"Thus far in archaeology GIS databases are generally constructed after fieldwork is completed. There are multiple drawbacks to this approach to GIS construction. Efficiency is lost in the post-fieldwork paper-to-digital transformation, and there is a potential for the introduction of error. Real-time digital data collection avoids these two problems."
In a recently published letter to the editor of the *SAA Bulletin*, Lynne Sebastian responded to our article, "Archaeology as a Way of Life: Advice from the Sages" [1999, 17(4):26], writing that she was "disheartened to discover that, of the 21 'sages' consulted, only one was from outside the university/museum/research institution academic axis," and that she was "stunned that no private sector archaeologists were included in the piece." We would like to point out that, in addition to the 23 individuals surveyed from the "academic axis," 21 cultural resource management firms (from Arizona, Colorado, Connecticut, and New Mexico) also were contacted, along with 12 individuals from the National Park Service and Forest Service. We are disheartened to report that not a single individual from the CRM field responded to the survey.

The Student Affairs Committee is aware of the importance that CRM holds for the discipline and for students as future career options. Every effort is made to include CRM perspectives in what we do for students. This commitment is celebrated in a recent Student Affairs article by Samantha Ruscavage-Barz, "Getting Your First Job in Cultural Resource Management: A Practical Guide for Students" [*SAA Bulletin*, 1997, 15(2):7], as well as in a recent workshop on career preparation for CRM employment that we sponsored at the SAA Annual Meeting. We hope that professional archaeologists working in the private sector realize our firm commitment to making students aware of the stimulating and rewarding careers to be found in CRM, and that more individuals from the CRM field will participate in our future efforts to do so.

Christian Wells
Student Affairs Committee

Jane Baxter, Chair
Caryn Berg
Gordon Rakita
Heather VanWormer
Victoria Vargas
Douglas Pippin
Michelle Woodward

I write in reference to the September issue of the *SAA Bulletin*, which contained a report on the proliferation of archaeology magazines by A’ndrea Elyse Messer [1999, 17(4):13]. While the two paragraphs on *Archaeology Magazine* are welcome publicity, I have to take exception to several statements by Ms. Messer. She is correct in stating that "the overall content has not changed much." *Archaeology* remains committed to covering archaeological news worldwide. She is mistaken, however, in thinking that there is "a penchant for Old World Mediterranean and northern European prehistory and history." One only has to glance through the past six issues of our magazine to see that our coverage has indeed been worldwide in scope, particularly our 50th anniversary series of articles that reported five decades of archaeological advances in regions of the globe as diverse as Africa, China, North and South America, Mesoamerica, the South Pacific, Northern Europe, and the Near East. Her comment that "the emphasis remains on art and architecture" ignores a substantial amount of reporting on subjects such as experimental archaeology and remote sensing, not to mention our recent summary of 50 years of technological progress.
In sum, we are happy to have received the notice in the *Bulletin*. However, we wish Ms. Messer had spent more time with our magazine.

Peter A. Young  
*Archaeology Magazine*  
Editor in Chief
Archaeopolitics

Martin McAllister

ARPA Celebrates 20th Anniversary

October 31, 1999, marked the 20th anniversary of the enactment of the Archaeological Resources Protection Act of 1979 (ARPA). This anniversary merits recognition by the archaeological community because of ARPA's 20 years of service as the primary tool to protect archaeological resources on federal and Indian lands from losses due to looting and vandalism.

ARPA (P.L. 96-95; 16 U.S.C. 470 aamm) prohibits unauthorized damage or removal of archaeological resources located on federal or Indian lands and provides for felony penalties for serious violations and repeat offenders. It also prohibits trafficking of archaeological resources obtained illegally from federal or Indian lands, allows for the assessment of civil penalties against violators, and provides for the forfeiture of all archaeological resources, vehicles, and equipment involved in violations. In addition, ARPA extends some protection to archaeological resources on non-federal lands by prohibiting interstate or foreign commerce of these resources when they were obtained or trafficked in violation of state or local law.

The need for this statute became apparent after the American Antiquities Act of 1906 was ruled unconstitutionally vague in the Ninth Judicial Circuit as a result of a 1973 case in Arizona and a 1977 case in the same state rendered the federal theft or injury of government property statutes unusable for archaeological violations (the latter ruling was later overturned). These two rulings left archaeological sites in the West virtually unprotected from looting and vandalism. Also by the late 1970s, the penalties of the 1906 act were no longer an effective deterrent to archaeological resource crime. To remedy this situation, the Society for American Archaeology worked with the Department of the Interior, representatives of other federal agencies, and members of Congress to draft a new act to protect archaeological resources and ARPA was signed into law by President Jimmy Carter on October 31, 1979.

Subsequent developments also were important in shaping ARPA as it is utilized today. In 1984, the ARPA Uniform Regulations were adopted. These regulations establish important provisions for the implementation of ARPA, such as the procedures for determining the cost and value figures required for criminal and civil penalties under the act. In 1988, ARPA was amended to modify certain existing provisions of the act (P.L. 100-588) and add one new section (P.L. 100555). The most important aspect of the amendment of ARPA from a protection standpoint was the reduction of the act's felony vs. misdemeanor threshold from $5,000 to $500, which has allowed more felony prosecutions for archaeological violations. (There had been only one felony conviction under ARPA in a jury trial prior to 1988.)

The amended ARPA statute has not solved the archaeological resource crime problem, but it has had a significant impact on the activities of looters and vandals. Based on figures provided by the National Park Service, it is projected that there have been over 200 convictions under ARPA since 1988. This is in sharp contrast with the period between 1906 and 1979 when there were only 18 convictions under the Antiquities Act. With 37 convictions under ARPA since 1992, including the 1995 case in which a long-time commercial looter was sentenced to federal prison for 5 years and the 1997 case resulting in felony convictions for 10 defendants,
archaeological protection efforts in Utah provide a good example of what can be accomplished when ARPA is aggressively enforced.

Despite our successes with ARPA in the 1980s and 1990s, archaeological resource protection faces a number of significant challenges as we move into the new millennium. Among these are:

- the continued high rate of looting and vandalism of archaeological resources;
- the ever-increasing dollar value of certain categories of prehistoric and historic artifacts;
- the need to prosecute more dealers and collectors who are the root cause of the looting problem;

- the lack of adequate law enforcement resources to effectively combat the problem;

- the lack of support for archaeological resource protection efforts from some segments of the public, some land managers, and, unfortunately, some members of the archaeological community;

- the recent and now formally published judicial challenge to the critical concept of archaeological value in ARPA prosecutions [see Archaeopolitics, *SAA Bulletin* 1998, 17 (2): 4]; and

- the need to better involve tribes in archaeological resource protection efforts on both federal and Indian lands.

The 20th anniversary of the enactment of ARPA should be honored by all members of the Society for American Archaeology as an important opportunity to rededicate and expand our archaeological resource protection efforts so that these challenges can be overcome. If we do not meet these challenges, the cultural heritage of the United States will continue to suffer and future generations of archaeologists will not have the opportunity to know the archaeological record of this country as we know it today.

Martin McAllister is chair of SAA's Task Force on Archaeological Law Enforcement and owner/archaeologist of Archaeological Resource Investigations, in Montana.
In Brief . . .

Tobi Brimsek

Interested in Washington Politics? . . . Starting in January 2000, SAA's Government Affairs program will be introducing a new member service in the form of a monthly email update/newsletter on Washington politics. The update will provide timely information regarding legislative and administrative issues pertaining to archaeology currently being debated in our nation's capital as well as upcoming Congressional hearings. If you would like to subscribe to this email update, send a message to donald_craib@saa.org and ask to be signed up.

Check Those Mailboxes . . . On December 27, 1999, the preliminary program for SAA's 65th Annual Meeting in Philadelphia, Pennsylvania, was mailed out via third-class mail. The program also was posted on SAAweb. We hope to see you in Philadelphia!

Speaking of Philadelphia . . . Remember that the 65th Annual Meeting of the Society for American Archaeology will be at the Philadelphia Marriott, 1201 Market St., Philadelphia, PA 19107 in the heart of the City of Brotherly Love. Rates are $139/single; $148/double; additional person $20. A limited number of rooms has been blocked for government attendees at the government rate of $113/single (at the time this issue went to press there were still government rate rooms available!). Government guests must present a government ID to qualify for this rate. Reservations can be made by calling 1 (800) 320-5744.

Remember, if you register for a room at the Philadelphia Marriott by February 1, 2000, your name will be entered into an SAA drawing for a terrific prize: a two-year membership in SAA! Call the Marriott, tel: 1 (800) 320-5744, tell them you are attending the Society for American Archaeology meeting, and make your room reservation today!

And for Students . . . SAA has arranged a student accommodation and rate at the Holiday Inn Express Midtown, 1305-11 Walnut St., Philadelphia, PA 19107, for the Annual Meeting. The block of rooms at the Holiday Inn is for students only, and a student ID will be required at the time the reservations are made. The rate is $103/single and $108/double/triple/quad and includes a continental breakfast from the hotel's breakfast bar. For reservations at the Holiday Inn Express Midtown, call (215) 735-9300 ext. 7507; fax: 1 (215) 732-2593, or email: midtown@erols.com.

Latin American Antiquity - A Cumulative Index . . . Now available on SAAweb is a cumulative index from inception, Volume 1, 1990, through Volume 10: 4, 1999. This index was compiled by Katharina J. Schreiber. In addition to the Web version of this index, hard copies are available for sale as well. The cost is $6.95 each for SAA members and $8.95 for nonmembers. Shipping and handling is $5 for the first item and $.50 for each additional item in the order. To place an order or if you have any questions, contact Carlean Ponder, Coordinator, Membership Services, at (202) 789-8200, email carlean_ponder@saa.org, or write Carlean at the Society office.

E-Payment Meets SAA . . . We are in the process of implementing credit card payments via SAAweb. The first application will be meeting registration via the Web. We also will be debuting Web payments for meeting balances due. This is only the beginning! We will then expand Web payments to other areas such as publications, SAAgear, and beyond . . .

Current Research on SAAweb . . . If you haven't visited SAAweb lately, you may not have noticed the updates to the section devoted to current research. There is a concerted effort underway to provide new material for this important tool.
Preview of the Exhibit Hall? . . . For the first time, get a preview of the exhibit hall from the 65th Annual Meeting in Philadelphia. How? Visit SAA's website and click on each exhibitor's website. Check out the meetings side of SAAweb.

Notice the Theme? . . . SAAweb is changing, expanding, and becoming a key resource for the Society. You will be observing additional enhancements to the web including some reorganization to facilitate navigation of the site. Don't forget the SAA members-only side of SAAweb which has an up-to-date member directory for your convenience.

Staff Will Be Expanding . . . SAA's Board of Directors has authorized a new staff position as of January 3, 2000—a part-time manager, Education and Outreach. Gail William Brown has been hired for this position and will begin work on January 10. In addition, SAA will be hiring a Public Relations intern for both the winter and spring semesters. This internship will enable the Society to enhance the Public Relations program now in place. Each of these positions will assist SAA in building stronger programs and member services.

Coming Soon from SAA Publications . . .

- *The George C. Davis Site, Cherokee County, Texas*, by H. Perry Newell and Alex D. Krieger (SAA Memoir No. 5). Reprint, with a new introduction by Dee Ann Story. Price: To be determined.
- *History Beneath the Sea: Nautical Archaeology in the Classroom*. Edited by KC Smith and Amy Douglass. Practical lessons and information are included in this booklet for elementary- and secondary-level educators who wish to teach history, social studies, and science through the exciting medium of underwater archaeology. ISBN: 0-932839-17-7. Price: $6.95 SAA members, $8.95 nonmembers ($5 s/h).
- *Teaching Archaeology in the Twenty-First Century*. Edited by Susan J. Bender and George S. Smith. This book discusses student preparation in the changing and multifaceted profession of archaeology and the curriculum reform needed at the undergraduate, graduate, and postgraduate levels. ISBN: 0-932839-15-0. Will be mailed to all SAA members when published.

Tobi Brimsek is executive director of the Society for American Archaeology.
The FY2000 Budget:
New Challenges, New Priorities

Jeffrey H. Altschul

At its fall meeting, the SAA Board of Directors passed a budget for fiscal year (FY) 2000. As with all budgets, this one acts as a guide for the executive director, the treasurer, and the Board to track the Society's fiscal progress. There is nothing sacrosanct about the budget; we make it using our best guesses about what the future holds for membership, the size of the Annual Meeting, and other factors affecting SAA finances. These change throughout the year and the budget provides the framework for reacting to these changes.

The FY2000 budget marks a major departure in how the Board approached the budgeting process. Our priorities switched from funding long-term reserve to increasing member services. Some existing programs have received increased funding; new initiatives are being launched. Before I discuss these changes and their impact on the FY2000 budget, a little history is in order.

At the beginning of FY1997, the Society was in a precarious financial position. Our long-term reserves had dwindled to around $80,000, or 8 percent of our operating budget. Although it may seem like a lot of money, a rule of thumb for associations is that long-term reserves should be no less than 30 percent, and ideally, an organization should have around 100 percent of its annual operating budget in reserve. In response, the board passed a policy that SAA reserves must be at or above 30 percent of our operating budget. We set in motion a 5-year plan to achieve this goal that focused first on fiscal restraint and second on initiating new revenue streams.

The plan worked much faster than we anticipated, largely due to the diligence of the executive director and the SAA staff. Financially, FY1998 and FY1999 were spectacular. Our surplus in 1998 exceeded $200,000. Although 1999 is not over, we anticipate a surplus between $100,000 and $150,000. The FY1999 budget's operating expenses were set at about $1.1 million, leaving us a target for long-term reserves of about $330,000. By April 2000, we will reach this target.

Success came at a cost. Funding for most member services remained flat. Critical programs such as publications, education, and public relations were not supported at desired levels. Staff positions were difficult to fill, and volunteers from the membership had to pick up the slack.

Reversing these trends has now become a major priority. We do so, however, cognizant of our recent financial past. Key FY2000 budget assumptions are:

- **Membership** - We are projecting membership to stay at about 6,500 members. A stable membership base coupled with a modest dues increase ($5) should allow membership revenues to increase substantially.
- **Annual Meeting** - Our budget is based on approximately 3,000 members attending our Annual Meeting in Philadelphia, or about the same number that attended the 1999 Annual Meeting in Chicago.
- **Monograph Series** - The SAA monograph series will publish two to three volumes in 2000. Although we are not anticipating that sales will have a great impact on the FY2000 budget, we expect that this revenue stream will increase dramatically in the next few years.
- **Staff Positions** - SAA will create the staff position of manager, Education and Outreach. Unlike previous education positions that were funded through grants and third-party money, the Manager, Education, and Outreach, will be funded entirely by SAA. For FY2000, we have budgeted for a half-time position.

- **Intern Program** - The SAA Washington office will hire one or more interns in the area of public relations to help with the Annual Meeting, annual report, and news releases throughout the year.

- **Technology Fund** - Within the next 3 to 5 years, SAA will have to invest in hardware and software for the Washington office. These expenditures are anticipated to be on the order of $60,000. To ensure that we have sufficient capital to make these expenditures, a technology fund was created and an initial investment of $10,000 was set aside.

Based on these assumptions, the FY2000 budget was developed. Although the document is more than 100 pages, it can be broken down into its key components as follows:

<table>
<thead>
<tr>
<th>Budget Category</th>
<th>Gain/(loss)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>(60,393)</td>
</tr>
<tr>
<td>Member Program and Services</td>
<td>(12,138)</td>
</tr>
<tr>
<td>Public Programs and Services</td>
<td>(155,789)</td>
</tr>
<tr>
<td>Publications</td>
<td>(70,780)</td>
</tr>
<tr>
<td>Meetings</td>
<td>59,736</td>
</tr>
<tr>
<td>Awards</td>
<td>(2,429)</td>
</tr>
<tr>
<td>Membership</td>
<td>399,753</td>
</tr>
<tr>
<td>Organization and Administration</td>
<td>(131,681)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26,279</strong></td>
</tr>
</tbody>
</table>

Even in this summary fashion, it is clear that we are relying on membership dues and a good Annual Meeting to pay for all other services. In this respect, the FY2000 budget is no different than previous ones. Unlike previous years, however, we are not trying to create a large surplus. Although we have budgeted to meet the 2 percent Board-mandated surplus and to place this amount in long-term reserves, our focus in FY2000 is squarely on improving member services. We have worked hard and long to get to this position, and we must remain ever diligent to remain here.

From The President

At the fall Board meeting in November 1999, the budget for the coming year was approved and, by that time, the year-end financial position of the Society could be estimated with some confidence. I am pleased to report that by April 2000, SAA's reserves will have been restored to the target level of 30 percent of the annual operating budget [SAA Bulletin 1998, 16(5): 6]. This is a major accomplishment that has been achieved through superb management of the Society's operations by Executive Director Tobi Brimsek, great dedication by SAA staff working on very tight budgets, and with keen oversight by Treasurers Robert L. Bettinger and Jeffrey H. Altschul.

During the 3 years of rebuilding reserves, the Society was unable to fund major new initiatives. However, the budget approved for this year includes new funding for a half-time manager, Education and Outreach. This represents SAA's first commitment of permanent staff funding for public education. Gail William Brown has recently been hired. This is an exciting new initiative that should substantially enhance the effectiveness of our public education program. Brown will work closely with the Public Education Committee to accomplish key Society goals in public education.

Looking down the road, starting in January 2001, SAA Bulletin will be replaced by a longer, full-color magazine, The Professional Archaeologist. Like SAA Bulletin, The Professional Archaeologist will appear five times a year and will combine reports on current events with regular columns, information on SAA business, opinions, and articles. This change is made in recognition of the development and growth of SAA Bulletin, its useful mix of temporal and lasting content, and its importance to the membership. Current SAA Bulletin editor Mark Aldenderfer will launch this new publication and a new editor (for whom a search is just commencing) will take over in June 2001.

