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the SAA Archaeological record

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Cover photo: Storage and work rooms in the Early Bronze Age (ca. 2600–2300 BC) metal manufactory at Khirbet Hamra Ifdan, Jordan (Photo courtesy of Jabal Hamrat Fidan Project [Jordan]—UCSD, Patti Rabbitt, and Thomas Levy).



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EDITOR'S CORNER

Mark Aldenderfer

Mark Aldenderfer is a professor at the University of California–Santa Barbara.

This is my last Editor's Corner. Since 1993, I have written more than 35 of these, and it is hard to believe that this is, indeed, the last. As I told the membership at the Annual Business Meeting, I have enjoyed every moment of my editorial terms, and although it is time for a change, I nevertheless see this as a bittersweet moment. The *Bulletin*, now *The SAA Archaeological Record*, has evolved so much since 1993. We started small, no more than 16 pages per issue, and now produce 48 pages. We have seen two major design changes, one to modernize the *Bulletin* in 1994, and now the incarnation of the *Record* in 2001. Our content has likewise changed. Early on, most of what we published was society business. Today, while we still report on SAA's activities, we print columns on technology, information technology, government archaeology, relationships with indigenous peoples across the hemisphere, cultural resources management, and more. We have worked very hard to keep you current with the rapidly changing face of archaeology and SAA, and we are pleased with the results. This has been especially challenging as we have become a more diverse organization with very broad interests.

One of the accomplishments of which I am proudest is the introduction of the digital *SAA Bulletin* back in 1995. This was a first in archaeology and I am pleased to have been a part of the digital revolution in our field. Today there is a great deal of content in digital format devoted to archaeology, but back then, we were pioneers. We offered gopher, pdf, and HTML formats. This tradition of digital publication will continue with *The SAA Archaeological Record*.

Some of you might know that I was given a Presidential Recognition award at the 2001 Business Meeting. I am proud of this as well, but I do think it's important to recognize those people who were perhaps even more deserving than I—Kurt Dongoske, Kevin Pape, and John Hoopes have given yeoman service as long-term associate editors, and they should have been recognized for their contributions to our success. Karen Doehner, my editorial assistant, is the real star here. She has been involved in every facet of the *Bulletin*, now *Record*, since the beginning. She has designed, edited, written in, formatted, organized, and produced every *Bulletin* since 1993. She has done this with good humor and rare efficiency. She has even produced the *Bulletin* from our field site in Peru, no easy matter given the state of telecommunications at our home base and the demands of a hectic field season. I owe her a great debt and recognize that my award can be attributed to her creativity and dedication to the job.

Finally, I should look to the future. John Kantner, one of my former students, will now take over my position as editor, and I am very pleased with his selection. John worked on the *Bulletin*, and was responsible for developing our electronic version. He will be an excellent editor and I look forward to the plans he has to make *The SAA Archaeological Record* even stronger.

I thank all of you for your comments, help, submissions, support, and complaints. Remember, this is still your *Bulletin*, now *Record*, and I hope you will always find it of value.



LETTER TO THE EDITOR

I'm sending this letter to you as editor of *The SAA Archaeological Record*. You may have heard that the Heritage Addition was officially added to Effigy Mounds National Monument on December 15, 2000. We want to again thank the Society for American Archaeology for its support of that project. It was a long time coming, and it took many people—like your organization—to make it happen. Thanks from us, from all of Iowa, and beyond.

Our press release on the closing ceremony is posted on our Website. The president of Iowa Natural Heritage Foundation, Mark Ackelson, has specifically asked me to advise you of the project's status and to extend his thanks.

There will be an official dedication/hike at the Heritage Addition later this year—tentatively scheduled for June 2 or 9. This will be posted on our Website as soon as it is confirmed (www.inhf.org). I joined the September 2000 hike of the Addition and was overwhelmed by its beauty, the mysterious bear mounds, and the bald eagles flying overhead. It was fun to imagine how the site must have looked and felt to past societies here—and how it might affect future generations.

Thanks again to the Society for American Archaeology for supporting this exciting project.

Cathy Engstrom
Communications Coordinator
Iowa Natural Heritage Foundation

NEW EDITOR ANNOUNCEMENT

JOHN KANTNER BECAME THE NEW EDITOR FOR *THE SAA ARCHAEOLOGICAL RECORD* ON APRIL 20, 2001. THE DUE DATE FOR THE SEPTEMBER ISSUE IS AUGUST 1, 2001. PLEASE SEND ALL SUBMISSIONS AND POSSIBLE COVER PHOTOS TO JOHN AT THE FOLLOWING ADDRESS:

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NOTE TO MEMBERS WHO RECEIVED AN INCORRECT MAILING

In early February, SAA began a substantial campaign to recruit new members. We initiated this campaign because we believe that SAA has important benefits to offer archaeologists and in order to enhance the effectiveness of the Society. To a list of potential members we sent the January issue of *The SAA Archaeological Record* with an invitation to join SAA. In early March, we sent a follow-up postcard asking: "What Are You Missing? SAA!" to further encourage those individuals to join. To pursue this campaign, we accumulated lists of archaeologists from a number of sources and then ran a program that eliminated duplicates and removed entries from the prospect list if the name and address matched that of a member in the SAA database. Unfortunately, variation in the name or address fields caused a number of members to receive these mailings in error. I deeply regret that we have offended some of our loyal members by failing to catch these errors. Please accept my apology. Receipt of these mailings does not suggest that there is any problem with one's membership status. Of course, at any time membership questions can be directed to Bette Fawley, our manager of Membership at the SAA Executive Office (membership@SAA.org).

Robert L. Kelly
President



ARCHAEOPOLITICS

SAA SEEKS INTERVENTION STATUS IN LAWSUIT CHALLENGING CONSTITUTIONALITY OF ANTIQUITIES ACT

Donald Forsyth Craib

Donald Forsyth Craib is manager, Government Affairs at the Society for American Archaeology.

On January 25, 2001 the Mountain States Legal Foundation (Mountain States) filed suit against then President Clinton in the United States District Court for the District of Columbia seeking to set aside several national monuments designated by the president. These monuments include: (1) Grand Canyon-Parashant National Monument, (2) Canyons of the Ancients National Monument, (3) Cascade-Siskiyou National Monument, (4) Hanford Reach National Monument, (5) Ironwood Forest National Monument, and (6) the Sonoran Desert National Monument.

Mountain States seeks to set aside the national monuments designations as unconstitutional, enjoin any enforcement of new rules and regulations regarding the monuments, and have the court order that the affected areas be returned to their prior management status. Mountain States argues that the Property Clause of the United States Constitution [U.S. Const. Art. IV 3 (2)] grants to Congress the sole responsibility "to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States. . . ." According to Mountain States complaint, by designating the national monuments the president made "Rules and Regulations respecting the Territory or other Property belonging to the United States," and therefore acted unconstitutional and *ultra vires*. An act is considered *ultra vires* when the law grants no authority to act.

In February, SAA was approached by the EarthJustice Legal Defense Fund (formally the Sierra Club Legal Defense Fund) asking whether SAA would consider joining them as interveners in the lawsuit on behalf of the defendant, the president. EarthJustice has responded to Mountain States' original allegations by arguing that Congress has repeatedly over the years delegated its Property Clause powers to the president, and there exists U.S. Supreme Court precedent upholding Congress's ability to legally delegate its authority. In addition to EarthJustice, other parties who have already intervened or are currently seeking intervener status are: the Wilderness Society, National Trust for Historic Preservation, Natural Resources Defense Council, Sierra Club, National Wildlife Fund, and the Defenders of Wildlife.

The SAA Board of Directors voted in favor of proceeding to seek intervener status and the proper motions have been filed with the District Court. Intervention is a procedure whereby a third person, not originally a party to the lawsuit, but claiming an interest in the subject matter, comes into the case to protect a right or interpose a claim. Essentially, an intervener in this case becomes a co-defendant with the president and is legally entitled to both help defend the Antiquities Act and to have a say in any settlement the government might have to offer. It gives SAA a seat at the table.

SAA believes involvement in this case is important and necessary because the prerogative of the president to designate national monuments and the integrity of the Antiquities Act itself are at risk. Presidents have exercised their authority under the Antiquities Act over the past 100 years to establish national monuments in critical areas thus protecting fragile archaeological sites. For example, the Act has been used to designate monuments protecting America's prehistoric and historic heritage including: Chaco Canyon in New Mexico, Hovenweep in Utah and Colorado, Gila Cliff Dwellings in New Mexico, Effigy Mounds in Iowa, Aztec Ruins in New Mexico, Mound City in Ohio, and Bandelier in New Mexico. An adverse ruling by the court would seriously undermine the ability of the president to protect the nation's rich and diverse cultural heritage. Action by SAA and others is needed in order to sustain the purposes behind the Act.

SAA is becoming increasingly involved in national and international public policy issues. In order to be sure its voice is heard in critical situations where archaeological resources are at risk, the SAA Board of Directors established a legal defense fund. While SAA is hesitant to engage in litigation to resolve issues, sometimes there are situations when no other choices are available if SAA is to be effective. The objective of the fund is to establish a financial base, which is sufficient to allow SAA the opportunity to pursue causes that are critical to the discipline and a threat to archaeological resources. 

GOVERNMENT ARCHAEOLOGY

TRACKING AMERICA'S ARCHAEOLOGICAL SITES

Anne M. Wolley Vawser

Anne M. Wolley Vawser is an archeologist at the Midwest Archeological Center, National Park Service, in Lincoln, Nebraska.

Just who keeps track of all those archaeological sites anyway? Currently, there are more than 5 million historic properties included on statewide databases. Each year, hundreds of thousands of new archaeological sites are discovered and recorded in the United States, and keeping track of them all is no small task. Maintaining a register of archaeological sites is an inherently governmental job. The work primarily falls to the states, with support from the federal government through the Historic Preservation Fund; however, many federal, state, tribal, and even local land-managing agencies maintain their own inventories of archaeological sites on the lands that they administer.

The work of intensively inventorying lands for archaeological sites began in earnest in the late 1960s and early 1970 with the passing of The National Historic Preservation Act of 1966. This act established a Federal policy of protection of historic sites and required Federal agencies to consider the effects of their undertakings on historic resources. The act also established the President's Advisory Council on Historic Preservation (ACHP) to provide advice to the president and Congress on historic preservation matters, and to review Federal and Federally assisted activities that affect historic properties. Section 110 of the Act requires that Federal agencies identify, evaluate, and nominate to the National Register all significant archaeological resources under agency control or jurisdiction. In 1980, amendments to the Act were passed to codify portions of Executive Order 11593, requiring an inventory of Federal resources. The later amendments to The National Historic Preservation Act designated the State Historic Preservation Officers (SHPO) and Tribal Historic Preservation Officers (THPO) as the individuals responsible for administering programs in the states and on Tribal Lands.

Passage of the act resulted in a sudden increase in the number of archaeological sites being recorded each year. Conveniently, this same period saw the beginnings of computer technology that provided for the creation of databases to keep track of all the data being generated by federal and state land inventories as well as inventories of private lands being affected by federal undertakings. Granted, these early databases required a little

bit more computer savvy than most of us possess today. There were no pull-down menus, no point and click, no pick lists. Databases were created on mainframe systems with limited data fields and were heavily coded to reduce data-entry time and maintain consistency. States that maintained these databases depended on computer programmers, or computer-savvy archaeologists, to develop them, maintain the data, and do file searches. Requesting a file search in those early years was often an exercise in frustration, as there was generally one person who knew how to use the system, and they were always on vacation or something when you really needed them.

Over the last ten years or so, federal and state agencies have been taking some new approaches to managing their archaeological site inventories. Systems that worked well 20 years ago now often seem outdated, and state and federal agencies alike are looking at more efficient ways of dealing with site inventories. Federal and state agencies are working together in attempts to share data electronically to eliminate the huge paper backlog of data and make site recording and record keeping more efficient. And states are working together to make their systems more compatible with each other as they realize the need to deal with ecological regions that may not confirm to arbitrary state boundaries. Much of this activity is being driven by the introduction of new technologies such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), and digital photography. These tools can greatly enhance the management of archaeological site information.

Here are a couple of examples of the efforts that are taking place to improve the tracking of America's archaeological sites.

The Bureau of Land Management (BLM) has always worked closely with the western states to maintain their archaeological site information. One of the earliest efforts involved a cooperative effort between the BLM and the University of Utah, which led to the development of the Intermountain Antiquities Computer System (IMACS). Since its creation in 1981, information on thousands of archaeological sites has been entered into the IMACS system, more than 48,000 for Utah alone. Other groups

that eventually became a part of the IMACS system include the US Forest Service, the State Historic Preservation Officers of Idaho, Utah, and Wyoming, and the Nevada State Museum. Use of the IMACS database and site form allowed the various agencies in the adjoining states of Utah, Nevada, Idaho, and Wyoming to collect similar sets of data for sites. The consistency of information collected allowed researchers to more easily compare archaeological site information collected by different institutions and individuals. Use of the system across state lines and federal lands also made it easier for federal archaeologists and private contractors working on state and Federal lands to use site forms they were familiar with to collect data, resulting in a greater consistency of data recording. The IMACS system is currently being converted to a MS Access database by Eric Ingbar and Gnomon, Inc., and is linked to the GIS database in Utah.

The BLM is now working directly with many of the western states to create spatial databases of archaeological site locations and inventory areas through the use of GIS. The BLM has been assisting the states with funding to digitize archaeological base maps and link attribute data about the sites that is currently stored in state databases and the IMACS system. As a part of this effort, the BLM has worked with Gnomon Inc. to coordinate efforts across the states and develop data standards for the spatial data.

Other efforts at developing some standards for the creation of spatial databases of archaeological sites in GIS have been addressed by a group working under the Federal Geographic Data Committee's (FGDC) Subcommittee on Cultural and Demographic Data. The primary mission of the Cultural Resources Work Group (CRWG) is to develop, update, and review recommendations for the collection and maintenance of spatial cultural resource data, as well as metadata for cultural resource data. These recommendations would be provided to SHPOs, THPOs, and others who are in the process of automating data. The development of archaeological spatial data sets in GIS is still very young, and archaeologists are just beginning to deal with some of the issues of legacy data and location accuracy. The efforts of this working group will be more important as more archaeological data is entered into GIS systems. (For more information on the CRWG visit www2.cr.nps.gov/gis/fgdc/CRWG.htm.)

Many of the states have discovered the potential benefits of maintaining their archaeological-sites data in GIS systems and have taken the first steps toward this relatively new technology. The up-front costs of developing GIS databases has been a deterrent for many states up until the last few years. The cost in hardware and software required for an efficient GIS system is only one part of this investment. Converting old base maps and other paper records into digital data can be time consuming and expensive. Converting this type of data often means revisiting information about each site to determine the accuracy of the

recorded locations on maps. Training existing personnel in the use of GIS systems, or hiring qualified personnel with the expertise in both GIS and knowledge of issues relevant to archaeology, can also be difficult. And once the data is developed, it must be maintained and systems developed for the collection and entry of new data into the system.

Many states have not been able to tackle this job until recently due to the lack of funding. States have had a hard time convincing those that pay the bills that the high cost of data development will eventually pay off in more efficient data management and the reduced cost of inventory and mitigation of sites. States that have succeeded in developing GIS databases have often done so in cooperation with other state divisions that have realized the value of the data to their operation. In my home state of Nebraska, for example, the State Highway Department realized the value of a statewide database of archaeological site locations in project planning and initially helped to subsidize creation of a digital database.

Another Federal Agency that has recently made a commitment to modernizing their information management strategies for archaeological site data is the U.S. Forest Service. The Forest Service manages land that is subjected to multiple uses that have potentially negative impacts on archaeological sites, from logging to oil and mineral prospecting to public recreation. As a result, forest archaeologists and private contractors have inventoried hundreds of thousands of acres and recorded tens of thousands of sites. The forest service has created what they are calling their Heritage Database in an effort to move this extensive amount of data from paper maps and forms to a digital system of spatial and attribute data. The Heritage Database is unique among many other agency archaeological databases in that it does not stand alone, but integrates information on other cultural resources in the forests, such as historic structures and cultural landscapes. The database was also designed to reduce the duplication of effort in data recording by linking to information of ecological resources as well, such as vegetation, soils, and wetlands. All this attribute data will also eventually be linked to the spatial data now being entered into a GIS system.

In my own agency, the National Park Service (NPS), we have been using the Archaeological Sites Management Information System (ASMIS) for the last four years to record and maintain archaeological site data. The ASMIS database grew out of several earlier databases developed by parks and regions throughout the NPS and was expanded and improved to take into account the needs of a diverse set of parks and archaeological sites across the NPS. The NPS has parks across all of North America as well as parks in places as far off as American Samoa, Guam, and Puerto Rico. This broad diversity of site types across such a large area was an important factor in the time it took the NPS to

➤ GOVERNMENT ARCHAEOLOGY, continued on page 17



NEWS FROM THE REGISTER OF PROFESSIONAL ARCHAEOLOGISTS

Donna J. Seifert

Donna J. Seifert is the SAA representative to the Register.

The Register has embarked on a major recruitment initiative. Prospective members have many questions about the Register, the reasons for being registered, and the cost of registration. The Register's fee structure offers a lower rate to members of SAA, SHA, and AIA. This fee structure was developed during the discussions that led to the proposal to create the Register, with the support of the three scholarly societies. The fee structure acknowledges the financial support of the sponsors, but it also acknowledges the importance of participation in scholarly societies.

When the discussions to form the Register began, all parties recognized the Society of Professional Archaeologists (SOPA) as an important organization, but its effect was limited because it attracted a very small percentage of practicing archaeologists. The elected SOPA leadership approached the three major organizations representing archaeology, SAA, SHA, and AIA, and asked them to consider helping create a new organization to validate credentials, establish standards of performance, and maintain a grievance process.

After considerable discussion by the working group (consisting of representatives of SOPA along with SAA, SHA, and AIA), the Register proposal was put before the membership of SOPA. After approval by SOPA, the same proposal was approved by the three sponsoring organizations, and the Register was created.

The success of the new organization depends on the continuing commitment of former SOPA members as well as persuading many more archaeologists that professionalism includes accepting the responsibilities of registration. The sponsoring societies share the Register's interest in credentials, performance standards, and a process to address substandard work or unethical behavior. These societies include as their members practicing archaeologists who believe that participating in such societies' activities and reading their journals are essential to being professionals. Overall, the common interests in protecting, managing, and understanding archaeological resources are best served when most practicing archaeologists involve themselves in both types of organizations: the scholarly societies and the credentialing register.

The sponsoring societies agreed to support the new Register of Professional Archaeologists in several ways: encouraging their members to register, participating in the leadership of the new organization, and contributing significant and continuing financial support. In recognition of the financial support committed by the sponsoring organizations, the working group agreed that a registration-fee structure that recognizes the financial contribution of sponsors is appropriate. Thus, members of sponsoring organizations—who already contribute to the financial support of the Register through their organizations' contributions—may register at a lower fee. In fact, it was considered unreasonable for RPAs to pay through the sponsors as well as individually.

The amount of a given individual's dues that go to support the Register is small, of course. The more important issue is that this fee structure also encourages RPAs to be involved with a major scholarly society in the field. In addition to offering opportunities for professional development (through journals, meetings, and training), these societies commit considerable resources to advocating the protection and stewardship of the resources to which all archaeologists have devoted their professional lives. The sponsoring societies are active in advocating public policy that appropriately addresses the protection and treatment of archaeological resources. For example, the National Historic Preservation Act and the National Environmental Policy Act are largely responsible for the employment of thousands of archaeologists in cultural resources management. The sponsoring organizations monitor legislation, regulation, and court cases that may affect the ability of these acts to protect resources—and the continued employment of archaeologists.

