



the
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SOCIETY FOR AMERICAN ARCHAEOLOGY

CALL FOR EDITOR, *THE SAA ARCHAEOLOGICAL RECORD*

The Society for American Archaeology invites applications or nominations for the editorship of *The SAA Archaeological Record*. The magazine, which is received by all SAA members, is one of the Society's major venues for presenting itself to the archaeological community. The four-color magazine encompasses SAA business and commentary, news, regular columns, opinions, and articles related to the practice of archaeology. It is published five times per year.

The editor has overall responsibility for the magazine's functioning and final responsibility for all content. A broad knowledge of the practice of archaeology is important, although the editor also can appoint associate editors who complement the editor's expertise and who assist in soliciting and editing material; traditionally the associate editors have been responsible for the regular columns in the magazine. The journal's production is done from the SAA office in Washington.

The term of the editor is for a period of three years; it may be renewed once thereafter. The editorship is unpaid. The editor will be expected to provide some institutional support and to ensure that he or she has sufficient time to carry out editorial responsibilities; release time of at least 25 percent from university teaching commitments has been customary.

The editor position falls vacant on April 27, 2007 when the present editor, John Kantner, completes his term. SAA anticipates making the appointment early in 2006.

Available to discuss the post informally are Kantner (Department of Anthropology & Geography, Georgia State University, 33 Gilmer St., Atlanta, GA 30030; tel; [404] 651-1761; email: kantner@gsu.edu); and the chair of the SAA Publications Committee, Christine R. Szuter (contact information below), who leads the search.

Applications outlining relevant qualifications and expected local institutional support arrangements, along with a current vita, should be directed to Christine R. Szuter, Chair, University of Arizona Press, 355 S. Euclid Ave., Suite 103, Tucson AZ 85719-6654; tel: (520) 621-1441; fax: (520) 621-8899; email: szuter@uapress.arizona.edu by February 28, 2006.



SOCIETY FOR AMERICAN ARCHAEOLOGY

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The Magazine of the Society for American Archaeology

VOLUME 6, No. 1

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The Kalasasaya gateway at Tiwanaku from the Semi-subterranean Temple, Tiwanaku, Bolivia. Photo credit: Kevin Vaughn, Purdue University.

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Deadlines for submissions are: December 1 (January), February 1 (March), April 1 (May), August 1 (September), and October 1 (November); send to John Kantner, *The SAA Archaeological Record*, Department of Anthropology and Geography, Georgia State University, 33 Gilmer St., Atlanta, GA 30303-3083. For information, call (404) 651-1761; fax (404) 651-3235, or email kantner@gsu.edu.

Manuscript submission via email or by disk is encouraged. Advertising and placement ads should be sent to SAA headquarters, 900 Second St., NE #12, Washington, DC 20002, (202) 789-8200.

Associate editors include:

Gabriela Uruñuela [Exchanges, Mexico & Central America]

email: gabriela@mail.udlap.mx

Jose Luis Lanata [Exchanges, Southern Cone]

email: jllanata@filo.uba.ar

Anne Vawser [Government]

email: Anne_Vawser@nps.gov

Cory Breternitz [Insights]

email: COBRDSSI@aol.com

Mark Aldenderfer [Interface]

email: aldenderfer@anth.ucsb.edu

John Hoopes [Networks]

email: hoopes@ku.edu

Teresa Pinter [Public Education]

email: tpinter@acstempe.com

Kurt Dongoske [Working Together]

email: kdongoske@cableone.net

Inquiries and submissions should be addressed directly to them. *The SAA Archaeological Record* is provided free to members and institutional subscribers to *American Antiquity* and *Latin American Antiquity* worldwide. *The SAA Archaeological Record* can be found on the Web in PDF format at

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Manager, Publications:
John Neikirk

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EDITOR'S CORNER

John Kantner

John Kantner is an Associate Professor of Anthropology at Georgia State University.

Search for New Editor

This issue of *The SAA Archaeological Record* includes a call for a new editor—my second three-year term ends in May 2007. Serving as editor has been an invaluable experience, for through this position I have learned a tremendous amount about all facets of archaeology, I have met new colleagues from across the Americas and beyond, and I have been able to experiment with many different ideas on how to represent the diversity of archaeological practice to the SAA membership. But six years is a long time for one editor, and *The SAA-AR* needs fresh ideas and new energy. For those of you interested, I am more than happy to answer questions about the editorship. Feel free to contact me at kantner@gsu.edu or (404) 651-1761.

Upcoming Thematic Issues

The March 2006 issue is dedicated to Archaeology in Government, organized by SAA Committee on Government Archaeology chairperson Barbara Little. It will include articles related to the Antiquity Act's centennial anniversary. While this issue is currently full, interested contributors should contact Barbara at Barbara_Little@nps.gov.

In September 2006, a thematic issue will consider Indigenous Knowledge in Archaeological Practice. Contributions are invited on topics ranging from sacred sites, to traditional cultural properties (TCPs), to the Native American Graves Protection and Repatriation Act (NAGPRA), to the conflict between science and tradition and the value of oral histories. Please contact Associate Editor Kurt Dongoske at kdongoske@cableone.net or me (contact information is provided below) if you would like to contribute to this important issue.

Remember that not all issues of *The SAA-AR* are dedicated to specific themes. If you have ideas for interesting contributions, do not hesitate to email or call!

We Need Cover Photos!

Our stock of high-quality, high-resolution photographs available for use on the cover of *The SAA-AR* is becoming depleted. We can work with slides, prints, and digital images, although the latter should measure approximately 3300 x 2700 pixels. Portrait orientations are preferable to landscape orientations, and if recognizable people appear in them, we need photo releases from each. Geographical areas under-represented on past covers include Mexico, Central America, Canada, and Alaska. But if you have compelling images of sites, features, landscapes, artifacts, and/or archaeology in action from any part of the Americas, please contact me at kantner@gsu.edu or (404) 651-1761.



IN BRIEF

Tobi A. Brimsek

Tobi A. Brimsek is executive director for the Society for American Archaeology.

Coming Up—The 71st Annual Meeting in San Juan Puerto Rico

April 26–30, 2006 promises to be one of the most memorable annual meetings in the Society's history. The second-largest number of submissions ever were received for this meeting. Most importantly, one of the goals in selecting Puerto Rico was to increase the participation of Latin Americans in SAA. Even just through the submissions process, that goal was met because more than double the number of Latin Americans who have typically participated in the SAA meeting will be participating in Puerto Rico. This is a very exciting response. The hope that Puerto Rico could serve as a bridge between the Americas is coming to fruition.

Need Information?

For a complete picture of the richness of the 71st Annual Meeting, check out the preliminary program that was mailed in late December to over 9,000 archaeologists. Don't want to wait for snail mail? Take a shortcut and view the PDF file of the preliminary program posted at <http://www.saa.org/meetings/prelimprogram.pdf>.

Presenting at the 71st Annual Meeting?

Just a reminder for those presenting at the meeting, Board policy requires the following equipment in each session room:

- one LCD projector and cable
(Laptops will be provided by the session organizer who also has [or may delegate to a session participant] the responsibility for loading all presentations prior to the session. In general sessions, a chair will be selected by the Program Chair. The session chair will provide the laptop and load the sessions in advance of the presentation. Please note: all computers must be a Pentium or newer!)

- screen sized to room
- a laser pointer
- a countdown timer

No slide projectors will be provided by SAA. Presenters who wish to order and pay for additional equipment must contact the SAA staff for audio-visual rental information.

New and Different Logistics in Puerto Rico

There are some new approaches to the logistics of the Puerto Rico meeting, especially the use of shuttles between the hotel and the convention center. Because shuttling is necessary, attendees will need to plan ahead to get to the convention center at a particular time. While the drive should take about 7 minutes, attendees will also need to factor in wait time for a bus, crowded shuttles at peak times, and unanticipated traffic! Shuttle schedules will be included in registration packets. Other new logistical twists such as badge use and guest registration are detailed in the preliminary program.

SAA Needs Volunteers for San Juan!

Because of the size of the meeting (there are 21 concurrent sessions, 21 Thursday evening sessions, and a full complement of 21 sessions on Sunday morning!), SAA needs even more volunteers than usual. For just a total of 12 hours (broken into three 4-hour shifts) of volunteer time, you will receive complimentary meeting registration, a free copy of the *Abstracts of the 71st Annual Meeting*, and a stipend of \$5 per shift, as well as SAA's sincere gratitude. This is a great opportunity to reduce your meeting costs and help SAA at the same time. For complete information on the Volunteer program, please contact Darren Bishop (email: darren_bishop@saa.org; tel: [202] 789-8200) or click on the "Volunteer for the 2006 Meeting" button on the front page of SAAweb (<http://www.saa.org>).

Safety First?

I was appalled at the letter of Charles M. Niquette, "Safety First" (5[4]:8). In the guise of promoting archaeological safety, the writer takes unsubstantiated shots at two editions of *Field Methods in Archaeology*. I will focus on the 7th edition (1997), as it currently serves as a textbook for some field schools. To begin with, his "excerpt" from our "passing mention" of field safety is entirely out of context. His subsequent statement that "the volume includes *multiple pictures* (emphasis mine) of deep-hole archaeology where *peoples lives are clearly at risk* (emphasis mine)" is a statement that is wholly without merit.

The "deep-hole" excavations that apparently offend Mr. Niquette can only include the following examples: Figure 5.6, with archaeologists in a deep trench in Austin, Texas, a unit that is shored in steel following OSHA guidelines and that was visited by OSHA inspectors; indeed, the text on that page is a discussion of trench safety! Or perhaps it is Figure 5.7, drawings of David Hurst Thomas's very deep excavations at Gatecliff Shelter, the very caption for which notes that the excavations have been "terraced for safety." And then there is that really deep hole at the Wilson-Leonard site in central Texas (Figure 5.14), another open-area excavation designed for consummate safety by engineers from the Texas Department of Transportation.