The eight months that I have been SAA president have been both rewarding and sometimes, exhausting. To provide insight into some of the Society's external activities, I will discuss some of the SAA actions in which I have been involved.

Repatriation issues have been a priority. In April, I presented SAA testimony to the Senate Committee on Indian Affairs' oversight hearing on the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA) [see SAA Bulletin 1999 17(5): 4]. My presentation on SAA's role in the development of national public policy on repatriation was the opening paper in the Clovis and Beyond Conference in Santa Fe in October 1999.

Since January 1998, either the SAA president or president-elect has represented SAA at all NAGPRA Review Committee meetings and has presented brief remarks at each meeting. Based on comments from Review Committee members and others in attendance, it is clear that SAA's presence is important in speaking for a balance of scientific interests with tribal concerns.

Last spring, SAA sent letters to Secretary of the Interior Bruce Babbitt regarding the frequent abuse of the NAGPRA's legal standard for "cultural affiliation" in making repatriation decisions and regarding the desirability of granting extensions for the completion of NAGPRA inventories to those museums that have made good-faith efforts to comply with the law. SAA also provided extensive written comments to the NAGPRA Review Committee on their Draft Principles of Agreement Regarding Culturally Unidentifiable Human Remains (these comments appear on SAAweb).

In June, accompanied by a delegation of SAA members and staff, I presented the SAA's 1999 Public Service Award to Secretary Babbitt [SAA Bulletin 1999, 17(4):4]. We spent a considerable amount of time...
with the Secretary, and discussed concerns about the decline in cultural resource positions within the federal government, problems with the public interpretation of archaeology by NPS and other Interior agencies, the "gray" literature, and repatriation issues (including increased funding for NAGPRA coordination, the location of the NAGPRA coordination function within Interior, and the importance of maintaining NAGPRA's balance between the legitimate interests of tribes and the interests of science and the broader public).

At that meeting, the Secretary asked for SAA's help in obtaining a special designation for Perry Mesa, Arizona. He seeks this designation (such as National Monument status) in order to enhance the preservation and public interpretation of the outstanding and well-preserved cultural resources in this 100+ square-mile area. In response, I worked with the Secretary's office and the BLM on this plan, introduced the Secretary at two public appearances in Arizona to promote this initiative, and talked extensively with the press and Arizona's Congressional delegation about the importance of the archaeological resources and the benefits of National Monument status. This effort is ongoing.

In April, I was alerted to the fact that Wal-Mart was about to break ground on a parcel directly across the street from Casa Grande Ruins National Monument (in Arizona) in an area known to have intact cultural resources. The SAA Board took the position that Wal-Mart should either move the store to another location or implement a full program of testing and mitigation, even if not required by law. Our quick action (also endorsed by the Arizona Archaeological Council) and subsequent concerns expressed by several Arizona tribes, caused Wal-Mart to suspend the project. During the summer, Wal-Mart funded a full testing program that located significant cultural resources but revealed that a store could be located on the parcel in such a way that it would not disturb cultural resources. Wal-Mart agreed to relocate the store accordingly and to appropriate treatment of any resources disturbed during construction. However, the ultimate disposition of the portions of the parcel that contain significant cultural resources is still a subject of discussion.

The direct benefits of SAA membership, such as *SAA Bulletin*, the journals, and the Annual Meeting, are evident. From my own recent experience, I have tried to illustrate a few of the less obvious efforts that SAA undertakes for American archaeology. Of course, there are many other valuable initiatives that have been undertaken by SAA committees with the assistance of the SAA professional staff. I want to thank you for your continuing support of all these activities through your membership in SAA, with special appreciation to those who have generously contributed to SAA's Annual Giving campaign.

If you have any comments, please contact me at kintigh@asu.edu.

Keith Kintigh
The Board met in the beautiful city of Montreal, Canada from November 5-7, 1999. Surprisingly, the meals were not the highlight of the trip (although there are many excellent, affordable restaurants). Instead the highlights are the new initiatives that make these exciting times for SAA members.

All members should be aware of our mission statement, which was modified in response to comments from various committees (presented below).

Because education and outreach are central to our mission, the Board approved a new staff position for the Society. The half-time position of manager, Education and Outreach, will begin in 2000. (SAA is doing well financially, but not quite well enough to fund a full-time position. Members will remember that the former staff position was funded entirely through soft money. When the money ran out, so did the position. We don't want to be in such an unfortunate situation again).

SAA will pay the expenses of a press officer in Philadelphia. In addition, staff will seek to employ a Public Relations intern each semester to help the Society with its public relations needs.

The Board established the position of editor of SAA Monographs who will coordinate the acquisitions, review, and acceptance of all SAA monographs. The Ethics in American Archaeology volume is in the process of being updated and reissued. A compilation of "Working Together" columns from the SAA Bulletin is in progress, as is the first reprint of a classic monograph. Also, be sure to look for the first publication in the Teaching with Archaeology series from the Public Education Committee, which is inaugurated with History Beneath the Sea: Nautical Archaeology in the Classroom.

The Board approved a proposal by the Committee on Native American Relations to organize a pilot workshop for Archaeologists and Native Americans to discuss issues of common concern outside of the issues of NAGPRA, repatriation, and 106 compliance. The pilot workshop will take place in the Southwest.

The Board looked closely at awards and the Society's committee structure, seeking to streamline and improve operations. We streamlined by combining some existing awards (effective after the 2000 Annual Meeting) into single awards whose focus will rotate annually. We also incorporated two proposed Lifetime Achievement awards and the existing Distinguished Service Award into a single Lifetime Achievement Award. We will implement a new process of giving awards at the Annual Business Meeting that should shorten the meeting and provide better publicity for award recipients. Check it out in Philadelphia and see if you agree.

We disbanded the History of Archaeology Committee (the committee's records curation function has gone to the Curation Committee, established at our last meeting in Chicago). The Board feels that a History of Archaeology Interest Group would better serve the membership and hopes that one is proposed. We approved the formation of a Public Archaeology Interest Group.

The Board discussed strategic planning, ways to improve member services through publications and workshop opportunities at the meeting, and ways to encourage new memberships.

The Board selected Montreal as the meeting site for the 2004 Annual Meeting. The city will offer an exciting venue for SAA. In addition to a new convention center, there are a number of interesting museums, including an innovative, high-tech museum of archaeology.
Please look for further information on current SAA initiatives in the president's report (p. 7) and the treasurer's report (p. 6) in this issue.

**SAA Mission Statement**

The mission of the Society for American Archaeology is to expand understanding and appreciation of humanity's past as achieved through systematic investigation of the archaeological record. The Society leads the archaeological community by promoting research, understanding of the practice of archaeology, stewardship of archaeological resources, and dissemination of knowledge. To serve the public interest, SAA seeks the widest possible engagement with all segments of society, including governments, educators, and indigenous peoples, in advancing knowledge and enhancing awareness of the past.

Barbara Little, secretary of SAA, is with the National Park Service.
The Philadelphia Story

Anthony J. Ranere

Arriving in Philadelphia early? Staying late? Need a break from the terminally serious session presentations? There are many things in Philadelphia to tempt you to go beyond the convention hotel.

History - The area around Independence Hall actually lives up to its billing as the country's "most historic square mile." (Begin with this website, www.nps.gov/inde/exindex.htm, for an official guide to the area or try www.ushistory.org/tour/ for a virtual tour of historic Philadelphia.) Independence Hall itself is worth a visit but there are many other attractions beyond the hall and the Liberty Bell. My favorite is Franklin Court, where you can stand underneath a steel skeletal structure which outlines Benjamin Franklin's house and peer through portals at the archaeologically exposed portions of the house underneath. You also can go underground to visit a museum with some interesting exhibits centered around Benjamin Franklin's life. Another favorite is the American Philosophical Society Library (www.amphilsoc.org/library.htm) which counts among its seven million manuscripts the original 1804-1806 journals of Lewis and Clark. The three-block Independence Mall is getting a serious make-over with the construction of the new National Constitution Center, Independence Mall visitor center, and Liberty Bell pavilion. Preconstruction archaeological fieldwork may well be in progress at the time of the Annual Meeting so walk down Market Street to 6th Street to have a look. For the inside story on the archaeology of historic Philadelphia, look for the self-guided tour pamphlet prepared by the Philadelphia Archaeological Forum especially for the SAA Annual Meeting.

Museums - Many of you will end up visiting the University of Pennsylvania's Museum of Archaeology and Anthropology (www.upenn.edu/museum/) with its spectacular permanent galleries and always engaging special exhibits. Some will want to see at least some of the 200 galleries in the Philadelphia Museum of Art (free admission Sunday mornings). Other obvious museum destinations include those of the Academy of Natural Sciences, the Franklin Institute, the Pennsylvania Academy of the Fine Arts, and Atwater Kent. Philadelphia also has museums for just about any subject imaginable: the African-American Museum, the American Indian Cultural Center of the Delaware Valley, the National Museum of American Jewish History, the Balch Institute for Ethnic Studies, the Polish American Cultural Center, the American Swedish Museum, and the American Swedish Institute. For the more adventuresome, Philadelphia offers the Western State Penitentiary Museum, the Mutter Museum (described as "An astonishing and bizarre collection of pathological and medical artifacts. Not for the squeamish"), and Wagner Free Institute of Science, where most exhibits have remained unchanged for over a century and include archaeological collections made by the indefatigable C. B. Moore.

Food and Drink - Not all SAA meeting goers have the time or inclination for sightseeing but we all have to eat and most of us drink. You need look no further than the Reading Terminal Market (www.readingterminalmarket.org/), just up the street from the conference hotel, for daytime dining, snacking, and drinking. For more than a century, this market has been serving Philadelphians with high-quality produce of all kinds. With 26 restaurants/cafes, 8 bakeries, coffee, tea and juice bars, a beer garden, and other specialty food shops, you don't really have to go beyond the Reading Terminal Market during the daylight hours. The Amish run a number of stalls in the market; their hot, soft pretzels made on the spot are not to be missed. Check out the restaurant guide included in your registration packet for the best places in town to eat and drink, or if you want to plan ahead, check philadelphia.com/dining/dining.html and/or any of the dozen or so Web sites which any search engine will locate on area restaurants. If fine dining is your passion, you owe yourself a visit to chef-owner Georges Perrier's perennial 5-star restaurant, Le Bec-Fin. You should call now to make a reservation [(215) 567-1000]. Elegant dining is also available at Brasserie Perrier, the Striped Bass, the Fountain at the Four Seasons, Circa, or Ciboulette. Also rated "best in class" (but a different class) are Pat's and Gino's (next door to each other at Passyunk and 9th Street), and Jim's (on South Street) for a Philadelphia cheese steak sandwich.
Here's a short list of brew pubs and just pubs worthy of a visit: Charlie's Pub (short on ambience but long on beer selection), Dock Street Brewing Company (several beers brewed on premises), John Patrick's Ale House (plenty of good microbrews on tap), Manayunk Brewery & Restaurant (fresh beer brewed daily), Sugar Mom's (good microbrews and subterranean ambience), Fergie's Pub (hands-down, the best Irish pub in the city). For serious drinkers on a low budget there's McGlinchey's Bar & Grill and, conveniently next door, the Copa Too.

**Nightlife** - Want to check out the Philly club scene, take in a show, hear the Philadelphia Orchestra, or just see a movie? Pick up a free copy of the Philadelphia Weekly ([www.brainsoap.com](http://www.brainsoap.com)) or the City Paper ([www.citypaper.net](http://www.citypaper.net)), both include up-to-date listings of events. Or you could head to Old City (roughly between 5th and Front Streets, Walnut and Arch) to explore the art galleries (open Friday evenings), engage in a little club hopping, or just settle down at Warmdaddy's (Front and Market Streets) and listen to the blues. If you like jazz you'll love Ortlieb's Jazz Haus (3rd and Poplar), a short cab ride from Old City or the Marriott Hotel. For the young and/or restless, a stroll down the lower end of South Street with its eclectic mix of shops, galleries, restaurants, bars, and clubs is a Philadelphia tradition. For a more upscale version of South Street, head to Main Street in the Manayunk section of the city.

**Miscellany** - Need to get the blood flowing in the right places after a day of sessions and a night on the town? There are miles of paths for jogging, bicycling, and roller blading in Philadelphia's 8,700-acre Fairmount Park which runs from the Benjamin Franklin Parkway up along both banks of the Schuykill River. The open air Italian Market along 9th Street is another one of Philadelphia's treasures. And should you tire of Philadelphia's charms, you are only an hour's drive from the Jersey Shore and the Atlantic City casinos. You also are only an hour's drive from the tranquillity of the Lancaster County countryside, home of the Amish.

Anthony J. Ranere, chair of the Annual Meeting 2000 Local Advisory Committee, is chair of the Department of Anthropology at Temple University in Philadelphia.

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**Annual Meeting Highlights - Philadelphia 2000**

*Winifred Creamer*

Get ready for an exhilarating intellectual wake-up call in Philadelphia! The 2000 Annual Meeting will include 18 sessions of presentations running concurrently, as well as poster sessions, workshops, roundtables, and exhibits. It is no mean feat to organize these into a single meeting, but well worth the effort. There are sessions on topics that will make you reexamine your ideas and work, and make you redouble your efforts in the field, the lab, and elsewhere. Archaeology is found everywhere and the events planned for the Annual Meeting reflect this. From an examination of the physical remains of the climber George Mallory on Mt. Everest, to paleobotanical analysis along the shores of the Atlantic Ocean in Cape May, New Jersey, an astonishing range of ideas, places, and techniques will be presented in meeting papers.

- Our Wednesday evening Opening Session will feature a review of the millennium and a look into the future with the symposium, "Archaeology at the Millennium." Be sure to include it in your plans.

- The Willey Symposium on the History of Archaeology will highlight the importance of Philadelphia and its archaeological community in the history of the field.

- The Fryxell Symposium highlights the career of our distinguished colleague Richard Scotty MacNeish, who has been an active archaeologist for more than 60 years.

- Other sessions honoring our colleagues recognize the years of research and creativity each has contributed to our profession. The honorees include Pat Culbert, Les Freeman, Bob Hall, the late George Hasemann,
and Bill Rathje.

- New technology in chronology, remote sensing, and electronic media are discussed in symposia on the Internet (Joe Brandon, organizer), "Visualizing Archaeology" (Ethan Wattrall, John Kantner, organizers).

- Our pilot electronic session, organized by Nick Eiteljorg, "The Archaeological Data Archive Project," will make papers available via the Internet one month before the Annual Meeting. At the session, presenters will make brief comments followed by discussion among the participants and the audience members. We expect this to allow a more in-depth interaction than is usually the case at Annual Meeting sessions. Abstracts for these papers may now be read on csb.brynmawr.edu/saa.

- Issues of Public Education are addressed in several different ways, from training volunteers to providing internships for graduate students. Examples of successful interaction with our many constituencies provide models we may find useful in our own public contacts. As you can see, the 2000 Annual Meeting will provide more material than any student of archaeology can cover in four days. Take in as much as you can, and enjoy it all!

Winifred Creamer, program chair for the SAA 2000 Annual Meeting, is associate professor at Northern Illinois University.
The Member/Get a Member Campaign

David G. Anderson

It's that time of year again: Your SAA membership renewal form has arrived on your desk.

We all know that one of the most tangible things we can do to support archaeology is to belong to our field's professional organizations. By being a member, we are literally voting with our pocketbooks, saying that we consider archaeology and its existence as a profession important. SAA is a major voice for archaeology and membership is essential if it is to keep speaking and, better yet, is to be heard.

Thus, your membership is critical. We need your participation in our profession, moving it forward through your words and deeds. And, quite frankly, the funds provided by membership allow SAA to publish world-class journals and a newsletter, organize and convene a great Annual Meeting, and coordinate action on a wide range of fronts essential to archaeology's well-being, such as political action, public outreach, stewardship and site protection, professional ethics, employment opportunities, and, of course, good old-fashioned scholarship.

But if these activities are to continue, we must keep our members and add new names to the rolls. Like it or not, every year some of us retire, find other employment, or even pass on to that great site in the sky. It is thus not just enough to renew our own memberships, although that is critically important. We must continually find and recruit new SAA members and inspire them to stay with us. Remember, every renewal or new member is a vote of confidence for archaeology and for SAA.

For that reason, we ask that all of you make an effort to get one other friend or colleague to join SAA. That's what "Member Get a Member" is all about. Tell him or her about SAAweb (www.saa.org), and/or loan him or her copies of American Antiquity, Latin American Antiquity, and the SAA Bulletin.

Contact SAA headquarters if you would like some promotional material (900 Second St. NE, Suite 12, Washington DC 20002-3557, email: membership@saa.org), or ask for membership materials at the SAA booth in the Exhibit Hall at the upcoming Annual Meeting in Philadelphia.

Now go out and recruit our membership for the 21st century!

David G. Anderson, chair of the SAA Membership Committee, is an archaeologist with the Southeast Archeological Center, National Park Service, in Tallahassee, Florida.

The Society for American Archaeology, by a unanimous vote of the Board of Directors, strongly endorses the AAAS Statement on the Kansas State Board of Education Decision on the Education of Students in the Science of Evolution and Cosmology.
Funding for Scholarships for Native Peoples from the United States and Canada

Tristine Lee Smart, Barbara Mills, and Joe Watkins

Thanks to a grant from the National Science Foundation (NSF) and the many donors to the SAA Native American Scholarship Fund (NASF), SAA awarded four scholarships for Native peoples from the United States and Canada in 1999 and will be awarding four more scholarships in both 2000 and 2001. The members of the Native American Scholarships Committee (NASC) are grateful to NSF for its generous support for archaeological training for Native peoples. We also want to thank all the individuals and organizations who have contributed directly to the NASF, donated book royalties, or participated in the NASC silent auctions held at the 1998 and 1999 SAA Annual Meetings.