The sponsoring societies also dedicate resources to expanding public education about archaeology, for both students and adults. Fostering a preservation ethic is essential to protecting resources on private land, maintaining public support for legislation and regulations that protect resources, and keeping public money committed to research. If the voters fail to see that expenditures of public funds on archaeology are in the public

☞ RPA, continued on page 17

REPORT FROM THE SAA BOARD OF DIRECTORS

Susan J. Bender

Susan J. Bender is Secretary for the Society of American Archaeology.

On April 18 and 21, 2001, the Board met at the SAA annual meeting venue in New Orleans, LA. This report highlights the Society's new initiatives and continuing efforts that make these exciting times for members.

The 2001 meeting was the largest ever, hosting almost 4,000 registered participants and just under 2,300 official presenters. The Board received the report of the 2001 Annual Program chair, Barbara Mills, and thanked her for her superb work in organizing such a large and complex program. To aid their organizational task, Mills and her associates developed an Access database design system to streamline the processing of presenter information. This project proved so successful that the software will be transferred to next year's program chair, Cathy Cameron, who should as a result be able to realize some efficiencies in program organization for the 2002 meeting.

In an effort to learn about the nature of its membership and to ascertain solid data about the socioeconomic structure of professional archaeology in the U.S., the Board approved undertaking a salary survey of a representative sample of its membership. Surveys of this sort typically involve linking salary data with employment contexts and a range of demographic data. The Board intends to work with the relevant interested committees to determine what information would be of greatest interest to Society membership.

A good deal of the Board's attention was directed toward discussion of the Society's success on the government affairs front, as reported by the President (Keith Kintigh), SAA manager, Government Affairs (Donald Craib), and Government Affairs Committee chair (Lynne Sebastian). While the President's Report contains information on specific initiatives, the Board was delighted to learn that SAA is increasingly recognized as an important voice in legislative initiatives and processes that affect archaeology and historic preservation. The Society is regularly contacted to provide information or join with other organizations to provide testimony or mount lawsuits, and government officials are increasingly responsive to concerns raised by SAA.

The Board discussed and approved a number of initiatives

brought forward by SAA's Native American Relations and Scholarship Committees. The Committee on Native American Relations reported on its implementation of a pilot workshop designed to foster better communication between the Native American community and SAA, held at the Arizona State University in July 2000. Based on the success of this pilot, the Board has urged CNAR to organize a second workshop, possibly in the southeastern U.S. The Board also requested that the Committee continue its sponsored workshop and forum series at the 2002 annual meeting in Denver with a forum that addresses the issue of what archaeologists desire as a part of a productive and collaborative relationship with the Native North American communities. The Board also approved a proposal for a fundraising trip brought forward by the Native American Scholarships Committee. The proposed trip will focus on the Navajo Nightway ceremony and is designed to increase the SAA's endowment for Native American Scholarships.

The activities of three task Forces were particularly noteworthy from the Board's perspective. The Task Force on Curriculum reported on its application for a \$500,000 National Science Foundation grant to implement the program for renewing undergraduate archaeology curricula outlined in the SAA publication, *Teaching Archaeology in the Twenty-First Century*. The Board is extremely pleased by this initiative and is hopeful that the proposal will be funded. At the same time, the Task Force on Diversity delivered its first preliminary report to the Board. The Board looks forward to receiving the Task Force's report on diversity issues both within the Society and the profession at large by the time of the 2002 annual meeting. Finally, the Board appointed a subcommittee charged with overseeing implementation of recommendations stemming from SAA's Task Force on Renewing our National Archeology Program. Subcommittee members Donald Weir (chair), Patricia McNany, William Doelle, and John Czaplicki will work closely with the relevant SAA committees to insure a positive result from this effort. Members are urged to read the Task Force's Final Report on SAAWeb at <http://www.saa.org/currentiss/renew.html>.

Please look for further information on current SAA initiatives in the president's report and the treasurer's report. 

SOCIETY FOR AMERICAN ARCHAEOLOGY

66TH ANNUAL BUSINESS MEETING

MINUTES OF THE MEETING

President Keith Kintigh called the Society for American Archaeology's 66th Annual Business Meeting to order at 5:10 P.M. on April 20, 2001, in New Orleans, Louisiana. The president noted that a quorum was present and requested a motion to approve the minutes of the 65th Annual Business Meeting held in Philadelphia, Pennsylvania at the Annual Meeting [these minutes were published in *SAA Bulletin*, 2000, 18(3)]. It was so moved, seconded, and the minutes were approved.

President Kintigh then delivered his report and noted that the Annual Meeting attendance as of noon Friday was 3,971. He reported that it has been an excellent year both financially and programmatically for the Society. He remarked upon highlights of finance and fund raising, government affairs, publications, public education, and the current membership campaign among other of the Society's programs.

Treasurer Paul Minnis reported that the Society is financially strong and in a good position in spite of current economic volatility due to the Society's prudent investment plan. There is every reason to believe that the Society will remain strong financially and therefore able to become a more active voice for archaeology.

Secretary Barbara Little reported the results of the election. The following will serve: **Treasurer-Elect:** Donald J. Weir; **Directors:** Jon S. Czaplicki and Luis Alberto Borrero; and **Members of the Nominating Committee:** C. Melvin Aikens and Kathleen Deagan.

Executive Director Tobi Brimsek reported on the many new initiatives in the Society's programs. She highlighted the impressive achievements of staff in Publications, the Government Affairs Program, Information Services, Education and Outreach, Membership and Marketing, and administration. This Annual Meeting marks her fifth anniversary with SAA.

The editor of *The SAA Archaeological Record*, Mark Aldenderfer, reported on his last year as editor. He emphasized how much he has enjoyed his role and thanks everyone who has worked on the *SAA Bulletin* and *The SAA Archaeological Record*. He thanked John Neikirk, manager, Publications, for managing the complex task of creating a new publication. He thanked the associate editors and the Latin American editors for their efforts. He also thanked editorial assistant Karen Doehner and



SAA's newest board members (left to right): Donald Weir, Treasurer-Elect; John Czaplicki, Director; Luis Alberto Borrero, Director.

the Board of Directors and staff. He is pleased that John Kantner now will take over as editor of *The SAA Archaeological Record*.

The editor of *American Antiquity*, Tim Kohler, reported that manuscripts received have increased dramatically over the past six months. The backlog is up somewhat and the acceptance rate is slightly lower. He is pleased to report that the book review editor, Sue Kent, has begun to commission a new category of manuscript, tentatively called book review essays. In general, *American Antiquity* meets the target of providing decisions on manuscripts within 90 days of submission. He commends John Neikirk for his efficient work. He thanked his editorial assistant, Diane Curewitz, for her efficiency. He also thanks Lynne Goldstein for her professionalism and her help in the ease of the transition.

The coeditors of *Latin American Antiquity*, Katharina Schreiber and Patricia Fournier, reported that submissions are up dramatically. The acceptance rate is currently about 27 percent and the backlog is fairly low. They thank John Neikirk for his assistance. There is one stylistic change, which is spelling out the first name in the references. *American Antiquity* will do the same soon.

After these reports, President Kintigh welcomed the newly elected members of the Board and the Nominating Committee and thanked the Nominating Committee, chaired by Jeff Altschul. He also thanked the Program Committee chaired by Barbara Mills, the Local Advisory Committee headed by E. Wyllys Andrews, and Workshop Coordinator Robert Jackson for putting together such an excellent meeting.

He offered special thanks to those who chaired and served on other SAA committees this past year, noting that SAA couldn't function without them. He extended the Society's appreciation

66TH ANNUAL MEETING

to Secretary Barbara Little, and Board members Sarah Neusius and Rebecca Hawkins, all of whom complete their terms at this Annual Meeting.

The President expressed the Society's thanks as well to our staff at the headquarters in Washington DC and particularly to Executive Director Tobi Brimsek.

After the reports the president recognized outstanding achievements by presenting the Society's awards.

After the awards, there was some new business. An announcement was made from the floor inviting individuals to participate in SAA and particularly to run for open offices.

After the announcement, Ceremonial Resolutions were offered. All those present stood for a moment of silence to honor our colleagues who died during the past year.

The Presidential Office was transferred from Keith W. Kintigh to Robert L. Kelly. Keith Kintigh emphasized that it has been an honor and a pleasure to serve the Society and that he has the utmost confidence in our new president. President Kelly made remarks. He called upon every member for their continued involvement and support of SAA programs and initiatives. He also requested that each member recruit one new member for the Society so that SAA may better serve its members and the archaeological profession.

President Kelly called for a motion to adjourn and the 66th Annual Business Meeting was adjourned at 6:22 p.m.

*Submitted,
Barbara Little, Secretary*

REPORT OF THE PRESIDENT

Call to Order

I welcome you and call to order the 66th Annual Business Meeting of the Society for American Archaeology. The agenda is printed on page 125 of your program. I see that we have a quorum. I will therefore move to the next item on the agenda.

Approval of Minutes

The minutes of the 65th Annual Business Meeting, held last year in Philadelphia, were published in *SAA Bulletin*, volume 18, number 3. Do I hear a motion to approve these minutes? Do I hear a second? All in favor vote "aye." The minutes are approved.

President's Report

The 2001 Annual Meeting in New Orleans has turned out to be, by a considerable margin, the best attended SAA meeting in the Society's history. As of noon today, the registered attendance is

3,971 compared with the 2,938 reported last year in Philadelphia. This meeting's attendance exceeds, by more than 600, our previous high of about 3,300 in Seattle.

For SAA it has been an excellent year, both financially and programmatically. I'd like to outline some key events of the last year and alert you to some things that are coming up.

FINANCE. Last year I reported to you that SAA's reserves had reached their target level of 30 percent of the annual operating budget. Thanks to the superb management of the Society's operations by SAA's Executive Director Tobi Brimsek, the dedication by SAA staff, and keen oversight by a notoriously frugal treasurer and the board, it has been another excellent year for SAA and the Society's financial position continues to improve. You will hear more on this from Treasurer Paul Minnis.

FUND RAISING. SAA has embarked on a major fundraising effort with the primary goal of building three endowments, the SAA General Endowment that supports such things as publications and government affairs, the Public Education Endowment, and the Native American Scholarships Fund. Fundraising efforts have been quite a success. In the last two years, the combined assets of the endowment funds have grown by more than \$100,000, and in December 2000 the total stood at \$165,000. I would like to thank those of you who have given to SAA this year and ask all of you to consider SAA in your annual charitable giving and in your estate planning. A high level of participation by our members will really help us in attracting large outside donations and foundation grants. The Native American Scholarships Committee is hosting its fourth silent auction. I urge you to check out their booth in the exhibit hall.

GOVERNMENT AFFAIRS. SAA continues to be active in Government Affairs, both publicly and behind the scenes. As a result of the superb efforts of Donald Craib, SAA's full-time manager of Government Affairs our visibility on Capitol Hill and in Executive agencies has never been greater. Our Government Affairs Committee, now chaired by Lynne Sebastian, frequently provides invaluable advice and assistance. Notably, SAA provided comments on the Advisory Council's latest version of the Section 106 regulations and we are moving to place archaeologists on advisory boards for land managing agencies. SAA played an important role in blocking the Moynihan Bill that would have crippled US efforts to curb the international trade in antiquities. We also had a significant role in the establishment of two new National Monuments and the expansion of another.

Repatriation issues continue to be a priority. Last summer, I again presented SAA testimony to a Senate Committee on Indian Affairs' oversight hearing on the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA). SAA continues to be represented at all NAGPRA Review Committee meetings, in order to speak for a balance of scientific interests with tribal concerns.

In the last several months, SAA has taken the unusual step of moving to enter two lawsuits. The court has approved our motion to enter the Kennewick case as a friend of the court. This action was taken after careful consideration of the consequences should the precedent set by Secretary Babbitt's sweeping decision to affiliate the Kennewick remains be allowed to stand. By early June, SAA will provide the court with a brief on issues surrounding the interpretation of cultural affiliation under NAGPRA and on the issue of the definition of "Native American." On one hand, we will be contesting the government's position on cultural affiliation and, on the other, we will attempt to refute the plaintiffs' contention that the Kennewick remains are not Native American. In this action, we will be represented by James Goold and Michael Fanelli of Covington and Burling, our superb *pro bono* attorneys in Washington.

In a second action, SAA has petitioned the court to intervene in the lawsuit filed by the Mountain States Legal Foundation that attempts to overturn President Clinton's designation of seven national monuments. The lawsuit alleges that the Antiquities Act provisions authorizing the President to designate national monuments are unconstitutional. If the plaintiffs were to prevail in this fundamental attack on the 1906 Antiquities Act, the negative effects would go far beyond overturning these national monuments, including Sonoran Desert and Canyons of the Ancients National Monuments. EarthJustice, formerly the Sierra Club Legal Defense Fund, is representing SAA in this action.

At the beginning of April, President-elect Bob Kelly and I spent three days in Washington—on Capitol Hill and meeting with agency people. We met with officials of the National Science Foundation, the National Endowment for the Humanities, the Advisory Council for Historic Preservation, the National Park Service, and the Bureau of Land Management. We made four congressional office visits, including two lengthy and productive visits with members of Congress. In these visits, our priorities were to urge that congress provide funding for BLM to plan and operate the new National Monuments and that funding for the National Science Foundation be increased by the 14% needed to keep the agency's budget on track for doubling in 5 years. We also discussed efforts in the last Congress to undermine U.S. participation in international efforts to reduce trafficking in antiquities.

In the last three weeks we have become aware that the secretary of the Smithsonian Institution did not request funding for the Smithsonian Center for Materials Research and Education (SCMRE), formerly the Conservation Analytical Laboratory. The secretary intends to close it by the end of the year. Among many other activities, this closure would end the extensive neutron activation work conducted by the lab. I want you to know that this is a high priority issue for the SAA Government Affairs program and that we are implementing a strategy opposing this action. Background information will be available on the SAA Website by the middle of the week of April 23. SAA will write a

letter opposing the closure of the lab and supporting the overall research mission of the Smithsonian Institution. This letter will go to the Regents of the Smithsonian Institution and to key members of Congress. I ask each of you to review this background information and to write your own letters. Further details and a copy of the SAA letter will be provided in an email and on the SAA Website.

A reminder—if you would like to receive a free monthly Government Affairs Update by email, please contact the SAA Executive Office (donald_craib@saa.org).

PUBLICATIONS. As you all have seen, in January we launched a full color magazine, *The SAA Archaeological Record*, as a replacement for the *SAA Bulletin*. This new magazine has been very well received. This summer, John Kantner will replace Mark Aldenderfer as editor. John asks that submissions now come to him at Georgia State University and that you consider including photographs or other artwork in *color* when you submit articles for *The SAA Archaeological Record*. John also solicits color photographs presenting some aspect of archaeology for the cover. He would also appreciate feedback on the appearance and content of *The SAA Archaeological Record*.

Both *American Antiquity*, under Tim Kohler, and *Latin American Antiquity*, under coeditors Kathy Schreiber and Patricia Fournier, are running smoothly and on-time. As Patricia and Kathy begin their final year as coeditors, the search for new editors of *Latin American Antiquity* is underway. If you have an interest or any suggestions, please contact Publications Committee Chair Chris Chippindale or a member of the Board. Garth Bawden has agreed to serve as editor for the SAA Book Program that was launched last year. In the last year, three new books have appeared. You can check them out at the SAA booth in the exhibit hall.

Finally, SAA has signed a contract with JSTOR, so back issues of *American Antiquity* (starting with volume 1, number 1) will be available electronically to subscribers, including most university libraries, and will also be available at a substantial discount to SAA members.

MEETINGS. In 2000, we had a very successful meeting in Philadelphia. As program chair for this year's meeting in New Orleans, Barbara Mills has done an excellent job of organizing the meeting—a daunting task indeed considering the more than 2,200 submissions and the nearly 3,000 individuals named as participating in the program. For the second year, we will have a Grad School Expo in which representatives of major graduate programs can meet with prospective students. Upcoming meetings are in Denver, Milwaukee, Montreal, and our newest selection, Salt Lake City in 2005.

MEMBERSHIP. At the end of 2000, membership stood at 6,645, a number that I believe is a historical high. Nonetheless, the rate

of growth is so low that membership is essentially stable. Furthermore, we all know that a great many professional archaeologists are not members of SAA. In early February, SAA began a substantial membership campaign by marketing SAA to government and consulting archaeologists, communities in which the board sees the most room for growth. This effort has been spearheaded by a subcommittee of the board consisting of Bob Kelly, Barbara Little, and Bill Doelle working with the Membership Committee, chaired by David Anderson, and with the Executive Office. We initiated this campaign because we believe that SAA has important benefits to offer archaeologists and in order to enhance the effectiveness of the Society.

To a list of potential members, we sent the January issue of *The SAA Archaeological Record* with an invitation to join SAA. In early March, we sent a follow-up postcard asking: "What Are You Missing? SAA!" to further encourage those individuals to join. To pursue this campaign, we accumulated lists of archaeologists from a number of sources and then ran a computer program that eliminated duplicates and removed entries from the prospect list if the name and address matched that of a member in the SAA database. Unfortunately, variation in the name or address fields caused a number of members to receive these mailings in error. I regret that we have offended some loyal members by failing to catch these errors. Receipt of these mailings does not suggest that there is any problem with one's membership status. Nonetheless, at any time membership questions can be directed the SAA Executive Office (bette_fawley@saa.org).

Unfortunately, not only did we manage to offend a number of members, but the campaign has resulted in very few new memberships. If you value what SAA does, I urge you to help us recruit new members and to communicate any membership ideas that you may have to the Board, the Membership Committee, or the Executive Office.

For the first time this year, we sent out the ballots for the election by first class mail. This has essentially eliminated the problem of ballots arriving late and has slightly improved the return rate.

This year the Board established a Task Force on Diversity chaired by Antonio Curet. It will develop recommendations on how we can increase diversity both in the Society and in the profession at large.

RPA. RPA President Don Hardesty has actively sought our advice and assistance in recruiting RPAs. SAA has been assisting RPA in the development of a major marketing drive. SAA also promoted RPA in our own membership campaign. The column, "RPA—The Register," started its regular appearance in the January issue of *The SAA Archaeological Record*.

PUBLIC EDUCATION. For more than a year, we have had a half-time manager of Education and Outreach. Maureen Malloy has

recently replaced Gail Brown, who ably held this position for the first year. This investment in education and outreach staffing has already paid off in the effectiveness of SAA's public education program. The Public Education Committee held a retreat here in New Orleans just before this meeting and the Board looks forward to receiving its recommendations. Sherry Lerner, whose service as chair of the Public Education Committee ends with this meeting, has done a marvelous job of guiding the committee through a very important three years and we should all be grateful for her efforts.

CONCLUSION. This has been an excellent year for SAA. We are blessed with talented and devoted officers and Board members. It has been a wonderful group to work with. It manages to remain extremely effective without ever taking itself too seriously. In Tobi Brimsek we have a superb executive director who manages a dedicated and energetic staff. Most importantly, we continue to have a strong membership. While I hope that you are pleased with the state of the Society, I also hope that you will always feel free to contact the Board, the SAA staff, or the chair of a relevant committee with your concerns, questions, and suggestions.

Additional Remarks by President

Before I get to the awards, I'd like to add my personal welcome to the newly elected members of the Board, Don Weir, Jon Czaplicki, and Luis Alberto Borrero. I'd also like to offer a few words of thanks.

The Program Committee, chaired by Barbara Mills, did a fantastic job of organizing this meeting's program. I also want to thank the Local Advisory Committee headed by E. Wyllys Andrews, and the Workshop coordinator, Robert Jackson, for their assistance in assembling this extraordinary meeting.

I want to thank the Nominating Committee, chaired by Jeff Altschul, for giving us such a fine slate of candidates and to thank the candidates for agreeing to stand for election and to serve SAA.