In fact, I looked at each photographic figure in the 7th edition, and the only excavation pit that bothers me, now that I have searched for our transgressions against archaeological safety, is Figure 10.3, a unit in an African site, the picture of which was reprinted to illustrate the practice of stratigraphic labeling. The walls, however, appear sloped at a fairly "safe" angle, and neither Mr. Niquette nor I know the composition of the deposits in terms of any potential for slumping. Michael B. Collins has pointed out to me that the nature of the sediments is a crucial variable in designing an excavation. He notes that the walls of the 15.5-meter unit dug by Dorothy Garrod in Tabun Cave, Israel some 70 years ago are still standing—without shoring.

Indeed, what characterizes the 7th edition is many photographs of *very shallow, open-area* excavations. Archaeological safety is of great importance to me and to the coauthors of the 7th edition, a theme that is found in many statements throughout the volume.

Thomas R. Hester
Professor of Anthropology, emeritus
The University of Texas at Austin

Response

Dr. Hester's reaction to my letter "Safety First" only serves to reinforce my concern that as a discipline we educate ourselves to the dangers inherent to archaeological excavation. In so doing, it is imperative that archaeologists be keenly aware of the steps necessary to provide a safe and healthy working environment for ourselves and those with whom we work in the field and in the lab. I wrote the letter not as a personal attack on Hester nor as substantive criticism of his textbook, but as a reaction to publication of Barbara Purdy's picture. Mere passing mention of safety as Hester's text includes is no more his fault than it is it Purdy's for getting her picture taken in a deep excavation. All of us with any gray around the muzzle have been there, done that. Still, it does not mean that we should glorify our carelessness and good luck. The SAA needs to develop a policy not to publish pictures of archaeologists in dangerous conditions.

Charles M. Niquette, RPA
President
Cultural Resource Analysts, Inc.

PERRY, from page 29 ↻

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2004 Authentic Learning in Field Schools: Preparing Future Members of the Archaeological Community. *World Archaeology* 36(2):236–260.

START PREPARING FOR SAN JUAN!

Thomas R. Rocek

Tom Rocek is Program Chair for the 71st Annual Meeting.

Opening Night at the Puerto Rico Convention Center. Photo Credit: Edgar Bertrán

In preparing my third and final meeting-related column, I have been thinking over the points I wanted to be sure to raise in at least one of the columns.

Did I mention that the SAA has switched over to LCD projectors and laptops, so that slide projectors will not be available in session rooms unless session chairs rent one? The need to be in contact with your session chair so that you can get your computer files (if you are using PowerPoint) onto their laptop before the session begins? Did I mention that the Latin American setting of this meeting has been very successful in attracting participants from across Latin America (for instance, nearly 100 submissions from Mexico, over 20 from Guatemala, 20 from Brazil, nearly 20 from Peru, 15 from Argentina, 10 from Panama, eight from Cuba, six from Colombia, as well as smaller numbers from other countries in Central and South America)? Or that participation from outside the Americas is also very strong (almost 70 from the UK, 16 from France, 16 from the Netherlands, 15 from Spain, seven from Israel, six from Australia, six from Italy, five from the Republic of South Africa, in addition to smaller numbers from as far west as Portugal and Belgium, through Germany, the Czech Republic, Poland and Russia, to Japan, Korea and Taiwan)? And did I mention the logistics—the outpouring of submissions, resulting in 21 concurrent sessions every day, the importance of planning enough time for the daily shuttle ride back and forth from the Caribe Hilton to the Puerto Rico Convention Center?

I think I did!

So what remains to be done? You should either have received your letter with your scheduling information from the SAA or should be receiving it very soon. The preliminary program has been up on the web at (<http://www.saa.org/meetings/prelimProgram.html>) since mid December. I encourage you to look it over and start planning.

What I continue to be struck by as I look back over the program is how the range of sessions, like the broad geographic range of

participants, reflects our field in its tremendous diversity. Sessions include tightly focused empirical studies (e.g., “Recent Research at La Playa, Sonora, México,” “Archaeological Investigations at Chawak But’o’ob, A Late Classic Maya Escarpment Community in Northwestern Belize,” and “Neolithic Cattle of the Northeastern Mediterranean”), broad comparative topics such as I mentioned in my previous column (e.g., “Early Village Society in Global Perspective,” “The Empire Thinks Back: Toward a Methodology of Empires,” and “In the Wake of the Archaeology of Death: Twenty-Five Years After”), methodological advances (“Theoretical Approaches to the Interpretation of Flaked Stone Assemblages,” “Quantitative Integration of Zooarchaeological and Archaeobotanical Data: A Consideration of Methods and Case Studies,” and “GIS and Archaeological Theory: Understanding Population Dynamics, Sociopolitical Change, and Settlement Patterns”), theoretical topics (e.g., “Does Archaeological Theory Exist?,” “Acting and Believing: An Archaeology of Bodily Practices,” and “The Earth of the Modern: Parallel Modernities and Colonial Subjectivities”), and sessions on the practice of archaeology (e.g., “On Doing Archaeology in Peru: New Legislation and its Implications in Archaeological Practice,” “Compliance Archaeology in Pursuit of the Caribbean’s Past: How are We Doing and What do We Have to Show?,” “Stepping Out: Contemporary Relevance of Archaeological Research,” and “Vision and Revision in the SAA Code of Ethics: Steps Towards Indigenous Inclusion”). A number of topics are particularly well represented—bioarchaeology, for instance, and of course many aspects of Latin American archaeology. There truly is something for everyone.

So start sorting through and picking your sessions, but leave time also to enjoy conversations in the spectacular new Puerto Rico Convention Center and excursions into San Juan and beyond. If you have not already done so, do not delay in booking your flight and your hotel room; both are filling up!

And did I mention that the SAA has switched over to LCD projectors?

WHERE ARE THEY NOW?

James A. Neely

My 34 years of teaching at the University of Texas at Austin ended with my retirement in 2003. I have but one Ph.D. student left to finish, and it is both of our sincere wishes that that event will take place in May of 2006. I have retained my affiliation with the University of Texas at Austin as a Professor Emeritus. Since my retirement, I have been splitting my time between Austin and Ruidoso, New Mexico. Ruidoso provides an escape from the heat and humidity of Austin, as well as a knock-your-socks-off beauty of lakes and mountains!

As with most retired archaeologists, my retirement has only meant that I no longer teach classes on a regular schedule, and I no longer have to serve on departmental and university committees (and I do not miss the latter one little bit). Also, like most retired archaeologists, I have retained the desire to continue my fieldwork, research, and writing. Fortunately, I have not as yet had need to order an all-terrain wheelchair to continue my fieldwork in Mexico and the American Southwest.

In Mexico, I have focused my efforts on the Tehuacan Valley of southern Puebla to continue study of the large number of varied and well-preserved prehistoric water management and irrigation systems. Dating from at least the Archaic Period, some of these systems are still in use! I am currently editing a monograph on a multidisciplinary study of the “fossilized” spring-fed canal systems, and am currently conducting a multidisciplinary restudy of the Purron Dam Complex. I will be presenting my findings at the International Water History Association (IWhA) conference in Paris in

December of 2005. There is still much to be done in the Tehuacan Valley!

In the American Southwest, I have been working in the Safford Basin of southeastern Arizona for the last few years. There, while visiting the fieldwork of one of my graduate students, I fortuitously discovered an extremely well-preserved water management system in the foothills

of the Pinaleno Mountains. Subsequent fieldwork has permitted me to reconstruct the prehistoric agricultural strategy for the basin. The results of that work are due to be published in the near future.

Being afflicted with the “archaeologist’s syndrome,” I am also completing manuscripts and reports on much-too-long-ignored and unpublished projects. Several of these deal with my survey of the Deh Luran Plain in Southwestern Iran. My article on the Sasanian and Early Islamic gristmills of Deh Luran is due to be published next summer. Henry Wright (University of Michigan) and I are nearly ready to publish the second of three volumes on this survey, and are well along

in the writing of the third. A monograph on the WS Ranch Site project dealing with survey and excavations in west-central New Mexico will hopefully go to the publishers next fall. The latter reports the results of the University of Texas at Austin archaeological field school that I directed for several years into the mid-1990s.

I am in “the book” to anyone passing through Austin or Ruidoso who would like to talk about any of the foregoing projects.



Jim Neely, Scott Anderson, and Blas Castellon Huerto (left to right) verifying aerial photo data during fieldwork on the “fossilized” canal systems of the Tehuacan Valley, Puebla, Mexico in 2000 (see Neely, 2001, A Contextural Study of the “Fossilized” Prehistoric Canal Systems of the Tehuacan Valley, Puebla, Mexico. Antiquity 75[289]:505–506).

MEASURING ARCHAEOLOGICAL SITE SURVIVAL IN TEXAS

Dan Potter

Dan Potter is the Central Texas Regional Archeologist with the Texas Historical Commission.

This article summarizes an attempt to answer some long-held questions regarding site loss in Texas. Prior to this, our best data on site loss came from other states, where studies had been sponsored by state or federal agencies. Even there, however, site-loss data were generally spotty and somewhat impressionistic. The majority of these studies focused on federal-lands archaeology, although an important exception was an assessment conducted by the Arkansas Archeological Survey (Limp 1987). Collectively, these findings included the following:

- In Arkansas, 87 percent of recorded sites were found in a disturbed state, and 35 percent were totally destroyed. The problem in Arkansas was described as “out of control” (Limp 1987).
- In Iowa and Wisconsin, data collected in the 1970s and 1980s (Petersen 1984) indicated a ca. 80-percent destruction rate for effigy mounds and, by extension, other mounds. Although some features of the flattened mounds may still survive relatively intact (e.g., sub-floor pits), and although some newly recorded sites continue to come to light, archaeologists have felt comfortable using the 80 percent figure in this region, at least for mounds (Bill Green, Iowa State Archeologist, personal communication, 1996).
- Estimates of site loss on public lands in the Southwest have ranged 60–90 percent. Damage is due to a combination of factors, looting predominant among them (Bassett 1986). The pace of looting can be glimpsed through recorded Archaeological Resources Protection Act (ARPA) violations. Between 1985 and 1987, 1,720 violations were recorded on federal lands (Carnett 1991). Of these, 183 violations resulted in citations or arrests, with 90 cases leading to convictions or civil penalties. The ratio of observed violations to citations/arrests to convictions can be expressed as 100:10:5.
- The most recent available survey data regarding sites listed in the National Register of Historic Places (SAA 1990) indicate that half of the listed properties had either already been looted or vandalized, or were threatened. These data are now some 15 years old.