SAA created the Native American Scholarship Fund in 1988 to support Native people interested in studying archaeology. In 1997, the SAA Board established two Native American Scholarship programs to be funded by the NASF. The Arthur C. Parker Scholarship provides $1,500 to support training in archaeological methods for current students and personnel of tribal or other Native cultural preservation programs. This scholarship is named in honor of the first president of SAA, who was of Seneca ancestry through his father's family. The second scholarship program, specifically targeting graduate education, is not yet funded. In 1998, the SAA Board decided that Native peoples from both the United States, including U.S. Trust Territories, and Canada would be eligible for the Parker Scholarship. In 1999, SAA received a grant from the National Science Foundation to provide additional scholarships to support training in archaeological methods for Native peoples. These are called the NSF Scholarships for Archaeological Training for Native Americans and Native Hawaiians. In each year from 1999 to 2001, the grant provides funding for three NSF scholarships of $3,000 each and a $1,500 NSF scholarship for the recipient of the $1,500 SAA Arthur C. Parker Scholarship.

For more information about these scholarships, contact SAA at the address given below. Application or nomination materials for the 2000 scholarships must be postmarked no later than February 15, 2000. Through the generosity of many donors, the Native American Scholarship Fund has nearly reached the level at which it can fully support an annual award of $1,500. Money raised by the silent auctions held at the SAA Annual Meeting has been used to supplement the funds generated by the NASF, allowing SAA to offer a $1,500 Parker Scholarship annually. To build the Native American Scholarship Fund to the level at which it can fully support the annual Arthur C. Parker Scholarship and the second scholarship program for graduate education, we need your help. Donations to the NASF from individuals and organizations are always most welcome. In addition, the NASC will be holding its third silent auction at the upcoming SAA Annual Meeting in Philadelphia. If you are attending the Annual Meeting, please stop by the NASC silent auction booth in the SAA Exhibit Hall and consider placing a bid. It's fun, and if your bid is the highest, you will be contributing to the Native American Scholarship Fund. Donations to the silent auction also would be greatly appreciated. Contributions for the silent auction last year included used and new books, jewelry, equipment and services used by archaeologists, Native American craft items, artwork, and t-shirts, among others. Anything that an archaeologist might like to have would be welcome. This year, as a special feature, we would like to showcase arts and craft items made by archaeologists. We hope our talented colleagues will consider donating something they have created.

The NASC would like to take this opportunity to thank the following donors as well as those who donated anonymously for their generous contributions to the 1999 silent auction in Chicago. AltaMira Press; American Rock Art Research Association; Archaeological Institute of America; Archaeology Consulting Team, Inc.; Archaeology Magazine; Arkansas Archeological Society; G. Lennis Berlin; Jane Bock; Pete Bungart; Ken Carleton; Center for Indigenous Research; Chacmool Archaeological Association of the University of Calgary;
Potters attending the 72nd Pecos Conference in August 1999 raised $798 for the Native American Scholarship Fund. Pottery replication and firing has become a traditional event at Pecos, which is followed by a silent auction of the successfully fired pots. This year the NASF was the recipient of the funds raised. Many thanks to the potters who contributed to this event: Kurt Anschuetz, Glenna Dean, David Eck, Charles Gilbert, Michael Schiffer, and Timothy Seaman.

If you are interested in contributing to the 2000 silent auction, contact Joe Watkins (jwatkins@telepath.com) or Tristine Lee Smart (tristine@t.imap.itd.umich.edu) via email or in care of SAA. For more information about the Arthur C. Parker and NSF Scholarships or about donating to the Native American Scholarship Fund, contact SAA at 900 Second St. NE #12, Washington, DC 20002-3557, tel: (202) 789-8200, email: info@saa.org.

Tristine Lee Smart is vice-chair of the NASC, Barbara Mills is at the University of Arizona, and Joe Watkins, chair of the NASC, is agency archaeologist, Bureau of Indian Affairs-Anadarko Agency.
COSWA Corner

Rita Wright and Mary Ann Levine

COSWA will sponsor several activities at the SAA Annual Meeting in Philadelphia. These include the Women as Professionals in Archaeology Roundtables, the Women's Network Reception, a meeting of the Women in Archaeology Interest Group, as well as the session "Archaeologies of Gender: The State of Research and Practice." Information about these activities are described below. Please consult your SAA preliminary program for registration information and additional details.

Women as Professionals in Archaeology Roundtables - The COSWA Roundtables will take place at a breakfast meeting on Saturday April 8, from 7:00 to 8:00 a.m. Barbara Roth (Oregon State University) and Lisa Frink (University of Wisconsin, Madison), coorganizers of the roundtables, have planned 10 tables around specific career themes. The primary objective of the roundtables is to provide a forum to bring senior women archaeologists into contact with graduate students and recent Ph.D.s. Roundtables are intended to afford women early in their careers an opportunity to discuss ideas and concerns, to gain information on specific topics, and to expand their professional networks. The following women will lead roundtables on the following topics:

- Alison E. Rautman (Michigan State University) Organizing a Field Project;
- Cathy Costin (California State University, Northridge) Craft Production and the Division of Labor;
- Kerry McGrath (State Historical Society of Iowa) Public Programs and Education;
- Monica L. Smith (George Mason University) Getting Grants;
- Christine Hastorf (University of California, Berkeley) Foodways/Ethnobotany;
- Patricia Urban (Kenyon College) Family and Career;
- Charlotte Beck (Hamilton College) Academic Careers;
- Heidi Roberts (HRA, Inc.) Careers in Contract Archaeology;
- Trinkle Jones (National Park Service) Careers in Government; and
- Cheryl Claassen (Appalachian State University) Publishing.

Due to the generous support of five cosponsors (Desert Archaeology, Inc., Tierra Archaeological and Environmental Consultants, Lone Mountain Archaeological Services, Inc, the Department of Anthropology at the University of Pennsylvania, and the Department of Anthropology at New York University), the cost of participating in this year's roundtables has been substantially reduced to $5. It is necessary to register for the roundtables.

Women's Network Reception - This COSWA/Women in Archaeology Interest Group cosponsored reception is designed to provide an opportunity to share news and information and expand your networks. All women archaeologists are invited to attend this informal reception on Thursday, April 6, from 6:00 to 7:30 p.m. No preregistration is required and there is no charge. A cash bar will be available.

Women in Archaeology Interest Group Business Meeting - Immediately following the Women's Network Reception, the Interest Group will hold its annual business meeting. The meeting is thus scheduled for Thursday, April 6, from 7:30 to 8:00 p.m. The agenda includes a discussion about the future direction of the Interest Group. Door prizes (including books on gender and archaeology) will be distributed to selected attendees. Please attend to let your voice be heard.

Session on "Archaeologies of Gender: The State of Research and Practice" - This session, cosponsored by the Women in Archaeology Interest Group and the Committee on the Status of Women in Archaeology, will take place on Thursday, April 6, from 8:00 a.m. to 12:00 p.m. The session reviews and critiques the past 20 years of
research on gender issues in archaeology. Its purpose is to examine the variety of theoretical and methodological approaches that have been taken in gender-related research. Contributors will assess the state of research as applied to and illustrated by specific archaeological research problems or pedagogical issues. Examples are derived from major research areas in both the New and Old Worlds and represent the various approaches scholars use in engendered and feminist archaeologies.

Rita Wright, chair of COSWA, is associate professor of anthropology at New York University. Mary Ann Levine, member of COSWA, is assistant professor of anthropology at Franklin and Marshall College.
Public Education Committee--

Philadelphia 2000 - A Preview

Teresa L. Hoffman

The activism of PEC members on behalf of SAA will be particularly evident at the Annual Meeting in Philadelphia. The following is a preview of some of the activities you may want to include in your schedule. The preliminary program contains registration information and additional details that were not available when this update was prepared.

New Exhibit is Ready to Travel - The PEC has completed a new traveling exhibit that describes and illustrates the value of public archaeology in the classroom and the community. The portable and easy-to-assemble unit replaces the larger Education Resource Forum, which the committee has displayed at archaeological and educational conferences since 1991. The Forum featured examples of precollegiate educational materials from books and teaching manuals to games and magazines that visitors could review. However, as the resource collection expanded, the exhibit became cumbersome and costly to travel.

The new exhibit which debuted in October 1999 at an archaeology fair in Alexandria, Virginia, and was displayed at the American Anthropological Association annual meeting in November 1999 focuses on the objectives of public archaeology and the mission of the SAA PEC. With built-in space for displaying a small sample of archaeology education materials and distributing related brochures, the exhibit is suitable for use at local, regional, and national conferences. There is no rental fee, but exhibitors must bear some costs for shipping. For additional information, contact KC Smith, Museum of Florida History, 500 S. Bronough St., Tallahassee, FL 32399-0250, tel: (850) 487-1902, fax: (850) 921-2540, email: kcsmith@mail.dos.state.fl.us.

New Monograph on Sale in Philadelphia - The first publication in the Teaching with Archaeology series, the PEC's theme-based educational publications designed for educators and archaeologists, will be on sale in the exhibit hall at the SAA booth. History Beneath the Sea: Nautical Archaeology in the Classroom includes six articles, a list of resources, and classroom activities designed to prepare educators for introducing underwater archaeology to students. While the classroom activities are geared for precollegiate audiences, background readings in the 28-page booklet provide an excellent summary for undergraduate survey courses or for those who want to know more about this aspect of the discipline.

In addition to an overview of nautical archaeology, four case studies describing recent or ongoing shipwreck investigations by professional archaeologists help to explain the nature and goals of underwater research. Sites described include the Emanuel Point Wreck, lost during the Spanish effort to colonize Pensacola, Florida, in 1559; Queen Anne's Revenge, flagship of pirate Edward Teach (aka Blackbeard), lost off North Carolina in 1718; H. L. Hunley, a Civil War ironclad sunk near Charleston in 1864; and HMS Titanic, discussed with an eye toward the ethics of modern salvage operations. An article about the conservation of waterlogged artifacts offers further information about the processes that underwater archaeologists undergo as part of the research process.

The next publication in the Teaching with Archaeology series, available in 2000, will address African-American archaeology, and future issues will focus on rock art and Paleoindians. Publications in the series will sell for $6.95 for SAA members and $8.95 for nonmembers, with a $5 shipping and handling fee if they are ordered after the Annual Meeting from the SAA office in Washington, D.C. For additional information about the series, contact Amy Douglass at 480-350-5105 or KC Smith (see above).
Send Us Your Posters! - The Archaeology Week and Network subcommittees of PEC and the Council for Affiliated Societies invite you to participate in "Celebrate Archaeology 19992000." If you know of a terrific archaeology poster published to commemorate an Archaeology Day, Week, or Month between April 1999 through March 2000, please send it in. The deadline is March 3, 2000. All posters will be displayed at the meeting, and SAA members will have the opportunity to vote for their favorites. Awards will go to the top three posters. See the 1999 winners on the Web at "www.cr.nps.gov/aad/statearc.htm" www.cr.nps.gov/aad/statearc.htm. Send two (2) unmounted and unfolded posters to Dan Haas, State Archaeologist, Bureau of Land Management, 2850 Youngfield St., Denver, CO 80215, tel: (303) 239-3647, email: Dan_Haas@co.blm.gov. In addition to the poster contest, the Archaeology Week subcommittee also will hold a forum for state archaeology week coordinators to share ideas and strategies.

Developing An Archaeology Teaching Trunk - This workshop will take place on Friday, April 7, 9 a.m. to 12 p.m. The teaching toolkit of the archaeologist must become more diverse as audiences become more diverse. Audiences representing a variety of language skills, ethnic and social backgrounds, abilities and disabilities can benefit from a toolkit that includes the use of a well-conceived teaching trunk or resource box. This workshop will address both positive and negative aspects associated with the development of the trunk for a variety of contexts including the classroom, museum, and field. Participants will have the opportunity to examine various trunks and query their creators. Organizers include Renata B. Wolynec (Edinboro University of Pennsylvania), Bonnie Christensen (Mississippi Valley Archaeology Center), and Margaret Heath (BLM Heritage Education Program).

Public Archaeology: International Perspectives, Debate, and Critique - Featuring participants from the United States, Europe, and the Middle East, this symposium explores regional and national styles of doing "public archaeology," aiming towards scholarly debate about the various goals pursued by people calling themselves public archaeologists, archaeological heritage managers, cultural resource managers, archaeological/museum educators, and others. The session organizers are Carol McDavid and John Carman (University of Cambridge), Linda Derry (Alabama Historical Commission, Old Cahawba Archaeological Park), and Patrice L. Jeppson (Center for Archaeology/Baltimore County Public Schools, University of Pennsylvania).

Field Schools for the Next Millenium: Mixing Student Training, Research, and Public Education - Organized by Beverly Mitchum-Chiarulli and Phil Neusius, this symposium examines field school programs based in undergraduate and graduate anthropology programs, agencies, museums, and independent research programs. It will explore examples of field schools that not only train students in field techniques, but also look at the roles these programs play in developing student views and approaches to archaeological fieldwork.

Interest Group in Public Archaeology - The organizing meeting for this new interest group within SAA will be held in Philadelphia and is coordinated by Ruth Selig and Beth Nodlund. The interest group differs from the PEC in that it will not be project-based or work intensive. Its main purpose is networking at the Annual Meeting and it serves as an introduction for those who may be interested in joining the PEC.

In addition to these PEC-sponsored programs, at least two other education-related sessions will be held in Philadelphia. The BLM Heritage Education Program is sponsoring a Project Archaeology and Heritage Education Program Retreat on Tuesday, April 4, 8:30 a.m. to 5:00 p.m. Project Archaeology is an education program designed for teachers and their students that currently operates in 14 states and is under development in several more. This day-long retreat explores ways to evaluate state and national programs, and includes discussion of educational standards and student assessments. Project Archaeology state coordinators and workshop facilitators, BLM Heritage Education Coordinators, and others interested in the program are encouraged to attend.

The symposium, "Maneuvering the Public: A Simple Site Visit Goes A Long Way," focuses on the results of an intensive and well-planned public relations program at the Hickory Bluff site in Delaware. Organized by Diane Halsall (Parsons ES) and Kevin Cunningham (Delaware Department of Transportation), this session demonstrates how public involvement in fieldwork, analysis, and report writing, adds an important dimension to archaeological research.
Theresa Hoffman, associate editor for Public Education Committee column, is with Archaeological Consulting Services in Tempe, Arizona.
Ethics, E-Commerce, and the Future of the Past

Alex W. Barker

Point. Click. Loot.

Archaeology has long recognized the link between the sale of antiquities and the destruction of sites. As commercial value and opportunities for sale increase, so does the payoff for pothunting and looting to feed the antiquities trade, leaving behind a moonscape of craters and a still more fragmentary archaeological record.

Some of the main players in the antiquities trade have traditionally been art dealers and auction houses. Now they’ve been joined by a new and powerful force—the online auction house, led by giants eBay and Amazon. The global reach and instant accessibility of the Internet which serves us so well in other areas here has simply served to democratize the antiquities trade. Everyone has access to a dealer or auction house; commercial antiquities dealers and auction houses are never more than a few mouse clicks away.

A variety of antiquities, authentic or claimed to be so, is sold online. On a given day, offerings range from points in frames (of the kind that grace a thousand country stores and gas stations) offered for several hundred dollars, to Mayan geometric painted bowls, Zapotec incense burners, and Moche ceramics offered for thousands; Old World material ranging from neolithic axes to Ptolemaic sarcophagi, and from the odd lot of Roman coins to putative fragments of the True Cross regularly pass through the Web pages of eBay and Amazon. Burial furniture often is advertised and the mortuary association adds to the appeal. And because the economics of online auctions are different than the traditional auction houses, all kinds of items previously considered to be of little commercial value are appearing for sale and as a result, sites are being stripped of every artifact to fuel bulk sale of potsherds. In addition to the main online auction houses (eBay.com, Amazon.com), there are a multitude of specialty sites focusing on antiquities (e.g., www.antiquities.net, www.medusa-art.com, or www.caddotc.com) through either auction or direct sale.

There's another new wrinkle. Online services have begun to use interest in other kinds of information to drive traffic on the online auction sites. The logic is simple: if you're interested in books on a certain item, you are a likely buyer for the item itself. When the public searches for a book on archaeology using Amazon.com, it receives information not only on that particular book, but also offers of antiquities for sale through the Amazon auction house and online shops. Take a concrete example: At the time this was written a search for Robert Mainfort and Lynne Sullivan's Ancient Earthen Enclosures of the Eastern Woodlands (1998, University of Florida Press) also returned recommendations to buy a series of what were said to be Taino artifacts "guaranteed authentic" and dated to A.D. 700-900. Archaeologists' own intellectual products are now being harnessed without their knowledgeto support the trade in antiquities.

The complexity of existing laws and regulations regarding the sale of antiquities, not to mention their enforcement, are multiplied in the global world of Internet commerce. As a single, self-evident example, trade in antiquities may be simultaneously affected by state, national or international laws or conventions affecting buyers, sellers, and service providers differently depending on whose location is legally considered the point-of-sale, the source of the item, and its current location and ultimate destination. While most online houses have policies against illegal sales, determination of legality is often difficult in the largely self-policed and geographically confusing world of Internet auctions.
The immediate needs are clear. We need to work with the online houses to:

(1) ensure that existing policies against sale of illegally acquired goods are more strictly enforced, and help develop clearer guidelines for assessing legality and appropriateness of sale of antiquities;

(2) develop ways to restrict the traffic in antiquities through Internet commerce, and work with policymakers to create laws and regulations sensitive to this threat to sites and cultural material;

(3) identify vendors continuing to support antiquities trafficking and bring pressure to bear on them, while at the same time offering recognition to vendors adopting ethical positions on antiquities sales;

(4) restrict search linkages that use interest in archaeological books and monographs as marketing opportunities to sell antiquities; and, perhaps most importantly,

(5) use the interest generated by online offerings of antiquities as an educational opportunity.