And thanks to the many people who chaired and served on other SAA committees this past year. SAA currently has about 40 active committees with about 300 members; SAA simply couldn't function without them.

I'd also like to recognize the three Board members who are stepping down after this Business Meeting. Secretary Barbara Little did a marvelous job of organizing and recording the efforts of a fast-moving Board and Executive Committee. Board members Rebecca Hawkins and Sarah Neusius did a superb job for SAA during their terms. I greatly enjoyed working with all of them.

And last, but not least, I'd like to recognize the extraordinary group of people who staff our headquarters in Washington D.C., many of whom are here tonight. Their intelligence, skill, and dedication have played key roles in most everything good

that SAA has accomplished over the past year and through their efforts this huge meeting has run smoothly. On behalf of all the members, I'd like to express our deepest thanks to the staff.

Transfer of the Presidential Office

As I end my term in office, I would like to say what an enormous honor and pleasure it has been for me to serve the Society as president. SAA is a truly remarkable organization, with an incredibly dedicated membership and a talented staff. I have particularly enjoyed working with my fellow Board members, with the editors, and with the many committee chairs and members—all volunteers—who do so much and make this Society so effective. I will always treasure the experience, and will never forget the help and support I received from so many of you over the past three years. I will not, however, miss the more than 10,400 SAA-related emails I have logged in the two years that I have been president.

Over the last year I have worked closely with President-Elect Bob Kelly. Bob brings keen insight into the discipline and terrific energy to his leadership of the Society. I am pleased to be able to pass the gavel to someone in whom I have so very much confidence. It is a great pleasure for me to now pass the gavel to SAA's very capable new president, Bob Kelly.

Keith W. Kintigh
President

REMARKS OF THE INCOMING PRESIDENT

A few years ago, while we were conducting ethnographic work in Madagascar, my wife and I found ourselves walking with our Malagasy colleagues some 25 km across a sandy desert. We arrived at a small village and thankfully sat in the shade of our host's home. About two hours afterward a man approached us. He had tracked us across the desert, through two marshes, and then through the village. He walked up to me and said, "So, you're the one with the big feet."

I tell you that story because I've been thinking about my feet lately. You see, even though I wear a size 13, I'm worried about the size of the shoes I need to step into. However, I'm comforted by the fact that all of us have to step into larger shoes together. For, thanks to the guidance of past presidents, boards, and our executive director, SAA is fast approaching maturity as an organization. We are financially secure. We are modernizing our front office's technology, producing our publications at lower cost, and staffing the office with professionals. Structurally and financially we are poised to move ahead, to put on bigger shoes.

The Society is doing good things. It has become a more diverse



Outgoing President Keith Kintigh (left) passes gavel to incoming President Bob Kelly (right).

group. In 1978, when I first attended an SAA meeting, you would not have heard Spanish spoken in the hallways, there was virtually no diversity in our membership, and few women on this stage. That's changed. We've done OK. But we can do better, and we will.

In 1978 we had one journal and no newsletter. We now have two respected journals, a new magazine built on the foundation of the excellent *Bulletin*, an active book publication program with its own editor, and we will soon be moving into digital publication. We've done well and we're going to do even better.

Since 1978 SAA has developed a significant and continuing presence on Capitol Hill. We are the only archaeological organization with a full-time lobbyist (and a fine one at that!). Congressional offices call us to ask for information. Other archaeological associations turn to us for leadership in Washington. We've had a real effect on significant pieces of legislation, and in the future, we'll take a more proactive role. We've done a lot and we're going to do even more.

In 1978, SAA had little on education. Today, we produce materials for primary and secondary schools and provide continuing education workshops for professionals. We have a very active Public Education Committee, and are finalizing a grant to study archaeological education at the undergraduate level. We're doing good and we're going to do even better. We're all going to put on bigger shoes.

But to put these larger shoes on, to make the Society more effective, we need a larger membership. Based on a recent survey—the results of which you'll see in *The SAA Archaeological Record*—we could nearly double the membership: There's that many practicing archaeologists out there who are not SAA members. Accordingly, we've embarked on a major membership drive this year, but we need your help in this. I need each of you to go home, and get one more person to join. That's all.

Just one. A student in your department, a colleague in your office, drag someone in off Bourbon Street! And when you do get a member, send me an email or call—because I want to know.

That same fellow in Madagascar who crossed a desert to find a man with big shoes asked me, “Don’t you get tired of dragging those feet around?” You all have placed some faith and trust in me, and I take that faith and trust seriously. Despite my feet, I’ll do my best to tread lightly and yet leave some tracks that others will find worth following. Thank you.

Robert L. Kelly

REPORT OF THE TREASURER

The financial condition of the Society for American Archaeology is strong and well positioned despite current economic volatility. Last year, we met our immediate goal of having a reserve fund that equals thirty percent of the one-year operating budget. This year we followed our long-term strategy by increasing the reserve fund two percent of the operating budget with the ultimate goal of it equaling fifty percent of our yearly needs. Furthermore, the prudent investment plan recommended by the Investment and Finance Committee and approved by the Board of Directors several years ago has shown its wisdom; we experienced minimal losses due to the fluctuating financial markets.

In addition to providing for the Society’s long-term financial health, the Board has had the resources to approve several new initiatives, such as a membership drive aimed at archaeologists who are not aware of how much an SAA membership improves their professional lives and the archaeological community as a whole. Funds have also been allocated to begin a major software installation that will streamline the Society’s administration and accounting, making them more effective, efficient, and user-friendly. Finally, we have established a modest legal contingency fund that will strengthen SAA’s efforts to protect archaeological resources, preservation laws, and the archaeological profession.

The financial health of the Society is a collective effort. We are where we are financially because of the foresight and hard work of past and present Society officers, staff, and committees. It goes without saying that without the support of the general membership none of this good news would have been possible. Because of everyone involved, there is every reason to believe that the Society for American Archaeology will have the resources to become a more active voice for the all archaeologists and others concerned with the past, regardless of market fluctuations.

Paul E. Minnis

REPORT OF THE SECRETARY

During the past year I have carried out the usual secretarial duties for the Society, which include preparing the agendas for and taking the minutes of the Board meetings, taking minutes of the Annual Business Meeting, and overseeing elections. In these tasks I have been greatly aided by the executive director and staff.

The membership responded to an elections ballot mailed in late December by first class mail as opposed to third class non-profit. The number of ballots mailed was 6,615 and 1,718 (25.97 percent) were returned. Of those 1,718 ballots there were 77 invalid ballots (largely due to nonpayment of dues).

The results of the election are as follows:

Treasurer-Elect: Donald J. Weir;

Directors: Jon S. Czaplicki, Luis Alberto Borrero;

Nominating Committee: C. Melvin Aikens, Kathleen Deagan

On behalf of the Society I want to thank all those who agreed to stand for the election.

My thanks to Executive Director Tobi Brimsek and to her staff for their assistance with the elections and with other secretarial duties.

It has been my pleasure to serve the Society as secretary for the past two years and I am delighted to step down knowing that the position is being taken over by the able hands of our new secretary, Susan Bender.

*Respectfully Submitted,
Barbara J. Little*

REPORT OF THE EXECUTIVE DIRECTOR

Good evening. In a few days, I will be celebrating my fifth anniversary with SAA, and that milestone has afforded me the opportunity to reflect a bit. In the past five years, SAA has faced down financial challenges and created programs and services while infusing new fabric into existing ones. SAA has put technology to work, grown, matured, restructured governance, and struck new ground in strategically planning for the future—all signs of a vital organization. Alfred North Whitehead has said, “The art of progress is to preserve order amid change and to preserve change amid order.” The past five years at SAA are a model of that tenet. While effecting some sweeping change, SAA has also remained focused and steadfast in preserving its order and its objectives amid that change. When I arrived at SAA, I characterized one of the roles of staff as changemakers, implementing with creativity, zest, and vigor the

strategic directions envisioned by the Board of Directors. Staff activity over the past five years has clearly validated that characterization. As staff assessed this past year with me, the prevailing thought was the true number of successes we experienced. One of the most visible was the launch of *The SAA Archaeological Record*. John Neikirk, our manager, Publications worked with editor, Mark Aldenderfer to premiere the publication. John also worked to bring two brand new titles from our expanding book program to New Orleans. Many of you may also have noticed that the journals are reaching you a bit earlier, a welcome benefit of John's streamlined production schedule.

Another program basking in its success is our Government Affairs program. Donald Craib's Government Affairs manager continues to represent SAA's and the archaeological community's interest on Capitol Hill, before federal agencies, and among preservation and environmental organizations. In this past year, SAA has increased its network of contacts to include the international community.

This summer Bette Fawley joined the Society as our manager, Membership and Marketing. Working with the Membership Committee and a subcommittee of the Board, a membership development brochure and campaign were created. Membership growth has been identified as a strategic priority for SAA. Bette also succeeded in selling out the New Orleans exhibit hall in January—a tribute to her finely honed marketing skills. I'd like to thank our exhibitors as well. Lana Leon, SAA's manager, Information Services has covered immeasurable ground this past year. In January, the Information Services program was expanded by the addition of a part-time Computer Services assistant who focuses on routine computer operations and Web maintenance. This year Web enhancements paved the way for more than 46 percent of the just-under 2,300 submissions for this meeting to be completely submitted via the Web. The theme of improvement will be continued as over the next two years we will implement a major information system conversion.

Maureen Malloy joined the staff this January as our part-time manager, Education and Outreach—a program that has been incredibly productive and involved in a wide range of activities including the development of our new careers brochure, *The Path to Becoming an Archaeologist*, and a second brochure entitled *Experience Archaeology* adding to SAA's growing list of available resources. By December, Maureen will have developed a community partnership handbook which will use a series of profiles to provide guidance for establishing successful partnerships between archaeologists and the public.

All our program managers would have even a more difficult job were it not for the administrative staff providing the cohesiveness needed to define us as a team. Our coordinator, Administrative Services, Andrew Caruso, along with our Membership Services assistant, Brandi Riley keep the basic transactional business of

the Society moving, seemingly effortlessly, despite the astronomical increase in the number of transactions this year. I would also like to acknowledge and welcome Jenele McKinney, our new manager, Accounting Services, brave enough to have joined the staff last Monday and be in New Orleans on Wednesday. As I did five years ago, I would like to point out that what is constant amid the growth and change is the staff's involvement in and commitment to SAA. I stress both involvement and commitment, and I'd like to share the proverbial difference between the two. The difference, it is said, can be compared to an eggs and ham breakfast—the chicken was involved; the pig was committed. Quite seriously, it is the synergy, involvement, and commitment among the staff, membership, and volunteer leadership that makes us the vibrant and active organization that we are today.

You probably noticed that you received the call for submissions for the 2002 meeting earlier this month. If not, it should be waiting for you in your mailboxes. We also have some here in the SAA booth. Not all things change. The cycle does continue. We hope to see you next year in Denver! Thank You.

Tobi A. Brimsek

REPORT OF THE EDITOR

The SAA Archaeological Record

As you are all aware by now, this is the last time I will stand before you as editor of the once-SAA *Bulletin* and now *The SAA Archaeological Record*. Unlike many of the editors you have seen in recent years who have ended their terms with relief, I view the end of this long ride with sadness. Although it is time for change, for me, this is a bittersweet moment. I have enjoyed every moment as editor, and I look back with pride on how we transformed the *Bulletin*, and then helped to create *The SAA Archaeological Record*. I am also delighted by the choice of the new editor, John Kanter. As a student at UC Santa Barbara, John worked with us and helped, among other things, to develop the electronic version of the *Bulletin*. I am confident that he will be an excellent editor.

Although I could take this moment and thank everyone from my parents through my 3rd grade teacher for their help in my educational and editorial training, I'll forgo that temptation. It is appropriate, though, to thank those people who have been instrumental in making the *Bulletin*, and now the *Record*, the successes they have become. I look back to five presidents of SAA, a number of Boards, three managers of Publications, and two executive directors. Each has been helpful beyond measure, and I thank them all with gratitude.

I reserve my more heartfelt thanks, though, to those editors and editorial assistants who provided the content and did the hard work not simply to design the *Bulletin* and *Record*, but to fill it

with high-quality content. I am especially indebted to my long-term (and long-suffering) associate editors, Kurt Dongoske, Kevin Pape, and John Hoopes, who have served so ably over the years. I also wish to thank Jose Luis Lanata, who provided information from South America, and Emily McClung de Tapia, who helped us with Mexico and Central America. Their guidance was crucial as we expanded the geographic scope of the *Bulletin* to include Latin American concerns more routinely.

Finally, I owe the greatest debt of all to Karen Doehner, my editorial assistant, who has been with me on the *Bulletin* since the beginning. As I have said numerous times before, she is the one who has done the heavy lifting and the hard work. She redesigned the *Bulletin* early on and tweaked it constantly. She kept us on schedule, and made sure that authors kept to deadlines. Any success of the *Bulletin* and *Record* are just as much hers as they are mine.

I thank you, then, for a wonderful time. I have enjoyed this immensely, and I am grateful to have been editor for so long. Thank you.

Mark Aldenderfer

REPORT OF THE EDITOR

American Antiquity

First, some vital statistics:

- Submission rates are up markedly over the last six months, in comparison with the same six months one year ago;
- The backlog (manuscripts received in final form and accepted but not yet published) is slightly larger, at about three issues, than was noted by Lynne Goldstein in her report at this time last year;
- Acceptance rates are somewhat lower than one year ago, in order to prevent further growth of the backlog.

The Washington D.C. office is doing a very good job getting the journal produced and mailed on time (the April issue, for example, is mailing during the meeting). I'd like to commend John Neikirk, the new managing editor, for the speed with which he effected the transition, which is particularly impressive given that we have also begun working with another printer in the last few months.

Sincere thanks are also due Sue Kent, the Book Review editor at Old Dominion University, for the energetic and intelligent performance of her duties, and Diane Curewitz, the editorial assistant in Pullman, for her accurate, cheerful, and always timely assistance. She will be missed while she pursues her dissertation research at Los Alamos National Lab this coming year.

A few things to look forward to in the next year are a cover

redesign for both journals; occasional book review essays commissioned by Sue Kent; and the online availability through JSTOR of issues of *American Antiquity*, as they become five years old or more. I discuss this last item in some detail in my April Editor's Corner for those of you not familiar with this not-for-profit organization.

I'd like to thank the many people who took the time to call or write to draw attention to the fact that we accidentally inverted one of the color photos of Chaco Canyon in the January issue. On-going negotiations with NPS asking them to invert Pueblo Bonito have so far been a flop.

Finally, and now with complete sincerity, I'd like to thank Lynne Goldstein for her very professional handling of *American Antiquity* during her four-year tenure, and especially for all the help she gave us during the transition one year ago. Her achievements have not gone unnoted, as we see from the following letter, copied to the Pullman office last summer, with which I'll conclude:

July 17, 2000

Dear Lynne:

Congratulations on the great success of your term as editor of *American Antiquity*. You did a great job.

It is, therefore, my distinct pleasure to resurrect an organization established by our second Editor, Douglas S. Byers, primarily for the purpose of recognizing you as a member of it. Doug founded The Organization of Past Editors of *American Antiquity* (TOPEAA) in May 1959 at the SAA Annual Meeting in Salt Lake City. I had just become editor and Doug notified me that "in three years you are eligible for membership" and allowed as how it was something "worth working for." He appointed Jesse Jennings secretary of TOPEAA in order to assure continuity of this new organization. Unfortunately, Jesse failed to perform his duties in a timely manner and TOPEAA fell into a kind of desuetude that is tempered only by the happy memory that Dick Woodbury and I have of Doug's creativity. I enclose a copy of the original constitution [not reproduced here] that Doug typed himself. I have not yet taken steps to modify the politically incorrect language of Article II, Section 2 of this historic document.

Dick Woodbury and I hereby induct you into this August and purposefully elite organization. We hope that you will accept this singular honor. In the same spirit that caused Doug to alert me to my future membership, I am sending a copy of this letter to Tim Kohler so that he will have something worthwhile to look forward to in times of frustration and despair.

With best regards,
Raymond H. Thompson
First Past Editor Elect

Respectfully submitted,
Timothy A. Kohler

REPORTS OF THE COEDITORS

Latin American Antiquity

The journal is alive and healthy, and continues to appear on time. We thank the new managing editor, John Neikirk, for his efforts on our behalf, and also my editorial assistant, Christina Torres-Rouff, who will be leaving us this summer. We also thank Michael E. Smith who continues to do an outstanding job as book review editor.

Like *American Antiquity*, our submissions are up, and markedly so. In the past 12 months we have received 67 new submissions by 127 authors; our acceptance rate hovers around 25 percent. Of those 127 authors, 65 percent hail from the US or Canada, 28 percent from Latin America, and the remainder from Europe and Australia. 70 percent of authors submitting papers were male, 30 percent female. Papers with a Mesoamerican focus lead the pack, totaling 42 percent of submissions; similarly, Mesoamerican papers comprise 44 percent of published articles and reports. The Andes are in second place, producing 31 percent of our submissions and 33 percent of publications. We have seen the greatest increase this year in papers from non-Andean South America: 18

percent of submissions and publications. Authors of published papers are 68 percent male and 32 percent female.

We have instituted one major stylistic change, beginning with the current volume: first names are now spelled out in the bibliographies, rather than using initials. We expect *American Antiquity* will be following suit a few issues down the line, and we will issue new sections of the style guide later this year to reflect these changes.

Katharina Schreiber

Next year in Denver you will meet the new coeditors of *Latin American Antiquity*: an American scholar specializing in Latin American Archaeology, and a Latin American scholar working at a Latin American institution or university, hopefully from a country other than Mexico for a change. If you are interested in one of these positions, please communicate with Christopher Chippindale or any member of the Publications Committee or the SAA Board of Directors. And please speak to Kathy or myself if you want to know the details of what the job entails. Thank you.

Patricia Fournier

RPA, from page 13

interest, archaeological resources will be threatened by development—and many archaeologists who manage those resources will be out of work.

The Register focuses on credentials and standards of performance. It does not address professional development, public education, or public policy. The sponsoring organizations take these responsibilities. Professional archaeologists who are registered and are members of scholarly societies demonstrate their commitment to their profession and are truly paying their dues.

The Register leadership continues to hear from unaffiliated RPAs who object to a fee structure that offers lower fees to members of sponsoring organizations. Some have even chosen to drop their registration rather than pay the unaffiliated rate or join a sponsoring organization. Unfortunately, these archaeologists lose twice—choosing to embrace neither credentialing and standards nor professional development and advocacy for archaeology.

GOVERNMENT ARCHAEOLOGY, from page 13

develop and successfully implement that database (more than 10 years). A team of archaeologists from each region of the NPS worked together to hammer out standards for site recording, and maintains a data standards committee today to deal with new issues and database needs. The NPS is a little further behind some other agencies in developing a spatial database for archaeological sites, with current base-map digitizing efforts happening primarily on a park-by-park basis rather than through a concerted agency-wide effort. However, the goal is to eventually have a complete spatial and attribute database that will help park managers preserve and protect their archaeological resources. The National Park Service also has a strong GIS group in its Heritage Preservation Services Division, which works with SHPOs and other groups to provide technical assistance in spatial database development efforts (www2.cr.nps.gov/gis/).

Overall, now is a time of fast and frenzied improvement in the tracking of archaeological site data. The advances being made today by federal, state, and tribal agencies should help researchers begin to study the prehistory and early history of North America from a more regional and ecological perspective. This approach can only enhance our understanding of our past and keep the science of archaeology an ever-changing field of study.

2001 AWARD RECIPIENTS

Presidential Recognition Awards



MARK ALDENDERFER

Mark Aldenderfer is presented with this award in recognition of his extraordinary service as editor of the *SAA Bulletin* from 1993–2000 and as founding editor of *The SAA Archaeological Record*. Under Mark's leader-

ship, the *SAA Bulletin* expanded both in size and content and especially in its importance to our members. We are all indebted to Mark for this exceptional service to SAA.



