *Vascular Plants of the Pacific Northwest*. The author does not succumb to recent nomenclatural innovations in families such as Poaceae or Asteraceae, innovations that can make reading some recently published floras such an eye-opening (and brain-chilling) experience. (So, for example, bluebunch wheatgrass is still good ol' *Agropyron spicatum*, not *Pseudoroegneria spicata* spp. *spicata*.) For those of us familiar with the more traditional nomenclature of common range plants in western North America, or for researchers who are trying to track down scientific names in the older botanical, ethnographic or archaeological literature, this is a good thing.

As ever, Turner's prose is highly readable, respectful and appreciative in tone, authoritative in depth, and delightful in detail. Turner and her many consultants (listed in the two prefaces) have provided a great deal of information in a small and elegant package. Overall, the book's production quality is very high, and it fits nicely in a jacket pocket or daypack for taking along in the field. Turner (p. 9) notes that "the most important legacy of the basket weavers, carvers, and workers in plant materials is not in written words, but in their hands-on teachings, especially among their own families and communities." No doubt true; but I am grateful that she has put some of these teachings into words and pictures for all of us to learn from and enjoy.

The Fenn Cache Clovis Weapons and Tools. George Frison and Bruce Bradley. 1999. One Horse Land and Cattle Company, Santa Fe. 116 pp., 56 plates, 56 figures, 1 table, glossary, bibliography. \$45.00 (cloth). ISBN 0-9670917-0-5.

Reviewed by Robert J. Speakman, Department of Anthropology, University of Missouri, Columbia, Missouri 65211 USA

Every archaeologist is familiar with the Clovis point, a lanceolate-shaped, basally-ground, fluted projectile point widely distributed throughout North America and attributed to a group of people known as Clovis who entered North America towards the end of the Pleistocene. The age and scarcity known archaeological sites attributed to Clovis people make Clovis a topic of considerable interest to archaeologists and collectors alike. It is therefore understandable why so much interest is generated when a collection such as the Fenn cache emerges. This book is a discussion of the artifacts contained in the Fenn cache and the people who made them.

The Fenn cache is an exceptional collection of 56 Clovis projectile points, preforms, and tools acquired by Forrest Fenn in 1988 in Santa Fe, New Mexico. Fenn notified the authors, George Frison and Bruce Bradley, of the collections existence following an October 1988 issue of *National Geographic* that described and illustrated artifacts from the Richey Clovis Cache. Several days later Frison examined the collection and confirmed the Fenn cache did indeed appear to be another large collection of Clovis artifacts.

Details on the discovery of the collection are ambiguous. According to Frison and Bradley the collection was found in a cave around 1902, in the three corners area where Idaho, Utah, and Wyoming join. The individual who discovered the collection had secured the artifacts in a wooden frame and at some point the collection was stored in the son's basement for several years. Eventually the collection was given to a daughter-in-law as a wedding present. She subsequently sold the collection to a gallery in Santa Fe.

Frison and Bradley outline three primary goals for the book in the preword. The first is to illustrate and describe the collection of artifacts. This goal is accomplished through Pete Bostrom's magnificent plates showing both faces and one edge

of each artifact and Sarah Moore's superb line drawings detailing the flaking patterns of each artifact. Bostrom's and Moore's illustrations are reproduced, with the exception of a few of the larger specimens, at full size. Unfortunately the authors neglect to place a scale on pages where the illustrations have been reduced from actual size, a potential problem for readers attempting to compare illustrations of the artifacts. Frison and Bradley's second goal is to attempt to explain what archaeologists can learn from a collection of this type and is met by using a variety of methods including: trace element analysis, experimental studies, and obsidian hydration, and microscopic examination of the artifacts. Finally, the authors indicate the purpose of the book is to present information to a broad audience, with a special focus on arousing interest among young people to the early prehistory of the Americas. This goal is met through the inclusion of a glossary that defines many basic archaeological terms and by keeping the text and captions brief.

The book is divided into nine chapters. Chapter 1, "Clovis Origin", briefly discusses the origin, age, lifestyle, and artifacts of Clovis people. Frison and Bradley's 1973 excavation of the Colby Site in northern Wyoming, and Bradley's discovery of a Clovis point at Murray Springs in southeast Arizona is the focus of Chapter 2, "Clovis Archaeology". Chapter 3, "Clovis Caches", briefly discusses the major Clovis cache sites in North America permitting Frison and Bradley to place the Fenn Cache into a context easily understood by the reader. Chapter 4, "Mammoth Hunting", examines the question of whether Clovis points were weapons for killing mammoths or tools for butchering them. To support their arguments, Frison and Bradley draw on several of their experimental studies in which they used Clovis point replicas to puncture large mammal and elephant carcasses. Rumors of modern people eating mammoth meat from frozen carcasses recovered in Siberia and the preparation of modern elephant meat for human consumption in Africa is the topic of Chapter 5, "Eating Mammoth Meat". Chapter 6, "Projectile Points as Mammoth Butchering Tools", again reviews some of Frison and Bradley's experiments which used stone tool replicas to butcher elephants and examines whether hafted Clovis points were suitable butchering tools. Chapter 7, "Clovis Point Manufacture: Flintknapping", examines methods modern flintknappers use to make replica points and how they relate to prehistoric flintknappers. Chapter 8, "The Fenn Cache Artifacts", summarizes the artifacts contained in the cache, discusses the raw material sources used to manufacture the artifacts, the results of obsidian hydration which concludes the obsidian artifacts are several thousand years old, and the results of the trace element analysis that concludes the source for the obsidian artifacts is located in southeastern Idaho. How Clovis people might have transported tools and food over great distances without the use pack animals is discussed in Chapter 9, "Transportation". Basic artifact dimensions (length, width, and thickness) and weights are included in a table at the end of the book providing researchers with raw data from which basic comparisons to other Clovis tools can be made.

The Fenn Cache Clovis Weapons and Tools attempts to cover a lot of area in a little time. Because of this many of the

more technical aspects of Clovis archaeology are glossed-over or may seem overly simplified to the professional archaeologist. However as Frison and Bradley indicate one of the purposes of the book is appeal to the younger persons interest in archaeology and clearly the text was written with this in mind. The high quality figures and illustrations make this a must for any archaeologist interested in Clovis archaeology.