This may be something as simple as a statement of ethical practice prepared jointly by SAA, AIA, SHA, and AAA and appearing whenever items which may fall into the category of antiquities are proposed for sale on an online service.

The Ethics Committee is preparing a set of recommendations and statements of ethical practice for consideration by the online auction houses. Some of them, at least, have agreed to discuss changes to the ways antiquities are offered online, although there's no guarantee those changes will be implemented. As Sharon Greenspan of Amazon.com noted, "I don't think we have any proof that sale through the z-shops [Amazon.com's online merchandise stores] is raising the value of antiquities." Just as we have a responsibility to educate the public, we also must educate commercial concerns whose legitimate business interests impinge on the past. And we need to do so with a single voice, specific examples of the effects of looting, and viable solutions.

We need your help. Do you have ideas for how the online sale of antiquities can better be controlled? Examples of its effects? Have you discussed the problem with either your colleagues or your classes? Suggestions can be sent to me (abarker@dmnnhnet.org) or to the chair of the SAA Committee on Ethics, Karen Vitelli (vitellik@indiana.edu). We need to face the implications of a public increasingly accustomed to seeing the past bought and sold online. Otherwise, the past may become history.

Alex W. Barker, a member of SAA's Committee on Ethics, is chief curator at the Dallas Museum of Natural History.
A World of Possibilities: Study Abroad for Archaeology

Jarrod Burks

Bienvenidos, bienvenue, willkommen, karibu, welcome - these are some of the most common words first heard by students in programs of study abroad. Every year, tens of thousands of students from the United States travel abroad in search of diverse learning experiences. For many, study abroad becomes a primary defining experience in their academic, professional, and personal lives. If a year or two abroad can have such a profound impact on the education process and getting a job, why hasn't everybody studied abroad? While students can greatly benefit from the experiences gained from living in another country, developing a rewarding program of study requires careful planning. In this article, I introduce the what, who, when, and why of study abroad for archaeology students.

What is "Study Abroad"?

Study abroad is an umbrella term that refers to a wide range of programs that involve travel to a different country for the purpose of learning. What separates one program from another is the context and format of the learning experience. For example, some universities in the United States have branch campuses abroad, such as Miami University's branch campus in Luxembourg. In this study abroad program, as in other exchange programs, students attend classes just as they would at their home institution. Participating in the Peace Corps is another kind of study abroad. The Peace Corps represents the ultimate in immersion learning. Before volunteers are sent to their sites, they take extremely intensive language and cultural classes. Then, for the next 23 years, volunteers are involved in developing and conducting projects that help their host communities and perfect their own foreign-language skills.

For archaeology students, there are four main categories of study abroad opportunities: archaeological fieldwork, classroom study, language schools, and volunteer work.

Archaeological Fieldwork

Participating in an archaeological project, such as a field school, is the most popular avenue of study abroad for archaeology students. Every summer, countless universities in the United States and around the world offer a variety of field school opportunities for students of all experience levels. Check out the Web page hosted by the Costen Institute of Archaeology at University of California-Los Angeles (UCLA) (www.sscnet.ucla.edu/ioa/afs/testpit.html) or University of California-Santa Barbara's list (www.anth.ucsb.edu/netinfo.html) for a range of worldwide summer fieldwork opportunities. Choosing the right field school can be a complicated process, but it usually amounts to a few key considerations: price, academic credit, living conditions, and geographic area of interest.

Most field schools require students to pay tuition, a lab fee, and generally, room and board. Out-of-state tuition rates in the United States can be very high but occasionally, field schools funded through grants can waive
students' fees, such as the field school run at Dusk Cave by the University of Alabama. However, the application process for funded field schools can be very competitive, so be sure to apply soon!

It also is very important to verify that the academic credit earned through field school participation transfers to your home institution and counts toward your degree. Because most field schools are so intensive, the credits earned can be twice those for regular classes.

Finally, field schools can be very rigorous experiences. Although part of the fun of a field school is primitive living, make sure the living conditions meet your standards.

**Classroom Study**

Aside from attending a field school, traveling to study in the classrooms of another country's university or institute is the most common way to gain experience abroad. Almost every college and university in the United States, as well as most in other countries, has an office of international studies. Through the help of advisers and other personnel in these offices, students can research, plan, and implement their own study abroad programs. However, if your school lacks such an office or does not provide a wide enough range of possibilities, there are a large number of private and not-for-profit organizations that set up and conduct study abroad programs. For example, the University Study Abroad Consortium (www.scs.unr.edu/~usac/) and the Institute for the International Education of Students (iesabroad.org/) are both organizations that help students plan and implement programs of the student's choosing. Some organizations, such as Cultural Experience Abroad (CAE) (travelabroad.com), function as both study abroad advisers and travel agents and, for a fee, provide abundant opportunities for excursions to world-class archaeological sites, such as Tikal, the Giza Plateau, and Lascaux Cave. Such excursions are recommended, since it is important to know your surroundings and learn about your host country while you have the opportunity.

**Language Schools**

For most students, learning a foreign language is a requirement for earning a B.A. degree. While classroom learning will usually suffice, one of the best ways to master a foreign language is through total immersion. Many countries have language immersion schools where students stay with host families while attending language classes at a local school. For example, Ohio State University sends its students to a school in Cuernavaca, Mexico, to learn Spanish.

Fluency in a foreign language is especially important for students planning to conduct their graduate research outside the United States. It will enable you to hire laborers and work with local landowners, facilitate your negotiations through customs with all of your suspicious-looking equipment, and simplify the process of obtaining your work permit.

Most schools support study abroad language programs through their international studies office or language department. Other options for study abroad language programs can easily be found on the Web. For example, the Eurolingua Institute (www.holidaybank.co.uk/eurolingua/index.htm) provides many options for language immersion programs abroad.

**Volunteer Work**

You may find that field schools and classroom programs are too formal, beyond your budget, or have excessive requirements. In such cases, volunteer work can provide the study abroad experience at a different pace. Most archaeologists accept volunteer help on field projects, especially if the volunteer already has some previous experience or has a recommendation from a professor.
The Web is an excellent place to find archaeological volunteer opportunities for study abroad. The UCLA Web site mentioned above provides links to a wide range of volunteer opportunities. There also are countless other Web sites of organizations looking for volunteer help for field projects in foreign countries (e.g., for Central America, [maya-art-books.org/default.html](http://maya-art-books.org/default.html)).

**Who Should Study Abroad?**

All anthropologists, including archaeologists, stand to benefit from involvement in a study abroad program. The opportunities for undergraduates and graduate students are generally the same for either academic programs or field schools. However, most classroom programs seem to be geared more toward undergraduates.


Once you have a better idea of the range of available programs, it is important to discuss your plans with your academic adviser. Leaving the country can extend the number of years it takes to complete your degree. Your adviser can help devise a plan that minimizes the impact of your absence on your class schedule, as well as help you identify a geographical area of study that will fit in with your future educational goals and research interests.

Then you should identify the programs that specifically fit your needs and interests, consulting with the office of international studies, or equivalent, at your institution or use the many Web sites that allow you to run searches on databases filled with hundreds to thousands of potential programs.

One of the primary factors that deters students from following through with their interest in study abroad is cost. A roundtrip plane ticket to Australia, for example, is extremely expensive! Do not let cost prevent you from studying abroad - there are many scholarships and grant programs available. One of the most prestigious sources of funding is the Fulbright Scholarship ([www.iie.org/cies/](http://www.iie.org/cies/)), the crème de la crème of study abroad awards. Nearly 4,200 individuals are awarded Fulbrights every year. The International Student Exchange Program (ISEP) ([www.isep.org](http://www.isep.org)) is a reciprocal exchange program for both graduate and undergraduate students. It is low cost, because participants pay their home institution's tuition and fees. For information on other funding sources, go to [www.studyabroad.com](http://www.studyabroad.com).

**Why Study Abroad?**

Archaeologists, like other anthropologists, study culture. Observing a range of cultures helps make the study of the past richer by providing a broader context for understanding. This is somewhat akin to doing background research in the library for a term paper, except study abroad is background research for life experience. Thus, the experiences of study abroad provide a framework for understanding what is learned in anthropology degree programs.

Certain categories of study abroad, such as fieldwork, provide invaluable experience for archaeology students. Even situations where the field experience is outside one's geographical interest area, they provide opportunities to learn important skills and demonstrate initiative and self-motivation. Frequently, students make important contacts with other students and professionals during their study abroad programs. These contacts represent the beginnings of a network that will be important when the time comes to apply for a job.
When to Go Abroad

Any time is a "good" time to travel abroad. However, to benefit the most from the experience, the student must have some preparation. Most students do not start their undergraduate careers as anthropology majors and may be lagging in the fundamentals of anthropology. It is imperative to gain these before departure. In general, for undergraduates, study abroad occurs during the junior year, which means that the plans must be made with your adviser during the sophomore year.

For graduate students, the best time to leave is determined more by the exam schedule. For example, if the degree program requires an examination prior to the awarding of an M.A. degree, departure would be best after passing the exam.

Study abroad is an important and highly accessible experience in the steps to becoming a professional archaeologist. In addition to providing a fun and exciting experience, the lessons learned and acquaintances made in study abroad programs undoubtedly help in getting a job. With a little background research and effective planning, it is relatively easy to develop a reasonable trip and study program. Finding the time to actually fit it into your schedule can be a challenge, but with careful planning, it can be done.

Acknowledgments

I would like to thank the following individuals for their gracious help and suggestions: Ken Carstens, Mark J. Lynott, Frank Poirier, George S. Smith, and Dean R. Snow.

Jarrod Burks, a member of the Student Affairs Committee, is a student at Ohio State University.
News from the Register of Professional Archaeologists

William B. Lees

As of December 1, 1999, there are 1,074 Registered Professional Archaeologists (RPA) on the books! So far in 1999 a total of 381 applications for registration have been approved. RPAs claim the following affiliations with our sponsoring organizations: SAA, 722; SHA, 454; and AIA, 121.

On July 23, 1999, the Mississippi Department of Archives and History's (MDAH) Board of Trustees approved Guidelines for Archaeological Investigations and Reports in Mississippi. Of interest in this document is the section titled "Consultant List," which reads, in part:

Effective July 1, 2001, MDAH-SHPO will maintain a consultant list comprised solely of archaeologists and companies listed by the Register of Professional Archaeologists (RPA). Also, effective July 1, 2001 MDAH-SHPO will only accept reports (Phase I, II, and III) resulting from Section 106 or Antiquities Law projects from consultants who are RPAs.

The board was excited to learn of Mississippi's new guidelines and congratulates the state's archaeological community for providing leadership with this important development. Further information on the Mississippi guidelines can be obtained from the Archaeology Section of the Mississippi Department of Archives and History, P.O. Box 571, Jackson, MS 39205-0571.

The Register won first place from the American Society of Association Executives for its Website (www.rpanet.org). The Register Website was entered, along with about 1,000 others, in ASAE's Golden Shoestring category (for associations with total budgets of less than $250,000) of their Gold Circle Awards of Excellence. ASAE's Awards of Excellence are the only national awards where associations can receive acclaim for their achievements from peersfellow association executives. The Gold Circle Awards of Excellence are considered to be one of the most prestigious in the area of association communication.

This fall the Register's board voted unanimously to extend the following resolution to Charles E. Cleland on his retirement from Michigan State University:

Be it resolved on his retirement from Michigan State University that the Board of Directors of the Register of Professional Archaeologists expresses its deep gratitude to Charles E. Cleland for his profound leadership in the cause of professionalism in archaeology as shown by his role in the founding of and dedicated service to the Society of Professional Archaeologists, by his efforts in the establishment of the Register of Professional Archaeologists, and by his mentoring of generations of students who have entered their careers with a comprehensive understanding of what it means to be a professional.

This resolution was presented to Cleland at an October banquet held in his honor at the 45th Midwest Archaeological Conference in East Lansing, Michigan.
Finally, the end of 1999 signaled the end of term of several charter members of the Register's board: President William Lees, Registrar John Hart, and Director Vergil Noble (appointed by the SHA). As of January 1, 2000, the RPA president is Donald L. Hardesty and the SHA-appointed director is Robert Clouse. The new registrar will be announced with other winners of the Register's elections.

William B. Lees is president of the Register.
Editor's Note: This is the first in a series of two articles that will explore specifically how the 1999 revisions to Section 106 of the National Historic Preservation Act have changed the way archaeological resources will be considered and treated by the review process.

The revised 1999 version of 36 CFR 800, the Advisory Council on Historic Preservation (ACHP) regulations governing compliance with Section 106 of the National Historic Preservation Act (ACHP 1999a, Protection of Historic Properties, 36 CFR 800) eliminate a feature of the previous 1986 regulations that was colloquially referred to as the "research exception." Under this provision, an agency could destroy an archaeological site (or any other historic property valuable only for its potential contribution to research) after data recovery, and say that it had had "no adverse effect" on the property.

The demise of the research exception seems to have triggered a surprising amount of confusion and hand wringing among archaeologists and agencies. This is too bad. There are many things to criticize in the new Section 106 regulations, but from an archaeological standpoint, getting rid of the research exception is one of the best things the ACHP has done in a long time. This article and the one that will follow in the March 2000 issue are designed to explain why.

Where Did the Research Exception Come From?

I won't repeat here what I've written in some detail elsewhere about the exception's origins (T. F. King, 1998: 109-112, Cultural Resource Laws and Practice: An Introductory Guide. AltaMira Press, Walnut Creek, CA). In brief: It was developed at a time when the ACHP had no archaeological expertise and was suddenly being overwhelmed by archaeological cases. In virtually all these cases, nobody involved wanted to do anything but dig the sites up and let them be destroyed, so the ACHP saw no reason to put them through the same kind of rigorous review it applied to proposals to demolish historic structures. It reasoned that since the importance of an archaeological site lay in its information, if that information could be preserved, then destroying the mere dirt of the site didn't adversely affect it. Ergo, an agency should be able to destroy such a site after data recovery and
still find that it had had no adverse effect on it, thus moving through the 106 process rather quickly and not involving the ACHP much in the process.

Some archaeologists (including me, then employed by the National Park Service) objected strenuously to the ACHP's idea, but we couldn't keep the research exception from being put in place. So we negotiated controls to minimize its potential for assigning archaeological sites to second class citizenship and for encouraging willy-nilly excavation. These didn't work very well, even when they were formally embedded in the regulations in 1986.

What Did the Research Exception Say, and How Did It Work?

Under the research exception, an agency could make a finding that destroying an archaeological site didn't have an adverse effect on it if three conditions existed.

1. The site had to be "of value" only for research; in other words, it couldn't be a spiritually important place to an Indian tribe, a culturally valued place to a descendant community, a place that was suited for public interpretation, or a type of site with a similar definition.

2. The important information in the site needed to be recoverable using contemporary research methods.

3. The agency had to be committed to recovering the information, by having a research design in hand, acceptable to the ACHP and other parties [notably but not exclusively the State Historic Preservation Officer (SHPO)], and supported by dedicated funding.

In theory, this was supposed to limit application of the exception to sites that nobody thought it would be useful to preserve in place, that were simple enough to make "full" data recovery at least arguably plausible, and that would be subjected to full, thoughtful, research-oriented data recovery.

It didn't work that way. People interpreted the exception to mean that if a site was found eligible for the National Register under National Register Criterion "d" containing information significant in history or prehistory it could be subjected to data-recovery-and-destruction (DRAD) without adversely affecting it, while if it was eligible under any other criterion, it couldn't. And it was similarly understood that the only entity which has to approve the DRAD plan was the SHPO. Never mind that neither was what the regulations said; that is what people interpreted them to mean.

"Under this provision, an agency could destroy an archaeological site (or any other historic property valuable only for its potential contribution to research) after data recovery, and say that it had had 'no adverse effect' on the property."

Meanwhile, Native American groups and other descendant communities had become more active in Section 106 review, and many were not wild about the idea that their ancestral sites could be destroyed willy-nilly, subject only to the ministrations of arch-aeologists, simply because someone assigned them to a particular arbitrary National Register category and an SHPO signed off on the data recovery. Those archaeologists who still thought that Bill Lipe (W. D. Lipe, 1974, A Conservation Model for American Archaeology. Kiva 39: 3 and 4. Reprinted in Social Archaeology: A Guide for Cultural Resource Management Studies, edited by M. B. Schiffer and G. J. Gumerman, Academic Press, 1977: 19-42) had a point with his "conservation model" didn't view the whole busi-
ness very kindly either. But even most tribes and archaeologists accepted the spurious equation of National Register Criterion "d" with eligibility for the exception, and the result was a plethora of truly silly arguments about whether this, that, or the other site was eligible only under "d" or under some other criterion.

What Happened to the Research Exception?

When the ACHP set out in 1993 to revise the regulations, Indian tribes and other descendant communities, together with a few archaeologists, argued that it should take the opportunity to do away with the research exception. Nobody (except perhaps some descendant communities) argued that data recovery should never be done; the argument was simply that destruction with data recovery should be recognized as an adverse effect and given the same level of scrutiny and consultation as the demolition of a historic building.

Some agencies, and archaeologists who had grown accustomed to it, defended the exception. Transportation agencies were particularly interested in keeping it, understanding that "no adverse effect" under Section 106 equaled no "use" under Section 4(f) of the Department of Transportation Act, therefore not triggering Section 4(f)'s (ridiculous) requirement that no "prudent and feasible alternative" exist before such "use" could be countenanced. Agencies that had foolishly linked "adverse effect" under Section 106 with "significant impact" under the National Environmental Policy Act were similarly disquieted by the prospect of losing the exception.