PATRICIA A. GILMAN

This award is presented to Patricia A. Gilman for her outstanding service as chair of the SAA Committee on Awards. Each year, the Committee on Awards coordinates the efforts of SAA's 14 different awards committees

and advises the Board of Directors on awards policy. Pat has effectively led this program with grace, intelligence, and a firm hand, with the result that the awards program has not only run smoothly, it has been most successful in achieving its goals. Pat Gilman's superb leadership is greatly appreciated.

THE LAW DEPARTMENT OF THE NATIONAL TRUST FOR HISTORIC PRESERVATION

The Presidential Recognition Award is presented to the Law Department of the National Trust for Historic Preservation to honor its years of involvement in the protection of the nation's and the world's rich and diverse archaeological heritage. In the courts, the Law Department has protected the archaeological record through its Legal Defense Fund, which is recognized as the preeminent advocacy organization for prehistoric and historic preservation. The Law Department's attorneys are dedicated professionals who defend preservation laws to ensure the protection of archaeological resources. The Society and the archaeological community are grateful to the Law Department for its important preservation efforts and for the valuable assistance it has provided to SAA.



FRANCIS P. MCMANAMON

This award is presented to Francis P. McManamon for his tireless leadership and sustained efforts to improve the federal archaeology program and the conduct of archaeology nationally. As the Department of

the Interior's Departmental Consulting Archeologist, Frank McManamon is the nation's chief archaeological official. Despite his entanglement in the federal bureaucracy, Frank manages never to lose sight of the key objectives of resource protection, resource management, research, and public education. SAA is immensely grateful for his efforts, large and small, well known and behind the scenes, that have had such an enormous impact on the field.



IAN W. BROWN

The Presidential Recognition Award is presented to Ian W. Brown in recognition of his outstanding service as chair of the SAA National Landmarks Committee. Under his energetic leadership, the committee has

greatly benefited the nation's efforts to identify, document, and interpret our irreplaceable National Landmarks. SAA is grateful to Ian Brown for his exceptional service to SAA.

Award for Excellence in Archaeological Analysis



GEORGE L. COWGILL

This award is presented to George L. Cowgill in recognition of his pioneering and enduring contributions to fundamental problems in archaeology, including the logic and methods of archaeological inference using

quantitative and formal approaches to data, central questions regarding the role of the ideational realm in archaeological theory, and the understanding of population dynamics. Cowgill is internationally recognized for his extraordinary corpus of influential and rigorous scholarship that has helped define the terrain of contemporary archaeology, particularly on issues of sampling,

statistical inference, typology, seriation, and spatial analysis. His current interest in ideational aspects of ancient societies, and on developing a “middle range theory of mind and social agency,” attests to his exemplary open-mindedness and tireless enthusiasm for new ideas—qualities worthy of praise, respect, and emulation. His more than four decades of work in Mesoamerica is testimony to the fact that explicitly human-centered understandings of the past and rigorous quantitative analysis can go hand-in-hand, and that the gulf between theory and data can and must always be bridged. Anyone who has had the fortune to know him will tell you that Cowgill’s preeminent body of scholarship is only surpassed by his collegiality, generosity, and genuine respect for colleagues and students alike.

Book Award



**WILLIAM W. FITZHUGH AND
ELISABETH I. WARD**

The 2001 SAA Book Award is presented to William W. Fitzhugh and Elisabeth I. Ward for their edited book, *Vikings: The North Atlantic Saga*, published by Smithsonian Institution Press

in 2000. The Vikings have long captured both academic and popular interest because of their remarkable achievements in exploration, trade, and conquest in both the Old and New Worlds. The mystique and misconceptions concerning the Vikings are laid bare in a text that draws abundantly on recent research that would otherwise be difficult to access.

Vikings is a beautifully produced volume, generously illustrated with striking color photographs, drawings, and maps. The writing is scholarly without being obscure, making the book appealing for both professional and wide popular audiences. The chapters maintain wonderful coherence, not easily achieved in an edited volume. *Vikings* represents a fruitful combination of archaeology, history, oral tradition, literature, and ethnohistory.

Crabtree Award



JOHN D. “JACK” HOLLAND

John D. “Jack” Holland has worked with professional archaeologists since the 1930s, when he began systematic surveys in the Susquehanna Valley of Pennsylvania. He later served in a variety of capacities in field,

laboratory, and educational projects in Illinois, Ohio, Pennsylvania, New York, and Ontario. Turning to archaeology full-time,

Jack earned a B.A. in anthropology from Empire College in 1986 and since then has served as a field representative of the Carnegie Museum of Pittsburgh. Currently a Research Fellow of the Buffalo Society of Natural Sciences, Jack is the founder of the Holland Lithic Laboratory at the Buffalo Museum of Science, where he has built a peerless reference collection of more than 22,000 lithic samples from 1,500 named sources located in all 50 states and eight Canadian provinces. He has published more than 20 analytical papers and delivered numerous conference papers. Perhaps Jack’s most enduring methodological contribution will be his emphasis upon non-technical approaches to chert examination that make chert identification accessible and affordable to all.

Dissertation Award



ANDREW I. L. DUFF

This award is presented to Andrew I. L. Duff, for his Arizona State University dissertation, *Regional Interaction and the Transformation of Western Pueblo Identities, A.D. 1275–1400* (1999). Archaeological method and theory are combined to produce a remarkable

study of identity formation in the context of demographic, social, and ritual change during the Pueblo IV period. Drawing on data from museum collections and his own excavations, Duff integrates results of neutron activation of ceramics, tree-ring dates, and stylistic analysis to argue that settlement size and population density are linked with stylistic homogeneity and exchange. On the basis of these results, Duff develops a model whereby diverse social groups were integrated into Hopi and Zuni areas by A.D. 1400.

In scope and methodology, this dissertation is a substantive contribution to North American archaeology. It is also relevant to contemporary studies of identity construction and will be of interest to all researchers who deal with regional interaction and ethnogenesis, regardless of areal or theoretical specialization.

Fryxell Award for Interdisciplinary Excellence in Archaeology



MELINDA A. ZEDER

Melinda A. Zeder has been at the forefront of developing new ways of using archaeozoological data to address significant anthropological questions. She has consistently reassessed the

value of accepted archaeozoological approaches and assumptions while advocating the highest scientific standards. In her 1991 volume, *Feeding Cities*, she employed faunal assemblages to examine the economic and social restructuring of early urban and Bronze Age societies in Iran. In 1997, her interpretive analysis of the economic responses open to early food producing societies of the Near East earned her the American Anthropological Association's Gordon R. Willey Prize. In three revolutionary articles appearing in 2000, Zeder demonstrated that sex specific age curves, rather than the widely employed measure of overall size reduction, provide the best archaeological marker of animal domestication. Zeder is also a devoted teacher, using her laboratory to train many of the next generation of archaeozoologists. For her theoretical and substantive contributions to archaeozoology and archaeology and her dedication to education, SAA is honored to present this award to Melinda A. Zeder.

Poster Awards

JONATHAN SCHOLNICK, DEREK WHEELER, AND FRASER NEIMAN

This year's Student Poster Award goes to Jonathan Scholnick, Derek Wheeler, and Fraser Neiman for their poster entitled "Building Intrasite Chronologies for Previously Excavated Sites: A Monticello Example."

JEFFREY HOMBURG, ERIC BRERIK, JEFFREY ALTSCHUL, ANTHONY ORME, AND STEVEN SHELLY

The Professional Poster Award goes to Jeffrey Homburg, Eric Brerik, Jeffrey Altschul, Anthony Orme, and Steven Shelly for their poster, "Evolving Holocene Landscapes and Cultural Land-use Patterns in the Ballona Wetlands of Coastal Southern California."

State Archaeology Week Poster Contest

Each year the State Archaeology Week Poster Contest is held at the Annual Meeting, sponsored by the Public Education Committee and the Council of Affiliated Societies. Winners are decided by a vote of those viewing the posters and turning in a ballot included with their registration packets. The winners are:



First Prize, Wyoming

First Prize, WYOMING

Second Prize, CALIFORNIA;

Third Prize, TEXAS

Award for Excellence in Public Education



GEORGE BRAUER

This award is presented to George Brauer for his successful infusion of archaeology into the educational programming of one of the country's largest public school districts. In his roles as teacher-archaeologist in the

Baltimore County Public Schools' Office of Social Studies, and as director of the district's Center for Archaeology, Brauer brings archaeology to more than 14,000 young people annually.

Over the past decade, Brauer has steadily introduced archaeology to elementary, middle, and high school students in the Baltimore Public schools through the design and distribution of instructional materials, teacher training, classroom outreach programs, on-site archaeology field activities, and the operation of a historic tenant house museum. He has established a successful model for including archaeology in America's public schools. He is to be commended for his leadership in fostering awareness of the vital importance of archaeology in connecting people to their cultural heritage.

Gene S. Stuart Award



MIKE TONER

SAA's Gene S. Stuart Award, given in recognition of outstanding efforts to enhance public understanding of archaeology, is presented to Mike Toner. In "The Past in Peril," a series of six major articles published in *The Atlanta Journal-Constitution*,

Toner documents the many dangers facing archaeological sites around the world. In 1999, two feature articles treated the impact of the international antiquities market; a third investigated looting in Peru. The three articles in 2000 focused upon looting and marketing artifacts in the United States and the negative effects, world-wide, of tourism and development.

Detailed treatment of the excavation and sale of Civil War relics, damage to exposed sections of Pompeii by weathering and tourists, and the conflict between development and archaeological investigations in Beirut illustrate for the general reader the perils faced by the past. Numerous case studies of damage to lesser-known sites bring the issues to the local level. Toner emphasizes that the context of an artifact is far more important than the artifact itself.

Toner is a wonderful storyteller. He uses quotations from people of conflicting perspectives to great effect. Excellent photographs by David Tulis enhance the presentation. With eloquence and style, Toner conveys the wonder of the human story found in archaeological sites and the value of the information we all lose when such sites are damaged or destroyed.

Public Service Award



WAYNE DANCE

The Public Service Award is presented to Wayne Dance, Assistant United States Attorney for the District of Utah. No one in federal law enforcement has done more than Dance to energetically enforce the Archaeological Resources Protection Act. Since 1992, he has relentlessly pursued and vigorously prosecuted ARPA cases, winning important convictions. Dance's efforts have been pivotal in the protection of the archaeological patrimony of Utah and immediately contiguous areas. His attitude is enlightened; his goals are laudable; his record of success is unparalleled. Extensive publicity of his anti-looter successes has served to educate the public about the importance of our archaeological heritage and the reasons for archaeological resource protection laws. Because of his efforts, the incidence of looting on Federal property has sharply declined. Another important contribution, with nationwide effects, has come from his service as an instructor in numerous classes on archaeological resource protection attended by archaeologists, law enforcement officers, and prosecuting attorneys. Finally, Dance has been a key contributor to SAA's Task Force on Law Enforcement.

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Lifetime Achievement Award (formerly the Distinguished Service Award)



JEFFREY S. DEAN

The 2001 Lifetime Achievement Award is presented to Jeffrey S. Dean, in recognition of his innovative and rigorous analyses that represent extraordinary achievements in research, for his important contributions to

archeological theory, and for his invaluable service to the discipline in all aspects of tree-ring research.

Dean's generosity in providing information, insight, and sage counsel are legendary. Few individuals have made such valuable contributions to so many other scholars' research. He has pro-

vided tree-ring dates and expert interpretations for virtually every significant archaeological project in the northern Southwest for more than three decades. He has also played a leading role in developing the regional sequences needed for precise dating and dendroclimatology. Dean's works are widely used to teach the methods of tree-ring research.

As a researcher, Dean has produced a corpus of work of rare quantity and quality. His use of tree-ring data in the analysis of chronology, social dynamics, and paleoclimatology has been both innovative and meticulous, marked equally by theoretical sophistication and empirical rigor. Included in his more than 100 publications are several archaeological classics. It is rare indeed for a single individual to have enriched a field of study as much as Dean has enriched archaeology.

Dienje Kenyon Fellowship

BRIANA POBINER

The Dienje Kenyon Fellowship is presented in support of research by women students in the early stages of their archaeological training. It is presented in honor of Dienje Kenyon and was awarded for the first time in 2000. The 2001 Dienje Kenyon Fellowship is awarded to Briana Pobiner of Rutgers University.

Fred Plog Memorial Fellowship

DEBORAH HUNTLEY

The Fred Plog Memorial Fellowship is named for a major archaeologist in Southwest research who also was an inspiring teacher. The 2001 Fred Plog Memorial Fellowship is awarded to Deborah Huntley of Arizona State University.

DON'T MISS THIS PHOTO OP!

Individuals are invited to submit their photographs of fieldwork, laboratory work, or artifacts, along with a brief description for publication as a cover photo for *The SAA Archaeological Record*. Photographs selected for use will be appropriately credited. Please send your photographs to John Kantner, Department of Anthropology & Geography, Georgia State University, 33 Gilmer Street, Atlanta, GA 30303-3083; email: kantner@gsu.edu.

CEREMONIAL RESOLUTIONS

The Ceremonial Resolutions Committee offers the following resolutions:

Be it resolved that the appreciation and congratulations on a job well done be tendered to the retiring **officers**,

Keith Kintigh, President Barbara Little, Secretary

and the retiring **Board members**,

Rebecca Hawkins Sarah Neusius

To the **staff**, and especially Tobi A. Brimsek, the executive director, who planned the meeting, and to all the volunteers who worked at Registration and other tasks;

To the **Program Committee**, chaired by

Barbara Mills

and to **Committee Members**

T Michael Blake	Mary S. Carroll
Jonathan Damp	T. J. Ferguson
Kristen J. Gremillion	Steven L. Kuhn
Dorothy Lippert	Linda Manzanilla
Margaret C. Nelson	Adam T. Smith
Karen Wise	

and the **Annual Meeting Workshop Coordinator**

Robert Jackson

and to the **Annual Meeting Local Advisory Committee**, chaired by

E. Wyllys Andrews

And to other committee chairs completing their service and to the many members who have served the Society on its committees and in other ways;

Will the members please provide a round of applause in recognition of this service to the Society.

And be it further resolved that thanks again be given to those who inform us of the deaths of colleagues, and finally,

A resolution of sympathy to the families and friends of

George Agogino	T. Geoffrey Bibby
Kwang-Chih Chang	Joffre Coe
Ernest Allan Connally	Edward Danson
James Deetz	William Haag
James W. Hatch	Douglas C. Kellogg
William D. Kingery	Herbert C. Kraft
Barbara E. Luedtke	R. S. "Scotty" MacNeish
Douglas Lavan Martineau	Roland Richert
Jeanette E. Stephens	James VanStone
E. Jeremy Vardaman	Emily D. Townsend Vermeule
Denis J. I. Williams	

Will the members please rise for a moment of silence in honor of our departed colleagues.

*Respectfully submitted,
Jon Muller
On behalf of the Resolutions Committee*

INTERFACE: ARCHAEOLOGY AND TECHNOLOGY

DIGITAL ARCHAEOLOGY 2001: GIS-BASED EXCAVATION RECORDING IN JORDAN

Thomas E. Levy, James D. Anderson, Mark Waggoner, Neil Smith, Adolfo Muniz, and Russell B. Adams

Thomas E. Levy is with the University of California-San Diego; James D. Anderson is with North Island College, Vancouver, BC; Mark Waggoner is with the University of California-San Diego; Neil Smith is with the University of California-San Diego; Adolfo Muniz is with the University of California-San Diego; and Russell B. Adams is with the University of California-San Diego.

Time and space are the archaeologist's most precious commodities. While developments in geochronology provide us with the tools for gaining control of time, Geographic Information Systems (GIS) provide archaeologists with powerful tools to control the spatial aspects of our data. In order to streamline and facilitate archaeological data recording, analysis, publication, and presentation, GIS databases are rapidly becoming the norm for archaeological fieldworkers. There is a certain synergy occurring in our field where archaeologists worldwide are now applying GIS for both survey and excavation needs at sites spanning both prehistoric and historic periods. GIS is rapidly creating a new standard for data recording and analysis that is having the effect of ratcheting up the caliber of model testing for all subfields of archaeology. It is important to share developments in GIS-based archaeology as soon as possible to accommodate this research boom.

In the mid-1990s, the potential of GIS for anthropology was heralded by the publication of *Anthropology, Space, and Geographic Information Systems*, edited by M. Aldenderfer and H. Maschner (1996, Oxford University Press). Since then a wide range of digital technologies that are linked to GIS have been applied (e.g., see N. Craig, "Real-Time GIS Construction and Digital Data Recording of the Jiskairumoko Excavation, Peru," 2000, *SAA Bulletin* 18[1]:1–10; T. Ladefoged et al., "Integration of Global Positioning Systems into Archaeological Field Research: A Case Study from North Kohala, Hawai'i Island," 1998, *SAA Bulletin* 16 [1]:23–27). Here we report on our efforts to create a fully digital-based excavation recording system based on using traditional total station technology to facilitate immediate GIS applications.

The recording system reported here was applied to a large interdisciplinary field project in Jordan with 125 students and professionals in 1999 and a team of 75 in summer 2000 (See flow-chart, Figure 1; weber.ucsd.edu/Depts/Anthro/classes/tlevy). The portability, relative low cost, and high power of laptop computers made it possible to duplicate our UCSD Archaeology Lab in the field in Jordan. The mobile laboratory in Jordan included 10 Toshiba and 1 Compaq Laptops, 2 Backpack CD Writer/Burners, 2 Hewlett-Packard 1220 Series printers with tabloid capability, 1 Sony DCR-VX1000 Video recorder, and two digital cameras (a Sony DSC-50 and a Canon Pro 70). The Sony camera was used for both artifact and architectural digital photography. Reserve power was supplied by four 12-volt car batteries charged continuously by solar panels.