Materials Issues in Art and Archaeology V. Pamela B. Vandiver, James R. Druzik, John F. Merkel and John Stewart (eds.). 1997. Materials Research Society Symposium Proceedings Vol. 462. Pittsburgh, Pennsylvania. xx+ 427 pp. \$71.00 (US), \$81.99 (non-US). Cloth. ISBN 1-55899-366-5.

Reviewed by Hans Henrik Andersen, Ørsted Laboratory, Niels Bohr Institute, University of Copenhagen, DK-2100 Copenhagen Ø, Denmark

The Materials Research Society (MRS) has through the past decade been host to a biannual series of symposia named 'Materials Issues in Art and Archaeology'. The proceedings of these symposia have been published in the societies well-known blue proceedings series. The latest symposium (number V) took place within the MRS 1996 fall meeting in Boston and it is the proceedings of this meeting that are reviewed here. These symposia are highly appreciated meeting points for materials scientists, archaeologists and conservation scientists and reflect the pulse of the interaction between these groups on the North American stage. The reviewer is hence concerned about an apparent break in pattern. In the preface the next symposium is tentatively announced for the 1999 MRS Spring Meeting. Such a symposium did not materialise, nor does apparently a get together at the 1999 Boston Fall Meeting. On the other hand, perhaps this somewhat belated review gives the possibility of having an influence on the proceedings of the next meeting. Such an influence will be appreciated by the organisers, who in their introduction to the present proceedings write '(after the 1992 symposium we) began reprinting the various reviews that our earlier proceedings were beginning to draw from a readership not known for shyness. Since we all believed in what we are trying to achieve, we felt after considerable deliberation and discussion among ourselves that all reviews have some value, even if that value was not held in common with the original reviewers. Inclusion of these reviews sparked continued discussion and debate'. This review has been written in the spirit of the above quotation. It will be clear to the organisers that ideas about the layout of the proceedings are different from the present reviewer's. Nevertheless his view is that progress is achieved through feedback of impressions of previous volumes.

If you are not interested in the editorial technicalities of editing proceedings, you may skip this section and jump to the discussion of the contents. The present volume is like its predecessors produced through Camera Ready Copying (CRC) of the delivered manuscripts. As the different contributions use widely different fonts etc., the whole volume signals a lack

of uniformity and hence a considerable provinciality. This hunch of the preliminary is unnecessary. Why not try to achieve uniformity through careful instructions to the authors? And probably, through some hard work from the editors. A paper by Tykot and Chia is a nice model example: 12 pt Times New Roman font reduced to the size of the present volume, straight right margin (important for the present purpose), standard distance between lines, clear headlines (here in bold). Another pleasant and easy-to read example is the paper by DeSena and Friedman, here with a slightly different choice of headlines, as is also the case for the paper by Nagy et al. The exact choice does not matter, if only the instructions are clear. Editors may not agree on the unimportant points: then flip a coin, but do not give up the straight right margin although at least one of the present editors does not appear to like it. Furthermore, the very 'black' font of Attanasio et al. is used with consistency, but is very tiring to read. And finally, today one may surely demand that a simple typewritten text not be presented in a volume like the present. A common guide on how to present literature references may also be helpful. Whether the choice is to list alphabetically or by order of appearance does not matter, if it is only consistent through the volume.

The participants of the present symposium apparently use the proceedings in a way rather different from the standard materials scientist. They publish very brief 3 or 4 page papers mostly followed later by broad papers in an open international journal. In this volume we find short and long papers mixed together, mostly written to last as they are, although some preliminary communications are also found. That makes the refereeing process even more important because CRC manuscripts are usually very hard to correct. Here we even find a few cases, where a line has been cut by hand and the insert not properly aligned with the rest of the text. The disparity of styles makes the refereeing process less trustworthy, than ought to be the case, although the editors for good reasons both in the preface and the introduction emphasise the importance of the refereeing process. Nevertheless, they did not supervise the refereeing process carefully enough. It is of course funny that a tautology like '... being able to understand the long-term changes, which happen with time ...' slips through, but worse is that a number of other papers by non-English authors are marred by a numerous linguistic problems. For instance, in the otherwise interesting paper by Cruz-Flores and Gama-Castro 'Mineralization in Archaeological Skin', we are told about 'electronical microscopy', which is still possible to understand, but what does 'covered with a gold layer by means of vacuum ionization' mean? And what is 'microanalysis of x-ray diffraction'? The editors do their authors a disservice letting things like that slip through and, hence, diminish confidence in the entire volume. The worst editors slip is found in the paper 'Macro- and micro- non destructive tests for environmental impact assessment on architectural surfaces' by A Moropoulou et al. Here detailed discussions are presented of colour hues in figures. But these figures are reproduced in black/white, which makes the entire presentation meaningless '... the upper bar-chart relating temperature (°C) to color scale ...' !!

In spite of such slips a lot of exciting information may be gleaned from the volume. It is organised in eight sections. 1.

Analytical Chemistry and Spectroscopy. 2. Ancient and Historical Metallurgy. 3. Natural and Artificial Glass. 4. Characterization, Sources and production of Ceramics, 5 Organic Materials Technologies., 6. Architectural Conservation and Materials Conservation, 7. Conservation of Archaeological and Historical Materials, and 8. Other Studies of Ceramics and Metals. The reviewer finds the sections 6 and 7 particularly important, although they were not, where he found the most interesting papers. Much too often the tricks and the trade of conservationists are not to be found in the literature or are hidden in an appendix to a larger report. Important research is being done in this field and deserves to come out in the open.

Of course all 48 papers from the proceedings cannot be discussed here. Rather the reviewer would like to mention a very subjective selection of papers, he found particularly interesting. In section 1 Shimada et al. describe amber from a 1000-year old tomb in Peru. The authors are very familiar with the extensive Old World literature on the analysis of amber, and manage to locate a new source material. Section 2 brings a fascinating paper by Srinivasan and Glover on archaeometallurgical implications of new findings concerning traditional crafts of making high-tin bronze mirrors and bronze vessels in Kerala State, India. Traditional craftsmanship is set in to relation to the common belief that the high-tin mirrors come to India from the South East. Now it looks more like the mirrors originated in India, where evidence of tin mining has been found. It was good to learn that Srinivasan received one of the student prizes at the symposium for her presentation. A provocative and most interesting presentation in this section is that of Anheuser 'Where is all the Amalgam Silvering?' It is not there! Anheuser suggests that fire gilding was a much easier process to practice.