Results of First Texas Site-Loss Study

Texas archaeologists have long viewed site damage and loss as serious problems hindering the effective management of the state’s archaeological record. Indeed, undocumented destruction of archaeological data was the fundamental basis for the founding of the Texas Archeological Society in 1928 (Ray 1938, cited in Davis 1979). Anyone who knows anything about Texas archaeology from its inception in the 1920s agrees on this issue—bemoaning the problem of site loss has become a unified but ineffective mantra. However, for all the communal hair pulling, actual data regarding site damage/loss remained anecdotal until the 1970s.

During the 1970s, an important baseline study was conducted by then-Texas State Archeologist Bob Mallouf. Mallouf, now employed by Sul Ross University in west Texas, recalls that the study took about a month to complete and involved most or all of his staff. The project consisted of reviewing site-loss data from development projects, including large construction projects involving highways, reservoirs, and housing. Mallouf’s staff then projected these to an estimate of Texas site loss in general. The activities of looters and collectors were included in the estimate, but these factors were more difficult to quantify (Mallouf, personal communication, 1996). The study concluded that more than 4,000 archaeo-

logical sites in Texas were completely destroyed each year. Furthermore, it found that another 6,000 were partially damaged annually. The Texas study projected that 40,000 sites were completely destroyed every decade, and another 60,000 partially destroyed. A combined “casualty list” estimate thus suggests that 100,000 sites are lost or damaged per decade in Texas.

At the time, Mallouf’s estimate had a chilling effect on anyone who read the numbers. The loss figure was double what the archaeological community was able to record over the same 10-year interval; it meant that for every recorded Texas site, two were lost or damaged. Furthermore, the estimate of 40,000 destroyed sites dwarfed the size of Texas’s entire recorded site inventory, compiled since the 1930s, which was then in the range of 20,000–25,000 sites (Carolyn Spock, personal communication, 2004). An old Texas saying might aptly describe the situation in which the state lost many more sites in 10 years than it had recorded over the past 40: “We can’t win for losing.” Today, three decades after Mallouf’s estimate, the *recorded* site inventory in Texas has grown to only 65,000 sites, a small percentage of what is actually out there.

The Current Study

While Mallouf’s study was not published, the Texas Historical Commission (THC) and others have used the estimate in its public communications and for educational and policy purposes. The goal of this resurvey study was to take another look at site loss in Texas, make a more systematic attempt to quantify it, but to do so in a different way. The intent was to provide a quick snapshot of archaeological site preservation within a randomly selected and well-controlled population of recorded Texas sites. We hoped that by assessing current conditions at resurveyed sites, we might gain a clearer picture of site loss.

Systematic studies of site loss are almost nonexistent, perhaps because of the cost. The sole reason Texas could consider the attempt was the existence of the Texas Archeological Stewardship Network (TASN), known as “The Stewards Network” or just “The Stewards.” The Stewards Network is a unique resource and remains one of very few volunteer public archaeology programs in the nation. The TASN, the brainchild of Mallouf, his staff, and a few visionary leaders in the Texas archaeological community, is now in its twentieth year. At its inception, the Stewards Network numbered 10 avocational volunteers who provided assistance in the state’s 254 counties; the group has grown to its current 108 members (Figure 1). Included in their ranks have been engineers, police officers, cotton farmers, attorneys, ranchers, retired couples, nurses, and artists. The characteristics common to all stewards are a keen interest in archaeology, some archaeological experience, and a willingness to donate their hard work.

Stewards serve in many ways. Their activities include county- or city-based projects, research and publication, new site recording, excavation projects, public speaking, museum displays, and monitoring of important sites. While stewards generally focus on private-land research (over 95 percent of Texas’s land is privately owned and thus contains the great majority of the state’s archaeological resources), they also volunteer for public projects. Individual stewards serve four-year terms, working primarily with three professional “regional archaeologists” on staff at the state historical commission.

On an annual basis, TASN members contribute a significant amount of time, labor, and transportation. This past year, TASN members contributed time equal to *nine* full-time professional staff for less than *one percent* of the cost. In these days of limited budgets, it is puzzling that so few similar programs exist. A notable exception is the accomplished Arizona Site Stewards. These Stewards play a different and more narrowly focused role: monitoring and protection of recorded sites on state and federal lands. Regardless of function, volunteer public archaeology programs such as the TASN offer great rewards to state archaeologists and historic preservation offices at minimal cost. They also illustrate that the public is involved in public archaeology.

Research Design and Methodology

Ideally, counties involved in the Texas study should have been chosen randomly. This consideration is

important, as the strength of any conclusions based on these data depends in part on a demonstrable lack of bias in sample selection. This strategy was not logistically workable, however, since the study counties had to be close to where stewards live and work. The stewards selected a total of 31 counties (Figure 1), encompassing an estimated 956 randomly chosen archaeological sites. As originally conceived, the study would have provided an approximately 1.5 percent sample of all recorded Texas sites.

Following county selection, the THC staff developed forms for recording observations, quad maps with plotted site locations, and other background site data for use by stewards. The forms collected four classes of data: General Site Environment, Percent of Site Remaining, Cause of Damage, and Effect of Damage. Subfields within each class allowed for the collection of detailed information in checkbox format (Figure 2). Our research design called for site evaluation through surface inspection only; while shovel testing or surface collecting probably would have produced more accurate results, excavation and curation of the resulting artifacts were beyond the scope of this project.

Target lists of 35 recorded sites per county were randomly generated and provided to the stewards. A list of alternate sites, also randomly selected, was added in the event that some of the initially selected sites were not accessible to stewards. If a targeted county contained fewer than 35 recorded sites, all were selected.

During and after this preparatory phase, it was noted that some site records stored either at the THC or the Texas Archeological Research Laboratory at the University of Texas (the state's primary repository for archaeological data) were incomplete. Typically, the problems were site records with vague or missing locational data or missing site record forms. We did not track this problem closely, but in hindsight we should have. Some county resurveys show that this issue may not be a minor one. In each of the Camp and Marion county resurveys, steward Bo Nelson observed that three of the 35 randomly selected sites had no specific locational plottings. As of this writing, two of the three problem sites in each of these counties are still missing locational data.

Thus, one of the first findings of the resurvey project relates to the quality of existing site records. If the

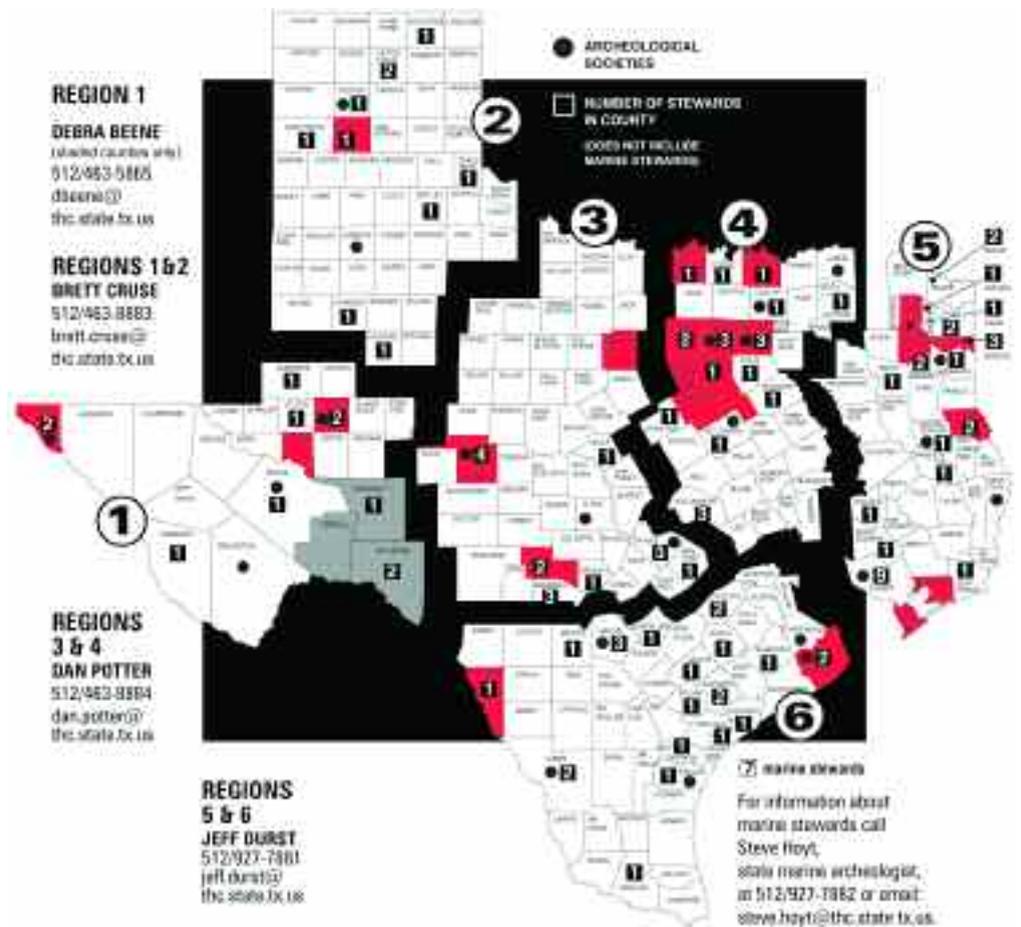


Figure 1: Current distribution of THC stewards in Texas. Also shown are unaffiliated avocational archaeological societies. Counties that produced resurvey data for this study are shown in red.