In the end, however, rather surprisingly the transportation agencies backed off and the ACHP took a principled position, expunging the research exception from the regulations.

So Where Do We Stand?

Let's be completely clear about this: Under the revised Section 106 regulations, it is an adverse effect to destroy an archaeological site, however much data recovery you do on it first.

This does not mean that you can't do data recovery. You can, and agencies certainly will, continue to. But it does mean that an agency can do so only after acknowledging adverse effect and going through some consultation to resolve that adverse effect. This will involve exploring alternatives to DRAD, and when data recovery is agreed to, we can hope that it will result in better data recovery programs than have often happened under the research exception.

However, the issue that provoked the ACHP to establish the research question in the first place still exists. There are still many cases where all involved can agree, with minimum fuss and muss, that DRAD is the best or only thing to do. There is little reason to insist on elaborate consultation about alternatives in such a case.

The ACHP has tried to deal with this fact by issuing its Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites (ACHP 1999b Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites. 64 FR 27085-87). If an agency follows this "approach," it can expect the Memorandum of Agreement (MOA) it develops on a DRAD project to be viewed with favor by the ACHP. If it doesn't, or can't, then the ACHP is likely to ask questions and perhaps insist on more consultation, the consideration of more alternatives.

In the next issue of the SAA Bulletin, we will look at the Recommended Approach and see what it may mean for archaeologists and archaeological data recovery.

Thomas F. King is an independent consultant and educator in cultural resource management who lives in Maryland.
Obituary

John Rinaldo

1912-1999

John Beach Rinaldo was born in Wheaton, Illinois, November 29, 1912, the son of Philip Sidney and Harriet Beach Rinaldo. He died Monday, November 29, 1999, at Iowa Methodist Medical Center in Des Moines. A 1934 graduate of Carleton College, he attended Harvard School of Business in 1935. He received his M.A. and Ph.D. from the University of Chicago. Rinaldo was associated with the National Park Service and the Civilian Conservation Corps, as well as having been involved in various administrative and expedition positions with the Chicago Museum of Natural History. He also had been associated with the Amerind Foundation in Dragoon, Arizona, and had taught at Cochise College in Douglas, Arizona. Rinaldo served in the United States Army during World War II. In 1951, he married Ruth Bauer. They made their home in the Colfax, Iowa, area for several years prior to moving to Des Moines in 1992. Rinaldo was a member of the Society for American Archaeology, fellow of the American Anthropological Association, and Sigma XI.

back to top
On October 12, 1999, the "Día de las Culturas" designated in 1992 as a celebration of the country's indigenous heritage and cultural diversity, Miguel Angel Rodríguez, the president of Costa Rica, and members of his cabinet signed a decree eliminating the requirement that archaeological impact studies be undertaken prior to the execution of development projects. With this measure, the Costa Rican government reversed several years of progress in the discovery and protection of endangered archaeological sites. It also fostered a negative image of the country at the international level as news and sharp criticism of the decree has been disseminated in press reports and over the Internet.

Environmental impact studies became a prerequisite for the execution of all development projects in 1995 with the establishment of the "Ley Orgánica del Ambiente." An archaeological component has been considered as an essential part of these studies since their inception. Unfortunately, this was expressed in documents that were not part of the law itself, making the inclusion of archaeological evaluations in environmental impact studies susceptible to modification via presidential decree. An existing "Ley de Patrimonio Arqueológico," passed in 1982, required that projects be halted and notice be given to the National Museum of Costa Rica only in the event that archaeological remains appeared at the moment of earthmoving activity. However, that happened only occasionally as a result of formal complaints by third parties who observed the destruction of significant sites. It was exceptionally rare to receive a communication directly from developers. In Costa Rica, where most of the sites consist of stratified deposits of artifacts and features without prominent architectural structures, an incalculable number of archaeological sites were...
The new environmental legislation of 1995 brought significant changes to the practice of rescue archaeology in Costa Rica. Developers were required to obtain certification of the absence of archaeological remains on properties they wished to develop prior to earthmoving activities. This was to be provided by the National Museum, the entity in charge of the formal registry of archaeological sites. However, in spite of the fact that more than 2,000 sites have been registered to date, most of Costa Rican territory has never been explored archaeologically. It was therefore necessary to undertake authorized inspections to assess the presence of archaeological remains. When remains were present, the next step was to undertake formal evaluations to establish their basic characteristics and the expected degree of impact. In cases where archaeological sites were in danger of destruction, more extensive mitigation was required. The cost of evaluations and mitigation (including both field and lab activities) was assessed to the developers.

Initially, the National Museum carried out the evaluations itself. It subsequently limited its role primarily to initial inspections and the monitoring of projects as the Foundation of the National Museum (a private, nonprofit organization) and independent archaeologists began to take responsibility for field and laboratory evaluations. A fundamental step in this process was the approval of proposals for archaeological evaluations by the National Archaeological Commission (CAN), an interinstitutional entity created by the 1982 legislation and based at the National Museum.

As a result of the increased number of evaluations, a large number of new sites that would be potentially affected by development projects were registered and studied, especially in areas of urban expansion and both industrial and agricultural development. As result of these evaluations, decisions were made as to whether sites required protection, salvage, or whether the initial information obtained was adequate for authorization of the development project. The materials recovered during this process had to be analyzed in approved laboratories and ultimately deposited at the National Museum.

The predominant interpretation of the law was that only the National Museum would be allowed to undertake archaeological mitigation involving excavation because of the complexity of these operations, the presence of objects with potential arqueológicos fue destruido sin que mediara ningún tipo de intervención o sanción.

La nueva medida trajo cambios notables en la práctica arqueológica del país. Los desarrollistas debieron obtener del Museo Nacional, la entidad encargada del registro de sitios arqueológicos, una verificación de que en los terrenos a desarrollar no existían yacimientos precolombinos. Aun cuando más de dos mil sitios arqueológicos han sido registrados, la mayor parte del territorio no ha sido sometida a reconocimientos arqueológicos exhaustivos. Esto conllevó la realización de inspecciones en el campo para determinar la presencia o no de restos arqueológicos. En aquellos casos positivos, el siguiente paso fue la realización de evaluaciones arqueológicas para establecer las características básicas de los sitios y el grado de impacto que iban a recibir. El costo de dichas evaluaciones (laboratorios de campo y laboratorio) debía ser cubierto por los desarrollistas.

Inicialmente el Museo Nacional llevó a cabo las evaluaciones, pero luego limitó su papel mayormente a la inspección y supervisión de proyectos, por lo que la Fundación del Museo Nacional y arqueólogos independientes asumieron su realización. Un paso fundamental en la realización de dichos estudios fue la aprobación por parte de la Comisión Arqueológica Nacional (CAN), una entidad interinstitucional creada por la Ley de 1982, para velar por el cumplimiento de la Ley, aprobar excavaciones arqueológicas y supervisar su realización. Esta última función junto con el Museo Nacional.

Producto de las inspecciones y evaluaciones se dió el registro y estudio de una gran cantidad de nuevos sitios arqueológicos a ser afectados por proyectos de desarrollo, especialmente en áreas de expansión urbana y de desarrollo agrícola e industrial. A raíz de las evaluaciones se determinó si el sitio ameritaba protegerse, rescatarse, o si la información obtenida era suficiente y se podía proceder con el proyecto. Los materiales recuperados debían depositarse en el Museo Nacional y su análisis debía realizarse en laboratorios reconocidos.

En el caso de que se recomendara el rescate, la interpretación prevaleciente de la Ley de Patrimonio Arqueológico indicaba que el Museo Nacional era el responsable de llevarlo a cabo dada la complejidad del trabajo, la obtención de piezas completas, y eventualmente restos humanos. Un caso que recibió mucha divulgación en la prensa fue el rescate de una compleja área funeraria y habitacional en los terrenos donde la compañía INTEL construiría su planta de microchips.
monetary value, and the special requirements of human remains. One case that received a great deal of media attention in Costa Rica was the salvage of La Ribera de Belén, a complex prehistoric site with numerous funerary and domestic features that was discovered on land slated for the construction of a large microprocessor manufacturing plant by Intel Corporation. Construction proceeded as planned subsequent to archaeological mitigation, but not without significant controversy over the way the project had been handled.

Some unanticipated results of new approaches to archaeological protection, not contemplated in the 1995 legislation, were the establishment of archaeological reserves through negotiation with individual companies. In some cases, it was possible to modify the design or location of works to minimize or avoid the impact. However, in the years following the 1995 legislation the procedures, duration, and cost of archaeological impact studies began to generate problems with developers. This was particularly true for those who did not consider these studies in the planning stages of their projects or who were forced to undertake them just prior to beginning work or after operations had already begun. Archaeological evaluations in areas of several (two to six) hectares lasted for four to six months and their cost ranged from 500,000 to 3 million colones (approximately $1500 to $10,000).

The recent presidential decree resulted from pressure placed on the government by the home construction industry and other development interests. It has had a number of potentially deleterious effects. Archaeological evaluations are once again voluntary, rather than mandatory, and developers are only required to report archaeological remains if they are exposed during earthmoving operations that is, after an archaeological site has been altered. Naturally, it is highly unlikely that sites with anything less than impressive ceramic vessels, stone sculpture, or large features will be reported. The likelihood of theft and looting has also been dramatically increased. The National Museum no longer has the exclusive authority to conduct inspections and archaeological salvage, making the monitoring of evaluations an even greater concern. The decree states that earthmoving activities do not require direct supervision unless archaeological sites have been previously recorded in the area. However, for an institution like the National Museum, with its very limited operating budget, the ability to monitor multiple development projects is minimal. The decree also modified the responsibilities of the CAN. This entity, composed of ad honorem members and operating without its own funds, is now required to meet weekly. The period allowed for the review of this entity, composed of multiple development projects is minimal. The limited operating budget, the institution previously recorded in the area. However, for an archaeological supervision unless archaeological remains are exposed during earthmoving operations that is, after an archaeological site has been altered. Naturally, it is highly unlikely that sites with anything less than impressive ceramic vessels, stone sculpture, or large features will be reported. The likelihood of theft and looting has also been dramatically increased. 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proposals has been reduced from two months to ten days. If a decision has not been reached within that time, a study can proceed without further review. The required contents of proposals for archaeological evaluations have been reduced to a brief summary of antecedent studies and a description of the proposed methodology. This derives from arguments that these evaluations do not constitute normal archaeological research and therefore enjoy a special status. The decree also establishes questionable distinctions between important and unimportant sites using characteristics that do not correspond with archaeological criteria.

With the archaeological impact studies that began in 1995, Costa Rica had taken significant steps to protect its archaeological sites and cultural patrimony. These measures helped compensate for centuries of looting and the destruction of ancient cemeteries and settlements. Moreover, they were representative of an enlightened attitude toward cultural patrimony and the increasing self-awareness of Costa Rica's multiethnic and plurilingual identity. The change in the celebration of October 12 from the "Day of the Race" (glorifying the "discovery" of the New World by Christopher Columbus) to a "Day of Cultures" was a positive step in the recognition of the contributions of indigenous peoples to Costa Rica's history. It is especially ironic that President Rodriguez chose this day to announce a decree that drastically reduced opportunities for studying and protecting the material remains of Costa Rica's indigenous heritage.

In so doing, the Costa Rican government has sent exactly the wrong message to countries that had previously considered Costa Rica an exceptional leader in the protection of the natural environment (represented by a Nobel Peace Prize awarded to President Oscar Arias in 1987) and its archaeological patrimony. With these measures and announcements of plans for further deregulation of environmental impact studies, the country has taken a step backwards in international leadership. The October 12 decree unmasks a duplicitous policy that sacrifices irreplaceable archaeological resources for the short-term gains of a small group of national developers.

Since the decree, Costa Rican anthropologists and archaeologists have protested the measure in an ongoing effort to reverse the decision. This effort has been led by the Asociación Antropológica Costarricense, archaeologists from the University of Costa Rica, the National Museum, and independent contractors. They have found support from other sectors of Costa Rican society as well as foreign individuals and institutions. Important legal support destrucción de asentamientos y cementerios antiguos. Además estaban en consonancia con la nueva tendencia de considerar al país como plurilingüe y multiétnico. El cambio de la celebración del 12 de Octubre de "Día de la Raza" (que glorificaba "descubrimiento" por Cristobal Colón) por "Día de las Culturas", fue un paso positivo en el reconocimiento del aporte indígena. Es muy simbólico que el presidente haya escogido ese día para anunciar el nuevo decreto, con el cual se reduce drástica y la posibilidad de conocer, estudiar, y proteger los vestigios materiales de las poblaciones ancestrales.

El gobierno de Costa Rica está también enviando un mensaje erróneo a otros países de la región que han considerado a Costa Rica como líder en la protección del ambiente y ahora del patrimonio arqueológico. Con las medidas tomadas, y las anunciadas de desregular los estudios de impacto ambiental, el país retrocede en su liderazgo internacional y desenmascara una política de dobles valores que a la larga será más perjudicial que la ganancia a corto plazo de un grupo de desarrollistas nacionales.

La comunidad de arqueólogos y antropólogos de Costa Rica se ha organizado para enfrentar dicha medida y tratar de revertir el decreto. La denuncia y protesta llevada a cabo por la Asociación Antropológica Costarricense, arqueólogos de la Universidad de Costa Rica, Museo Nacional de Costa Rica, e independientes ha encontrado apoyo en amplios sectores del país y en el extranjero.

Un apoyo fundamental vino de la Defensoría de los Habitantes (Ombudsman) quien consideró que el nuevo decreto estaba en contradicción con la Constitución que establece que "la República debe conservar y desarrollar el patrimonio histórico y artístico de la nación . . . " (Art. 89), por lo que procedió a interponer un recurso de inconstitucionalidad ante la Sala Constitucional del Poder Judicial.

En estos momentos se está a la espera de la resolución de la Sala Constitucional. A la vez se ha preparado una redacción alternativa del decreto, la cual se ha enviado a las autoridades oficiales para su consideración. El desenlace de la presente situación tendrá un impacto fundamental en la configuración de la arqueología costarricense en el nuevo milenio.

Para mensajes de solidaridad enviar mensajes a:
Presidencia de la República
San José, Costa Rica
fax: (506) 253-3011, Web: www.casapres.go.cr
came from the Office for the Defense of Citizens (the national Ombudsman) which considers the new decree to be unconstitutional in that the Article 89 of the Costa Rican Constitution states "... the Republic must conserve and develop the historical and artistic patrimony of the nation ..." The Ombudsman has presented arguments of unconstitutionality to the Constitutional Court of the Judicial Branch. An alternative decree has been prepared in anticipation of a favorable decision from the Constitutional Court and submitted to the official authorities for their consideration. The resolution of the present situation will determine the shape of Costa Rican archaeology in the new millenium.

Messages of protest and expressions of solidarity with Costa Rican archaeologists should be sent to the following directions:

Presidencia de la República
San José, Costa Rica
fax: (506) 253-3011, Web: www.casapres.go.cr

Sala Constitucional
Corte Suprema de Justicia
San José, Costa Rica
email: Rpiza@sol.racs.co.cr

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To obtain the complete text of the decree in Microsoft Word format via the Internet imprenal.go.cr/html/decretos3.htm, follow the link to documents in Word, and select Decreto 28174 MP-C-MINAE-MEICA from the hypertext menu.

News reports (in Spanish) concerning the decree can be found online at www.nacion.co.cr/ln-ee/1999/octubre/13/pais2/html and www.larepublica.net/1999/noviembre/03/nacional-sub2.htm.

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Real-Time GIS Construction and Digital Data Recording of the Jiskairumoko Excavation, Peru

Nathan Craig

Introduction

Increasingly, researchers are turning to GIS databases for organizing, analyzing, and sharing the products of their field research (M. Aldenderfer and H. Maschner, editors, 1996, *Anthropology, Space, and Geographic Information Systems*. Oxford University Press, New York). Two general patterns to the process of increasing GIS use involving the scale and timing of database construction are identifiable. As I will show, current practice in GIS implementation has some serious shortcomings that can be overcome. The project described here—excavations at Jiskairumoko, a site in southern Peru—illustrate an attempt to expand upon and develop new ways to collect archaeological digital spatial data.

Archaeological data is collected at two basic scales: survey and excavation. Construction of archaeological GIS datasets has taken place almost entirely at the scale of survey data. However, a principle advantage of GIS technology is that it is a scaleless spatial infrastructure (M. Aldenderfer, 1996, Introduction. In *Anthropology, Space, and Geographic Information Systems*. M. Aldenderfer and H. Maschner (editors); M. Goodchild, and S. Gopal, editors, *The Accuracy of Spatial Databases*. Taylor and Francis, New York). Given this technological fact, there is no theoretical reason why GIS datasets of excavation data could not be just as common as survey scale datasets have become.

Not only does the construction of archaeological GIS databases occur primarily at the scale of survey information, generally the timing of database construction is well after the field season is completed. In most archaeological cases, the computer database is created through the transformation of paper records into digital form. The paper to digital transformation takes place almost entirely through some combination of typing, scanning, and digitizing. Conceivably all these operations could take place in the field. In fact within the discipline of geography the collection of digital datasets directly in the field, so-called "real-time GIS" is becoming common.

Working from real-time data collection models in geography, Aldenderfer and I developed a project that proposed collecting GIS data from excavation directly in the field with no intervening paper to digital data
transformation. We aimed to place data directly into the analytical context, reducing data entry time, and eliminating transcription errors that occur in the paper to digital transformation.

**Implementing Infield Digital Data Collection of Excavation**

The project began with the simple desire of streamlining GIS data collection. We selected the Environmental Systems Research Institute's (ESRI) ArcView 3.1 GIS software package for its ease of use, analytical power, and flexibility (ESRI, 1998, *ArcView 3.1 for Windows*). Through an equipment grant from the National Science Foundation, Aldenderfer obtained five Fujitsu pentop computers and two Nikon digital cameras to be used for GIS data entry during excavation of selected Late Period Archaic sites in the Rio Ilave region, which is found in the southwestern Lake Titicaca basin in southern Peru.