The Project—Sample Size and Data Flood

The project focuses on the role of early ore extraction and metallurgy on social evolution from the Pre-Pottery Neolithic Period B (PPNB) period (ca. 9th Millennium B.P.) to the Iron Age (ca. 1200–586 B.C.) in the Jabal Hamrat Fidan (JHF) region of southern Jordan. The JHF represents the "gateway" to the copper ore rich district of Faynan that is home to some of the largest copper ore deposits in the south-

Digital Archaeology

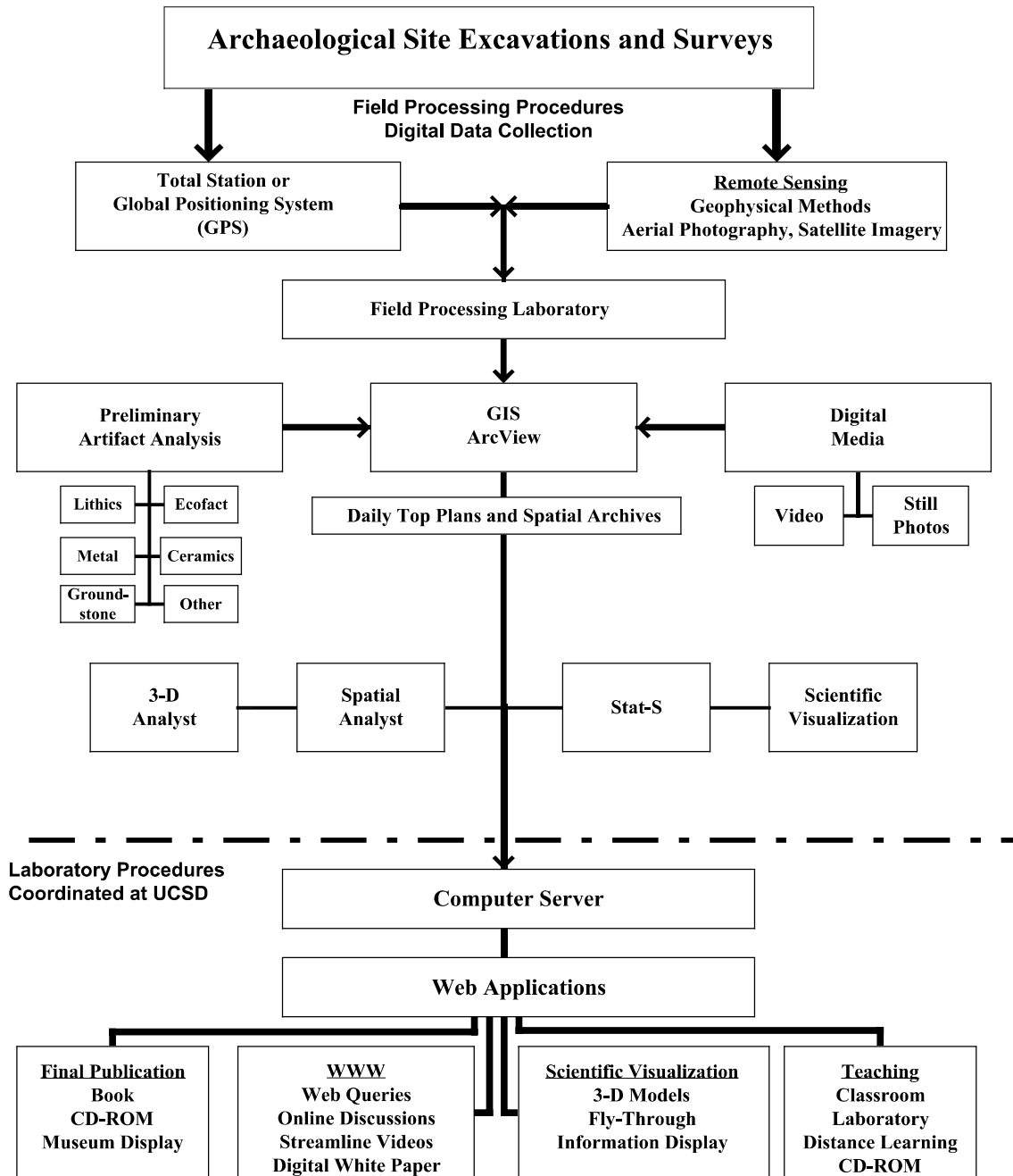


Figure 1. Flow-chart.

ern Levant. In 1999, a PPNB Neolithic village—Wadi Fidan 001 (Figure 2)—was excavated with an exposure of ca. 350 m², depth ranges from ca. 5–.5 m and an average depth of ca. 1.0 m. Five major strata were defined at WFD 001. Approximately 3,500 artifact locations and 4,676 other shots were recorded using the total station.

During the 1999–2000 seasons, an Early Bronze Age (ca. 2300–2600 B.C.) metal “manufactory” was also investigated with an exposure covering a total of ca. 1200 m², depth ranges from 2.3 to .5 m, and an average depth of 1 m across the site (Figure 3). Six major strata were exposed with a total of 10,569 individual artifacts, including more than 1,000 casting molds found (Figure 4) and a total of 3,347 other shots recorded.

Artifacts, architecture, sediment layers, and features were plotted at each site with x, y, and z (elevation) coordinates providing a rigorous database for 3-D spatial analysis. Embedded in these data are the keys to understanding the spatial dynamics of the ancient societies that exploited ore and worked with metal in the region. Given the constraints of time and money—two six-week excavation field seasons—the wealth of total station data collected precludes the use of simple plotting of artifact and architectural data on paper printouts. GIS has provided the nexus for recording and linking *all* data from our project. This is done in the field with survey and excavation data, specialist data (archaeozoology, archaeobotany, lithics, ceramics, geomorphology, etc.), digital photography, and an array of remote sensing data collected on site, such as geophysical surveys.

GIS in the Jabal Hamrat Fidan

During the 1999 field season, the implementation of GIS radically changed many of the recording procedures previously employed on-site. Paper forms, refined and developed over 20 years of fieldwork in Israel and Jordan, were tossed out and new digital forms introduced. These record data in a format compatible with other GIS data files. It was decided to maintain a paper backup, which in the post-processing phase proved to be a good idea. During the data cleanup (practically an entire academic year), it was necessary to refer to the paper backup on numerous occasions to identify duplicate or stray total station shots. Data transcription proved to be a bottleneck, as weary students were employed to do data entry after digging all day in the hot sun. In 2000, most of these annoyances were resolved with a rewrite of the data collection software, which was enhanced to support user-defined feature files. The entire GIS operation was now 100 percent digital. ArcView shapefiles were generated directly from the data collector, which is as close to “real-time” as one would want to be. Amazingly, we can say that 99 percent of the data was clean and ArcView ready when it left the excavation areas.

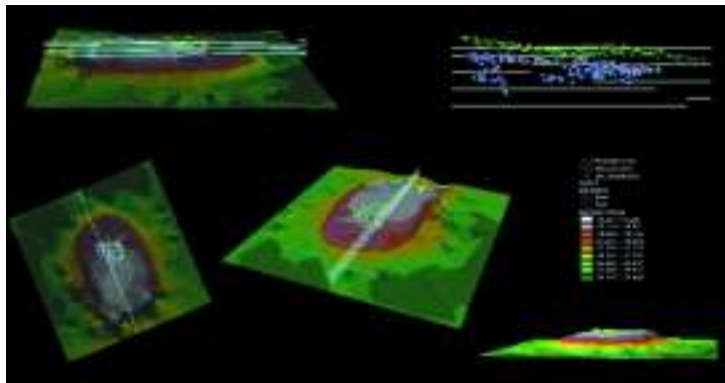


Figure 2. Cosmo 3-D views of WFD-1 Neolithic site.



Figure 3. Aerial View of Khirbet Hamra Ifidan, Jordan.



Figure 4. Collection of Clay Casting Molds, Early Bronze Age (ca. 2300–2600 B.C.), Jordan.

The GIS systems employed at JHF were chosen for a number of reasons. ESRI's ArcView, Spatial Analyst, and 3D Analyst are the key software components used. ArcView is used because it does not require massive computing power in the field, it is easy for students to learn, and it does almost everything required. Given the international makeup of the research group, it is important to have the ability to share findings over the Internet. The 3D Analyst extension exports to VRML format, which we can view over the Web using the COSMO VRML plug-in for Netscape (see Fig. 2).

The Role of Students in GIS-Based Field Archaeology

On-site GIS artifact recording is only as good as the person identifying the artifact in the field. To streamline on-site artifact recording using GIS-based techniques, it is essential for excavators to be familiar with the material culture and descriptor codes. The JHF project is part of UCSD's archaeological field school program in the Levant. To facilitate both the pedagogic and research goals of the project, undergraduates are involved in the GIS aspect of the work in a number of ways. Prior to the excavation, students were trained with the total station and computer system at the UCSD Archaeology Lab.

For the 2000 season, all students were issued a handbook (see weber.ucsd.edu/Depts/Anthro/classes/levy/Fidan/handbk/sfh_2000.html) containing a complete inventory of the artifacts known to characterize the Early Bronze Age site of KHI. Each artifact type is illustrated with a digital photograph, artifact description, and GIS descriptor code. To familiarize the students with the material culture, a "show and tell" display of the typical KHI artifacts is given, thus enabling the student excavators to hit the ground running and play an essential role in the on-site recording system by yelling out the nature of their artifact discovery so that the Total station operator can point, shoot, enter data collector, and then bag and tag the artifact. The artifact is recorded with distinct records and basket numbers so that these data can be linked to other databases.

Students with an interest in computers and archaeology were given an opportunity to train to be GIS assistants prior to the 2000 field season. Three months before the season began, the UCSD GIS lab offered tutorial classes in the use of GIS and its application to archaeology. Four students from this class became GIS assistants in the field. Under the guidance of supervisors and our GIS specialist, Neil Smith (another undergraduate), these students produced daily top plans for their excavation areas. The adoption of GIS and digital survey methods has opened new opportunities for undergraduates to gain

vital experience to prepare them for the field and graduate level research.

Digital Surveying—Why On-Site Total Station and not GPS

Total Station electronic surveying instruments were chosen for the regional survey of JHF in 1998 due primarily to monetary restraints. Our goal was to survey a very large area with high accuracy at a first order of relative precision (better than 1:5000; the accuracy attained on the survey was .033 m over 4.5 km). Furthermore, the terrain required surveying for several hundred meters along tributary *wadis* (seasonal drainages) between very steep cliffs. The GPS units that could have attained such precision, accuracy, and real time kinematic surveying were far beyond our means. While the cost of such GPS units have dropped considerably in the past three years, we have remained wedded to our Leica total stations primarily for flexibility, robustness, and ease of use.

An unforgettable lesson learned in the 1999 field season was that data collected at source should be culled into channels leading directly to GIS. The Tripod Data Systems (TDS) data collectors used in 1999, while remaining the project surveyor's first choice as a general survey tool, fell short as a data collector for on-site archaeology. Four discrete steps were required to massage the day's data for ArcView to be able to process it. As above, much of this work was done at digging day's end, and continued throughout the off-season.

What was needed was a data collector that could stream the data into either point (artifacts) or polygon (contexts) models, thus making data GIS ready at the source of recovery. The TDS Ranger GPS data collector was perfect for our needs. With some persuasion, the programmers at TDS tweaked the Rangers for us, so point and polygon data could be collected with total stations for direct GIS downloading.

The 1999 season also taught us that total stations should not be used to aid in draughting rock features since these are eventually drawn in CAD, in effect doubling the amount of work. In anticipation of the 2000 season, we developed a system whereby a small Sony Cybershot digital camera was held securely and normal to the gravity vector in a cradle, which was suspended from a boom (developed by Sher-

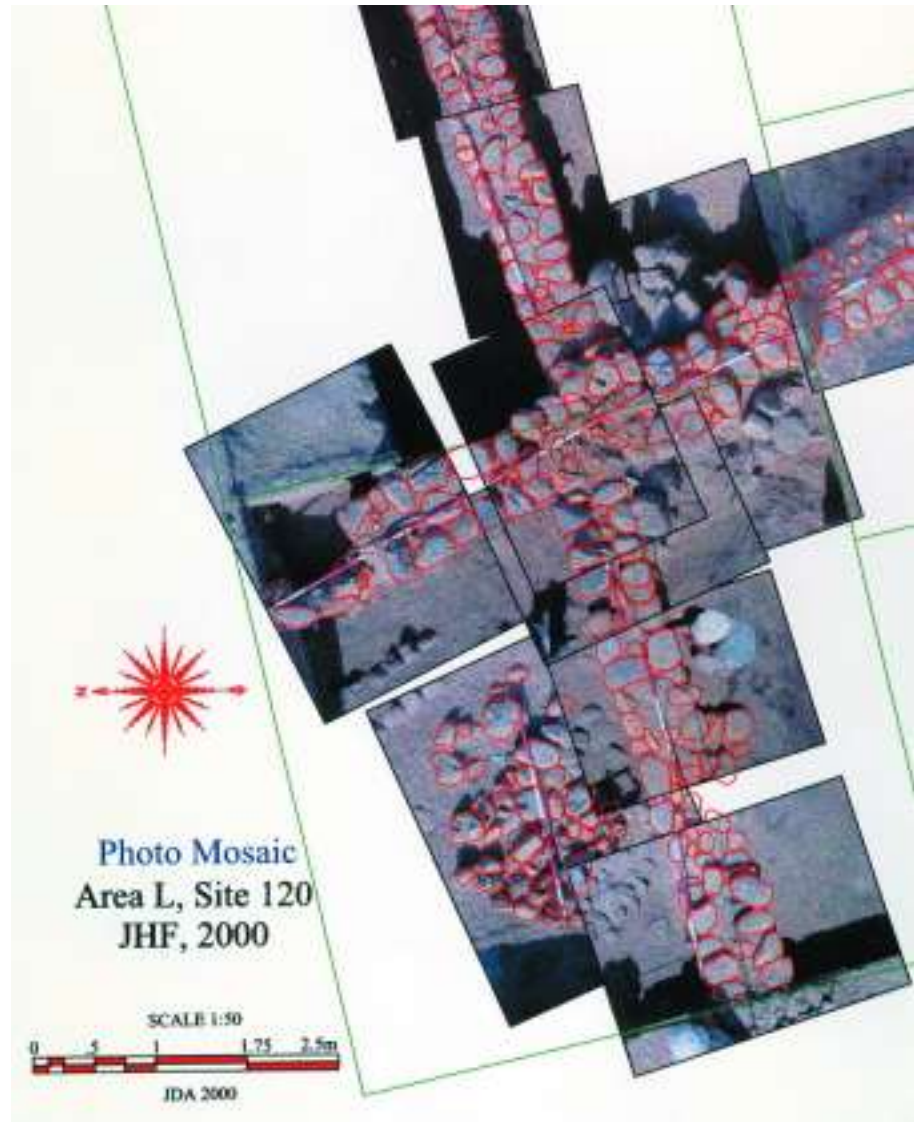


Figure 5. Mosaic of Digital Stills and Wall Photos.



Figure 6. Image of Daily Top Plan.

database, which means that a common data table field links different forms of data. The relational database structure is advantageous to archaeologists that want to use GIS, because field practices and the goal of spatial analysis dictate that each special find have exactly one basket code number (a common field). Data recorded from later studies by specialists in different fields (e.g., archaeobotany, archaeozoology, lithics, pottery, metallurgy, etc.) continue to use the basket code to distinguish between finds and for their final reports. This allows all basket information and later studies to be joined using this common field. For example, a groundstone specialist's analysis that would involve tables of functional type, weight, stone type, and dimensions can all be joined by the common field into a master table including

man George of the UCSD Media Center), and held over the feature to be drawn. Lying horizontally in each photo was a range pole (see Figure 5). Two total station shots were taken at the 1-m interval of the range pole, and these coordinates linked with the photo number. In the lab, the photo was imported into AutoCAD, together with the coordinates of the range pole. By scaling the range pole in the photograph, and then shifting and rotating the photo to the actual coordinates of the range pole, the photo was then moored (geo-referenced) correctly in 3-D space. Using splined polylines, the rocks of each feature were drawn. As each photo was moored independently to 3-D space, errors were not cumulative. This system proved time saving, and much more accurate than conventional drawing.

The wholly digital Daily Top Plans of 1999 were created first in a surveying program called Rapid Transit, and then loaded into AutoCAD for printing. As this process was a minefield of potential error, it was determined that we would press forward to Daily Top Plans generated directly from GIS for the 2000 season. At day's end last summer, polygon and point shape files were loaded directly into ArcView by a dedicated team of GIS students, who then produced a top plan for each area (see Figure 6). To prevent potential sources of error, GIS students did not put in a full day of digging so as to save their energy for the task at hand.

The virtues of digital maps moored to a Cartesian coordinate system are legion. When fully 3-D, contexts and artifacts can be rendered at any scale, in plan, section, or obliquely (see Figure 2). Such data does not distort over time and can be used for several applications.

Tying All Digital Data Together with GIS

Arcview GIS at its core is a relational database, which means that a common data table field links different forms of data. The relational database structure is advantageous to archaeologists that want to use GIS, because field practices and the goal of spatial analysis dictate that each special find have exactly one basket code number (a common field). Data recorded from later studies by specialists in different fields (e.g., archaeobotany, archaeozoology, lithics, pottery, metallurgy, etc.) continue to use the basket code to distinguish between finds and for their final reports. This allows all basket information and later studies to be joined using this common field. For example, a groundstone specialist's analysis that would involve tables of functional type, weight, stone type, and dimensions can all be joined by the common field into a master table including

common information to each of the finds. The JHF Project has taken this one step further by assigning the records number with the basket number for each find shot in the field. The basket code preserves the “old Near Eastern archaeology school” method of recording and serves as a check on the EDM number.

The records number includes the ability to assign a common field to things that are not necessarily special finds (e.g., profile shots, digital field photos, survey datums, elevations, etc.) as well as display visually the location of each find in a GIS map plot. Thus, advanced queries involving variables collected from different specialists data can be quantified together. Ultimately, specific research queries of multiple users over the Internet can be entertained without having to consult each specialist. One of the keys to the interdisciplinary approach to GIS is that a master locus list (or context list) exists which contains all the basic excavation data (locus/context, spatial definition [polygons], stratum number, etc.) that is hammered out by the team before GIS plots are used for publication.

Future Plans

The discovery of the Bronze Age metal manufactory at KHI with thousands of archaeometallurgical and other artifacts highlights the need, applicability, and utility of GIS on-site data recording. At JHF, without GIS, it would take years to define the Bronze Age metallurgical chain of production (Figure 7). ArcView makes activity area analysis simple. However, spatial analysis with GIS is only as good as the artifact definitions used in data collector. Therefore, it is essential that every special find artifact shot in with the total station has an accompanying digital photograph (shot in the field lab) so that checks can be made of field data and more fine-grain artifact typology categories developed. For the future, we are currently working on Web-based implementations of GIS using AXIOMAP, and visualization using the World Construction Set with the San Diego Super Computer Center. These are important visualization tools, which enable us to simulate re-forestation, ground water contamination from smelting sites, population dynamics of the site areas, and other problems. In addition, we are currently devising a plan for 3-D artifact imaging and printing and hope to incorporate this as part of a Web-accessed database.

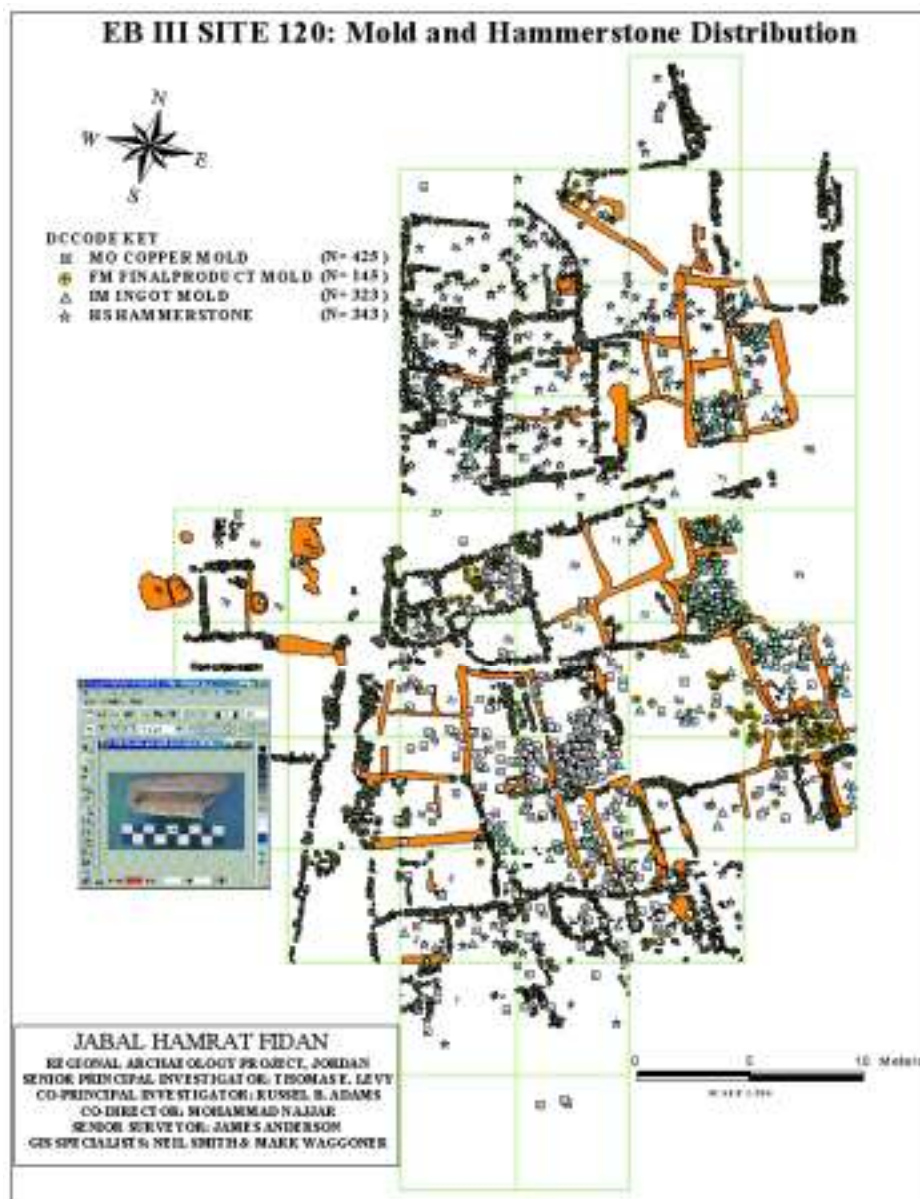


Figure 7. GIS Plot of Molds and Hammerstones with pop-up artifact image.