Camp and Marion county samples are representative, Texas may have an uncomfortably high level of inadequate locational data—perhaps 5–10 percent of the recorded site inventory. It is likely that this problem is more characteristic of sites recorded earlier in Texas research history and that information from more recently recorded sites will be in better shape. Currently—and wisely—the Texas Archeological Research Laboratory does not provide trinomial numbers without a confirmed site plotting and a completed site record form from the recording archaeologist.

TASN stewards launched the resurvey in 1997, continuing through 1998. Data were returned from 401 archaeological sites in 15 counties. While the returned sample is not as extensive as we might have wished, the resulting information is certainly significant.

Results

As described above, data were collected in four general categories for each site: General Site Environment, Percent of Site Remaining, Cause of Damage, and Effect of Damage. Each of these is discussed here. It should be noted that multiple answers could be provided when describing the causes and effects of damage. For example, damage might be caused by both “farming/ranching” and “looting/collecting.” Similarly, effects of damage might include multiple answers, and therefore our sample of 401 resurveyed sites returned 906 damage observations. In some data categories, we received fewer than 401 observations because stewards did not record observations for all sites in all categories.

General Site Environment

The sample produced 372 observations regarding general site context. For some resurvey sites, stewards either could not, or did not, record observations in this category, and we therefore have fewer than 401 observations. The overwhelming majority of our resurvey sites—76 percent—are located in rural ranching, farming, or unspecified rural environments (Figure 3). Since rural lands make up roughly 94 percent of Texas’s land area (Texas Agricultural and Natural Resources Summit Initiative, 1996), sites on rural lands remain underrepresented both in our sample and in the total site inventory. At the other end of the scale, urban or downtown contexts applied to only two percent of the resurvey sites. This figure is roughly in keeping with the amount of urban land in Texas, which ranges 0.5–7 percent (Texas Parks and Wildlife Department, 2002). I have not encountered any published estimates of suburban land within the state. However, by extrapolation from the other land-use figures cited above, we can assume that suburban land (a difficult term to define clearly) accounts for less than six percent of Texas’s total land area. Thus, the resurvey results indicate that suburban sites are over-represented in our sample, because less than six percent of our land produces 12 percent of our archaeological sites. This finding makes perfect sense intuitively, since suburban areas are among the most actively developed, and these

TEXAS ARCHEOLOGICAL STEWARDSHIP NETWORK SITE DAMAGE FORM	
SITE	41CH131
DATE	5/18/97
RECORDER	Sheldon Kindall
STEWARDS INITIAL	SMK
CREW ON SITE	Sheldon Kindall Richy Ebersole Charles Craddock (Wallerisville Park Ranger)
GENERAL SITE ENVIRONMENT	PERCENT REMAINING
<input type="checkbox"/> URBAN/DOWNTOWN <input type="checkbox"/> SUBURBAN <input checked="" type="checkbox"/> RURAL RANCHING adjacent to large scale lock construction on the Trinity River <input type="checkbox"/> RURAL RANCHING <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/> 0% <input type="checkbox"/> 1–25% <input type="checkbox"/> 25–50% <input type="checkbox"/> 50–75% <input type="checkbox"/> 75–99% <input type="checkbox"/> 100%
DESCRIBE THE DAMAGE <i>there is still a slight trace of the site but not for long.</i>	
COLUMN A: CAUSE	COLUMN B: EFFECT (INDICATE ALL THAT APPLY)
<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> RESIDENTIAL <input type="checkbox"/> RECREATIONAL <input type="checkbox"/> FARMING/RANCHING <input checked="" type="checkbox"/> PUBLIC WORKS <input type="checkbox"/> VANDALISM <input type="checkbox"/> LOOTING/COLLECTING <input type="checkbox"/> UNKNOWN <input type="checkbox"/> OTHER _____	<input type="checkbox"/> ERODED <input type="checkbox"/> GRADED <input type="checkbox"/> CHAINED <input type="checkbox"/> TANK <input type="checkbox"/> HOUSING <input checked="" type="checkbox"/> BUILT OVER <input type="checkbox"/> DEFACED <input type="checkbox"/> DEMOLISHED <input type="checkbox"/> OTHER _____ <input type="checkbox"/> ROAD <input checked="" type="checkbox"/> CHURNED/DISPLACED <input type="checkbox"/> WAVE ACTION <input checked="" type="checkbox"/> MACHINE CLEARED <input type="checkbox"/> PLOWED <input checked="" type="checkbox"/> TERRACED/CONTOURED <input type="checkbox"/> INUNDATED/FLOODED <input type="checkbox"/> OIL/GAS RELATED <input type="checkbox"/> CUT <input type="checkbox"/> LANDSCAPED <input type="checkbox"/> PITTED <input type="checkbox"/> SPALLED <input type="checkbox"/> PAVED <input type="checkbox"/> COLLECTED <input type="checkbox"/> DITCHED

Figure 2: Field data were recorded using forms developed by the THC. In this Chambers County example, stewards and a park ranger visited a recorded site and found it essentially destroyed.

are precisely the contexts in which archaeological sites are discovered, recorded, and frequently destroyed or damaged.

Site Survival

Figure 4 presents the stewards' findings regarding how well sites were surviving. On the basis of surface inspection, stewards made 348 observations about the "percent remaining" of sites. They found that 53 percent of the resurvey sites were more than 50 percent intact, while 47 percent were less than 50 percent intact. Given the difficulties involved in assessing site damage by surface inspection alone, these data should be viewed with caution. However, on the basis of the TASN findings, it can be argued that about half of the sample inventory sites have experienced significant damage, and roughly a quarter of them have been destroyed altogether. By extrapolating these results to the current statewide inventory (about 65,000 sites), we can estimate that roughly 30,000 sites have sustained significant damage. Of these, 15,000 sites have been completely destroyed. On a more positive note, the number of untouched (100 percent remaining) and largely intact (75–99 percent remaining) sites is also significant, in the range of 44 percent of all sites.

Causes of Site Damage

Stewards made 456 observations regarding the causes of damage to the 401 sites in the resurvey sample. Resurvey crews were asked to assign causes of damages to one or more of nine different categories, as listed on the site damage form (Figure 2). Two causes—farming/ranching and public works—were by far the most commonly cited. These two categories accounted for over half of all damage observed (Figure 5). Given that farming/ranching activities occur over a much larger portion of the state's land area than the other causes considered in the study, it is to be expected that these activities would be the most common source of damage. That public works projects are highly destructive (24 percent in this sample) has long been known and is the reason both state and federal preservation laws exist. Similarly, the finding that residential development impacted about 10 percent of the sample seems consistent with the finding that roughly 10 percent of the sample was in suburban contexts.

Other findings might be more surprising. For example, the number of sites with evidence of looting and/or collecting was surprisingly small, amounting to only seven percent of the sample. Several comments can be offered about this result. First, collecting activities typically leave very little trace. Many collectors leave small "sorting piles" at sites they frequent, and these are easily recognized. But other collectors do not follow this practice, and therefore collecting activity may be underrecorded in our data. Subsurface looting, on the other hand, does leave abundant visual evidence, and if present would not likely be overlooked by stewards. I believe that the low incidence of looting may be representative of Texas in general. The results suggest that looters prefer a small percentage of sites that meet critical criteria, such as easy access without undue risk or effort, easily dug with a minimum of effort, and the presence of large numbers of finished artifacts of high commercial value. The TASN results may indicate that Texas looters are selective about the sites they destroy.

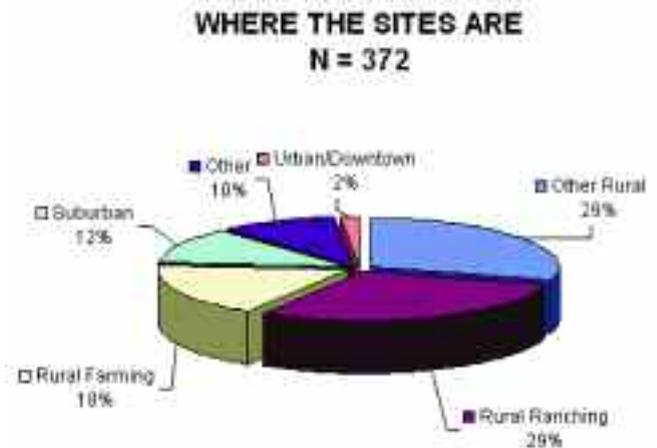


Figure 3: Pie chart showing the contexts of recorded archaeological sites in Texas.

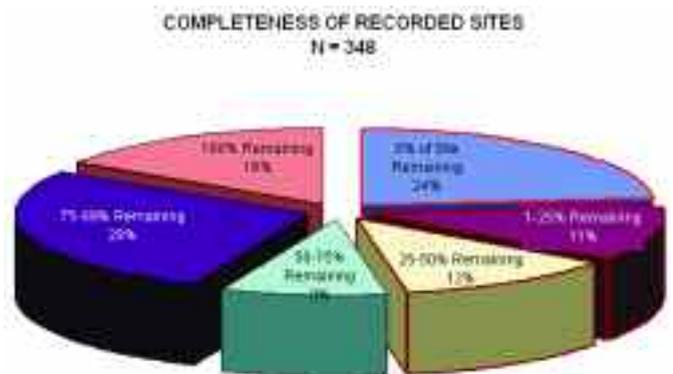


Figure 4: Site survivorship as observed by TASN stewards.