The key to this project is the current availability of computing technology capable of the tasks demanded of it. This project could not have been done in its present form even last year. The most critical piece of the technological puzzle is the pen computer. Although pen computers have been around for a number of years, all, until very recently, lacked a crucial feature: A sensitive screen upon which one could draw with accuracy and that could be seen under typical field conditions, i.e., in bright, indirect sunlight. So-called passive screens on pen computers, which currently dominate the market, can record images, drawings, and doodles, but they cannot render images accurately. Further, none of them have display properties that allow them to be viewed outdoors. In fact, most pen computers have been developed for the factory floor, office, and interior of vehicles.

All of this changed with the introduction of the Fujitsu Stylistic 2300. The pentop, which runs Windows 9x and NT, has a color transreflective screen that provides good, but not perfect, outdoor visibility, but more importantly, has an electromagnetic pen digitizer that moves the cursor across the screen by floating (or touching) the digitizer over it. It has extremely high resolution, at least as good and most likely better than pen and paper. In fact, it is just like drawing on paper, and depending on the software used, one can thin or thicken line width and change a whole series of other visual attributes of the drawing process.

It also is important to stress that the 2300 has a processor (in this case an Intel Pentium MMX running at 233MHz) capable of running ArcView efficiently, a large-capacity hard drive, and a number of PC card slots. Keyboards can be hot swapped, and it comes loaded with very high-quality handwriting recognition software (which ArcView, alas, does not presently support). In short, it is a pen computer capable of performing all of the tasks demanded of it.

The second piece of the puzzle is the digital camera. For this project, we used the Nikon Coolpix 950. John Rick, in a previous issue of the *SAA Bulletin*, [1999, 17(3): 37] described his field use of an earlier Nikon model, the 700; it performed splendidly. The 950, in our experience, performed even more capably. Although we could have done on screen digitizing without the digital camera, it would have been very time consuming, and most likely, the process would have defeated the essential goal of the project, which was to produce a real-time archaeological GIS at least as easy to use as paper procedures.
Fitting Units into the Larger Spatial Context of an Excavation

Prior to initiating fieldwork we realized that, at a very fundamental level, spatial aspects of the excavation database needed to be designed around a matrix. Aldenderfer generally excavates sites in blocks of units removing natural layers using the decapage technique to expose large living surfaces (M. Aldenderfer, 1998, Montane Foragers: Asana and the South-Central Andean Archaic. University of Iowa Press, Iowa City). Units are coded according to an XY-coordinate system forming a matrix that covers the extent of the site.

Four minimum provenience cells of 50 cm are maintained within each unit throughout excavation. These sub-unit provenience cells are maintained so that changes in artifact density can be examined at finer resolutions, permitting more detailed interpretations of prehistoric excavated surface functions. The minimum provenience cells were used for the basis for constructing a matrix in the GIS covering the entire spatial extent of the area to be excavated (Figure 1).

The excavation matrix was constructed in the GIS with an ArcView extension, GridMaker.avx (available at www.esri.com). All excavation units are constructed from the matrix of minimum provenience units. Provenience cells making up a unit are selected and copied to a new thematic layer. The matrix is a useful division and organization of space to replicate within the GIS. Not only does the matrix replicate a method common to many excavations, but it also is extremely useful for reconstruction of the entire site within the computer when the data are collected in the field on a unit by unit basis. Since, all of the site's units are generated by sub-setting cells of a matrix covering the entire extent of potential excavation, when reconstructing whole excavated surfaces within the GIS from data collected at the level of the unit, excavation units can match each other perfectly sharing nodes and chains (K. Clarke, 1995, Analytical and Computer Cartography. Prentice Hall, New Jersey; See Figure 2).
Figure 1 - Showing selected cells from the site excavation matrix. The table cells shown above correspond to labeled squares in the spatial data layer shown below the table. Note that every square has a corresponding record in the table and that each square is 50 cm on a side. Thus four 50-cm squares are required to construct a 1-m unit.

Adjacent units N10 and N11 of cultural level ii not sharing nodes and chains. Note overlapping polygon.

Adjacent units N10 and N11 of cultural level ii sharing nodes and chains. Note there is no overlapping polygon creating a perfect fit between adjacent units.

Figure 2 - Shows the importance of sharing nodes and chains between adjacent vector shapes in the GIS and illustrates the utility of constructing units from template files. In the example above adjacent unit polygons do not share nodes and chains and a third "in between" polygon that exists in the area of overlap. In the GIS this area may be extremely small, but could have a negative effect when reconstructing larger...
excavated surfaces. In the example below, unit polygons are constructed based on a template file and both polygons share connected nodes and chains. This produces a perfect fit between the two polygons and simplifies the reconstruction of larger excavated surfaces.

Digitizing each of the unit boundaries would be time consuming and is not something necessary to do in the field. Field digitizing is best directed toward recording archaeological information rather than toward database construction. By constructing each of the individual excavation units from sub-set copies of the site matrix, all units match perfectly with their eight adjacent neighbors. Using selected portions of the matrix as a template for creation of excavation units automates the creation of unit boundaries and ensures that each unit fits perfectly into the larger context of the excavation.

Automating the Creation of Attribute Fields

Specific kinds of information must be collected for each level of a unit and for each feature in a particular level of a unit. Level and feature forms generally fill at least an entire photocopied paper page. For collection of real-time GIS data of excavations, many attribute fields are necessary for sufficient description of the deposit. Creating fields from scratch for each new unit and feature theme would be a time-consuming process resulting in the wasting of valuable field time. Fieldwork is best devoted to recording information about the deposit rather than database creation. Since all units are created by sub-setting from a generic matrix covering the site, attaching all necessary fields to this unit matrix solves the problem of needing to reconstruct fields for each new theme. The generic matrix, like a paper form, contains all of the necessary fields prepackaged and ready to go as needed.

Keeping Level Data Flexible when Excavating in Natural Levels

Excavation in natural levels permits many kinds of spatial analysis difficult to achieve with only the use of arbitrary levels. When digging in natural levels, uneven living surfaces can be exposed and examined as a whole rather than restricted within some arbitrary vertical division of space. However, natural levels often are discovered during the process of excavation. Previous work in the region showed that hunter-gatherer Archaic archaeology in the region often consists of thin difficult-to-detect palimpsest layers (Aldenderfer 1998). As we excavated the site, we quickly found that not all levels are of the same depth. Given the fact that some levels did not extend across a block but were only restricted to portions of a block, nomenclature needed to remain flexible. Keeping level information consistent, but maintaining flexibility in the number and depth of levels, also was possible due to the use of template files. Even if new levels are discovered within in a unit, a new level can easily be constructed from the template file.

How to Rapidly Collect Unit Feature Data into GIS

To be useful, real-time digital data collection must not be slower than conventional paper recording. If the technique is going to be useful, there cannot be significant bottlenecks during data entry. Furthermore, data collection must be at least as accurate as it is in traditional paper methods. Increases in speed and accuracy are desirable.

Using paper records, accurately recording the extent of unit features can be quite a time-consuming task during fieldwork. Features are generally identified by the context of artifacts or often from differences in soil color and texture. Once identified, feature recording onto a paper form begins by measuring a set of bounding points on the perimeter of the object in the unit. Once taken, these measurements are transformed into the scale of the paper form, the bounding points are plotted onto graph paper, and curves are fit to these bounding points to draw the feature.
Nearly all excavators record feature and unit objects in this way, and it is possible to replicate this method of data collection in real time using nearly any GIS software. Measurements can be taken in the unit and a GIS measurement tool can be used to replicate the plotting of points in the computer. Once the set of bounding points has been created within the computer, the feature can be digitized into its correct spatial context.

Since data collection for this project is built around a GIS structure, new methods of data collection are available to the field-worker. Given the tools provided by a GIS, we found that taking vertical photographs over excavated units permits extremely rapid and accurate digital reproduction of unit contents. ArcView 3.1 supports the display and analysis of raster as well as vector spatial data. Photographs taken with the Nikon digital camera are saved as JPEG image data. With the proper extension, ArcView3.1 can display and convert JPEG image data into the native ESRI Grid format. Thus photographs taken with the Nikon digital camera could be displayed, georeferenced, and used as a background image for on-screen and in-field digitizing within the GIS.

The digital photographic data from the Nikon camera are in the image's coordinate system based on pixel addresses. This coordinate system does not relate to a coordinate system that a researcher would want to maintain for a GIS of excavation. However, once a JPEG is converted to ESRI's native Grid data format, image data can be georeferenced within the GIS. Georeferencing of JPEG image data is common to digital orthophotogrammetry and GIS-based remote sensing studies. From the scaleless perspective of the GIS, georeferencing digital photographs taken over an excavated unit is no different than rubbersheeting air photos taken over some identifiable parcel of land. When known points are observable in image data and also are plotted within the computer, a set of "from" and "to" links can be constructed in order to resample the raster data into the coordinate system of the spatial database.

All images taken of levels in units were shot at 1600 x 1200 pixels with the unit taking the largest extent possible in the field of view. We took two sets of digital photographs for each level of each unit. Unit corners were clearly marked by tape measures in all the photographs. The first photograph is taken of the unit without any etching of features in the soil. Once units were recorded without marks, then feature boundaries were etched into the top of the unit. Color and texture were carefully examined, and when features were thought to be present, feature edges were etched in the soil. Feature etching is an important aspect of Aldenderfer's excavation methods because features are excavated and provenienced separately. Once etchings were made to the top of a level, the second set of photographs was taken.

Photographs were then transferred from the digital camera to the computer and added the GIS database. Etched unit photographs were georeferenced to their proper unit cells in the computer. Corners marked in the photograph could be used for constructing a set of links, as could the corners of the unit in the site matrix. The presence of four links permits a first-order warp of Grid data in ArcView. Once the image was rubbersheeted to the unit, features etched in the dirt were visible on screen, in the co-ordinate system of the GIS, and could therefore be easily digitized on screen (Figure 3). Additional objects resting on top of excavated surfaces (things like projectile points, bones, fire cracked rock, manos, and other objects important to record) also were easily visible in the photographs and could be digitized on screen. Once a photograph was rubbersheeted to the correct unit, recording of complex associations of objects on the surface was quick and easy.

The digital photographs are a consistent spatial sample of the space within the camera's field of view. The photographs were taken with an eight bit byte at 1600 x 1200. Each pixel represents a measurement quantitized to 0255, meaning that 1,920,000 measurements were made with each individual photograph taken of a unit. Once photographs are georeferenced to their corresponding unit corners in the GIS all of those nearly two million eight bit measurements are spatially accurate. Using this method many more measurements were taken for an individual unit than would have been possible using conventional strategies. Every space within the unit is consistently sampled according to its variation in the reflectance of visible light. Those measurements that define an object of interest are converted to a vector format through the process of on screen digitizing.
Figure 3 -- Showing the multi-scale nature of the GIS database and illustrating the utility of high-resolution digital cameras for recording excavated surfaces. The digitized entities were drawn to their correct scale on the screen of the Fujitsu pentop computers into ESRI’s ArcView 3.1 GIS database using 1600 x 1200 pixel photographs taken with a Nikon digital camera.

All geographic features were digitized into a unit and level specific copy of the archaeological feature template theme which is quite similar to the unit template theme. The feature template theme is similar in that it is a vector layer containing all of the attribute fields necessary for recording an archaeological feature, just as the
unit template is a vector theme with all of the fields necessary for recording unit level information. The feature template is different in that it contains no shapes and the attribute table contains no records, whereas the unit template consists of all possible provenience squares and a record for each in the theme attribute table. For each new unit, archaeological features and artifacts resting on the top of the level are digitized into the units feature theme. Digitizing shapes produces a corresponding record in the theme's attribute table. That record can then be given the necessary attribute information by adding it to the table.

Rubbersheeting photographs is time consuming, but the benefits gained in terms of accuracy and speed of feature recording are quite significant. Photographing, downloading, rubbersheeting, and digitizing of a given level of a unit could be completed in about 45 minutes. Since many steps could be automated, done in batches, and completed in the lab before going into the field, field recording efficiency was quite high. The most efficient routine we developed involved excavating what could be done during a day's work. Then at the end of the day, photographs of the newly exposed surfaces were taken, both etched and not etched. In the lab, either at the end of the day or in the morning before returning to the field, photographs of newly excavated units were downloaded into the computer, converted to grids, and then rubbersheeted. Some digitizing, particularly of large and obvious entities, could be done in the lab before going into the field. Thus we returned to the field each day prepared to make only those observations (drawings and attributes) that needed to be made while at the site.

Objects that need some record associated with them have to be digitized on screen. Some observations necessary for digitizing can only be made in the field. Telling the difference between a mano and a river rock, or telling whether a rock is fire cracked or naturally angular, cannot be done from unit photographs alone. Decisions about digitizing these objects are best made while at the site. Associations and precise relationships of superposition also are best digitized in the field when standing next to the unit looking at the photograph zoomed in close. During our first season, prep work for unit creation and photo georeferencing could be done while not in the field. Field data collection could then focus on taking elevation measurements, Munsell colors, and recording features that were difficult to discriminate from the photographs.

**Tracking the Completeness of Digital Unit Data during Excavation**

Keeping track of paper excavation records is difficult. Keeping track of digital records is no easier. Careful attention to developing an organized file structure and a consistently applied naming convention are essential to the success of any GIS project. Even with paper records excavators may find that some unit information has not been included in the paperwork. That is no less likely to be the case with digital records. Filling out electronic records in the field does not solve problems of ensuring that all of the attribute fields are properly entered during the excavation process. Pulling up and examining unit and feature records to check if they are complete can consume time in the field.

During excavation many units may be open within a block and keeping track of each unit's status can be quite difficult. It is no less possible to excavate away objects that do not receive their proper attributes when recording digitally than it is when recording excavations on paper. To help solve basic record-keeping problems, we developed a unit metadata form. This form is one of the few paper products used systematically during data collection. It was extremely useful to keep this record on paper because it is metadata necessary to refer to while looking at the database. The quickness and flexibility of the paper record used in conjunction with the computers made it a valuable quality control tool. For each unit-level theme, we constructed in the computer database we recorded when the theme was created, when starting and ending attributes had been entered, and when the unit was finished. At the end of the day, this record was updated into the computer. As the form grew, we would periodically print out updated versions for use in the field.

**Summary**

GIS is a scaleless technology permitting analytical power difficult to achieve with analog data. However, archaeological geographic databases have been primarily constructed at the regional level. Modeling of excavated archaeological data is just as possible as the modeling of surface survey data. Once the spatial context
of the excavation was constructed through the creation of a site matrix within the GIS, high-resolution digital photographs could be converted into spatially referenced records of an excavated surface. The georeferenced photographs were empirical observation useful for accurate and rapid digitizing of features and artifacts resting on exposed surfaces. Lastly, our paper excavation meta-data form worked to ensure that unit and feature attribute tables were properly completed during the process of excavation.

Thus far in archaeology, GIS databases are generally constructed after fieldwork is completed. There are multiple drawbacks to this approach to GIS construction. Efficiency is lost in the post-fieldwork paper-to-digital transformation, and there is a potential for the introduction of error. Real-time digital data collection avoids these two problems. Additionally, and perhaps more importantly, real-time digital data collection permits fundamentally new approaches to recording field data. Use of the digital camera as a high-resolution measurement tool would not have been possible with post-field data entry alone. This development is only one of many possible new data-collection techniques available when recording digital data in the field.

This project is still in its infancy. Although we had great success in implementing a real-time archaeological GIS under typical field conditions, there remains much to be done to make the system easier to use. We need to find economies of scale in image warping and data entry, and we also need to be more careful and creative in the ways in which data are downloaded and archived for both immediate field needs and longer term storage. We also want to explore the interface between total stations, the pen computers, and ArcView to automate even more effectively data collection.

Over the next few months, we will be developing a Web site that will discuss these issues, as well as many others, in greater detail. Look for the announcement of its address in the News and Notes section of the Bulletin in the not-too-distant future.

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Endangered Cultural Resources

Archaeological Resources Protection Act Conviction on the Tongass National Forest, Alaska

Terence E. Fifield and Jack Davis

On Monday, March 22, 1999, Ian Lynch of Klawock, Alaska, entered a conditional guilty plea to a felony charge of violating the Archaeological Resources Protection Act of 1979 (ARPA). Lynch, in his plea bargain agreement, admitted that he did commit the crime and accepted the value of the archaeological damage at $10,880. However, he reserved the right to appeal the conviction on the grounds that the law itself may be unconstitutionally vague in its use of the term "knowingly." The defense contends Lynch had to know that his actions violated all aspects of ARPA in order to be found guilty of a felony; that he had to know in advance, for example, that the item he discovered was human skull, that the skull was on federal lands, that it was more than 100 years old, and that his actions were illegal. In contrast, the prosecution argues that guilt hinges simply on Lynch's knowingly digging for artifacts or skeletal remains on federal public lands without a permit.

The case stems from Lynch's actions on August 1, 1997, when Lynch and two companions were deer hunting on an island on the Thorne Bay Ranger District of the Tongass National Forest. Lynch explored along a cliff in the vicinity of what he knew to be an abandoned Tlingit Indian village. He spotted the top of a skull in a niche in the rock face. Excited by his discovery, Lynch dug up the skull with his bare hands and proceeded to partially excavate the remainder of the skeleton of a child in his search for artifacts. Although urged by his friends to leave the skull in the grave, Lynch took it with him back to Klawock. State troopers and Forest Service Law Enforcement officers questioned Lynch after receiving a tip and confiscated the skull. Taped and written statements by Lynch indicated he knew he was violating the law, and that even though he knew there would be legal consequences, he had no regrets about his actions. In a statement recorded in 1997 and reported in the Anchorage Daily News on March 23, 1999, Lynch said, "I know it was in the wrong, but to be honest with you, it's been a dream of mine my whole [expletive] Emergency Import Restriction Imposed on Khmer Stone Archaeological Material

The U. S. government is imposing an emergency import restriction on certain Khmer stone archaeological material ranging in date from the 6th century A.D. through the 16th century A.D. This step is taken in response to a request from the government of the Kingdom of Cambodia seeking U.S. assistance to protect its national cultural heritage that is in jeopardy from pillage. The request was submitted to the United States under Article 9 of the 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property. Both countries are party to this convention.