AN EMBARRASSMENT OF RICHES: SITIO CONTE ONLINE

John W. Hoopes

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There's something about archaeologists and gold, especially when there is a lot of it. On the eve of World War II, between 1930 and 1940, the site of Sitio Conte, in central Panama, yielded one of the largest assemblages of gold ever to be scientifically excavated in the New World. It remained unsurpassed for almost half a century until Walter Alva's 1987 excavations at Sipán, Peru. Samuel Lothrop's two-volume report on Sitio Conte (Lothrop 1937, 1942) is one of the most lavish publications in American archaeology. Digital technology has now taken documentation of the site to a new level as the result of a project funded by the National Science Foundation to create a comprehensive, Web-accessible, digital archive of the University of Pennsylvania Museum of Archaeology and Anthropology's expedition to the Sitio Conte in 1940 (www.museum.upenn.edu/SitioConte). The digital archive, produced by Alessandro Pezzati with the assistance of Douglas Haller, Sonia Bazán, and Kevin Wiley, stands as one of the best examples of how digital technology can provide ready access to a wealth of primary archaeological documents. The archive plays a critical role in providing access to primary data for a project that, after 60 years, remains incompletely published. It is also a window into the history of our discipline at a time when there were, in fact, colleagues whose *modus operandi* sometimes actually did resemble that of Indiana Jones.

The 1940 Sitio Conte expedition was directed by J. Alden Mason (1885–1967) four years before he was elected president of SAA. It followed work at the site directed by Samuel Lothrop of the Peabody Museum of Archaeology and Ethnology at Harvard between 1930 and 1933. Mason's four-month expedition focused explicitly on recovering large quantities of gold and *tumbaga* (gold-copper alloy) artifacts from controlled contexts.

Sitio Conte, about 100 miles west of Panama City, was discovered in the late 1920s when the shift in a local river course revealed the existence of a rich Precolumbian cemetery. The site, since dated to ca. A.D. 450–900, has provided the largest assemblages of gold artifacts ever found in Central America. In addition to goldwork, it yielded hundreds of polychrome ceramics as well as unusual objects of shell, resin, whale ivory, fossil shark's teeth, stingray spines, agates, and emeralds. The site is a valuable source of information on the emergence of social complexity in the area between Mesoamerica and the Central Andes.

The online summary by Douglas Haller notes:

The expedition dug a main trench 54 ft in length, 27 ft in width, and 13 ft in depth at its maximum. . . . About 30 burials and/or caches were encountered, ranging from grave lots with a few vessels to burials of 10 ft square containing hundreds of pottery vessels as well as objects of stone, carved bone, gold, and other materials. In the most elaborate burial, No. 11, there were 23 individuals, one supplying at least half of the gold objects found as well as the finest in quality. . . . Over 120 troy ounces of gold were found. Many gold objects are of exquisite workmanship made by casting (*cire perdue*), hammering, and depletion gilding. Gold objects included large plaques or disks, ear-rods, nose ornaments,

cuffs and anklets, pendants, chisels, bells, and beads. Most impressive are eight large plaques 8–10 in diameter with very ornate decoration in high repoussé relief. . . . Among the most interesting objects found were almost 30 animal and human figurines of carved bone, ivory, or copal resin with features of gold applied as onlays.

The Sito Conte Archive

Web access to the archive begins with a vertically split screen, a hypertext menu on the left. Six starting links provide introductory matter, an expedition summary, a description of the scope and contents of the archive, a list of archived materials, and additional information. Text and images display in a frame on the right-hand side of the screen, whose content can be changed by means of button at the top and bottom. (However, this means that large images and full pages of text must be scrolled left and right to be read.)

The content of the site includes digital facsimiles of original correspondence, field notes, expense reports, artifact catalogues, and related documents ranging from exhibition-related correspondence and manuals to published articles and a complete monograph. The correspondence section carries one through the entire five-month expedition and beyond. For example, there is a January 17, 1940 picture postcard of the *S. S. Santa Elena* with Mason's message, "Approaching Panama Canal after a lovely calm clear warm swanky trip." Links via thumbnail images provide access to dozens of scanned facsimile images of the actual documents that historians will recognize as essential (and for which digitized text should never be considered an adequate substitute). Under "Preparation for the Expedition (November, 1939–January, 1940)" is correspondence from Mason concerning the controversial issue of cultural patrimony, including documents showing how he modeled his excavation agreement with the Conte family on Lothrop's. The site's owners granted permission for the dig in return for a 50 percent share of the goldwork and other artifacts—ultimately divided with two private museums (at Harvard and the University of Pennsylvania).

Digital facsimiles of administrative records include a surprising range of ephemera generated in the course of a field project: ads for modeling compound, customs declarations (including detailed checklists of camping equipment), last-minute telegrams ("firearms application not received bring one shotgun . . ."), as well as bank statements, draft slips, and balance sheets. There are notes about how "Labor is, or was, cheap 65¢ a day" (and how most of the laborers were black). Mason's comments regarding excavation methodology, such as "Graves are as large as 12 x 12 ft, and such a large grave would take a month's work, for the staff, without unskilled labor," give a telling glimpse of his timetable and concerns. Consideration of the careful procedures followed more recently at Peruvian sites such as Huaca Loro and Dos Cabezas show just how far field methods for recovering features with large quantities of precious metals have come in 60 years.

The field notes include digital facimiles of the 190 pages of J. Alden Mason's diary, 181 pages of Robert H. Merrill's diary, 24 manuscript pages of artifact catalogue, 259 typed note cards with handwritten annotations, museum cataloging notes (from 1940–1956), and "gold lists." There are also notes for comments and both handwritten and typed versions of the script for a movie of the excavations—with parting shots of backfilling and departing by canoe. (The 20-minute movie is the only material in the archive that has not yet been provided online.)

There are online facsimiles of 13 project maps, including a general regional map of central Panama, a pencil-and-ink draft topographic map of the site, a blueprint draft of the site map, the site grid on millimetric paper, and nine hand-drawn, pencil-and-ink level plans of trench excavations that exposed buri-



Gold disk from Mason's excavations in Burial 11, SITO Conte, Panama (21 cm diameter).

als, pottery, stone sculpture, and gold artifacts. The quality of the scans is excellent, permitting an online examination of Mason's primary data, complete with penciled annotations. This is the type of material that is essential for critical analysis and evaluation, not only for interpreting the published material on the site, but perhaps for one day completing analysis of unanalyzed material in the University Museum's collections and preparing a thorough report on the excavations.

The archives include dozens of digitized photographs from Mason's excavations. The vast majority are in black-and-white, with five color images of a famous zoomorphic pendant in gold and emerald, seven color images of stone tools, and three of polished stone pendants. However, only thumbnail and medium-size images are provided for the majority of photos. The majority of images are from ca. 200 x 300 to slightly more than 400 x 600 pixels, with most at the smaller end of this. Some photographs of ceramics are larger, for example one of 679 x 859 pixels. The largest images, naturally, are used for the gold objects, including an image of 898 x 718 for one of the large gold pectorals (with a print size of approximately 10 x 12.5 in). However, while resolution at 72 pixels/inch makes for rapid download, it is inadequate for careful evaluation, especially for images of excavation photos. This reflects the objective of reproducing photos at the actual size of those in the archives. However, the size of the digital photographs of gold objects—including the famous zoomorphic pendant—is too small for careful analysis. This raises the question of how best to reproduce an archived negative online—by existing or best possible prints? Surprisingly, of the dozens of artifact photographs, only two contain any kind of scale.

In addition to facsimiles of primary documents, the archive includes several digitized publications. Among these are an online scan of Mason's 1942 project report, published in *Proceedings of the Eighth American Scientific Congress*. While readable, the photographs, scanned from printed half-tones, are blurred by moiré patterns. There are facsimile versions of newspaper clippings, seven from the years 1940–1941, including the complete text of a 1941 article by Mason from *Scientific American*, and nine from 1972. Four related publications are reproduced online: "Ivory and Resin Figurines from Cocle," *University Museum Bulletin* Vol. 8 (4) (1940); "The Archaeological Expedition of the University Museum to Panama, 1940," *Tredyffrin-Easttown History Club Quarterly* Vol. 3 (3–4) (1940); and "The Lesser Archaeological Cultures of Mexico and Central America," *University Museum Bulletin* Vol. 10 (1–2) (1943). As a bonus, the archive offers a complete digitized version of *River of Gold: Precolumbian Treasures from Sitio Conte*, a monograph about Mason's research at the site (Hearne and Sharer 1992). All 141 pages of the publication are online, published as JPEG screen images that display at actual size in the right-hand frame. This type of digital version is not ideal for research purposes (for which one should obtain the actual monograph). One cannot, for example, conduct text-based searches. However, it does reproduce 72 plates of artifacts, including the spectacular gold pectorals from Burial 11, in full color. An alternative approach would be to provide these types of documents in Adobe PDF format, generally more readable and reproducible than a scanned JPEG image of a printed page, but this would violate archival integrity.

Additional documents include archival materials of interest to museologists from the exhibits collection records. These include many pages of Mason's curatorial paperwork. There are several dozen documents (including curators' notes, correspondence, corrected manuscript drafts, design sketches, promotional fliers, exhibit photos, etc.) related to the exhibit *Caribbean Splendors* (1972), a 15-page installation manual from *Ancient American Gold* (1974), and numerous news clippings, promotional materials, and publications from the traveling exhibit *River of Gold* (1988), all of which featured material from Sitio Conte. There are several portraits of Mason both in the field and studio, and a facsimile of a long obituary (with comprehensive bibliography) by Linton Satterthwaite.

There are some items in the archive that are uncomfortable to view for reasons other than their digital format, which is excellent. The section under Administrative Records labeled "Contracts," for example, provides a telling glimpse into the history of American archaeology. Lothrop's earlier excavations at Sitio Conte had yielded large quantities of gold and even emeralds, and Mason's expected to bring back even more Precolumbian treasure. There is a particularly poignant January 1940 agreement between the owner of the site and Mason containing the following language:

Cuando en las excavaciones se encuentren objetos de oro, o de cualquier otro metal, y no haya duplicados, la Universidad puede retenerlos si los necesita; pero pagará al señor Conte la mitad del valor de tales objetos. Este valor se determinaría según el valor corriente del metal en el mercado, determinado por The Chase National Bank of the City of New York, de la Ciudad de Panamá. Cuando haya más de un ejemplar de esto objetos, entonces se dividirán en partes iguales; y una mitad será exclusivamente de propiedad de señor Conte, y la otra mitad será de la Universidad.

That is, if unique objects of gold or other metal were found, the University of Pennsylvania Museum would purchase them from the site's owner at the current market price of the metal. Duplicate objects were to be split between the owner and the university. Similar arrangements were made for dividing finds of stone sculpture and pottery, but the contract also specifies that the division of gold objects was to be made at the bank. Documents cited under "Gold Lists" provide original, detailed tallies of the weights of alloys with gold in varying proportions. These total to some 3638 gms of metal, of which 2864.87 gms (92.10557 Troy oz.) was deemed to be "pure gold." In 1940, at \$35/oz, this was valued at \$3223.85, and on April 16, Sr. Conte signed a receipt for the value of half of this, or \$1611.93.

Reflections

The Sitio Conte archive is a pioneering contribution. It provides a model of high standards that should be emulated by other projects and institutions. There are always ways a digital archive such as this could be improved. For example, searchable, HTML-based text versions of key documents such as Mason's 1942 report and the *River of Gold* catalogue could be digitally cross-referenced to archival documents. However, there is only so much that archivists should be expected to do. Individual scholars must take responsibility for producing transcriptions of handwritten documents and indexing all publications and materials that now exist for Sitio Conte. An ideal resource for future development would combine archival information from the University of Pennsylvania and Harvard's Peabody Museum, including digital reprints of Lothrop's monographs. Digitization of Lothrop's field notes and correspondence concerning Sitio Conte will also be immensely valuable. Even with the high quality of his site reports, there is nothing that matches the provision of primary documentation in an online, digital format for careful, critical analysis of this complex site, which remains unique in the prehistory of Central America more than half a century after its last investigation.

The Web archive of the University Museum Sitio Conte expedition is an excellent example of how the Internet can revolutionize access to archival materials. However, one cannot imagine that Mason, let alone his many correspondents, ever conceived that this material would be accessible to the world's careful scrutiny. While it provides welcome and enormously valuable supportive material with which to evaluate Sitio Conte's significance, it also provides occasional glimpses of skeletons in archaeology's substantial closet. Archivists have a purely non-interpretive role. Now that this material has become part of the digital record, it is the responsibility of professional archaeologists to help colleagues and the general public to put these documents into meaningful historical and interpretive contexts. One hopes that the use of the Web for providing archival material will play a key role in persuading younger colleagues to delve into the records of American archaeology as it was practiced during its own "formative period" in the first half of the twentieth century. ☒

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COGNATA, CAPTA, AND DATA: HUNTING FOR MEANING

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*You may seek it with thimbles—and seek it with care;
You may hunt it with forks and hope;
You may threaten its life with a railway-share;
You may charm it with smiles and soap—
But oh, beamish nephew, beware the day,
If your Snark be a Boojum! For then
You will softly and suddenly vanish away,
And never be met with again!*

Lewis Carroll,
The Hunting of the Snark

The recent suggestion by Chris Chippindale (2000) appearing in *American Antiquity* that we abandon using the term “data,” because it is “misleading and encourages wrong habits of thought and work,” is certainly a good one. We would like to broaden the discussion by suggesting that Chippindale’s suggested alternative term, “capta,” is itself perhaps too limiting, and that other terms might be better suited to what archaeologists really do in this day and age. If “data” is to be jettisoned, we propose that the term “cognata” would be a much more suitable replacement term (or perhaps, “psychata,” “percepta,” “sentia,” “discursa,” or “interpreta”).

We should like to clarify from the outset that we have no problem with Chippindale’s major argument, to wit, that the relation between what archaeologists observe and how they interpret those observations needs to be carried out with insight, common sense, and wisdom (as advocated in all good introductory textbooks on archaeology and theory, which Chippindale readily acknowledges). We also agree that there are many archaeologists who do not appear to bring these required qualities to the pursuit of understanding “archaeological affairs,” although this is a common complaint about humanity in general, and archaeologists, politicians, doctors, lawyers, and psychiatrists are particularly vulnerable targets. There is no doubt that archaeology “is plagued . . . with poorly defined variables . . . drawn from ill-understood populations, and with uncertain articulations between the entities . . . we seek to understand.” As Chippindale suggests, when we go out on the great “hunt” for the prey of the past, we surely may come up with only “a portion that tears away, or . . . some other creature,” including

a boojum or two if our glosses and theoretical orientations are not apt for the task. Clearly, by reconceptualizing and renaming our basic terminology, we should be able to extricate ourselves from the mire in which we now find ourselves.

Thus, it is critical that when we change our terminology, we ensure that the new terms are as accurate a description of what we would like to promote as possible. Concepts are the basis by which we apprehend the world and must be our first priority if we wish to effect change—a point well established by cognitive anthropologists, linguists, feminist scholars, and many post-modernists (e.g., Harris 1979:278–282; Hodder 1986; Parsons 1951; Renfrew and Bahn 1996:464; Shanks and Tilley 1987; Whorf 1956). As Lawrence Harrison (1992, 1985, 2000) has pointed out, economic underdevelopment in the third world “is a state of mind,” and to solve such practical problems as poverty we must first change people’s values and concepts.

As Chippindale himself has noted, “data” scarcely does justice to the full range of factors that must be considered when making observations or interpreting them. The example of Raferty’s (1994) classification of British hillforts is a good one where the variables chosen seem to be arbitrary and omit such other promising factors as the social landscape and symbolic meaning of these “forts.” However, as Hodder (1999) and others have pointed out, it is also pertinent to encompass various psychological factors of the observers as well as the prehistoric makers, users, and viewers of archaeological materials. We feel that *cognata* incorporates this aspect of observation and interpretation in the process of dealing with archaeological materials at even the most basic level. Some of these factors can be briefly elaborated upon.

At the most sophisticated theoretical level, there is the hermeneutic contention that all our perceptions are determined by our individual psyches. Each of us chooses to make observations that fit best with our emotional makeup or needs and the consequent models that we choose to describe the world. For instance, one’s perception of what constitutes “art” is a direct product of conscious and subconscious expectations and desires and may even change as an individual is exposed to

new experiences (e.g., Gillespie 1997; Loy 1994; Loy et al. 1990; Nelson 1993). Since everyone's psyche is unique, we have no means of determining whose reality is really real. Or, as Ian Hodder once confided to one of us: "I don't really believe in reality." It seems to us that, short of abandoning the practice of archaeology (and most other disciplines) altogether, the only way to contend with this situation is through a thorough understanding of the psychology of those archaeologists doing the observing and interpreting.

Psychiatry has well-established methods to understanding individuals using a variety of different approaches (e.g., Freudian, Post-Freudian, Adlerian, cognitive, behavioral, humanistic, Rogerian, object relation, developmental, and primal scream to name a few). There is also a well-established array of assessment instruments such as WISC intelligence, MMPI personality, Hamilton anxiety, BDI for depression, mini mental status for cognitive functions, and many more; but, of course, the interpretations of assessment results can only be arrived at through each worker's own narrative as given and interpreted by himself or herself. Clearly, for archaeologists to make further advances in this direction, they should first undergo a rigorous and lengthy self-analysis under the guidance of a competent specialist. Fortunately, with modern medicines, life expectancy is such that by the time aspiring archaeologists have finished deconstructing themselves and have survived mid-life crises, they should still be able to put in a few productive years hunting for archaeological *cognata* before retirement.

In the Catal Huyuk project, Ian Hodder (1999:97) has had the added insight to take this approach to new heights by engaging anthropologists to study the way fieldworkers produce knowledge. Significant factors influencing knowledge production include the physical and emotional states of the excavators and analysts (Stevanovic 2000:237). By carefully recording observers' physical and emotional states at the time of their observations and interpretations, he and others are now able to assess the psychological factors that have gone into the creation of his archaeologically based corpus of *cognata*. However, this constitutes only a preliminary step toward the real goal of contemporary archaeology: the elucidation of the artifactual language and meaning of archaeological remains in the terms of past cultures and individuals. If we are ever to recover this symbolic meaning as advocated by Hodder (1986) and Shanks and Tilly (1987), it seems imperative that we consider such things as the psychology of the makers, users, and viewers of past material items. This is, of course, a much bigger undertaking than dealing with the psychology of contemporary observers and interpreters, especially (as Chippindale notes) since the psychology of earlier forms of hominids may have been different from our own and they may have created past social and political systems that have no apparent modern counterparts.