Effects of Site Damage

Stewards were asked to characterize the physical appearance of damage to sites and were given 24 different effects of damage to choose from (Figure 2, “Column B: Effect”). Multiple forms of damage could be recorded for any individual site, and stewards made a total of 906 damage observations from the 401 sites in the sample. As can be seen in Figure 6, some effects of damage were more common, ranging from erosion (35 percent of all damage seen) to livestock tanks and oil/gas-related effects, which made up under five percent of the observations. Many of the most common effects of damage are associated with rural contexts, including erosion, contouring slopes (an erosion-control measure for cultivated land or pasturage), and plowing. Effects such as road building, inundation, and wave action were also among the most common. These factors are perhaps best associated with public works, as discussed earlier.

The resurvey data clearly indicate that human activities are the cause of site damage in the overwhelming majority of cases. The “eroded” and “other” effect categories are likely the only two that include effects of purely natural origin. Even here, however, humans may be the ultimate cause. For example, rotational grazing and other management practices have a huge impact on erosion in rural ranch and farm settings, and this in turn directly affects site preservation. Similarly, effect categories such as “wave action” and “inundated/flooded” are the results of human activity in all the resurvey cases.

Summary, and a Look to the Future

It is our hope that the Texas resurvey project produced data on site damage and loss that are more useful, better detailed, and more systematic than previously available information. At the same time, we remain aware of the weaknesses of this study: dependence on a small sample, reliance on surface inspection, and lack of true random selection. Even with these caveats, however, the TASN resurvey has increased our understanding of the preservation status of archaeological sites in Texas. It revealed that roughly half of the state’s recorded site inventory has sustained severe damage, and it characterized the causes and physical effects of that damage. The study suggests that fewer than one in five (16 percent) of Texas’s recorded sites are in “untouched” condition.

At least some of the damaged sites are likely to have received archaeological attention through a review process required by federal or state preservation laws. Therefore, at least some of the data loss represented in our findings has been mitigated by federally mandated research required by Section 106 of the National Historic Preservation Act or by state-mandated research required by the Antiquities Code of Texas. But it is also true that most research projects of this sort excavate only tiny portions of impacted sites—typically less than five percent (James Bruseth, personal communication, 2004). Much of the damage falls outside preservation law jurisdiction and occurs without our knowledge and without mitigation; we have no data regarding this “invisible universe” of site damage and destruction.

The study also reminds us that the corpus of recorded sites within the state is neither static nor permanent. There may be some tendency to think that the 65,000 recorded archaeological sites in

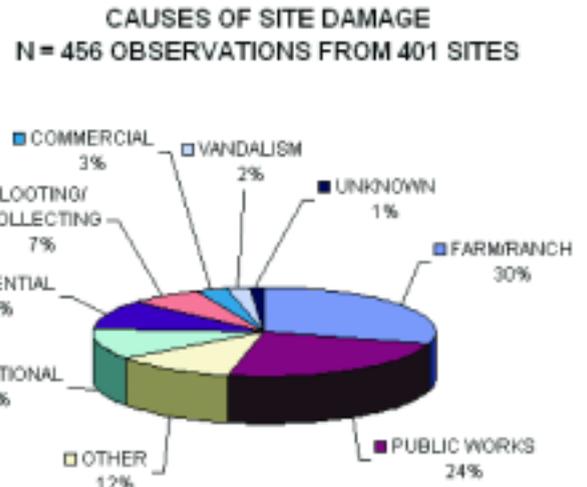


Figure 5: Conditions causing site damage among resurveyed sites.

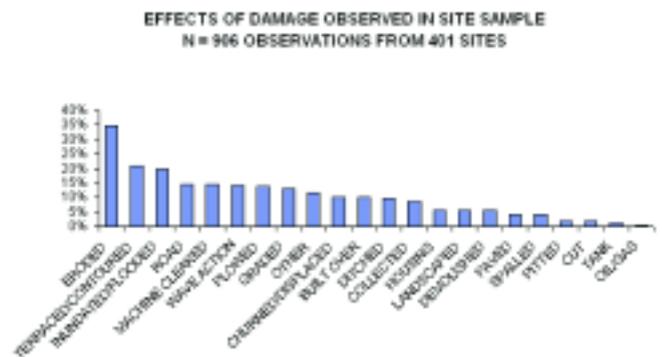


Figure 6: Damage effects observed during the TASN resurvey project.

Texas represent a permanent, unchanging, and indelible resource for today's—and tomorrow's—citizens. But the TASN resurvey clearly shows that this record is anything but permanent. Instead, known sites are part of a constantly changing population to which some are added (recorded), others deleted (destroyed), and still others crippled (damaged) on a daily basis.

This awareness underscores the fundamental importance of basic site recording, for it is only through recording that sites enter into the preservation process. After all, a city, county, state, or nation can only manage and care for historic places that are *known*. It must also be emphasized that avocational archaeologists have played, and will always play, an important role in site recording. Too often the public conceives archaeology as excavation only—but the members of our many state and regional archaeology societies are in a perfect position to make huge contributions by wielding their pencils as site recorders as well as their shovels as excavators. We must never allow the crucial first step of site recording to be underappreciated or underpracticed. Of all the factors involved in site preservation, here is one that is completely up to us.

Acknowledgments

The Texas Historical Commission gratefully acknowledges the time, effort, and cooperation of the members of the Texas Archeological Stewardship Network, without whom this study would not have been possible. Thanks to the following stewards and their crews for their work during this project: Jim Blanton, C. R. "Cap" Ebersole, Bill Foerster, Rachel Freyman, R. C. Harmon, Bryan Jameson, Louis Jones, Sheldon Kindall, Glynn Osburn, Johnney and Sandra Pollan, Larry Riemenschneider, Bryant Saner, and Jimmy Smith. The author especially wishes to thank two former stewards, Bo Nelson and C. K. Chandler—site recorders of the highest rank and archaeologists of the first water. This article is dedicated to the memory of Mr. C. K. Chandler.

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ARCHAEOLOGY AND MARINE CONSERVATION

Todd J. Braje, Jon M. Erlandson, Douglas J. Kennett, and Torben C. Rick

Todd Braje, Jon Erlandson, and Douglas Kennett are in the Department of Anthropology at the University of Oregon.

Torben Rick is in the Department of Anthropology at Southern Methodist University.

If our population doubles to 12 billion and our coastal population triples in this century, it's not going to be enough to protect the oceans. We're going to have to manage and use them wisely, which means understanding them far better than we do today [Helvarg 2001:10].

A fundamental aspect of ecosystem restoration is learning how to rediscover the past and bring it forward into the present—to determine what needs to be restored, why it was lost, and how best to make it live again [Egan and Howell 2001:1].

Given the speed at which marine ecosystems are being degraded, it is increasingly important that we draw on our knowledge of ancient practices of both marine exploitation and management. Access to archaeological shell middens, which contain evidence of past subsistence patterns and the long history of human interaction with marine ecosystems, positions archaeologists to contribute important insights into successful management practices and the costs of mismanagement or overexploitation at great temporal depth. These deep historical perspectives are crucial to understanding the past, present, and future of marine environments. We describe ongoing work by University of Oregon archaeologists to develop deep historical data sets against which to measure the health of our marine ecosystems and to develop protocols for future conservation efforts.

State of the Oceans

The oceans, comprising 71 percent of the earth's surface, are the cradle of life, providing food, work, and play for billions of people. Yet, our burgeoning population and heavy reliance on the ocean's resources have created a crisis. Overfishing, coastal development, pollution, and coral bleaching have severely degraded marine ecosystems (Pew Oceans Commission 2003). Accordingly, ecological baselines provide essential reference points for ecologists, resource managers, and environmentalists, for such baselines measure ecosystem health, provide information against which to evaluate change, and help assess the elusive "natural" state (Jackson et al. 2001). By knowing the baseline for a degraded ecosystem, we can work to restore it. But if this baseline shifted before we had the chance to evaluate it, then we end up accepting a degraded state as normal or improved (Pauly et al. 1998). Though there are no "pristine" environments, our baselines should reflect environmental states before devastating human commercial and industrial impacts. Archaeological approaches can help to address this crisis.

A History of Exploitation

Between approximately 400 and 150 years ago, Euro-American explorers set in motion a "massive biological reorganization" of our continent's terrestrial and marine ecosystems (Helvarg 2001:10). These explorers and settlers caused catastrophic wildlife extinctions and deforestation on land, while marine ecosystems were severely altered with the commercial hunting of sea otters, fishes, pinnipeds, cetaceans, and sea birds (e.g., Scammon 1968). Sea otters, for example, once numbered up to one million in Pacific Coastal waters from Russia to Baja (Ogden 1941). Sea otters in California, however, were

thought to have been eradicated by eighteenth- and nineteenth-century fur trappers, until 1939, when a remnant population was found along the Big Sur coast. Their subsequent protection, recovery, and geographic expansion in California coastal waters has generated considerable controversy and debate between commercial fishermen, environmentalists, and resource managers. Sea otters eat up to 25 percent of their body weight daily and pose fierce competition with fishermen for abalones, octopus, crab, sea urchin, and shellfish.

Recognizing the devastation from early commercial fisheries, scientists recorded the biological composition of terrestrial and marine environments, studying and recording species populations after they had already been corrupted or destroyed. It is this information that has served as a baseline to evaluate the health of marine ecosystems. Such a shallow temporal scale, however, spanning less than a century, makes it difficult to imagine the “natural” state. “Remediation and restoration” of marine ecosystems will be difficult without a deep historical perspective provided by paleoecological, archaeological, and historical data (Jackson et al. 2001:636). But if we can fix our baselines at a point before the devastating impacts of historical overfishing, we can begin to restore the oceans to a more “natural” state.