Stone archaeological material is being pillaged throughout Cambodia at an alarming rate. Recent reports indicate free-standing sculpture, architectural elements, and other stone artifacts are being illicitly removed from Cambodia by the truckload. Important monuments and sites, such as Angkor and Banteay Chhmar, are being damaged and destroyed by pillagers who, by means of chainsaws and chisels, detach architectural and sculptural elements from ancient Khmer temples for the illicit market. Stone monuments and sculpture produced during the Angkorian Empire illustrate a high degree of artistic, social, and economic achievement of the Khmer culture. Much of it also evidences the profound religious and social beliefs of the Khmer culture.
life to find something like that . . . I'm prepared to take whatever happens, because what happens to me is worth it because that's like a once in a lifetime thing. It was really cool finding it."

The crime in this case is the destruction of a gravesite, an archaeological feature probably related to a nearby abandoned village site. Through prior research at the village site, archaeologists had determined the site contains extensive shell midden, foundations of traditional houses, and a surface scatter of cabin remnants and boat parts from a mid-20th century occupation. Prehistoric cultural deposits in the village site had been radiocarbon dated to approximately 1,350 years old. The U.S. Forest Service Law Enforcement and archaeological personnel worked as a team with the Klawock Cooperative Association and the U.S. Attorney's office on the case. Consultation with tribal officials during the investigation was critical. Tribal NAGPRA committee members and the investigative team developed procedures to gather crucial prosecution evidence while maintaining appropriate respect for the deceased. The Lynch case is the first felony prosecution under ARPA in Alaska. The united front demonstrated by all the different agency and tribal individuals will send a message to others that may be thinking of committing similar crimes.·

Terence E. Fifield is an archaeologist at Tongass National Forest and Jack Davis is a criminal investigator.

The decision to impose this emergency import restriction was taken after the Cultural Property Advisory Committee reviewed Cambodia's request and made findings and recommendations in support of this action. The Department of State concurs in the committee's finding that the material is a part of the remains of the Khmer culture "the record of which is in jeopardy from pillage, dismantling, dispersal, or fragmentation which is, or threatens to be, of crisis proportions."

By taking this action, the government of the United States demonstrates its respect for the cultural heritage of other countries and decries the global pillage that results in an illicit trade in cultural objects and the irretrievable loss of information about human history. The United States takes this action in the hope it will reduce the incentive for further pillage of the unique and nonrenewable cultural heritage of the people of Cambodia. For further information, refer to the Federal Register Notice of December 2, 1999, which is available on the State Department's International Cultural Property Protections website: eusia.gov/education/culprop.·
The Sainsbury Research Unit (SRU) for the arts of Africa, Oceania, and the Americas, University of East Anglia, has a full 3-year Robert Sainsbury Scholarship for a candidate undertaking doctoral research, tenable at the SRU from September 2000. The scholarship covers fees and maintenance and includes a stipend to fund travel and fieldwork. Applicants should have a strong academic record and a background in anthropology, art history, archaeology, or a related subject. Full and part grants also are offered for the 2000-2001 M.A. course, Advanced Studies in the Arts of Africa, Oceania, and the Americas. Applicants for the M.A. course should have, or be about to have a good undergraduate degree in anthropology, art history, archaeology, or a related subject. The application deadline is March 10, 2000. Visiting Research Fellowships, tenable during the calendar year 2001. Holders of a doctorate who are undertaking research for publication in the field of the arts of Africa, Oceania, and the Americas are eligible to apply. In exceptional cases, advanced doctoral candidates may be considered. The application deadline is April 10, 2000. For further information, contact the Admissions Secretary, Sainsbury Research Unit, Sainsbury Center for Visual Arts, University of East Anglia, Norwich NR4 7TJ, UK, tel: + (01603) 592-498, fax: (01603) 259-401, email admins.sru@uea.ac.uk.

The Institute of Archaeology, University College London, announces several new one-year M.A. and M.Sc. degrees, in addition to the M.A. and M.Sc. in Archaeology: MSc in Principles of Conservation and M.A.s in Egyptian Archaeology, Cultural Heritage Studies, Public Archaeology, Museum Studies, Comparative Art and Archaeology, Field and Analytical Techniques in Archaeology, and Research Methods for the Humanities. A two-year Master's degree in Conservation for Archaeology and Museums also will be offered beginning in 2001. Additional Master's degrees in the following areas are currently under development: M.Sc.s in Environmental Archaeology, Archaeological Materials and Technology, GIS and Spatial Analysis in Archaeology, and M.A.s in Artifact Studies, African Archaeology, and Management of Archaeological Sites. Further information will be available from the Institute early in 2000. There is no closing date for applications but candidates seeking admission for September 2000 are strongly advised to apply well before the end of June 2000. Further information may be obtained from Cyprian Broodbank, Postgraduate Admissions Tutor, Institute of Archaeology, UCL, 31-34 Gordon Square, London WC1H 0PY, U.K., tel: + (44-020) 7679-7523 or 7679-7495, fax: + (44-020) 7679-2572, email: ioa-pgadmissions@ucl.ac.uk, Web: www.ucl.ac.uk/archaeology/.

The National Park Service's Intermountain Cultural Resources Management program announces the publication of The Bandelier Archeological Survey by Robert P. Powers and Janet D. Orcutt. The report presents analyses and interpretations resulting from a 40-percent sample inventory survey of Bandelier National Monument in north-central New Mexico. If you have received prior publications in the Bandelier series and would like a copy of this report, email Bob Powers at bob_powers@nps.gov or send a written request to Anthropology Projects, National Park Service, P.O. Box 728, Santa Fe, NM 87504-0728) including your mailing address. This is a free government publication.

The Department of Anthropology at The Field Museum seeks to increase scholarly use of its extensive collections of material culture. We therefore invite scholars and students to consider conducting collections-based research in Chicago. Our collection is particularly strong in ethnographic materials from East Asia, Sub-Saharan Africa (especially Angola and Madagascar), Central and South America, the Pacific Islands (especially New Guinea), and Southwest, Great Plains, and Arctic North America. In archaeology, our collection is particularly strong in materials from the Old World Paleolithic, Iraq, Mesoamerica, the southwestern and
midwestern United States, and South America. Significant documentary and photographic archives are available as well. All inquiries regarding our collections should be directed to the appropriate curator listed below or to Stephen E. Nash, Head of Collections, Dept. of Anthropology, FMNH, Chicago 60605, email: snash@fmnh.org. Inquiries ideally should be directed to our staff at least four weeks before your planned visit to Chicago. Advance notice allows the collections management team to properly prepare for your visit and will help ensure that your trip to the museum is productive. Visits from our colleagues are welcome and encouraged!

African Ethnology and Archaeology
Chap Kusimba

Asian and European Ethnology and Archaeology
Bennet Bronson

Asian Ethnology and Archaeology
Anne Underhill

Central and South American Ethnology
Alaka Wali

Mesoamerican Ethnology and Archaeology
Gary M. Feinman

North American Ethnology and Archaeology, South American Archaeology
Jonathan Haas

Pacific Ethnology and Archaeology
John Terrell

The annual journal, Utah Archaeology, is seeking papers on the archaeology of the eastern Great Basin, the northern Colorado Plateau, and the western Rocky Mountains, as well as new subscribers. Submissions are welcome from professional and avocational archaeologists. Subscriptions are $15 (or as part of membership in UPAC for $25) from Utah Archaeology, Utah Division of State History, 300 Rio Grande, Salt Lake City, UT 84101. Paper submissions and inquiries should be directed to the editor, Steven Simms, Anthropology, Utah State University, Logan, UT 84322-0730, email: ssimms@hass.usu.edu.

The Hermitage will host its 12th year of internships in historical archaeology during summer 2000. The program is intended for advanced undergraduates and early-phase graduate students who have had field training in archaeology. The Hermitage is particularly interested in students whose specialization is in historical archaeology and offers an opportunity for more experience in a research-oriented setting with a strong emphasis on direct interaction with museum visitors. Participants receive room, board, and a stipend of $250 per week. Dates: Session I, June 13-July 9; Session II, July 13-August 13. The Hermitage is a historic site museum visited by 250,000 people a year. Its mission is to interpret the life of Andrew Jackson, the seventh U.S. president, in the context of his home and surrounding plantation. In 2000, archaeological fieldwork on the property will concentrate on a dwelling for enslaved Africans located behind The Hermitage Mansion. Additional work will focus on landscape features surrounding both the slave dwelling and the mansion. Applicants should be in good physical condition and should be aware that this internship primarily involves long hours of digging in hot, humid, and dirty conditions. Application is by letter, which should include a summary of education and research experience and a statement detailing your specific interest in the program. Be sure to indicate your session preference and dates of availability. Applicants must have two letters of recommendation sent under separate cover. If you would like to be notified once your application is complete, enclose a self-addressed, stamped postcard. Send letters and inquiries to Jillian Galle, The Hermitage, 4580 Rachel's Lane, Hermitage, TN 37076. All application materials, including the letters of recommendation, must be received by April 10, 2000. All applicants will be notified of selection decisions no later than May 1.

Canon National Parks Science Scholarships are now available. Are you a Ph.D. student in need of scholarship support? Is your research in either the biological, physical, social, or cultural sciences? Is your research on issues related to and important to the future of the National Park System? If so, you may be eligible for a Canon National Parks Science Scholarship of $25,000 per year to complete your research, for a maximum of three years and $75,000. The 2000 competition is focused on the following four broad research topics: Biological Sciences: What role do small parks play in the long-term viability of migratory species? Physical Sciences: What physical resources and/or processes are most important to monitor in order to evaluate ecosystem integrity in national parks? Social Sciences: How does the employment of specialists vs. generalists impact the organizational effectiveness of the National Park Service? Cultural Sciences: How does natural and/or prescribed fire affect the preservation of archeological resources? In 2000, eight scholarships will be awarded, two per

In the October issue of Discovering Archaeology, Stuart Fiedel published a negative review of Tom Dillehay's second volume on Monte Verde. Dillehay and his colleagues have written a long reply to Fiedel. It is on the Web at www.uky.edu/projects/monteverde/. The rebuttal, titled "On Monte Verde: Fiedel's Confusions and Misrepresentations," contains an introduction, a long section correcting the numerous errors in Fiedel's review, and photographs of in situ projectile points from excavations.

The National Endowment for the Humanities (NEH) announces the May 1, 2000, postmark deadline for applications for fellowships for university teachers and for college teachers and independent scholars. NEH Fellowships provide opportunities for individuals to pursue advanced research in the humanities. Research projects may contribute to scholarly knowledge or to general public understanding of the humanities. The tenure period is from six to 12 months, the earliest beginning date is January 2001, and the maximum stipend is $30,000. For application materials and information, visit the NEH Web site www.neh.gov or call (202) 606-8467.

The National Park Service's National Center for Preservation Technology and Training (NCPTT) has provided funding to the Foundation of the American Institute for Conservation of Historic and Artistic Works (FAIC) that will enable searchable access to the complete text of the Journal of the American Institute for Conservation (JAIC) on the Web. JAIC is the primary international vehicle for the distribution of peer-reviewed technical studies, research papers, treatment case studies, and ethics and standards discussion relating to the broad field of conservation and preservation of historic and cultural work. This grant will allow the FAIC to dramatically increase the public access to JAIC by placing it online. This new format will allow for browsing by issue, table of contents, abstracts, and full article pages. For further information about the NCPTT grant, contact FAIC, 1717 K St., NW, Suite 200, Washington, DC 20006, tel: (202) 452-9545, fax: (202) 452-9328, email: infoAIC@aol.com, Web: aic.stanford.edu. ·
POSITIONS OPEN

Position: Assistant Director  
Location: Binghamton University, New York  
The Public Archaeology Facility (PAF) at Binghamton University (SUNY) invites applicants for a three-year professional position in historical archaeology beginning spring 2000. The successful candidate will serve as the assistant director of PAF (a research center specializing in CRM investigations and student training). This individual will assist with administration and help shape future research programs in historical archaeology. The successful candidate also will advise students and staff on their research projects and will have opportunities for individual research and graduate teaching. Preferred qualifications: Ph.D. in anthropology (focus on historical archaeology, preferably in the eastern United States); 35 years experience in CRM supervisory, analytical, and research design skills; demonstrated commitment to research and publication within a CRM context; strong administrative, interpersonal, and mentoring skills; theoretical focus on social history and political economy; and college/university teaching experience. Send a cover letter, vita, and names of three references to Archaeology Search Committee, PAF, Binghamton University, Binghamton, NY 13902-6000, email: nversagg@binghamton.edu). Applications received by February 1, 2000 will receive full consideration. Binghamton University is an equal opportunity/affirmative action employer.

Position: Tenured Faculty Position and Program Director  
Location: University of California-Los Angeles (UCLA)  
UCLA announces a full-time, tenured position as a faculty member and director of the new Getty M.A. Program in the Conservation of Archaeological and Ethnographic Material. This program is a collaboration of the Cotsen Institute of Archaeology at UCLA and the J. Paul Getty Trust and focuses on the conservation of archaeological and ethnographic materials. Students for this three-year program will first be admitted for the fall of 2002. The director will lead the final planning stages of the program that will include the curriculum and course development and the hiring of two other faculty for the program. After its inception, the director will administer and teach within the program. Candidates should: (1) possess an advanced degree in conservation or related field (anthropology, archaeology, atmospheric science, chemistry, etc.); (2) be able to demonstrate experience in issues relating to archaeological/ethnographic conservation and teaching; (3) demonstrate experience in administration and fund raising; and (4) be an active researcher in conservation issues. Consideration of files will begin on February 15, 2000, and will continue until the job is filled. Please send letters of interest, a curriculum vita, and three names and addresses as references to Conservation Search Committee, The Cotsen Institute of Archaeology at UCLA, Fowler A-210, UCLA, Los Angeles, CA 90095-1510, email: sanchezj@ucla.edu. UCLA is an Equal Opportunity Employer.

Position: Assistant Director  
Location: University of California-Los Angeles (UCLA)
The Cotsen Institute of Archaeology at UCLA invites applications for the position of assistant director. The assistant director will be in charge of the day-to-day intellectual and research activities within the institute. This individual will also play a major role in developing and shaping the future directions of the institute. A strength in administration as well as a vision of the future of archaeological research are desired. Time for individual research or teaching is part of this position. Ph.D. or M.A. in archaeology or related field dealing with ancient societies (anthropology, classics, near eastern studies, etc.) is required. Additional information about the institute can be found at: www.sscnet.ucla.edu/ioa. The deadline for applications is January 21, 2000. Send application letter, curriculum vita, and names and addresses of three references to Assistant Director Search Committee, The Cotsen Institute of Archaeology at UCLA, Fowler A-210, UCLA; Los Angeles, CA 90095-1510.

Position: Visiting Scholar
Location: University of California-Los Angeles (UCLA)
The Cotsen Institute of Archaeology at UCLA invites applications for the annual Cotsen Visiting Scholars position. The purpose of this program is to invite an archaeologist (recent Ph.D. to senior scholar) to join the Cotsen Institute of Archaeology and to teach one graduate seminar, conduct own research and writing, and participate in the activities of the institute during the 2000-2001 academic year. The Cotsen Visiting Scholar will be in residence for a period of one to three 10-week quarters (October 1-June 20). A stipend of $30,000 is available. Additional information about the institute can be found at: www.sscnet.ucla.edu/ioa. Candidates should send a letter of application that describes their current research, the proposed research/writing activities at the institute, and the proposed seminar to be taught at UCLA. In addition, candidates should send a curriculum vita and three names and addresses of references. The deadline for applications is March 1, 2000. Applications should be sent to Cotsen Visiting Scholar Committee, The Cotsen Institute of Archaeology at UCLA, Fowler A-210, Los Angeles, CA 90095-1510.

Position: Director, Center for Spatial Information
Location: Central Washington University
The Center for Spatial Information (CSI) at Central Washington University is seeking a proactive, technically proficient director with interest and skills in creating opportunities for a wide spectrum of spatial technology users. The director may participate in CSI projects and carry his/her own externally funded projects. Experience with granting agencies, previous success in writing and obtaining grants, and excellent communications skills are important. The CSI director is a nontenure track, 12-month faculty position, reporting to the dean of Graduate Studies and Research. For position announcement and application procedures, see www.cwu.edu/~csi. AA/EOE/Title IX Institution.

Position: Assistant Professor
Location: Ohio University
Ohio University seeks an assistant professor in archaeology with a strong preference for specialization in bioarchaeology. This appointment is a nontenure track, leave replacement position which may extend for up to three years, beginning September 2000. Teaching load is two courses per quarter, with both service courses and upper-division undergraduate courses as part of the responsibilities. The successful candidate must be capable of teaching large introductory courses in all subfields, especially cultural anthropology. A Ph.D. is preferred but ABD will be considered. Additional information can be found at www.ohiou.edu. Send cover letter, curriculum vita, writing samples, evidence of teaching effectiveness, and three letters of reference to Tibor Koertvelyessy, Anthropology Search, Dept. of Sociology and Anthropology, Ohio University, Athens, OH 45701-2979. Review of applicants begins on January 15, 2000. Ohio University is an Affirmative Action/Equal Opportunity Employer.