In section 3 all three papers are great. Tykot and Chia discuss long-distance (3500 km) prehistoric obsidian trade in Indonesia. Obsidian appears to be the ideal material to disclose such patters, be it in Anatolia, Greece (over the Sea from Delos) or in North and Central America. As fascinating is the study by Hancock et al. of opacifiers in be glass beads used in the Indian fur trade. It is possible to use the chemical changes of the opacifier fabrication as a time marker. This paper is nicely supplemented by Mass et al. on Roman opacifiers. DeSena and Friedman write on sourcing of Turkish ceramics and have the courage to write 'The geochemical relationship between fine-slipped ware and the other ceramics remains unclear'. This is followed by Kolb who more or less deconstructs the entire concept of sourcing. Closer reading of his paper on Classic Mexican ceramics discloses a list of precautions every 'ceramic sourcer' ought to learn by heart.

The main analytical tools are SEM, EDS, NAA and XRF. Macroscopic techniques like petrography and metallography are also abundantly used. For the latter, one may wonder that at least two papers show a lack of awareness that lead is totally insoluble in copper and hence cannot form an 'alloy' with that metal. The reviewer also wonders about the very limited use of analytical ion-beam techniques. PIXE is compared to XRF in a single paper (Sicle-Taves et al. 'Applications of Qualitative Trace Element Analyses: An Interdisciplinary Approach to Materials Conservation'). It is claimed that PIXE shows much

larger differences of Fe in pre- and post-civil-war samples of tabby than does XRF. This is simply not true. The apparent difference in sensitivity is solely due to differences of scale on the figures used to represent the results of the two techniques. Most strange is the total absence of Cr in the XRF spectra. It looks like North-American archaeometrists and conservationists ought to familiarize themselves with the possibilities of ion-beam techniques. My advice is to have a look at a recent, very inexpensive Spanish book (Respaldiza & Gomez Camacho 1997).

In spite of some formal reservations concerning the editing and production of the present volume, every reader interested in prehistoric technology, sourcing of archaeological materials and conservation of art and architecture ought to study this volume. They will surely find something to fascinate them. But why not also join the MRS and then you will get the volume at a discount price?

This reviewer will surely look forward to volume VI.

Reference

Respaldiza, M.A. and J.Gomez.Camacho (eds.). 1997. *Application of Ion Beam Techniques to Arts and Archaeometry*. Universidad de Sevilla Press. Sevilla. 2500 Pts inclusive postage.

Sedentism and Mobility in a Social Landscape: Mesa Verde and Beyond. Mark D. Varien. 1999. The University of Arizona Press, Tucson, AZ. xvi + 296 pp., 35 figures, 17 tables, index. \$40.00 (cloth). ISBN 0-8165-1904-8.

Reviewed by Gregory H. Bondar, Department of Anthropology, Penn State University, University Park, PA 16802 USA

In *Sedentism and Mobility in a Social Landscape: Mesa Verde and Beyond*, Mark Varien examines residential and community movement throughout the Mesa Verde region of southwestern Colorado. Based on his 1998 Society for American Archaeology Dissertation Prize-winning research, and building on his extensive work with the Crow Canyon Archaeological Center in Cortez, Colorado, Varien leads us through a thorough examination of settlement occupancy from the household to the regional level. In doing so, Varien first compiles an impressive and intensive data set of thirteen sites in the Sand Canyon locality. Then, he places these sites in regional social, geographical, and chronological context by comparing the Sand Canyon locality to over a hundred similar communities and every tree ring date for the entire region spanning almost four centuries. This massive synthesis refines current methods for calculating the span of settlement occupation based on pottery use, but also revises current models linking environmental variation, subsistence potential, population growth, geographical limitations, and community interaction with agency-driven issues, such as land tenure and marriage rules. Although based on data from the American Southwest, Varien's models transcend regional boundaries and are thus equally applicable to questions involving agriculture and settlement mobility around the world through time.

The first three chapters establish the background and theoretical framework for the five chapters of analysis that follow. Chapter 1, "Sedentism and Mobility in Horticultural and Agricultural Societies," clearly, explicitly, and succinctly states the structure of the problem and terminology effectively adapting a complex subject to a broad audience. Varien tackles the often untested assumption in archaeology that societies which practice agriculture are essentially sedentary. In particular, he shows that while ancestral Pueblo settlements in the Mesa Verde region between AD 900 and 1300 may appear sedentary, households within these settlements often moved every generation. Varien believes the key to explaining this low-frequency movement is to model mobility as a social process. In Chapter 2, "Anthropological Perspectives on Sedentism and Mobility," Varien examines the current state of the art in studies of mobility and sedentism. He then launches into a useful summary and evaluation of several models of mobility as a function of subsistence economy, including hunting and gathering economies, extensive-mixed economies, extensive agricultural economies, and intensive agricultural economies. Through using the Rarámuri (Tarahumara) as an ethnographic example, he concludes that mobility integrates environmental, ecological, and social factors. Varien sets the environmental stage for his research by reviewing several kinds of data for the region in Chapter 3, "Sedentism and Mobility in the Mesa Verde Region". Traditionally, environmental stress has been used to explain most examples of population movement in the Southwest during ancestral Pueblo times. Varien posits that, although the environment may stress a population, movement is just one option of several which may mitigate this increased risk. The decision of a group in selecting mobility, instead of staying and intensifying production, must be viewed as a social process. Varien concludes by examining the social factors potentially influencing the move/stay decision, factors which will be examined and tested throughout the rest of the book.

With Chapter 4, "Measuring Household Residential Mobility," Varien lays the analytic groundwork for his study by calculating the accumulation rates of cooking pots, which he will use to measure a site's length of occupation. After reviewing the conceptual history of the relationship between population size, occupation span, and volume of discarded material, Varien then examines several different models based on experimental and ethnoarchaeological studies. To define the correlation between pottery accumulations and occupation span for his region of study, he concentrates on the Duckfoot site, "an exceptionally strong case study because of the completeness of the excavation sample and the chronological precision provided by a wealth of tree-ring dates". From these data, Varien finds that the use rate of cooking pots from the Duckfoot site compares favorably with the cross-cultural and archaeological examples, but varies significantly from theoretical predictions. However, due to the exceptionally high quality of the data, he is confident that the estimates from the Duckfoot site accurately represent pottery use for the period around AD 800. Through correlating the pottery and lithic assemblages of the Duckfoot site with eight other Pueblo I and sixteen Pueblo III sites, Varien effectively demonstrates that his pottery accumulation rate estimates from the Duckfoot site accurately

apply to sites occupied up until the regional abandonment in AD 1300.