Historical Ecology and Interdisciplinary Solutions

Reexamination of both our notions of “pristine” marine ecosystems and the “shifting baselines” on which fisheries management are based is due, in part, to the work of archaeologists who have shown that humans have exploited marine environments for much longer than previously believed (Erlandson 2001). Archaeological evidence clearly demonstrates, for example, that marine hunting, fishing, and foraging began on the Channel Islands at least 12,000 years ago. Widespread, highly productive, and species-rich kelp forests played a key role in the development of maritime peoples along the Pacific Coast of North America, supporting some of the most complex and populous hunter-gatherer cultures ever known. Today, kelp forests continue to be an important economic, recreational, and aesthetic resource for California’s coastal communities, providing three-dimensional gallery habitats that support a complex web of marine productivity and species diversity.

Ecological study of California kelp forests demonstrates that a variety of factors influence their extent, structure, and health. Aside from physical factors (El Niño/La Niña cycles, storm intensity, etc.), several animals play important roles in the ecology of California kelp forests. These include sea otters, sheephead, sea urchins, lobster, and several other economically important species that depend heavily on the productivity of kelp beds. Beginning in the late 1700s, European and American commercial interests severely disrupted California coastal ecosystems and heavily impacted many marine species. Sea otters, several pinnipeds, and cetaceans were hunted to local extinction, for instance, and sea urchins, abalones, lobster, sheephead, and other species were heavily overfished. This commercial overexploitation altered key ecological relationships in California kelp forests and other marine communities and created tensions between conservation biologists, the fishing industry, and resource managers. Collaborative interdisciplinary efforts are the key to mediating this debate and to understanding the long-term relationships between humans and kelp forest communities. We need detailed case studies, however, to develop effective management protocols and to guide us along the way.

Case Study: The Northern Channel Islands, California

For the last 12,000 years, the Northern Channel Islands and the Santa Barbara Channel area (Figure 1) have been home to the Chumash and their ancestors, some of the most complex maritime hunter-gatherers in the world (see Kennett 2005). Unfortunately, most Chumash sites along the mainland coast have been devastated by development, bioturbation, agriculture, looting, historic construction, and other processes. These disturbances inhibit our ability to reconstruct past environments, interpret ancient lifeways, and understand human impacts on ancient ecosystems. The Channel Islands, in contrast, have been largely unaffected by development, plowing, and burrowing animals, and hundreds of archaeological sites—with well-preserved stratigraphy, faunal remains, and artifacts—have remained largely intact (Figure 2).



Figure 1: Map of the southern California Bight and the Northern Channel Islands (by Jacob Bartruff).

Together, the Northern Channel Islands of Santa Cruz, Santa Rosa, San Miguel, and Anacapa constitute most of Channel Islands National Park. Despite over a century of archaeological explorations, just a small percentage of archaeological sites within the park have been excavated or dated. These sites offer impeccable high-resolution data, including the well-preserved remains of marine mammals, fish, shellfish, and sea birds, as well as land animals (island fox, dogs, spotted skunk, etc.). The long record and pristine nature of Channel Island sites is unmatched in California and in virtually any coastal region in the world.

Dayton and Tegner (1984:471) hypothesized that Native Americans played an important role in marine ecology along the California Coast. They proposed that Native sea otter hunting released shellfish populations from predation, increasing productivity of important shellfish fisheries. Preliminary support for this idea has been found on San Miguel Island, where Erlandson and his colleagues (2005) have documented Native American hunting of sea otters from at least 9,500 years ago to early historic times. This hunting helped maintain productive shellfish and fish populations throughout the Holocene, as evidenced by hundreds of large middens containing enormous quantities of abalones and other large shellfish not normally found in coastal waters where otters are abundant. As Native populations grew

over the millennia, marine fishing intensified (Kennett 2005). By about 3,000 to 4,000 years ago, heavy fishing may have impacted some local populations of sheephead, which help to control urchin populations in island waters. We are now studying several San Miguel and Santa Rosa middens dated to the last 3,500 years, where some strata are dominated by sea urchin—possible evidence that Native hunting and fishing helped create localized and short-lived urchin barrens. In contrast to the devastation of the historic Euro-American era, however, Native peoples harvested the same species of marine mammals, fish, and shellfish relatively continuously for 10,000 years. By documenting the technological and behavioral adaptations of the Chumash and their ancestors over the millennia, we hope to learn (1) how they affected marine ecosystems of the Channel Islands, (2) what adjustments they made to sustain their large populations in a fragile island environment, and (3) how modern resource managers can more effectively conserve and restore the natural and cultural resources of America's national parks, manage commercial fisheries, and preserve the quantity and quality of our oceans' resources.

We are employing several methodological approaches to help conserve these cultural data sets and to study the historical ecology of the Northern Channel Islands:

- (1) Intensive radiocarbon (^{14}C) dating to reconstruct settlement and subsistence patterns and identify threatened sites that span the Holocene.
- (2) Surface collection, mapping, excavation, and analysis of threatened sites to reconstruct local marine and terrestrial environments through time; identify changes in human technology, demography, and subsistence over the last 9,000–10,000 years; and document human impacts on local ecosystems (Figures 3 and 4).
- (3) Oxygen and carbon isotopic analysis of marine shells, paleoecological records of sea surface temperature, kelp forest extent, marine productivity, and sea-level change to account for environmental fluctuations.
- (4) Detailed analysis of faunal constituents and measurement of relative sizes to elucidate changes in prey species and size through the Holocene.

In documenting a series of trans-Holocene ecological records of near-shore marine ecosystems, we are exploring some of the ecological relationships first proposed by Dayton and Tegner (1984) 20 years ago. In the process, we are collecting a variety of ecological and archaeological data that will help archaeologists, marine ecologists, and resource managers better understand the nature of intertidal, kelp forest, and other near-shore ecosystems prior to European contact.

This picture is complicated by environmental fluctuations that affect marine and terrestrial ecosystems outside the domain of human agency. To manage this complex picture, oxygen isotope studies will help to differentiate climatic from human-driven marine and terrestrial changes. In addition, Kennett and Kennett (2000) have developed a high-resolution sea-surface temperature curve for the Santa Barbara Channel region that can help to identify changes in kelp forest and intertidal species composition due to sea temperature oscillations.

Without doubt, the Chumash had an effect on Channel Islands' marine and terrestrial environments.



Figure 2: Erlandson inspecting shell midden exposure at CA-SMI-525.

As their populations increased, technologies became more sophisticated, and subsistence practices intensified during the Holocene; they altered the environment in significant ways. But, when compared to the devastation of historical practices, they employed relatively sustainable and low-impact strategies. If we can better understand their conservation practices, we may be able to better design management practices today.

Conclusions

The crisis of the oceans and our marine fisheries calls into question how long these resources will last in the face of growing global populations and continuing environmental degradation. The state of modern ecosystems is the result of complex and continuous interactions between organisms and humans. Applying historical perspectives and the interdisciplinary work of ecologists, biologists, historians, archaeologists, and other scientists, we can identify the “shifting baselines” we need to address this crisis. Archaeologists can play a key role in reconstructing past ecosystems and understanding the sustainable practices of past human societies. By studying past human impacts, we gain a better understanding of what the future might hold and develop more effective protocols for present conservation efforts.

Acknowledgments

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Figure 3: Excavations at Point Bennett, San Miguel Island.



Figure 4: Excavations in cooperation with Channel Islands National Park officials at CA-SMI-528.

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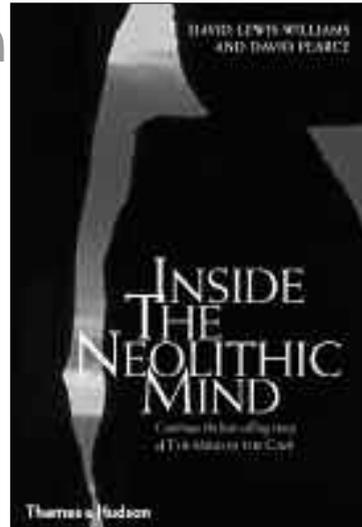
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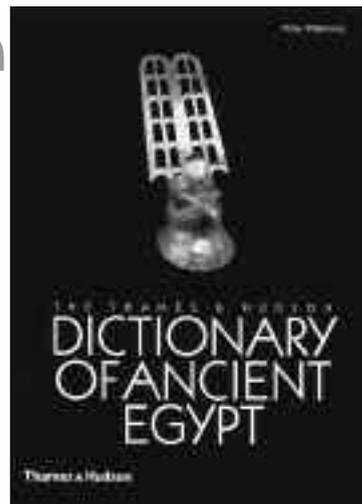
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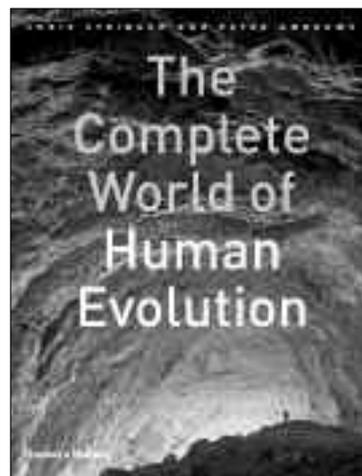
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BUILDING A STATE UNDERWATER ARCHAEOLOGY PROGRAM FROM SCRATCH

Jason Burns and David C. Crass

Jason Burns is the Deputy State Archaeologist-Underwater, and Dave Crass is the State Archaeologist for Georgia.