Position: Supervising Archaeologist
Location: Portland, Oregon
AINW has a full-time, regular position open for a supervising archaeologist in its Portland, Oregon, office. Minimum requirements include an M.A. or M.S. degree in anthropology or closely related field and 3 to 5 years of archaeological experience, including supervision of field personnel. The successful candidate also will have strong scientific writing skills and the ability to collaborate and work with other staff in the production of professional reports. Familiarity with cultural resource management laws and regulations and Pacific Northwest
archaeology, history, and geography is strongly desired. A supervising archaeologist is expected to manage and supervise field crews and collect, analyze, and interpret field and laboratory data under the direction of senior staff. As much as half of the time may be spent performing fieldwork, and a valid driver license is necessary. The position requires working cooperatively with managers, technical staff, and administrative staff. This is a regular, full-time position that includes benefits and requires living within the Portland-Vancouver commuting area. There is no closing date on this position. The position will be filled when the appropriate candidate has been selected, so we encourage those interested to respond as soon as possible. To apply for this position, send a letter of interest and availability, a current résumé/vita, and the names and contact information of three references that can provide information about your capabilities and employment experience to Jo Reese, AINW, 2632 SE 162nd Ave., Portland, OR 97236. For additional information, contact Jo Reese (jo@ainw.com) or John L. Fagan (john@ainw.com). AINW’s Web site provides information about the firm at www.ainw.com. AINW is an Equal Opportunity Employer and does not discriminate against any employee or applicant or employment based on race, color, religion, gender, national origin, age, or handicap.

**Position:** Senior Archaeologist  
**Location:** Portland, Oregon

**AINW has a full-time, regular position** open for a senior archaeologist in its Portland, Oregon, Office. Minimum requirements include an M.A. or M.S. degree in anthropology or closely related field and 5 to 8 years of archaeological experience. Previous experience must include management of field and office personnel and coordination with clients to complete projects successfully. A thorough knowledge of cultural resource management laws and practices is required and familiarity with Native American tribes and government agencies in the Pacific Northwest is strongly desired. The successful applicant must have clear writing skills, the ability to collaborate and work with other staff in the production of professional reports, and knowledge of the archaeology, history, and geography of the Pacific Northwest. A senior archaeologist is expected to manage and supervise all activities and personnel associated with archaeological surveys and excavations and ensure that projects meet AINW’s high standards and conform to the scope of work, budget, and schedule. Preparation of reports and coordination of contributions of other staff to complete final reports is a significant element of the position. As much as one-quarter of the time may be spent performing fieldwork, and a valid driver's license is necessary. The position requires working cooperatively with managers, technical staff, and administrative staff. Assisting in preparation of proposals is expected to be part of the position. This is a regular, full-time position that includes benefits and requires living within the Portland-Vancouver commuting area. There is no closing date on this position. The position will be filled when the appropriate candidate has been selected, so we encourage those interested to respond as soon as possible. To apply for this position, send a letter of interest and availability, a current résumé/vita, and the names and contact information of three references that can provide information about your capabilities and employment experience to Jo Reese, AINW, 2632 BE 162nd Ave., Portland, OR 97236. For additional information, contact Jo Reese (jo@ainw.com) or John L. Fagan (john@ainw.com). AINW’s Web site provides information about the firm at www.ainw.com. AINW is an Equal Opportunity Employer and does not discriminate against any employee or applicant for employment based on race, color, religion, gender, national origin, age, or handicap.

**Position:** Director, Behavioral and Cognitive Sciences Division  
**Location:** National Science Foundation, Arlington, Virginia

The **National Science Foundation's (NSF) Directorate for Social, Behavioral and Economic Sciences** seeks candidates for the position of Director, Division of Behavioral and Cognitive Sciences (BCS). The incumbent provides leadership to programs and initiatives supporting research and education in the psychological, cognitive, linguistic, anthropological, and geographical sciences. Appointment to this senior executive service position may be on a 2- to 3-year limited term basis in the federal service at the ES-1 to ES-4 salary range (currently $110,351 to $125,900) or on assignment under Intergovernmental Personnel Act (IPA) provisions. Applicants must have a Ph.D. or professional experience in a relevant disciplinary field, substantial research administration experience, and demonstrated leadership skills. Announcement EP 00-6, with position requirements and application procedures, is located on the NSF Home Page (www.nsf.gov/home/chart/work.htm#hrm). Applicants may also obtain announcements by calling the Executive Personnel and Development Branch on (703) 306-0755. Hearing impaired individuals may call TDD
(703) 306-0189. Applications must be received by March 1, 2000. NSF is an equal opportunity employer committed to employing a highly qualified staff reflecting the diversity of our nation.
February 19, 2000
**The 11th Annual "Workshops in Archaeometry"** will be held at SUNY-Buffalo's Amherst Campus in Buffalo, New York. For more information on this free conference, check our web site at www.acsu.buffalo.edu/~hfk/arch.html, email: hfk@acsu.buffalo.edu, or write to Hex Kleinmartin, AARG Conference Director, 380 MFAC Ellicott Complex, SUNY-Buffalo North, Buffalo, NY 14261-0005.

February 26, 2000
**The 28th Annual Midwest Conference on Andean and Amazonian Archaeology and Ethnohistory** will be held in Fort Wayne, Indiana. The deadline for abstracts is January 31, 2000. For information, contact Richard Sutter, Department of Sociology and Anthropology, Indiana University-Purdue at Fort Wayne, Fort Wayne, IN 46805-1499, tel: (219) 481-667, fax: (219) 481-6985, email: SutterR@ipfw.edu, Web: www.ipfw.edu/cm1/sutterr/web/midwest/default.html.

March 3, 2000
**The 17th Annual CAI Visiting Scholar Conference** will be held at Southern Illinois University at Carbondale. The conference will explore theoretical and methodological issues relating to social power and power relations. For program and registration information, contact Maria O'Donovan, Center for Archaeological Investigations, Southern Illinois University at Carbondale, Faner 3479, Mailcode 4527, Carbondale, IL 62901-4527, email: modonova@siu.edu, Web: www.siu.edu/~cai/vs.htm.

March 17, 2000
**The 18th Symposium on Ohio Valley Urban and Historical Archaeology** will be held at Shakertown at Pleasant Hill, Kentucky. For more information, contact Kit W. Wesler, Wickliffe Mounds Research Center, P.O. Box 155, Wickliffe, KY 42087, tel: (270) 335-3681, email: kit.wesler@murraystate.edu.

April 5, 2000
**The 65th Annual Meeting of the Society for American Archaeology** will be held at the Philadelphia Marriott Hotel, Philadelphia. For information, contact SAA Headquarters, 900 Second St. NE #12, Washington, DC 20002, tel: (202) 789-8200, email: meetings@saa.org, Web: www.saa.org.

April 6, 2000
**The international Clark Conference** will address the issues raised when the art of several areas of the world is brought together, as in a museum, a university course, a book, a theory, a library, or a database. Clark Conferences annually strive to convene a group of major scholars from around the world to explore and debate a vital topic raised by the study, presentation, and explanation of art, whether in universities or museums, exhibitions or books. This year's "Compression vs. Expression: Containing and Explaining the World's Art" is organized by John Onians, director of the World Art Research Programme at the University of East Anglia, and consultative chair of Research and Academic Programs, Clark Art Institute. The conference will be held at the
Sterling and Francine Clark Art Institute in Williamstown, Massachusetts. For more information, call the Events Office at (413) 458-2303, ext. 324.

April 12-15, 2000
The 69th Annual Meeting for the American Association of Physical Anthropologists will be held at the Adam's Mark Hotel in San Antonio, Texas. For program information, contact Mark Teford, Dept. of Cell Biology and Anatomy, Johns Hopkins University School of Medicine, 725 N. Wolfe St., Baltimore, MD 21205, tel: (410) 955-7034, fax: (410) 955-4129, email: mteford@jhmi.edu. For local arrangements information, contact Sarah Williams-Blangero, Dept. of Genetics, Southwest Foundation for Biomedical Research, P.O. Box 760549, tel: (210) 258-9434, fax: (210) 670-3317, email: sarah@darwin.sfbrr.org.

April 26-29, 2000
The Western Social Science Association Annual Meeting will be held at the Town and Country Resort and Convention Center in San Diego, California. The anthropology section seeks papers on all subfields and topics, but interdisciplinary and/or western states focus is encouraged. For information, contact Barbara Lass, Phoebe Hearst Museum of Anthropology, 103 Kroeber Hall, #3712, University of California-Berkeley, Berkeley, CA, 94720-3712, tel: (510) 526-1245 or (510) 642-6843, email lass@uclink4.berkeley.edu.

April 26-29, 2000
The fourth biennial CINARCHEA Internationales Archäologie-Film-Festival will feature films about archaeology made between 1996 and 2000, at the Stadtgalerie in central Kiel. The program includes recent international productions, previous international prize winners, notable older productions, and films about experimental archaeology. The associated scholarly conference will emphasize underwater archaeology with the theme, SeasMinding Memory, which also will be illustrated by the exhibition "The Baltic SeaOur Heritage Underwater." A bilingual (German/English) compilation of 1998 symposium papers on "Archaeology and the New Media" is available for DM 20. For information, contact Kurt Denzer, Director, CINARCHEA, Breiter Weg 10, D-24105 Kiel, Germany, tel: + (49-431) 57-94-941/942, fax: (49-431) 57-61-94-940, email: agfilm@zentr-verw.uni-kiel.de, Web: www.uni-kiel.de/cinarchea/index.htm.

May 15-19, 2000
The 32nd International Symposium of Archæometry (Archæometry 2000) will be held in Mexico City. For information, contact Instituto de Investigaciones Antropológicas, UNAM Circuito Exterior s/n, Ciudad Universitaria, Coyoacán 04510 Mexico, D.F., Mexico, fax: + (525) 622-9651 or + (525) 665-2959, email: archeom@servidor.unam.mx, Web: www.archaeometry.unam.mx.

May 19-21, 2000
The Third National Conference on Women and Historic Preservation will be held at Mount Vernon College, Washington, D.C. It is sponsored by the Preservation Planning and Design Program, University of Washington; the Regional Director, Northeast Region, National Park Service; and the Organization of American Historians; and hosted by the American Studies Department and Historic Preservation Program, George Washington University, and the Women in Power Leadership Program, George Washington University at Mount Vernon College. Proposals for presentations on any aspect of women and historic preservation are invited, particularly those that address the intersections of gender, race, class, ethnicity, and sexuality in the context of historic preservation or which provide an international basis for comparison. Submit proposals for papers, panels, or workshops to Gail Dubrow, Conference Chair, Conference on Women and Historic Preservation, Preservation Planning and Design Program, University of Washington, P.O. Box 355740, Seattle, WA 98195-5740, email: womenpres@hotmail.com, Web: www.caup.washington.edu/WomenPres.

May 22 and May 27, 2000
The 9th Annual Short Course "Death-Scene Archaeology: Field Methods in the Location, Recovery, and Interpretation of Human Remains from Outdoor Contexts" will take place at Mercyhurst College in Erie, Pennsylvania. The short course will expose participants to state-of-the-art techniques employed by forensic anthropologists in the location, archaeological recovery, and taphonomic interpretation of human remains from outdoor and fire-related forensic scenes. Comprehensive lectures by experts in a variety of forensic fields will be strongly supplemented with extensive hands-on opportunities in the collection of a wide range of scene
evidence. For further information, contact Dennis Dirkmaat, tel: (814) 824-2105, email: dirkmaat@mercyhurst.edu.

June 5-10, 2000

Screenings of the 3rd AGON International Meeting of Archaeological Film of the Mediterranean Area will be held at the Apollon Theater at 19 Stadiou St. in Athens, Greece. Daytime sessions will focus on films about Mediterranean archaeology from prehistory to modern times. To be eligible, they must run 50 minutes or less and have been completed after January 1, 1996. Documentaries about folk art and other endangered Mediterranean popular traditions will be shown at evening sessions, along with productions highlighting other aspects of Mediterranean culture. Award-winners may be featured at additional screenings. For information, contact Maria Palatou, Secretary. AGON 2000 c/o Archaeologia ke Technes (Archaeology and Arts), 4a Karitsi Square, 105 61 Athens, Greece, tel/fax: + (30-1) 33-12-991.

July 10-14, 2000

The International Congress of Amer-icanists will hold its 50th meeting in Warsaw, Poland, with the theme, "Praying for Rain: Style and Meaning as a Response to the Environment in Ancient American Art and Architecture." Natural phenomena such as topographic and astronomical features, weather, and flora and fauna composed an ecological web that provided inspiration for ancient American artists and architects. The manipulation and control of natural forces was a major leitmotif of most precontact art styles. This symposium will address art and architecture as the most tangible and enduring manifestation of human reaction to the environment in the Americas, with emphasis on the adversarial aspects of the human/nature relationship. Interdisciplinary papers will incorporate ecological, archaeological, ethnohistorical, and art historical data. For information, contact E. Michael Whittington, Curator of Pre-Columbian and African Art, Mint Museum of Art, 2730 Randolph Rd., Charlotte, NC, 28207, tel: (704) 337-2074, fax: (704) 337-2101, email: mwhittington@mintmuseum.org, or Virginia E. Miller, Associate Professor, Department of Art History, University of Illinois, 202A Henry Hall, 935 W. Harrison St., Chicago, IL 60607-7039, tel: (773) 413-2467, fax: (773) 413-2460, email: vem@uic.edu.

June 15-17, 2000

The 15th International Symposium on Latin American Indian Literatures (LAILA) will be held at the Library of Congress in Washington, D.C. To be considered for participation, send a 100-200-word abstract in English or Spanish, a symposium fee of $100, and the LAILA 2000 dues of $25 ($10 for students and retirees) by February 28, 2000, to Luis Arata, Program Chair, Department of Fine Arts, Languages, and Philosophy, Quinnipiac College, Hamden, CT 06518, tel: (203) 281-8658, email: luis.arata@quinnipiac.edu.

August 7-12, 2000

The Fifth International Conference on Easter Island and the East Pacific will be sponsored by the Easter Island Foundation and hosted by the Hawai'i Preparatory Academy on Hawai'i Island. Papers will focus on Polynesian prehistory, island landscape studies, arts of the Pacific, Polynesian languages and literature, colonization and exploration, paleobotany, and conservation issues. For further information, contact Pacific 2000, Easter Island Foundation, P.O. Box 6774, Los Osos, CA 93412, email: rapanui@compuserve.com.

October 5-7, 2000

The 26th Great Basin Anthropological Conference will be held at the David Eccles Conference Center, Ogden, Utah. The conference Web site www.isu.edu/GBAC can be checked for information on past participants, conference development and, as the time approaches, for conference details. The program chair is Steven Simms, Utah State University, email: ssimms@hass.usu.edu, and local arrangements chair is Brooke Arkush, Weber State University, email: barkush@weber.edu.
October 23-28, 2000

**VIIe ICRONOS Festival Internationale du Film Archéologique** is a biennial festival of films about archaeology highlighting an intensive archaeology awareness week. Screenings will be held in the Athenée Municipal in Bordeaux’s historic district. Ancient Civilizations of the Orient will be the main theme, but the program will also include international production about other domains of archaeology made during the preceding two years. The entry deadline is March 2000. Entry forms and regulations are available on the Web. For information, contact Président Philippe Dorthe, Commissaire Général Pascal Louis, or Chargée de mission Laetitia Dion, Association du Festival International du Film Archéologique (AFIFA), 20 Quai de la Monnaie, 33800 Bordeaux, France, tel: + (33-556) 94-22-20, fax: + (33-556) 94-27-87, email: afifa@imaginet.fr, Website: www-icronos.montaigne.u-bordeaux.fr.

October 5-7, 2000

**The 27th Great Basin Anthropological Conference** will be held at the David Eccles Conference Center, Ogden, Utah. Consult our Web site (www.hass.usu.edu/~gbac2000, www.hass.usu.edu/gbac2000) for news, abstract submissions, member input regarding conference organization, conference location information, and later, for registration and program details. For further information, contact Steven Simms, Utah State University, email: ssimms@hass.usu.edu.

November 15-19, 2000

**The 99th Annual Meeting of the American Anthropological Association** will be held at the San Francisco Hilton and Towers, San Francisco, California, with the theme, "The Public Face of Anthropology." The deadline for submissions is April 19, 2000. For submission information, see the January 2000 Anthropology News or contact AAA Meetings, 4350 N. Fairfax Dr., Suite 640, Arlington, VA 22203-1620, tel: (703) 528-1902 ext. 2, email: jmeier@aaanet.org.

November 16, 2000

**The CBA/BUFVC Channel 4 Film Awards Ceremony** will be held in the Great Hall of Edinburgh Castle. These biennial awards sponsored by Britain's Channel Four Television are presented by the Council for British Archaeology/British Film & Video Council Working Party to British-made broadcast and non-broadcast productions. Due to a departure from the usual selection process in 1998 in conjunction with the 21st anniversary of the whole British Archaeological Awards program, productions released from 1996 are eligible for the current competition. Prize winners also are screened during the Theoretical Archaeology Group meetings. The entry deadline is June 30, 2000. For information, contact Cathy Grant, Honorary Secretary, Council for British Archaeology/British Universities Film & Video Council Working Party, 77 Wells St., London W1P 3RE, England, tel: + (44-171) 393-1500, fax: + (44-171) 393-1555, email: bufvc@open.ac.uk (with "Attn: Cathy Grant" on the subject line), Web: www.bufvc.ac.uk.

November 27-30, 2000

**II Congreso de Arqueología de la Región Pampeana** will be held in Mar del Plata, Buenos Aires, Argentina. For information, write CC 3 Sucursal 1 (7600), Mar del Plata, Provincia de Buenos Aires, Argentina, email: carp2000@mdp.edu.ar.

back to top