Varien uses these results to examine the occupational history of thirteen neighboring Pueblo III sites in Chapter 5, "Household Residential Movement in the Sand Canyon Locality". These sites, all of which have been archaeologically tested to varying extents, range in size, number of households, length of occupation, and occupy a range of settings including mesa-top, talus, and valley floor in the vicinity of Sand Canyon. However, all are believed to have been habitation sites occupied year round. The specific excavation details and data for these sites are available online from the Crow Canyon Archaeological Center web site at <http://www.crowcanyon.org/ResearchReports/SiteTesting/start.htm> (Varien 1999). After discussing the potential complications caused by multi-component occupations and varying archaeological definitions of "household," Varien calculates the length of occupation for each cultural component at each site. Considering additional chronological data from each site, such as architecture, stratigraphy, and chronometric data, enables Varien to calculate a "best estimate" for the number of years each component occupied a site, as well as the year these occupations began. When these occupation periods are compared to the environmental data from the region, there is no clear or significant correlation between household mobility and climate change during the Pueblo III period. This observation, combined with the noticeable variation of occupation spans from site to site, leads Varien to conclude that social factors had a major effect on residential mobility.

Varien expands on his analysis of residential mobility by examining the process of abandonment, itself, in Chapter 6, "Community Persistence in the Sand Canyon Locality". In this chapter, he seeks to clarify the evidence indicating abandonment at the household, site, and local levels of occupation. First, Varien examines the remains of 57 kiva and pit structures to determine, from the remains of the wooden roof structures, to what extent the roof timbers were salvaged and reused, burned, or abandoned *in situ*. Some degree of timber salvage suggests merely a short-distance move, while structures showing no attempt at salvage imply that there were no nearby residents, and hence at least a local level of abandonment. From this analysis, Varien finds there was a striking increase in household mobility within the Sand Canyon locality after AD 1250 culminating in the abandonment of the entire region. However, the *de facto* abandonment of roof timbers was almost exclusive to this period. To determine if site occupation continued after each pit structure was abandoned, Varien examines the amount of cultural material in the succeeding fill. From this, he finds that community movement occurred at a rate different from that of household movement. Next, Varien looks at 1,500 tree-ring dates from 19 sites to relate the rate of tree harvesting to the process of reusing wood within three communities in Sand Canyon. He compares these results with 750 tree-ring dates from 79 sites elsewhere in the Mesa Verde region on Chapin and Wetherill mesas, which confirm the long-term occupation of these localities for nearly three centuries. However, while Varien is able to demonstrate the persistence of occupation at these localities, he remains uncertain as to whether these data

represent continuous occupation by a single community.

So far, Varien has examined mobility at the scale of the household/site and the community. He increases his analysis to the regional scale in Chapter 7, "The Social Landscape in the Mesa Verde Region," and combines settlement pattern data from every identified community center with physiographic data and every tree-ring date for the entire region from AD 950 to 1300. Varien's 134 community centers are sites of at least 50 rooms and/or public architecture "that occur in the cores of the settlement clusters that compose communities." He first describes the evolution and movement of community centers in the region by dividing the 350-year span of interest, somewhat arbitrarily, into four periods 75 or 100 years long. Then, he begins a GIS analysis in which he develops a map of the region which measures distance as a function of transportation cost based on elevation change; a measure he terms the "cost-equivalent distance". Using this concept, Varien first constructs around the centers for each time period what are, in effect, Thiessen polygons (Marcus 1993) except that they are measured in terms of the cost-equivalent distance instead of as-the-crow-flies. This exercise suggests that, through time, community centers became much more closely spaced, which increased the isolation of most of these centers from others in the region. Building on these estimates, Varien models the catchment radii around each center, again measured in terms of the cost-equivalent distance. As time passes and the population density of the region increases, the outermost radius of neighboring centers surrounding each center at 18 km representing the limit of a day's walk begin to overlap. Soon, the concentric zones representing the limit of extensive cultivation at 7 km, and finally intensive cultivation at 2 km, also overlap, thus graphically demonstrating the dramatic reduction of catchment area that can occur with increasing population density. Using the vast database of tree-ring dates available to him, Varien then examines the spatial relation of all sites with tree-ring dates to the community centers for each period. From this, Varien finds that through time, sites in the eastern and central parts of his study region clustered around local community centers while sites in the far western part of the Mesa Verde region remained small and apparently independent of such a relationship. Examining the movement of these community centers, Varien traces their nearest neighboring center between each time period, finding that the distance moved generally decreased through time and was shortest in the areas with the highest population density. Finally, Varien explores the possibility of inter-regional population movement by plotting the frequencies of every tree-ring date from the Mesa Verde region. While providing a crude estimate by his own admission, he was able to identify several alternating periods of greater or lesser tree cutting activity, which he suggests may be due to influxes of population. Varien ambitiously synthesizes in this chapter several enormous data sets in order to empirically and graphically demonstrate the shifting population densities of the Mesa Verde region from AD 900 to 1300. In doing so, he vividly documents hypothetical demographic trends rarely observed in prehistoric societies, and which are virtually invisible in smaller-scale research projects.

Finally, Chapter 8, "Mobile Households and Persistent Communities," considers the breadth of empirical data introduced in this book to propose several compelling conclusions. First, increasing population densities led to a shift in land tenure from usufruct to heritable rights in the central Mesa Verde region. This transition is probably best documented by the rise and development of what Varien terms "persistent communities" based on 27 series of community centers which moved no more than 7 km over 150 years. Varien believes that these centers served as the hearths for the social changes involving residential mobility as a key element in a group's mode of production. As access to land became restricted with increasing population density, settlement aggregation paralleled increased agricultural intensification. As this process continued, these groups each "acted to perpetuate their collective land-use rights" through claims marked by abandoned structures and burial grounds which, Varien suggests, became "highly charged symbols," thus forming a link between ideological and productive resources. The increased significance of abandoned buildings is further reflected by the transition from relatively ephemeral wattle-and-daub structures to more enduring masonry buildings between AD 1050 and 1150. This new ability to claim land enabled community centers themselves to move away from their fields into less accessible locations after AD 1250. In addition to changes in land tenure, Varien proposes that residential mobility was also modified by marriage rules. Prior to AD 1150, most residential sites in the region were too small to permit marriage without partners from neighboring sites, thus forming social links between communities and increasing access to productive resources. After communities increased in size after 1150, the need to interact with neighboring communities diminished and likely led to an increase in group identity and a corresponding limitation of access to productive resources exclusively to group members. Finally, based on the coexistence of extensive and intensive modes of production until the abandonment of the region by 1300, Varien hypothesizes the presence of two different and competing societies, conflict which contributed to the regional abandonment. Thus concludes a fascinating, though understated, discussion throughout this volume about the nature and origins of competition and conflict among the ancestral Pueblo societies of the Mesa Verde region.