Such difficulties should not daunt the most hermeneutically inclined. Once having established the contemporary sources of bias in our *cognata*, it should be possible to take the next steps proposed by Chippindale and others in determining the social and symbolical landscape of our objects—the values and concepts of individuals from past societies—as well as the meaning of the objects they made and used. For this, it will be necessary to examine the cultural traditions and the cultural significance of the objects. In order to be in synch with current theory, it will be necessary to carefully situate each object within the proper faction or agency/advocacy group of the past society, and then determine how each group was manipulating the meaning and symbolism of those objects to further its own self-interest. For each of these groups, it will be further necessary to determine the self-interest and psychological makeup of the individuals within the group that made and used the object because the symbolical meaning and value of the object will vary within the society and within each of its factions from individual to individual. If the full meaning of the objects is ever to be realized, we must also take into account the value and symbolism that these objects had for each of the individual viewers, which surely must have varied considerably, just as people's views of the same political statements and events vary today, or as Chippindale observes, as people's interpretations of the same economic "facts" vary today. It must be acknowledged that the presence of psychological afflictions (which we assume to have existed in the past as well, but which we would not want to give specific labels to, such as "dementia" since Foucault [1965, 1972, 1976] and Szasz [1974] have demonstrated that these distressing phenomena are only social constructs), poses more difficulties than we would wish to deal with (particularly as there appears to be no postmodern justification for viewing such afflicted individuals' views as being any less valid than other individuals' views). But for now we will leave such problems for future researchers to wrestle with.

Contemporary psychiatry also reminds us that conscious thought and meaning are but one part of our psychological makeup. We are constantly affected and motivated by unconscious drives, symbolisms, meanings, associations, emotions, and motivations—the behavioral outcomes of which we easily enough rationalize, but which remain fundamentally unconscious. Here, too, there will be difficulties in fully apprehending the meaning of past objects, particularly since there appears to be so much individual variation and idiosyncrasy in both the conscious and unconscious domain, not to mention the deviant ways that unconscious factors may affect archaeological observers and interpreters.

Thus, we have provided more than ample reason for removing "data" from the archaeological vocabulary and replacing it with the much more accurate *cognata*. *Cognata* reflects the many

psychological factors that enter into the “cognizing” of observations from the archaeological record. We apologize to Chris Chippindale for rejecting his suggestions for the alternative term “capta”; however, we feel that this simply does not represent what today’s archaeologists do or are seeking to do. While the scope of what we suggest may appear broad and bold, it is our mission as archaeologists to go where no man (or woman) has tread, at least not for a few thousand years, and we do not intend to be daunted by the unreality of reality. It is the better word, “cognata,” the things we have cognized, which captures the essence of what we do. And lest we forget the importance of the words that we use in the great hunt, let us always keep in mind the immortal words of Lewis Carroll:

*’Twas brillig, and the slithy toves
Did gyre and gimle in the wabe;
All mimsy were the borogoves
And the mome raths outgrabe.
Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!
Beware the Jubjub bird, and shun
The frumious Bandersnatch!*

Postscript: As in any bold new intellectual venture, we still have our own self-doubts about what we are proposing. Sigmund Freud had self-doubts about his premises and theories, and we have ours. Perhaps, in the end, after having reflected on the relative inherent problems of “data,” “capta,” and “cognata,” it might not be inappropriate to reconsider the merits of “data” with all of its implications: the striving for precision, replicability, and objectivity. Though objectivity may not be achievable in any absolute sense, attempting to be as objective as possible may ultimately be more conducive to productive inquiry than the labyrinthine snares that the alternatives seem to conjure up. It appears to us that the Snark may, indeed, be a Boojum.

Acknowledgments: We are grateful to Chris Chippindale for giving us this opportunity to express our concerns about the wrong habits of thought and work that have begun to appear among archaeologists in the past decades. Thanks also go to Erle Nelson, Bob Muir, and Jon Driver for their comments and insights on an earlier draft. 

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TALES FROM THE TRENCHES: THE PEOPLE, POLICIES, AND PROCEDURES OF CULTURAL RESOURCE MANAGEMENT

PART 2—RESULTS

Michele L. Wilson

*Michele L. Wilson is an anthropology instructor at Linn-Benton Community College in Albany, Oregon
and a recent MAIS graduate from Oregon State University.*

Technician Sample

The average age of respondent field technicians is 26 to 39 (72 percent) with an age range of 18 to over 40. Most have been working in CRM 1–3 years (53 percent, $n = 19$) with service ranging from less than 6 months (8 percent, $n = 3$) to more than 20 years (3 percent, $n = 1$). Forty-five percent ($n = 16$) have a college degree from a four-year program while 42 percent ($n = 15$) obtained a graduate degree or took classes at the graduate level. Field technician hourly wages ranged from \$8/hour (8 percent, $n = 3$) to more than \$10/hour (45 percent, $n = 16$).

The majority of field technicians were employed in the Northeastern, Midwestern, and Mid-Atlantic regions of the United States, but many rotate employment between these regions and the Pacific Northwest, California, the Great Basin, the Southwest, and Polynesia. No respondents indicated working in Alaska, the Plains, or the Southeastern United States. The average field technician works for four companies per year, with some working for as few as one and some working for as many as seven companies in one year. The average distance traveled, one-way, for a field project is more than 200 miles from their home base (45 percent, $n = 16$), and the average yearly non-reimbursed job-related expenses incurred for all respondents is \$817.

Editor's Note: This article is the second of a two-part series that explores a range of issues in CRM such as compensation, communication, ethics, and safety from the perspectives of managers and field technicians. The first installment presented the scope of the research and survey methods; this issue concludes with the results of the survey.

Industry Representative Sample

Presidents and principal investigators (hereafter, PIs) made up the largest sample of industry representative respondents (26 percent each, $n = 5$ each). Other personnel included field directors (21 percent, $n = 4$), vice-presidents (5 percent, $n = 1$), and project coordinators (5 percent, $n = 1$). Seventy-four percent ($n = 14$) were directly responsible for hiring field crew. The remaining 26 percent ($n = 5$) indicated that they were influential in hiring decisions. Most companies were small to medium size, with personnel ranging from one to five employees (16 percent, $n = 3$) to more than 25 employees (31 percent, $n = 6$). Respondents were asked to describe the type of organization they are affiliated with, because CRM investigations are completed in various environments (e.g., establishments that devote the entirety of their research foci to CRM or companies that engage in multiple tasks, such as environmental and engineering firms). Forty-eight percent ($n = 9$) indicated that they were affiliated with a company that is devoted to strictly CRM investigations. University-based CRM investigations (academic institutions that incorporate contract archaeology into their programs as curriculum addendums and/or supplemental income) represented 26 percent ($n = 5$) of the responses. The remaining 26 percent ($n = 5$) included federal organizations, individually run contract companies, multi-disciplinary firms (such as environmental firms), and other (not clearly defined in the responses).

Summary of Results

The data analyzed for this research support several general conclusions. First, field technician wages are low (to which both industry managers and field technicians agree) (22 percent, $n = 4$; 36 percent, $n = 13$ respectively). Industry managers are mak-

ing efforts to improve field technicians' wages (94 percent, $n = 17$ pay according to experience and education). They also pay for meal and lodging expenses. Field technicians also work in CRM on average for only half a year. They indicated having to find non-CRM-related employment to supplement their income (e.g., working for temporary agencies and filing for unemployment). Although much of CRM work is seasonal, industry representatives hire field technicians full-time (60 percent, $n = 11$); other companies hire project-to-project (40 percent, $n = 8$). A lack of medical benefits for field technicians was also underscored by both field technicians (28 percent, $n = 10$) and industry managers. Industry managers enumerated many of the limitations that they confront in offering medical benefits to temporary employees (such as the exorbitant cost of hiring administrative staff to manage the paperwork) and have attempted to address this deficiency, but, to date, benefits are administered by individual companies so not all field technicians receive coverage (annually or by contract).

Second, communication between industry managers and field technicians can be improved. Although industry managers overwhelmingly support being loyal to field technicians who work hard and have experience (100 percent, $n = 18$ of companies rehire some field technicians based on their work record) and support promoting field technicians to supervisory or full-time positions (90 percent, $n = 16$), field technicians indicated that they want to "connect" with management more often and that they want to feel comfortable suggesting changes to project personnel without fearing reprisal (e.g., "blackballing"). Also, when changes are suggested by field technicians, field technicians and industry managers reported that, on average, the industry will recognize those suggestions by implementing changes between 2 and 25 percent of the time (including changes to logistics, 77 percent or $n=13$, and field equipment).

Third, field technicians enumerated several important ethical issues. Among these, they ranked the quality of field investigations (47 percent, $n = 17$), the overall treatment field employees (36 percent, $n = 13$), and the industry prioritizing their client's satisfaction (36 percent, $n = 13$). Some academicians and industry managers agreed that there are ethical issues in CRM, many underscoring the issues reported by field technicians (including quality field investigations and problems associated with client satisfaction goals). In particular, "low-balling" (defined as underbidding other companies better suited to conduct the work by submitting a "modest" budget) is a practice that both field technicians (17 percent, $n = 6$) and industry representatives (Minor and Toepel 1999; Voellinger 1997; Schuldenrein 1996a) recognize as creating problems between industry managers and affecting the protection of cultural resources.

Fourth, much of the field technicians' responsibilities revolve around performing manual-labor tasks. Field technicians (70 percent, $n = 25$) and industry managers (e.g., 74 percent, $n = 14$

artifact recognition, and 68 percent, $n = 13$ hand excavation) both indicated that data collection is their primary responsibility. Field technicians reported that their jobs rarely include interpretation (50 percent, $n = 18$) while industry managers reported that when expected to perform non-manual responsibilities, field technicians will participate in identifying and locating sites (16 percent, $n = 6$), and making National Register eligibility determinations (14 percent, $n = 5$). A brief comparison of field technician and industry representative responses for the above is necessary. Field technicians' descriptions were based on the activities they have performed while in the field. Industry managers highlighted the activities they expect field technicians to perform as well as responsibilities they have seen shouldered by technicians during fieldwork. It should be noted that while many would consider artifact recognition and hand excavation part of data collection, field technicians listed data collection as a responsibility outside these activities. Instead, they qualified data collection as completing forms, and shoveling and screening soil. Industry managers, on the other hand, interpreted data collection to include the above as well as recognizing and identifying artifacts, cultural and geologic features, and soil analysis.

Fifth, because most field technicians are primarily hired for one contract and are therefore transient, they have little opportunity to understand the full complexities of their projects or to participate in any aspect of the project beyond "physical" fieldwork. This appears to be tied to the lack of non-manual responsibilities delegated to them on projects and because often they are working for other companies when pre-field and post-fieldwork is completed (e.g., lab analysis and report writing).

Sixth, health and safety issues are clearly present in all archaeological investigations. Field technicians reported being injured on-the-job (33 percent, $n = 12$), though none reported life-threatening illnesses or injuries. Those injured, however, indicated that in most cases, their illness and/or injury was a result of job protocol (42 percent, $n = 5$) as they cleared vegetation, constructed unit covers, engaged in repetitive motion, and repaired equipment. In addition, 78 percent ($n = 28$) of field technicians were familiar with OSHA but their individual interpretations of OSHA varied. One-third (33 percent, $n = 12$) understood "the basic idea" behind OSHA but were not familiar with any regulations pertaining to worker safety. Twenty-two percent ($n = 8$) were unaware of their rights as employees to be provided with a safe work place. Industry managers reported that trench wall collapse (27 percent, $n = 3$) was an important safety issue. Many indicated that they take steps to ensure worker safety including conducting safety meetings in the field (53 percent, $n = 10$) and distributing a safety handbook (37 percent, $n = 7$), and most agree that it is the employer's responsibility to train employees in safe work practices (52 percent, $n = 9$). Yet, other managers indicated that there are no safety issues in CRM (27 percent, $n = 3$).

➤ CRM, continued on page 44



NEWS & NOTES

The Foundation for the Advancement of Mesoamerican Studies, Inc. (FAMSI) announces its annual grant competition to provide assistance for scholarly investigations of ancient cultures of Mesoamerica (limited to present Mexico, Guatemala, Belize, Honduras, and El Salvador). Applicants may be working in such fields as anthropology, archaeology, art history, epigraphy, ethnohistory, history, linguistics, or multidisciplinary studies involving combinations of these classifications. To receive your copy of the current brochure outlining policies, grant categories, requisite qualifications, and application forms, contact FAMSI, 268 South Suncoast Blvd., Crystal River, Florida, 34429-5498; fax: (352) 795-1970; email: famsi@famsi.org; Web: www.famsi.org. Applications received after September 30, 2001 will not be considered.

The Conservation and Heritage Management Committee of the Archaeological Institute of America (AIA) invites nominations for the 2002 AIA Conservation and Heritage Management Award, to be presented at the AIA's Annual Meeting in Philadelphia, January 2002. This award is made in recognition of an individual's or institution's exceptional achievement in any of the following areas: (1) archaeological conservation of an artifact, monument, or site; (2) archaeological conservation science (an advance in the deterioration analysis or treatment of archaeological materials); (3) archaeological heritage management of a site or group of sites including their preservation and interpretation to the public; (4) education/public awareness of archaeological conservation through teaching, lecturing, an exhibition, or a publication. The award is open to any international individuals,

institutions, or organizations, public or private, which merit recognition for their contributions to the preservation of our archaeological heritage. Eligibility is not restricted to members of the AIA or U.S. citizens. Send names, a curriculum vita or institutional profile, and several letters of support detailing the nominee's contribution to archaeological conservation to Catherine Sease, Chair, Conservation and Heritage Management Committee, AIA, Peabody Museum of Natural History, P.O. Box 208118, New Haven, CT 06520. The deadline for nominations is August 1, 2001. Previous recipients of the AIA Conservation and Heritage Management Award are the Department of Conservation and Materials Science, Institute of Archaeology, University of London (1998), Lawrence Majewski (1999), and the Museum of London (2001).

The Lamanai Archaeological Project (LAP) announces its annual field course, Introduction to Maya Archaeology Culture and Environment. The field school course will be taught in northern Belize at the ancient Maya site of Lamanai, which boasts over 3,000 years of continuous occupation. The 2001 field school will include three sessions running from May through August, and other field opportunities may exist throughout the year. The LAP field school curriculum has been designed to introduce archaeology students to a broad range of topics including tape and compass mapping, surveying, and specific methods of excavation and recordation. Fieldwork includes training students to assess and interpret the archaeological significance and research potential of various areas under investigation. The course was created to allow sufficient time to process all the

material as the fieldwork proceeds, thus half of each day is devoted to laboratory training in washing, sorting, analyzing, and database entry. A full range of lecture topics supplements field training, from an introduction to the ancient Maya to Maya architecture. The LAP operates out of the Lamanai Field Research Center, which is equipped with a large open-air laboratory, lecture hall, and communal reading area that provide comfort and convenience. In addition, the center hosts an interesting variety of biological research projects focusing on black howler monkeys, Morelet's crocodiles, bats, spiders, and plants. Some or all of these subjects may be incorporated into the curriculum depending on researcher availability. The program combines the traditional field school curriculum with the surrounding tropical forest environment and local community involvement, which exposes students to an extremely broad range of topics. For more information contact L. Howard in Belize at: tel: (501) 23-3578; fax: (501) 21-2061; email: lamanai@btl.net or ljh@btl.net; Web: lamanai.org and lamanai.com.

The Belize Valley Archaeological Reconnaissance Project will once again be conducting archaeological research at various caves in Belize, Central America this coming summer. The Western Belize Regional Cave Project is designed as an introduction to the fundamental approaches to the practice of spele archaeology. Participants in the project will be introduced to a variety of archaeological and survey techniques. Lectures will provide an overview of Maya civilization with a particular focus on ideology and cosmology relating to the use of caves by prehistoric Maya. Participants will work together as a team in



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the field, conducting excavations and performing survey procedures. In the laboratory students will employ various techniques of analysis and illustration. The sites chosen for the 2001 research season include the caves Actun Ka'Ram (Cave of the Offerings), Actun Chapat (Cave of the Centipede), and Barton Creek Cave, all of which have evidence of Classic Maya use. The archaeological material under investigation includes elite burials, stone monuments, subterranean architecture, and petroglyphs. The project will focus upon interpreting the role of caves in the culture of the ancient Maya. This field research opportunity is available in either two- or four-week sessions:

Session 1: June 3–16, 2001 or June 3–30, 2001

Session 2: July 8–21, 2001 or July 8–August 4, 2001

Academic credit may be obtained for the course through Sonoma State University. Two credit options are available: 4 credit hours for a two-week session or up to 8 credit hours for the month-long research project. Further details are provided in the application package. Due to the strenuous and dangerous nature of cave reconnaissance it is imperative that volunteers be in excellent physical condition and at least 18 years of age. Prior spelunking experience is preferred. Registration fees for the project are \$950 U.S. per two-week session or \$1750 for the one-month research project, which includes lodging, weekday meals, and transportation to and from the cave sites. Travel to and from Belize and incidental expenses are the responsibility of the participant. For applications and more information, contact Cameron Griffith, Co-Director, at BelizeMaya@aol.com. Visit us on the Worldwide Web! php.indiana.edu/~casgriff/Belize/CAVE.html.

POSITION: ZOOARCHAEOLOGIST

LOCATION: TUCSON, ARIZONA

The Arizona State Museum (ASM) and the Department of Anthropology at the University of Arizona invite applications for a continuing-eligible, academic professional position. This position will also hold a secondary faculty job title. The selected candidate will be expected to manage a comparative zooarchaeology laboratory, develop innovative research, facilitate student and faculty investigations, review Arizona Antiquities permits for paleontological investigations, and advise museum personnel on the treatment of paleontological and faunal remains. Teaching a minimum of one course per year in the Department of Anthropology is expected, which should complement existing faculty theoretical orientations, areal expertise, and course offerings in zooarchaeology and taphonomy. Required: Ph.D. in anthropology with an emphasis in zooarchaeology, research experience in zooarchaeology and field experience in vertebrate paleontology and/or archaeology, demonstrated research capability through publication, and university teaching experience. For more information, see www.hr.arizona.edu. Salary is competitive and commensurate with experience, plus complete UA benefits. To apply, submit a cover letter, a resume, and the names and contact information for three references to: Paul Fish, Chair, Zooarchaeology Search Committee, Arizona State Museum, P.O. Box 210026, Tucson, AZ 85721-0026. Review of materials will begin September 4, 2001 and will continue until position is filled. The University of Arizona is an EEO/AA Employer-M/W/D/V.

POSITIONS: ARCHAEOLOGISTS

LOCATION: LATIN AMERICA

The H. John Heinz III Fund of the Heinz Family Foundation announces its grant program for archaeological fieldwork in Latin America for the year 2002. This program will fund four to six scholars to conduct archaeological research in Latin America. Applications for dissertation research will not be considered. The maximum amount of the awards will be \$8,000 each. The deadline for submission is November 17, 2001, and notification of the awards will be made by late March or early April 2002. Request guidelines or information from: Dr. James B. Richardson III., Section of Anthropology, Carnegie Museum of Natural History; tel: (412) 665-2601; fax (412) 665-2751; email jbr3+@putt.edu

POSITIONS: PROJECT ARCHAEOLOGISTS

LOCATION: SANTA CRUZ, CA

Pacific Legacy, Inc. seeks Project Archaeologists to supervise CRM projects. Duties include project supervision, archaeological survey, excavation, analysis, and report preparation. Minimum requirements include a Master's in anthropology/archaeology and three years supervisory experience. Experience in western U.S. prehistory is desirable. Pacific Legacy is an ESOP offering: competitive wages and benefits including medical and dental, paid holidays/vacation, 401(k). Pacific Legacy is an equal opportunity employer. Send resumes to: Pacific Legacy, Inc., 1525 Seabright Ave., Santa Cruz, CA 95062, tel: (831) 423-0588; fax: (831) 423-0587. Attention: Debra Sklenar, email: sklenar@pacificlegacy.com.