Although the history of state-sponsored historic preservation in Georgia goes back to the Historical Commission in the 1950s, the Office of the State Archaeologist resided at a university campus until 1998 and received only minimal funding. With the development of the State Historic Preservation Officer (SHPO) office within the Historical Commission's successor, the Department of Natural Resources (DNR) Historic Preservation Section (later Division), archaeology received marginally more attention, especially with the hiring of a National Register archaeologist and later a Section 106 review archaeologist. In the late 1990s, State Archaeologist Lewis Larson retired, the Office of the State Archaeologist (OSA) was brought into the DNR, and the junior author was hired to replace Larson. Through the support of the state's archaeological community, funding was acquired for a small state-wide program (<http://hpd.dnr.state.ga.us/content/displaynavigation.asp?TopCategory=76>). For the first several years of its existence, the new program was oriented almost entirely to addressing terrestrial site management concerns.

Up until 2002, management of Georgia's submerged cultural resources came in the form of supporting others in their research, managing known sites through the Section 106 process, and developing context studies for the interpretation of submerged resources (see Elliott et al. 2000; Elliott 2003; Watts 2004; Wright 1987). In 2002, the Commissioner of DNR, to whom the State Archaeologist reports under state code, appointed an Underwater Archaeology Study Council to identify the components of an archaeology program. The council consisted of archaeologists, sport divers, artifact collectors, concerned citizens, and elected officials. Recommendations included identifying sites on both state and private property, preserving sites and artifacts through stewardship programs, involving students and the public in research and preservation activities, training sport divers in site preservation and reporting as well as ethics and stewardship, and educating schoolchildren and the public in the importance of preserving submerged cultural resources (Underwater Archaeology Study Council 2002). The following year, the National Register archaeologist position was vacated through retirement, and the job duties were rewritten to correspond to the Underwater Archaeology Study Council recommendations. The National Register review duties were distributed amongst the other OSA staff, and the senior author was hired to begin implementing the Underwater Archaeology Study Council's recommendations under the guidelines of the Abandoned Shipwreck Act. In the current challenging budget environment, however, that has meant boot-strapping a program rather than starting out with all the tools necessary.

Building a Program Through Partnerships

From the start, it was recognized that partners would be critical to the launch of the program. As a practical matter, it seemed best to work with an entity that had much of the infrastructure that we would need already in place. After examining several possibilities, we decided to partner with the Georgia Southern University (GSU) Applied Coastal Research Laboratory, located at the Skidaway Institute of Oceanography on Skidaway Island just southeast of Savannah, Georgia.



Figure 1: West Georgia Underwater Archaeology Society President Charles Kelly briefs the divers before entering the Chattahoochee River to map the West Point Site. (Photo: Mindy Kelly, West Georgia Underwater Archaeology Society)

The partnership is administered through a \$10,000 contract, under which the GSU lab furnishes typical office functions as well as GIS expertise, IT support, vessel mechanics, equipment fabricators, a graphic illustrator, dockage, and many of the other things that go into underwater archaeology. Obtaining vessels was another challenge. For in-shore work, we use a 17-ft Boston Whaler. The vessel was surplus by the DNR Wildlife Resources Division and then rehabilitated (including a new engine) by us for a total cost of approximately \$5,000. For offshore work, at present the program has access (for a fee) to vessels housed at the Skidaway Institute. For remote sensing work, we partner with the DNR Coastal Resources Division, which has a magnetometer and side-scan sonar as well as operators who have instructed the senior author on their use. In addition to the contract and personnel costs, operating costs have amounted to approximately \$10,000/year.

Assembling the needed staff is one of the most significant challenges in starting a program in the current budget environment. No new state positions are being created in Georgia at present; therefore, two staff members (the State Archaeologist and the Staff Archaeologist) have cross-trained in order to support dive operations. We also partner extensively, both with neighboring State Archaeology offices like the South Carolina Institute of Archaeology and Anthropology and with avocational dive groups like the West Georgia Underwater Archaeology Society (WGUAS; <http://www.wguas.org/>). In fact, organizations like WGUAS and its sister group, the North Georgia Underwater Archaeological Society (<http://www.nguas.org/>) are increasingly important, not just in getting field projects done but also in reaching out to divers across the state. One such example of a current project comes from the town of West Point, on the lower Chattahoochee River in Troup County.



Figure 2: Deputy State Archaeologist-Underwater Jason Burns prepares to map an 1865 Calvary sword from the West Point Site in the Chattahoochee River. (Photo: Phillip Lockhart, West Georgia Underwater Archaeology Society)

The West Point Cast Study

West Point flourished as a cotton market and collecting point, relying on its railroads for supplies and communications from Indian Removal until the Civil War. During the closing days of the Civil War, the Battle of West Point was fought as the town and its bridges and infrastructure was burned. Rebuilding after the war, cotton again ruled the economy as two textile mills began production by 1869, utilizing the Chattahoochee River for power (University of Georgia 2002:6). The textile industry grew, and by 1880, the West Point Manufacturing Company, which is today's West Point Stevens, expanded its mills and began to employ steamboats.

Local sport divers in the West Point area, aware of their community's numerous archaeological sites, approached DNR in September 2002 to volunteer to map the resources in the Chattahoochee River. Concerned about uncontrolled artifact collecting and seeking an outlet for local diving, the divers formed WGUAS and took the lead in the archaeological investigation effort (Figure 1). DNR arranged for training of the group through the South Carolina Institute of Archaeology and Anthropology's Sport Diver Archaeology Management Program. Combined side scan sonar and dive operations to date have resulted in the identification and mapping of two stern wheel steamships, a 1930s racing boat, three sets of anchors, wagons associated with the Civil War destruction of the town, the remains of an 1838 covered bridge (possibly the oldest structure in West Point still partially extant), the remains of the 1866 covered bridge, and an 1885 iron bridge that was destroyed during one of the many floods (Figure 2).

Early in 2002, in cooperation with the University of Georgia's College of Environment and Design and the Georgia Department of Community Affairs, the city of West Point held an intensive planning ses-

sion involving city leaders, planners, and citizens to “provide a fresh viewpoint on revitalization opportunities” (University of Georgia 2002:5). Issues that came out of the session included the need to recognize the Chattahoochee River as a “tremendous scenic asset” with “little recreational access to the waterfront” (University of Georgia 2002:5). Key recommendations included visitor and resident activities along the river, with overlooks, river walks, informational plaques, and educational materials centering on the new riverfront Civic Plaza (University of Georgia 2002:22). This new plaza is at the center of an underwater archaeology site adjacent to West Point’s public buildings, and plans also called for the reinstallation of a pedestrian bridge to occupy the site of the washed out 1885 iron bridge. In August of 2004, the City of West Point acted on these recommendations by accepting the donation of 178 acres of riverfront land from the Trust for Public Land. This donation will form the basis of a riverside trail system connecting the U.S. Army Corps of Engineers’ West Point Lake to downtown West Point (Trust for Public Land 2004). Integrating the city’s revitalization efforts with the underwater archaeology project was a natural progression.

To encourage a more proactive approach to management, DNR is now planning Georgia’s first underwater archaeology trail or underwater park in this community, to encourage the community of West Point to take a more active role in the management of their submerged cultural resources while hopefully boosting the local tourist and allied businesses economies. The archaeology work is also providing the basis for interpretive signage along the planned trail and exhibits for a planned transportation museum. Education programs, including public archaeology days, lectures to civic organizations, and teacher workshops, are achieving the goal of getting the word out and getting the public interested in their own archaeology.

Conclusion

While the Georgia Underwater Archaeology Program has been up and running for just over a year, several salient facts have emerged. First, even in a time of constricted budgets, headway can be made in new areas by state archaeology programs, *if* managers are willing to make hard choices. The initial hard choice we made was to relegate National Register nomination preparation work to a secondary place in our workplans and to share any National Register review work among the staff rather than dedicate a single position to the function. A second hard choice was to start a new external office—the first external office in the nearly 50-year history of the Georgia Historic Preservation Division—and to fund that office’s operations within current limitations. That means other field projects do not get done, but the hard truth of today’s budget environment is that setting priorities is not optional—it is the make-or-break reality of state programs.

A second salient fact is that making the kind of choices outlined above has yielded concrete, measurable results. The new program is successfully attracting both in-kind and cash support from local, state, and federal agencies (the latest survey project was funded by a National Park Service American Battlefield Protection Grant). Three underwater avocational archaeology groups that did not exist five years ago are actively participating in the state program and serving as local eyes and ears. A survey of Georgia dugout canoes has been completed, and we are actively seeking grant funding for several large multi-year projects.

Finally, Georgia underwater archaeology is in the news. More than 40 public lectures as well as over 30 media appearances and interviews, including the *Atlanta Journal Constitution*, the AP wire service, and numerous local newspapers across the state, are raising the profile of the program. Our next step will be to develop a press packet and public relations strategy to refine our message for specific target audiences.

It takes aggressive, entrepreneurial actions for state archaeology programs to succeed in the present budget environment. Our program will quickly reach a point where demand by the archaeology and preservation constituencies in the state outstrips our ability to meet it. By then we hope to have developed a constituency of avocational groups and their local governments (for which West Point is the model) that can speak for the importance of local resources to heritage education and tourism, as well as a network of affiliated agencies that will support further program development.

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Application Deadline: March 1, 2006

FROM STUDENTS TO PROFESSIONALS

ARCHAEOLOGICAL FIELD SCHOOLS AS AUTHENTIC RESEARCH COMMUNITIES

Jennifer E. Perry

Jennifer Perry is an Assistant Professor of Anthropology at Pomona College, California.

This past summer alone, 70 formal archaeological field schools were held in the U.S. Found in diverse contexts in 29 states from Alaska to Florida, these field schools range in emphasis from regional survey in New Mexico and Utah to excavations near the home of Harriet Tubman in New York. Combining that with field schools and other field programs (e.g., Earthwatch Institute, University Research Expeditions Program) throughout the globe, thousands of students (a minimum of 1,400 students in the U.S.) received training in the fundamentals of field archaeology within the span of a few months. Given such a wide range of environmental contexts, research agendas, and instructional priorities, those interested in gaining practical training in archaeology are able to find a field school that matches any particular interests.