Through the painstaking analysis of several extensive and diverse data sets at the site, local, and regional level, Mark Varien synthesizes and empirically demonstrates several models of human cultural behavior in the Mesa Verde region. First, by examining the use-lives and frequencies of different types of utilitarian vessels, he refines the method for using pottery accumulation rates to measure how long a site was occupied. Applying this methodology to a local cluster of sites and comparing the results to environmental data, Varien discerns an insignificant correlation between household mobility and environmental variation. Through his GIS analysis, Varien provides useful techniques for measuring social and geographic distance across a landscape. His use of cost-equivalent distance appears to solve the age-old problem of distance measurement in spatial analysis of pre-industrial landscapes. These models graphically demonstrate the development of conditions favoring social and agricultural intensification in a circumscribed natural

and social environment. In explaining these findings, Varien accomplishes a rare melding of agency theory as a function of subsistence and environmental limitations through his analysis of systems of land tenure and marriage rules. Thus, although focused on examining the mobility and sedentism of agriculturalists in the American Southwest, this research demonstrates methods and models applicable to many other questions, such as mobility of pre-agricultural or pre-ceramic societies, long-distance trade and exchange, development of social complexity, origins of social competition and conflict, or the reconstruction of regional systems. Varien's *Sedentism and Mobility in a Social Landscape: Mesa Verde and Beyond* should prove to be influential not only in other parts of the Southwest, but wherever archaeology at the settlement or regional-level is performed.

References

- Marcus, J. 1993. Ancient Maya Political Organization. In *Lowland Maya Civilization in the Eighth Century A. D.*, edited by J. A. Sabloff and J. S. Henderson, pp. 111-83. Dumbarton Oaks, Washington D. C.
- Varien, Mark (editor). 1999. *The Sand Canyon Archaeological Project: Site Testing, Version 1.0* [HTML Title]. Available: <http://www.crowcanyon.org/ResearchReports/SiteTesting/start.htm>. Date of use: 1 September 1999.

An Archaeological Investigation of the Central Sinai, Egypt. Edited by Frank V. Eddy, Fred Wendorf and Associates. 1999. The American Research Center in Egypt, Inc. and the University of Colorado. xxi+340 pp; 9x11, 184 figures, 38 tables, 7 appendices. \$75.00 (cloth). ISBN 0-87081-537-7.

Reviewed by Sarah L. Sterling, Department of Anthropology, University of Washington, Seattle, WA 98195, USA

An Archaeological Investigation of the Central Sinai, Egypt could be useful for the specialist and student of the archaeology of the Sinai peninsula. The volume sets out to provide a catalog of the prehistoric archaeological record of the east-central Sinai, in the face of impacts by future reclamation efforts. Given that the impetus for the project was "old style archaeological salvage," (p.16), in the face of what were and are real threats to the archaeological record, the book should be evaluated in those terms. The expediency of this project, however, suggests that some of the interpretations derived from hastily collected data might be questionable.

The work presented is a summary of the efforts of the Combined Prehistoric Expedition to the east-central Sinai in 1996. The consortium contributing to the 1996 field effort included the Institute of Archaeology and Ethnology (Polish Academy of Sciences, referred to in the volume as the Institute for the History of Material Culture, despite being long since renamed), the Geological Survey of Egypt and Southern Methodist University. The impetus for this work was primarily to preserve the prehistoric archaeological resources of the Wadi Girafi basin, which were set to be impacted by land reclamation

designed to support the growing modern population of the Sinai peninsula.

To focus their investigation, the authors' stated research strategy was to understand more about the evolution of pastoralism in this region. It is difficult to evaluate the conclusions drawn about the nature of pastoralism in the region from the data presented, however. The volume is unapologetically atheoretical. As such, it does not break new ground in archaeological explanation. Instead, the authors uncritically employ typological and chronological frameworks that have been used with some modifications for decades to describe the archaeological record of the Sinai and Levant, especially focusing on Chalcolithic (copper age) and Bronze Age occupations, roughly corresponding with the 4th – 3rd millennium BC (*e.g.* Albright 1932, 1965; Gilead 1988; Rothenberg *et al.* 1979). The combination of confessed expediency in the development of research design (p. 16) and a post hoc research question, however, render this book of little interest to the larger archaeological community.

The book is divided into three sections; survey procedures and results, excavation procedures and results, and appendices. The survey section outlines aspects of the first phase of the project, including; research methods, site locality descriptions, dating and chronology building, and statistical analysis of data. Results are then synthesized in an interpretive summary section.

The interpretive framework used to describe the survey results is derived from several sources. Dead Sea levels are used to reconstruct relative wet and dry spells, which the authors predict will be reflected also in the relative distribution of settlements during various time periods. Culture historical periods are derived from various sources; using the broadly applied Palaeolithic - Neolithic framework for earlier periods up to *circa* 9300 BP. Later chronological information is derived from a large-scale survey conducted in the same region by B. Rothenberg and associates in 1979. A combination of chronologically diagnostic indicators, including; stone tools, ceramics, architecture, and environmental context, were used to assign sites to relative time periods, despite the fact that there is some dissatisfaction with the Syro-Palestinian chronology in general and the Chalcolithic period in particular (*e.g.* Gilead 1988:399). Artifact types are borrowed from existing lithic, ceramic and architectural typologies employed in the region (pp. 114-115).

The last portion of the survey section present the authors' evaluation of collected data in terms of a series of variables designed to describe "settlement expression as it is caused by the decision-making process (p. 119)." Four research questions guide the analytical process 1) Why do people place their settlements where they do? 2) Why do they build at the scale of villages and not larger town or urban settlements? 3) What about variability in architectural complexity? 4) What impact do environmental variables have on settlement response? A chronological summary is provided in table 4-1, arranging the 75 sites in terms of relative age. Table 5-1 also provides a summary, listing where sites fall in terms of five variables; site type (*e.g.* camp, cemetery, architectural compounds, rock shelters, round houses, square enclosures, tomb site and game trap), number of components, elevation ASL, distance to nearest

water, area in square meters, number of structures and number of sherds. Preliminary artifactual and architectural findings indicate that the bulk of the sites fall within the Chalcolithic/Bronze Ages (ca 4500-2200 BC).