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POSITIONS: PROJECT ARCHAEOLOGISTS/PRINCIPAL INVESTIGATORS

LOCATION: SANTA CRUZ, CA

PAL, the CRM industry leader of the Northeast, is growing. If you are strongly motivated to enhance your career with an organization recognized for the quality of its professional staff, consider the openings we have for experienced Project Archaeologists and Principal Investigators. These are full-time positions with excellent pay and a full benefits package. PAL's team of technical professionals work together to provide clients with seamless service, whether supervising field activities, preparing archaeological research designs and technical reports, or managing Section 106 compliance. PAL's clients are diverse and projects are located throughout the Northeast. Your project responsibilities will be based on your technical abilities, experience, and communication skills. Bring your educational credentials, your established track record in the CRM field, and your enthusiasm to PAL. You will be supported by state-of-the-art information technology and equipment, and a highly professional work environment. Applications accepted until positions are filled. Send vita, references, writing sample, and salary requirements to: PAL, 210 Lonsdale Ave., Pawtucket, RI 02860; fax: (401) 728-8784; email: dcallahan@palinc.com.

POSITIONS: ENVIRONMENTAL PROFESSIONALS

LOCATION: SANTA MONICA, CA

We are continuing to grow at PCR Services, and we seek talented, experienced, environmental professionals for our Cultural Resources Management team. Full and part-time positions are available for individuals with experience researching, surveying, and evaluating historic properties. Successful candidates must have knowledge/experience in National Register criteria and nomination forms; HABS/HAER documentation; Section 106 review; and NEPA or CEQA compliance. Positions require a Bachelor's

degree (graduate degree a +) in historic preservation/architectural history, or other related field, excellent written/verbal communication skills, and strong computer expertise. We offer a salary commensurate with experience, benefits that include med/dent/vision and 401(k), as well as a creative team-oriented workplace. If you would like to join our growing team of professionals, please fax (310) 451-5279, email: c.monge@pcrnet.com, or mail your resume (and a short non-returnable writing sample) to: PCR's Human Resources Manager, 233 Wilshire Boulevard, Suite 130, Santa Monica, CA 90401. Equal Opportunity Employer.

POSITIONS: FIELD SUPERVISORS/ FIELD ARCHAEOLOGISTS

LOCATION: FREDERICK, MARYLAND

R. Christopher Goodwin & Associates, Inc. is looking for field supervisors and field archaeologists for our Frederick, Maryland office. Positions are available for permanent staff and for project assignments. All applicants must have a B.A. or B.S. in archaeology or anthropology and have passed a field school. Supervisors must have an M.A. in archaeology or anthropology; one year of CRM experience is preferred. All positions are salaried, with benefits after three months. Please submit a letter of application, CV, and three references to: R. Christopher Goodwin & Associates, 241 East Fourth Street, Suite 100, Frederick, MD 21701; email: frederick@rcgoodwin.com.

POSITION: ASSOCIATE/FULL PROFESSOR

LOCATION: LA CROSSE, WISCONSIN

The Department of Sociology and Archaeology at the University of Wisconsin-La Crosse seeks an experienced, senior archaeologist to be hired at the Associate or Full Professor level. Areas of expertise and research interest are open, but applicants must have a record of demonstrated excellence in undergraduate teaching and research. Qualified candidates will join the 15-member

department of sociologists, anthropologists, and archaeologists, and be dedicated to serving our approximately 100 archaeology majors and students in the General Education program while pursuing interests in research and service. This full-time faculty position is split between two courses/semester teaching and serving halftime as the Executive Director of the Mississippi Valley Archaeology Center (MVAC) on a 12-month basis. MVAC is a not-for-profit research and Cultural Resource Management (CRM) organization that is housed on campus and is associated with the UW-L Archaeological Studies Program. The MVAC staff includes nine research archaeologists and public education specialists, and has a volunteer Board of Directors. MVAC conducts extensive CRM and public education as well as instruction of undergraduate students. Therefore, the position applicant must have exceptional organizational and communication skills for leadership in the public, private, and academic setting. Ph.D. required. Administrative experience and interest in or knowledge of Midwestern/Plains archaeology is essential. Applications must include a cover letter, curriculum vita, evidence of teaching excellence and three letters of reference. Send to: Archaeology Search Committee, Room 227, Graff Main Hall, University of Wisconsin-La Crosse, 1725 State Street, La Crosse, WI 54601. Refer to Recruitment No.: 03ARC01. Start date: July 1, 2002. Application Deadline: October 19, 2001. Salary: Commensurate with experience and qualifications. UW-La Crosse is a small city nestled between scenic bluffs in the Mississippi River valley. La Crosse is only a few hours drive from Minneapolis, MN and Madison, WI. The university enrolls nearly 9,000 students, with about 100 of these majoring in Archaeological Studies. Archaeological Studies shares a newly renovated, fully equipped archaeology building and laboratory with MVAC. UW-L is an affirmative action/equal opportunity employer that values

POSITIONS OPEN

diversity as an educational resource. Applications from all under-represented groups are especially encouraged to apply. If you have special need/accommodation to aid your participation in our hiring process, please contact the committee above to make appropriate arrangements. Web page: www.uwlax.edu. For further information: Soc/Arc Dept: Jim Theler, email: theler.jame@uwlax.edu; phone: (608) 785-6780; MVAC: Connie Arzigian, email: arzigian.cons@uwlax.edu, phone (608) 785-8452.

POSITION: VARIOUS POSITIONS

LOCATION: SACATON, ARIZONA

We are hiring for the following positions: Project Directors, Field Directors, Crew Chiefs, Archaeologists, Field Technicians. Full benefits, salary commensurate with experience. If interested, please contact: John Raveslout, Coordinator, Gila River Indian Community Cultural Resource Management Program, P.O. Box 2140, Sacaton, Arizona 85247; email: jraivesl@gilariver.com; tel: (520) 562-3301; fax: (520) 562-3268.

POSITION: CRM PROFESSIONAL

LOCATION: ROHNERT PARK, CA

Sonoma State University is seeking an individual to oversee all aspects of a large, multi-year CRM project. Tasks include developing technical scopes-of-work, schedules, and annual budgets; coordinating work of sub-consultants; and making public presentations. Position is within the Anthropological Studies Center. Requires M.A. and a minimum of five years management experience in a CRM context. Please visit www.sonoma.edu/hs/ for more information on position and qualifications. To apply, send application and/or resume to: Sonoma State University, Human Services, 1801 E. Cotati Avenue, Rohnert Park, CA 94928; fax: 707-664-3196; email: human.services@sonoma.edu; Reference #P584-00/01. Equal Opportunity Employer.



CALENDAR

2001-2002

JULY 16-20

The XV Simposio de Investigaciones Arqueológicas en Guatemala will take place at the National Museum of Archaeology and Ethnology in Guatemala City. This year's topics will be the Postclassic in the Maya area and periphery, restoration in archaeology, and advances on technological studies applied to archaeology. Presentations on recent research will be presented as well. For more information, contact Barbara Arroyo, pieters@starnet.net.gt; Juan Pedro, Laporte@laporte@intelnet.net.gt; or Hector Escobedo, hectores@uvg.edu.gt.

JULY 29-AUGUST 3

XXVI Mesa Redonda de la Sociedad Mexicana de Antropología will be held at the Universidad Autónoma de Zacatecas with the theme "Migración: Población, Territorio, y Cultura." Information is available at morgan.iaa.unam.mx/usr/sma/index.html.

AUGUST 26-30

The 10th Archaeological Chemistry Symposium will be held as part of the American Chemical Society Meeting in Chicago. Papers in all areas of chemistry applied to the study of archaeological materials and chemistry employed to answer archaeological problems will be presented. Registration information will be available in a June 2001 issue of *Chemical and Engineering News* and at www.acs.org/meetings. For informa-

tion, contact Kathryn A. Jakes, 1787 Neil Ave., Columbus, OH 43210-1295, tel: (614) 292-5518; email: Jakes.1@osu.edu.

SEPTEMBER 15

The Pre-Columbian Society of Washington, D.C. will hold its 8th Annual Symposium, "Chaco, a 2001 Odyssey: A New Look for the New Millennium" at the U.S. Navy Memorial and Naval Heritage Center in Washington, D.C. Several scholars will discuss current archaeological theories and findings relating to the Chaco phenomenon. For more information, contact Registration Coordinator, PCSWDC, 11104 Bucknell Drive, Silver Spring, MD 20902 or email chaco@ancientamerica.net.

SEPTEMBER 17-21

The XIV Congreso Nacional de Arqueología Argentina will be held at Facultad de Humanidades y Artes, Rosario, Argentina. For additional information, write Entre Rios 758 (2000) Rosario, Argentina; tel/fax: (+54-341) 480-2675; email: 14cnaa@fhumyar.unr.edu.ar; Web: www.unr.edu.ar/u-acad/fhumyar/arqueolog2001.htm.

SEPTEMBER 23-29

The XI Congresso da Sociedade de Arqueologia Brasileira sab 2001 arqueologia no Novo milênio will be held in Rio de Janeiro. For information, contact Museu Nacional/UFRJ, Quinta da Boa Vista, Rio de Janeiro, Brasil; tel/fax: + (21) 568-8262 ext. 239; email: sab2001@mn.ufrj.br.

OCTOBER 1-6

The 12a Rassegna Internazionale del Cinema Archeologico of Rovereto, Italy has tentatively announced "The Orient and Africa" as the main theme of its next annual festival of recent production about all aspects of archaeology and associated subjects. For informa-

tion, contact Dario Di Blasi, Director or Claudia Beretta, International Press. Museo Civico, Largo S. Caterina 43, 38068 Rovereto (TN), Italy; tel: + (39-464) 439-055; fax: + (39-464) 439-487; email: museo@museocivico.rovereto.tn.it; Website: www.museocivico.rovereto.tn.it.

OCTOBER 5–6

“Venice before San Marco: Recent Studies on the Origins of the City” is an international conference that will be held at Colgate University, Hamilton, New York. It will provide a synthesis of fieldwork done at archaeological sites in Venice with levels dating back before the ninth century A.D. The exhibition and conference are being organized by Albert J. Ammerman and Charles E. McClennen in collaboration with the Superintendency of Architecture Venice. For further information, visit the conference Website at groups.colgate.edu/Venice; tel: (315) 228-7201; email: dcurtis@mail.colgate.edu.

OCTOBER 14–15

Symposium on the Hiscock Site (Late Pleistocene and Holocene, Western New York), to be held at the Buffalo Museum of Science, Buffalo, New York. This event will include approximately 24 papers and panel discussions on archaeology, paleozoology, paleobotany, taphonomy, geology, and paleoenvironments. For information, contact Michelle Rudnicki, tel: (716) 896-5200, ext. 312; email: rudnicki@sciencebuff.org.

NOVEMBER 16–19

The 4e Festival International du Film Archéologique is held in Brussels, Belgium. Building on traditions and relationships established by a previous Brussels festival whose name it adopted in 1995, this biennial event focuses on recent productions about all aspects of archaeology with an emphasis on good

cinematography. Screenings will be held at Fortis Banque auditorium, 1 Rue de la Chancellerie. For information, contact Serge Lemaitre, President, or Bénédicte Van Schoute, Secretary, at Asbl Kineon, 26, Rue des Pierres Rouges, B-1170 Brussels, Belgium; tel/fax: + (32-2) 672-82-91; email: asblkineon@hotmail.com; Web: users.swing.be/asblkineon.

NOVEMBER 8–11

The 68th Annual Meeting of the Eastern States Archaeological Federation will be hosted by the Thousand Islands Chapter of the New York State Archaeological Association at the Ramada Inn Watertown. Visit the ESAF 2001 Website at www.siftings.com/esafmt.html.

NOVEMBER 14–17

The 58th Annual Meeting of the Southeastern Archaeological Conference will be held at the Marriott Hotel in Chattanooga, Tennessee. For more information and online forms for registration, proposal submissions, and hotel reservations, see www.uark.edu/campus-resources/seac/index.html. The proposal submission deadline is August 1. Conference organizers are Lynne P. Sullivan, program chair (email: lsulliv2@utk.edu), and Nicholas Honerkamp, local arrangements (email: nick-honerkamp@utc.edu).

NOVEMBER 14–18

Chacmool 2001—An Odyssey of Space. The 34th Annual Chacmool Conference will be held at the University of Calgary, Alberta, Canada. Archaeologists study space in many forms and this conference will allow cross-disciplinary discussion (geography, anthropology, GIS, remote sensing) of this topic. Topics to be covered can include spatial analysis, landscapes, geoarchaeology, sacred space, archaeoastronomy, etc. Student presenters are eligible for the Bea Loveseth Memorial prize valued at \$250 given for the best paper presented by an undergraduate or M.A. student. For fur-

ther information contact Program Committee, Chacmool 2001, Department of Archaeology, University of Calgary, Calgary, AB Canada T2N 1N4; fax: (403) 282-9567; email: cjcluney@hotmail.com.

NOVEMBER 26–29

The X Congreso Uruguayo de Arqueología will be held Montevideo. For information, contact aue_uy@yahoo.com.

NOVEMBER 28–DEC. 2

The 100th Annual Meeting of the American Anthropological Association will be held at the Marriott Wardman Park Hotel in Washington, DC. Special activities exploring the history of American anthropology will be presented as part of this centennial meeting. Submission information appears at www.aaanet.org. For more information, contact AAA Meetings Department, 4350 N. Fairfax Dr., Suite 640, Arlington, VA 22203-1620; tel: (703) 528-1902 ext. 2; email: jmeier@aaanet.org.

JANUARY 9–12, 2002

The Society for Historical Archaeology and the Advisory Council on Underwater Archaeology will hold their 35th Conference on Historical and Underwater Archaeology at the Adam's Mark Hotel in Mobile, Alabama. The plenary session and meeting theme is “Colonial Origins,” in recognition of the 300th anniversary of Mobile's founding by French colonists. The deadline for abstracts is June 1, 2001. For program information, contact Amy Young, Department of Anthropology and Sociology, P.O. Box 5074, University of Southern Mississippi, Hattiesburg, MS 39406; fax: (601) 266-6373; email: amy.young@usm.edu. For local arrangements information, contact Bonnie Gums, Center for Archaeological Studies, HUMB 34, University of South Alabama, Mobile, AL 36688; fax: (334) 460-6080; email: bgums@jaguar1.usouthal.edu.

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Finally, both parties agree that much of the current academic curricula is deficient in preparing students for careers in CRM. As field technicians (89 percent, $n = 13$) indicated, their undergraduate archaeological education only provided them with the opportunity to seek archaeological employment. More than half (62 percent, $n=7$) of field technicians with anthropology degrees reported that their undergraduate education was insufficient for CRM-related work. Most field technicians learned their craft after leaving academia, being introduced to cartography (44 percent, $n = 16$), geologic processes (41 percent, $n = 15$), lithic identification (38 percent, $n = 12$), and surveying (33 percent, $n = 9$) once they had worked on CRM-related projects. Field technicians also underscored the need for students to be introduced to fieldwork (30 percent, $n = 11$), method and theory (25 percent, $n = 9$), and artifact analysis (6 percent, $n = 2$) while in academia. Industry managers also agreed that field methods, theory, and lithic technology were important aspects of archaeology students' curricula, but included a need for instruction in CRM policies and procedures, Native American issues, and research design. Interestingly, the majority of industry managers ranked training in areas that have traditionally been reserved for supervisory and management-level personnel. Yet, as earlier statistics illustrated, they usually do not expect non-manual labor responsibilities from field technicians.

Most field technicians left academia with knowledge of only a few pieces of legislation related to CRM, but most expressed some knowledge of the Section 106 review process (80 percent, $n = 29$). Some industry managers reported that they feel future field technicians (and any person considering CRM as a career) should at least be introduced to primary federal historic preservation legislation. Others, however, indicated that field technicians did not need be familiar with any legislation (42 percent, $n = 8$).

Several industry managers support applied anthropology programs in the United States because they feel that these schools have made efforts to include CRM in students' curricula, including course work and internships with local CRM firms and state agencies. They conceded that these schools generally produce better-prepared students for work in CRM than students graduating from conventional programs. Training outside academia is presently limited to classes offered in select cities, at select times, and at times, to select CRM practitioners. In sum, field technicians, industry managers, and other CRM practitioners cited from the published and technical record agree that current anthropology programs need to be updated to include course work related to CRM.

Closing Remarks

Based on the results of my research it is clear that the frequent incidence of field technicians' low morale merits attention. The labor issues addressed in this research have resulted, in part,

from efforts to combine multiple enterprises to create and justify the field technicians' position within contemporary archaeological environments. These enterprises include academia (and inadequate preparation of students for CRM careers), CRM-specific legislation (and scientific investigations under the constraints of public review processes), and the private-sector (and its interests in managing cultural resources in a business environment).

In an effort to resolve these challenges, it is crucial that academia and the private-sector encourage their constituents to act responsibly toward fieldwork, the resource, the discipline, and each other. Accomplishing this end means initiating dialogue between academia and the private-sector to create curricula that focuses on CRM, while continuing to teach the traditional theories and goals of anthropology.

Also, dialogue must be initiated between industry managers and field technicians so that they may work toward (1) cultivating field technicians' application of institutionalized training; (2) acknowledging and improving CRM-related safety problems, and lobbying as a community for the creation of archaeology-specific safety regulations; (3) creating a forum for field technicians to discuss work-related problems with industry managers without fear of reprisal; (4) finding a method for standardizing field technician salaries and benefits such that all contract employees are afforded health care maintenance and protection; and (5) allowing field technicians the opportunity to be involved in fieldwork projects as laborers and as "associates" so they can recognize CRM as a collaborative effort.

Many field technicians and industry managers agree that today's CRM needs a work force that is prepared to rapidly investigate cultural resources, while also taking care that the quality of fieldwork, data collection, analysis, and interpretation efforts are not compromised. This research illustrates how field technicians' and industry managers' perspectives differ. Ultimately, each views the contributions of field technicians as ranging from "is not significant" to "very significant," based on their perceptions of the field technicians' competency in appreciating the full complexities of the archaeological record. Because each party views the competence and role of field technicians in CRM differently, the challenges raised in this research exist and will continue to intensify.

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CALL FOR EDITOR, *LATIN AMERICAN ANTIQUITY*

The Society for American Archaeology invites applications or nominations for the Editorship of *Latin American Antiquity*. The Editorship is generally held jointly by two editors, one based in North America, one based in Latin America. Applications are welcome from two as a team, or from a single applicant. In recent cases, one editor has been appointed by the SAA who then found a colleague to complete the team.

Editors of the SAA journals have often been senior scholars. Individuals of less-senior standing may be equally well placed to devote the time and attention the journal needs. The central qualifications are a good knowledge of the field, with a broad respect for the varied research attitudes and traditions within it; specific editing experience is helpful.

The Editorship is unpaid and will be expected to provide some institutional support for their office, and to ensure they have sufficient time to carry out their responsibilities. The Editorship is for a period of three years in the first instance, and it may be renewed for a second term. The Editorship falls vacant on April 30, 2002 when the present editors, Katharina Schreiber and Patricia Fournier, complete their term, to be preceded by an overlap period. The SAA anticipates making the appointment in fall 2001. Available to discuss the post informally are the present editors (Katharina Schreiber schreibk@alishaw.sscf.ucsb.edu, Patricia Fournier pat_fournier@yahoo.com), and the Chair of the SAA Publications Committee, Christopher Chippindale (below).

Applications or nominations outlining relevant qualifications and expected local institutional support arrangements, along with a current vitae, should be directed to Christopher Chippindale, 85 Hills Road, Cambridge CB2 1PG, England; tel: (44)-1223-513743 phone; email: CC43@CAM.AC.UK by August 1, 2001.

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