The excavation section describes the intensive investigation of 10 archaeological sites representing a 13.3% sample of the sites identified during survey. Sites were selected for excavation in a frankly intuitive fashion (p. 148). Given the large proportion of Chalcolithic/Bronze Age material noted during survey, the excavation phase of the project focused on ten sites in that age range (with one exception, site S-20, dating to the Middle Paleolithic). Each site is described in terms of temporal, spatial, functional and environmental findings, usually with helpful tables and illustrations. The fact that several authors contributed to the individual excavation reports, however, seems to dictate that any given figure or table will present differing amounts of information, depending on the author.

This is especially true of the presentation of faunal data, which is odd, given that the asserted research goal of this project is an investigation of the evolution of pastoralism in this region. Few faunal remains are identified to species, and tabulations of various taxa represented at each site are either not provided, or describe faunal elements in an overly general fashion, *e.g.*, "small mammal skull," or "small bird bone" (Figure 13-5, p. 215). Occasionally the species is provided, but inconsistently so. This inconsistency makes it difficult to compare relative abundances of various animal taxa across sites and time periods.

The excavation section concludes with Chapter 18, an interpretive summary. The authors' conclusion that their data represents a long-standing pastoral village tradition (p. 289), while possibly true, rings hollow in the face of the sketchily presented faunal data. It would appear that many of the assumptions about pastoralism in the region are based on the presence of architectural features the authors associate with stock-keeping. The reason for this interpretation is questionable, however, in that it seems to be based on the observation of modern Bedouin behavior. The authors use the modern day Bedouin as analogs for the behavior of prehistoric people (p. 122), yet acknowledge that the Bedouin are fairly recent arrivals to the area, having only been there since the 7th century AD (p. 10).

The last section of the book is a series of appendices reporting specific ceramic, geomorphological and archaeobotanical findings. These are of ambiguous utility. Two appendices are devoted to the geomorphology of the region in general and the prehistoric sites in particular. No appendices, however, synthesize lithic or faunal findings; two classes of data that are pertinent to the stated research goals. The archeobotanist's report contains less botanical information than the charcoal identification report (admittedly, the preservation conditions may have been poor). To evaluate the claim that the archaeological record of the east-central Sinai reflects long-standing pastoralism, however, relative frequencies of domesticated stock and botanical evidence of their subsistence, are crucial data. While such information is presented sporadically throughout the text, the lack of an index for the volume makes it difficult for the reader to find and synthesize such information into a larger picture.

Some of the problems with this book stem from the post hoc nature of the project in general. It is clear that typological decisions were made for expediency rather than for asking and answering meaningful questions about the archaeological record of the east-central Sinai. This underscores a larger problem with some archaeological classification systems, namely that they often do not measure what they set out to measure. These shortcomings have been discussed in better detail elsewhere (e.g. Adams and Adams 1991; Dunnell 1986), but as Adams and Adams (1991:312) state, “the ultimate test (of classification systems) is not whether they are true or false, but whether they work for any particular purpose.”

To properly evaluate the claim that “(the) Upper Wadi Girafi settlement data represents a pastoral village tradition which existed on the Sinai Peninsula during the Chalcolithic and Bronze Age times,” (p. 289), requires the construction of units that relate to the practice of keeping domestic stock. Changing frequencies of these units over time then provides information about the “history and evolution of pastoralism.” Using modern Bedouin behavior as an analog for the function of architectural features which may or may not have been constructed for stock-keeping, while not wrong, cannot provide information about prehistoric changes in the practice of pastoralism in the east-central Sinai, and thus doesn’t work for that purpose. I sympathize with the authors’ claim that in many cases faunal evidence was fragmentary or non-existent, but wonder at the same time why they decided to pursue this line of inquiry as a result.

Again, specialists and students in Levantine and Egyptian prehistory might find some aspects of this book useful. Conclusions drawn from this work, however, should be considered in light of archaeological materials assigned typological categories under less than ideal circumstances (p. 148). Beyond the issues raised by the study of prehistoric pastoralism, the authors were endeavoring to preserve at least the prehistoric archaeological record of the east-central Sinai. Because classification decisions are questionable, however, it is unclear with the reported results of this project reflect the actual archaeological record of the region.

References

- Adams, W. and E. Adams. 1991. *Archaeological typology and practical reality: A dialectical approach to artifact classification and sorting*. Cambridge University Press, Cambridge.
- Albright, W.F. 1932. The Chalcolithic Age in Palestine. *Bulletin of the American Schools of Oriental Research* 48: 10-13.
- Albright, W.F. 1965. Some remarks on the archaeological chronology of Palestine before about 1500 B.C. In *Chronologies in Old World Archaeology*, edited by R. W. Ehrich, pp. 47-60. University of Chicago Press, Chicago.
- Dunnell, R.C. 1986. Methodological Issues in Americanist Artifact Classification. In *Advances in Archaeological Method and Theory*, edited by M. B. Schiffer, pp. 149-207. Academic Press, New York.
- Gilead, I. 1988. The Chalcolithic Period in the Levant. *Journal of World Prehistory* 2: 397-437.
- Rothenberg, B., A. Danin, Z. Garfunkel, P. Huber, E. Klopfenstein and G. Walser (editors). 1979. *Sinai: Pharaohs, Miners, Pilgrims and Soldiers*. Joseph J. Binns, New York.

Methodology of Geophysical Research in Archaeology.

Vladimir Hasek, Archaeopress Oxford England, British Archaeological Reports 769, 1999. viii + 127 pp., 132 figures, 7 tables, 18 plates. £20.00 (paper). ISBN 0 86054 981 X.

Reviewed by John W. Weymouth, Department of Physics & Astronomy, University of Nebraska, Lincoln, NE 68588, USA

This book is the consequence of interdisciplinary cooperation among geophysical institutions of the Faculty of Science, Charles University, the University in Ostrava and archaeological institutions of the Academy of Science, Masaryk University and others in the Czech Republic. As the author states “This book, about the application of selected geophysical methods, their processing and interpretation on PC in archaeological prospection sums up, generalizes and comprehensively evaluates results of more than a twenty year-activity of authors in this field...in the Czech Republic.”

After an introduction on archaeological investigations in the Czech Republic, the section on geophysical methods covers about eight pages, processing covers about four pages, interpretation and modeling takes up some twenty seven pages, geological complications spans some 6 pages and the bulk of the coverage on results covers some 58 pages.

If the prospective reader is hoping for a clear and straightforward text on what geophysics to use on archaeological sites, how to do it and a clear explanation of examples I am afraid that the reader will be disappointed. First of all there is the problem of a non-English writer writing in English. I suspect that that is the reason why the sentences sometimes tend to be convoluted and less than clear. Second many of the explanations I think can only be best understood by archaeological geophysicists.

The section on methods covers most methods that are of value – magnetic methods, electric methods, both probe resistivity and non-probe conductivity, and ground penetrating radar. Also mentioned are seismics and gravity methods. The discussion on magnetic methods concentrates on proton magnetometers with a passing reference to the use in Austria of cesium magnetometers. There is no mention of fluxgates gradiometers so popular in England and gaining acceptance in the USA. Although the resistance discussion does not mention the Geoscan RM-15 twin-electrode array again popular in England, there are references to the Geonics EM-18 and EM-38 conductivity meters manufactured in Canada. There are several references to equipment built in the Czech Republic that are not known in the US.

In the section on processing the general layout is familiar but the details get fairly technical and are best understood by a geophysicist. Most of the processing examples use maps of ring forts or ring moats. Similarly the discussion of modeling gets quite technical. Examples are given of rods, spheres and triangular prisms and other forms simulating moats. Examples are also given for resistance profiles using various probe arrays and conductivity profiles for the EM-31 and EM-38.

There is a section on complication factors that quite correctly points out the types of interferences that can confuse the archaeological interpretation such as geological structures

and the effects of recent activity. The discussion of the affect of geological structure is good and quite necessary.

The section on field examples is quite extensive and covers Paleolithic open settlements, fortified formations, cult and sacred buildings, historic towns, burials grounds and mineral and metallurgical centers. In addition there is an example from Bavaria, Germany and one from Abussir, Egypt. There are many geophysical maps with associated interpretation, but the relations between the maps and the interpretations are frequently not clear or obvious. It would have been much better if the author had concentrated on fewer examples and developed the connections between the geophysical anomalies and the archeological interpretations more clearly.

There is an extensive list of references, the majority of them to Czech works. There is no index. At the end of the book there are some plates showing photos of some of the equipment in action as well as photo views of some of the sites

What can the reader gain from this book? The archaeological geophysicist will appreciate the results of the model calculations and will get a feeling for the kind of work done in the Czech Republic for the last 20 some years. The archaeologist should best skip the details of the methods, the data processing and model calculations and spend the time scanning the examples of work done in the Czech Republic. Detailed reading by either reader will, I think, sometimes prove frustrating because of the frequent ambiguous structure of the language.

Precolumbian Architecture in Eastern North America.

William N. Morgan. Gainesville: University Press of Florida, 1999. 272 pp. 6x9. foreword, preface, acknowledgements, illustrations, 1 appendix, bibliography, index. \$19.95 (paper). ISBN 0-8130-1659-2.

Reviewed by Thomas J. Riley, North Dakota State University

The author of this work is an architect, and it is possible that the descriptions in it will be more satisfying for architects than for archaeologists. In the Foreword, Jerald Milanich points out that Morgan designed the Florida Museum of Natural History's Dickinson Hall, and Milanich finds that the "raised platforms and mounds fronting one of the museum's plazas unites me with the architecture of an exceptional building." (p. ix) This, and the fact that Morgan and Ripley Bullen, former Director of the Museum, were friends, go far to explain the book's publication by the University Press of Florida.

The book begins with the notion that Pre-Columbian architecture reflects the cultural patterns found in societies that have monumental architecture and then speaks to the varieties of elements important to architecture - order, mass, structure, siting and environment, etc. At the beginning, Morgan states that we should see real similarities and differences in Native American architecture that should reflect other motifs within their societies. He cites Erwin Panofsky's thesis of natural, conventional and intrinsic "meaning", and opines that "intrinsic

meaning" allows us to begin to see "essential tendencies" of Precolumbian architecture at different places and times. I think he is saying that we should be able to identify similarities and differences of meaning across time and space, although we cannot discern what the conventional meaning of the architecture might have been to the society that authored it. "Natural meaning" is an expression of nature, according to Morgan, in the way that we may safely posit that a mound represents a hill in the cosmology of people even if we don't substantively understand much of the cosmology itself.

After laying out this framework, and describing a series of design motifs from both Early and Middle Woodland sites and from Mississippian and Caddoan sites, Morgan proceeds to describe in the body of the work a series of mounds from around the eastern part of North America. These descriptions are at least roughly described chronologically, with Period 1 representing circa 4000-1000 BC, Period 2 from 500 BC to AD500, and Period 3, AD 800-1500.

The remainder of the volume describes many of the well reported sites with visible landscape features from the different periods and from different parts of the country. These centers range from the Archaic shell rings of the Southeastern coasts and the early mound centers at Watson Brakes and the geometric earthwork and mounds at Poverty Point, through later Adena and Hopewell Centers and contemporaneous sites in Florida and the southeast, through to Mississippian and Caddoan centers that span the time from A.D. 800 to the last few centuries when French and Spanish explorers found them being used in the Lower Mississippi River Basin. It is pleasing to see the different mound centers reconstructed and pictured so wonderfully in Morgan's volume. His reconstructions are often abstractions from the known data, but they present a vivid portrait of the mound centers that are described in his book.

Since some of these mound centers are relatively poorly known, it would have been useful to describe them in more detail. Some of Morgan's descriptions adequately ascribe dates to sites, while others do not. In some instances, the reader is given adequate bibliographic detail, while in others this is not the case. The result is less than satisfying for the archaeologist, although the rich abstracted detail of the book's drawings will be appreciated by archaeologist and architect alike.

I will not quibble with the details of Morgan's descriptions, except to say that there are some errors, such as the description of Hopewell copper artifacts overlaid "with iron and gold", but these are minor and do not detract from the value of the book.

I was disappointed, however, by the lack of conclusion following the careful descriptions in the volume. After an unnecessary appendix describing "comparable" architectural wonders such as St. Peter's Basilica in Rome, the Vieux Carre in New Orleans and the White House in Washington, Morgan attempts a conclusion to the volume.

My expectation that he would follow through on his promise to separate the various mound building periods from one another using Panofsky's model of meaning was not met. Instead Morgan tells us that the functions of mounds and structures were different from one time to another and across societies,

and speculates that Native Americans created high places on featureless plains, which is not the case today. For this reader, the puzzling appendix and the lack of conclusions marred what was otherwise a very interesting and useful volume. I would recommend it for a visual reference and for the completion of a series on the architecture of Eastern North America, but not for its great insight on the similarities and differences of that architecture.

L'archéologie sous la loupe. Contributions à l'archéométrie. Edited by Jean-François Moreau, *Recherches amérindiennes au Québec*, Montréal, 1999. Paléo-Québec 29. ISBN 2-920366-27-0.

This collection of archeometric essays applies methods including relative dating, neutron activation analysis, optical and electron microscopy, petrography, X-ray diffraction and fluorescence to a wide range of studies in both Old and New Worlds. All articles are in French, with English abstracts: "De la curiosité médicale aux petits maux de tous les jours: le parcours du simple au complexe de la paléopathologie" (R. Larocque); "Variabilité chimique des cherts de la vallée du Saint-Laurent à l'aide de l'analyse par activation neutronique" (C. Chapdelaine & G. Kennedy); "Une analyse au microscope électronique à balayage des pointes triangulaires de Pointe-du-Buisson: caractérisation géochimique et variabilité du cortège de minéraux lourds" (R. Marquie & A. Morin); "Des vases et des gens: interprétations technologiques d'analyses céramiques" (G. Eygun); "La caractérisation céramique en archéologie: pétrographie, fluorescence de rayons X et microscopie électronique à balayage: (I. Druc); "D'où vient la poterie Vinette 1 trouvée au Québec méridional?" (N. Clermont, C. Chapdelaine & G. Kennedy); "L'anatomie d'un chaudron" (J.-F. Moreau & R.G.V. Hancock); and "Retour sur l'analyse d'objets en cuivre de l'Abitibi-Témiscamingue" (J.-F. Moreau).

Meetings Calendar

Susan Mulholland, Associate Editor

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

2000

- * Aug. 21-25. 3rd International Meeting on Phytolith Research. Belgium. Man and (Palaeo) Environment: The Phytolith Evidence. L. Vrydaghs, Lab of Wood Biology and Xylarium, ch. De Louvain, 13, RMCA, B-3080 Tervuren, Belgium; tel: 32-2-769-56-12; fax: 32-2-769-42-02; email: mphytor@africamuseum.be.
- * Aug. 22-27. AQQUA Congress and GCRG/CGRG Annual Meeting. Montreal, Quebec, Canada.

- * Aug 29-Sept. 3. Field Symposium on Quaternary Geology in Denmark. University of Aarhus, Denmark. Jan Piotrowski, Dept. Of Earth Sciences, University of Aarhus, C.F. Mxllers Alle 120, DK-8000 Erhus C, Denmark; tel: 45-89-42-2555; fax: 45-86-13-9248; email: jan.piotrowski@geo.aau.dk.
- * Sept. 10-17. 6th Annual Meeting of the European Association of Archaeologists. Lisbon, Portugal. Sessions include: Archaeological Soil Science; Bioarchaeology in Iberia; Metals and Society. EAA 2000 Meeting Secretariat, Instituto Portugues de Arqueologia, Avenida da India 136, 1300-300 Lisboa, Portugal. Tel 351 21 3616500; fax 351 21 3616559; email eaa2000@ipa.min-cultura.pt; web http://www.ipa.min-cultura.pt/ea2000
- * Sept. 14-15. Royal Numismatic Society - British Museum. Counterfeiting: Ancient and Modern. The Society of Antiquaries, Piccadilly, London. Proceedings will be published by the Royal Numismatic Society in its series 'Metallurgy in Numismatics' as MIN5. For further information: email: m.cowell@thebritishmuseum.ac.uk; web: http://www.mcowell.flyer.co.uk
- * Oct. 25-29. Cold Spring Harbor Laboratory Millennium Meeting, Human Origins & Disease. Cold Spring Harbor Laboratory, meetings & Courses Programs, 1 Bungtown Road, Cold Spring Harbor, NY 11724-2213. Tel 516-367-8346; fax 516-367-8845; email meetings@cshl.org; web: http://www.cshl.org/meetings
- * Nov. 15-18. American Schools of Oriental Research, Annual Meeting. Nashville, Tennessee, USA. Section: New Discoveries from Materials Science in the Archaeology of the Near East. Elizabeth Friedman, 1369 E. Hyde Park Blvd., Apt. 1001, Chicago, Illinois, 60615, USA; tel: 773-324-4813; email: esf1@midway.uchicago.edu.

2001

- * Jan. 10-13. Annual Meeting of the Society for Historical Archaeology, Long Beach, California. Sessions include: Scientific Tools and Techniques in Historical Archaeology, organized by Timothy Scarlett, University of Nevada, Reno, Department of Anthropology / 096, Reno, NV 89557-0096. Email: scarlett@unr.edu, scarlett@xmission.com
- * Feb. 5-9. Australasian Archaeometry Conference. Auckland, New Zealand. Peter Sheppard, Department of Anthropology, University of Auckland, Private Bag 92019, Auckland, New Zealand; tel 64-9-373-7599x8572; email: p.sheppard@auckland.ac.nz; web: http://car.ant.auckland.ac.nz/archconf/arch_feedback.html.
- * March 4-9. PITTCON 2001, New Orleans, Louisiana. More than 2500 papers and posters, and 1200 exhibitors, on analytical chemistry, spectroscopy, and associated disciplines. The Pittsburgh Conference, 300 Penn Center Blvd., Suite 332, Pittsburgh, PA 15235-5503 USA. Tel 412-825-3220; fax 412-825-3224; email: expo@pittcon.org
- * Sept. 18-22. PAGES PEPIII Conference. Aix-en-Provence, France. Catherine Stickley, Environmental Change Research Centre, University College London, 26 Bedford Way, London, WC1H 0AP, UK; tel: 44-0-20-7679-5562; fax: 44-0-20-7387-7565; email: c.stickley@ucl.ac.uk; web: www.geog.ucl.ac.uk/ecrc/pep3.

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