This number of students is impressive in light of the average time commitment of 4–6 weeks, the expenses associated with such field schools, and the relatively small community of potential instructors within the discipline of archaeology. Although the costs of formal field schools vary significantly, combining the costs of tuition (for an average of six semester credits) and other fees, room and board, transportation, health insurance, field equipment, course readers or books, and other incidentals, the costs can easily total \$6,000, with a minimum investment of \$1,000. Furthermore, given that many college students use their summers to work and generate money for the academic year, attendance at a field school significantly diminishes their earning potential. Scholarships, fee waivers, and stipends, among other financial assistance, are offered for several field schools, but many students must take out loans, work extra hours, or borrow money to make attendance possible.

Considering these time and monetary commitments in the context of the rising costs of college in general, what are the benefits and outcomes of field school experiences? For those serious about becoming professional archaeologists, why is such importance placed on attending field school? In a recent issue of *World Archaeology*, I posed questions regarding the presumed roles that field schools play in training future

archaeologists—“how well are [students] prepared for professional study and employment and to become members of the archaeological community?” (Perry 2004:237). I attempted to address these questions through (1) an assessment of relevant educational and archaeological literature as well as (2) an evaluation of one particular field school context on San Clemente Island, California based on surveys administered to former students and staff members and my own experiences as a student, staff member, and guest supervisor and lecturer in different years. Some of the points I raised, along with subsequent interactions and ruminations, are the basis for this article, which considers positive and essential features of the field school experience along with aspects that could be improved upon or should at least receive more attention.

Why Field Schools are Important: Forming Authentic Research Communities

Few archaeologists would deny the importance of field schools for training new practitioners of the discipline. The field school is “unique among educational experiences in that it often provides students with one of their first opportunities to become engaged in the authentic research activities of an archaeological community” (Perry 2004:256). The significance of direct involvement in an authentic research community may be understood in the context of learning theories and instructional strategies found within the educational and archaeological realms of constructivism (e.g., Driver and Easley 1978; Nieto 1999), situated cognition (e.g., Brown et al. 1989; Nardi 1996), feminist pedagogy (e.g., Brickhouse 2001; Conkey and Tringham 1996; Mayberry 1998), and especially authentic learning (e.g., Barab and Hay 2001; Driver et al. 1994). Rather than summarizing the salient points of each author or major concept, the excerpt below (Perry 2004:239) reflects their relevance to archaeological field schools. In contrast to classroom contexts, field schools are opportunities for

authentic learning through the formation of a research community, as well as through apprentice-

ship in the form of intensive and personalized instruction. Authentic learning occurs when individuals, both students and professional archaeologists, form communities to address real archaeological questions, and to negotiate knowledge construction through meaningful social interactions (Brown et al. 1989). These experiences engage students as active participants in the culture of archaeological research, and specifically in the methods and tools used to acquire and interpret data.

Worded another way, the webpage for the University of New Mexico 2005 Jemez Mountains Archaeological Field School states that “field schools are intense learning laboratories. For six weeks, students are deeply involved in living, thinking, and talking archaeology. Field schools also provide the opportunity to work closely with other students and with instructors. A community that works and plays together develops” (http://www.unm.edu/~aramenof/public2/web_swfs2005/index_2005.html).

Because of these opportunities, field schools often serve as pivotal experiences during which students decide whether to become professional archaeologists. Repeatedly I have observed how participation in a field school has been a defining moment in a person’s career—and life in general—shaping aspects of a person’s interests and aspirations. As one participant in the California State University–Northridge field school on San Clemente Island commented (Perry 2004:247),

I would say that a field school is very important, because not only do you meet new people and gain essential skills, you also figure out whether you want to pursue this as a career or not. There were quite a few people in my field school who found out about half way through that, although they were having fun, they wouldn’t want to do it for the rest of their lives.

Archaeological field schools, then, weed out the disillusioned and at the same time train those interested through their intensive involvement in an archaeological research project and membership in the community surrounding that agenda.

In this light, evaluating the outcomes of the field school experience should generally revolve around the field training in the context of authentic research agendas, the research communities that form and evolve in such settings, and the interactions with other interested parties, such as collaborating agencies, Native Americans, and the public. Particular aspects of field schools that should be openly discussed, and improved upon in some cases, include (1) the breadth of field training provided, (2) the relevance of such training to cultural resource management (CRM) and other employment opportunities, (3) the



Figure 1: Undergraduate students from California State University–San Bernardino excavating in the San Bernardino National Forest.

nature and dynamics of the field school community, (4) interpretation for and interaction with the public, and (5) student assessment.

Teaching Archaeological Methods

Most field schools emphasize the importance of the research designs guiding their projects alongside broader discussion of method and theory. However, the stress placed on research design varies considerably, from assigned readings to informal discussions to students composing their own research designs. Despite the many methods available for addressing diverse research questions, instruction in excavation techniques, artifact identification, and associated documentation (e.g., note-taking, photography, mapping techniques) are ubiquitous partly because the majority of field schools focus on a single site. Although field school organizers do attempt to provide broader training than the methods required for the research at hand, the coverage varies significantly.

Less frequent among field schools are opportunities for laboratory processing, artifact analysis, and data interpretation. Depending on the particular archaeological context and the expertise of the staff, some field schools provide training in, or at least lectures on, different specialized skills such as faunal, lithic, or ceramic analyses; paleoenvironmental or paleoecology studies; geophysical studies; and other techniques that are increasingly prevalent in archaeology. Undoubtedly there are limitations with respect to the types of laboratory analysis that can be conducted at field schools, especially in remote settings.



Figure 2: Undergraduate students from Pomona, Pitzer, and Scripps Colleges excavating and site mapping on Santa Cruz Island.

Nevertheless, students should be responsible for the collected cultural materials from start to finish—from initial acquisition to cataloging and analysis—as much as possible in order to grasp the importance of each step and its relevance to the research design and project objectives as a whole.

Of the fundamental skills in archaeology, often the least amount of time is allocated for teaching survey techniques. Out of the 70 field schools held in the U.S. this past summer, there were only four in which survey was the primary focus: one in the Jemez Mountains through the University of New Mexico, a collaborative field school between the Mohegan Tribe of Connecticut and Eastern Connecticut State University (ECSU), one in Range Creek Canyon through the University of Utah, and the Saddle Mountains Field School in CRM Archaeology through Central Washington University. In field schools emphasizing single-site excavation, many allocate some time to instruction in survey, from as little as one day to as much as a week. Provided that students have the opportunity to at least nominally experience the different phases of archaeological research, this may be sufficient. However, given the significance of survey in the initial stages of research and its prevalence in CRM, more time might be devoted to its instruction.

Training for CRM

Regardless of the research objectives of the field school, ongoing attention should be given to the relevance of imparted

skills to CRM archaeology. The majority of students who continue in archaeology are likely to be employed in CRM, and their participation in field schools may be the only formal training they receive prior to their first jobs. Several field schools do emphasize or at least acknowledge a connection to CRM, especially in contexts in which the field schools are conducted in collaboration with public agencies such as the Bureau of Land Management (BLM), National Forest Service, or National Park Service. One example is a field school near Lake Arrowhead, California that has been a productive collaboration between California State University–San Bernardino, San Bernardino National Forest, and Statistical Research, Inc., a local CRM company. The most integrated example is the Saddle Mountains Field School in CRM Archaeology through Central Washington University and the BLM; the only field school with “CRM” in its name, its emphasis is on “archaeological fieldwork and cultural resource management (CRM), including intensive training in survey (cultural resource inventory), plus limited test excavation for NRHP eligibility. *These are the most common tasks for archaeology jobs*” [their emphasis] (<http://www.cwu.edu/~anthro/fieldwork/Archy/2005FSAd.html>).

Given the diversity of research objectives and environmental and sociocultural contexts, I do not suggest that all field schools should have such a strong CRM orientation. Perhaps all that is needed in some cases is to invite CRM archaeologists to be guest speakers and/or supervisors. Nevertheless, the Saddle Mountains field school exemplifies some of the disparities that exist between the training that students receive at field schools (i.e., an emphasis on excavation) and the realities of employment (i.e., the prevalence of survey in CRM).

Forming an Archaeological Community

In addition to the training that students receive, it is essential to consider the social contexts of field schools. Although there are field schools in urban settings and those that operate during normal business hours, many require students to live in remote settings often well removed from their typical lifestyles. At the social core of field schools are the research communities that form among the students and regular staff members. However, at the peripheries of these communities is everyone else involved in the field school and research in the region, including rotating staff members, volunteers and interns, visiting professionals in archaeology and other fields, Native Americans, representatives of governmental agencies, land owners, media, and/or the local public. Field school organizers should include other professional archaeologists, specialists from relevant disciplines, and Native Americans as guest lecturers and/or supervisors. In fact, having guests that are able to both lecture on a specific topic and provide some sort of direct training and/or supervision is arguably the most effective.

Reflecting the broader dialogue regarding the roles of Native Americans in archaeology, there needs to be more consideration of appropriate manners in which to include indigenous perspectives and participants in field schools. At least two field schools constitute formal collaborations between universities and Native American communities: the Mohegan-ESCU Archaeological Field School in Connecticut mentioned previously and the Eastern Pequot Archaeological Field School organized through the University of Massachusetts–Boston and the Eastern Pequot Tribal Nation in Connecticut. In both cases, the field schools are conducted on tribal lands, tribal research interests are pursued, participants include native and non-native students, and indigenous perspectives are offered through guest speakers and field trips.

The objectives of the Mohegan-ESCU field school are encapsulated in the following statement: “the relationship between Native Americans and archaeologists has traditionally been fraught with tension and conflicting goals. The mission of this archaeological field school is to rectify this discord. . . . We pursue and serve the research goals and objectives of the Mohegan Tribe. Our students, including Mohegans and members of other tribes, help demonstrate how archaeology can contribute to contemporary Native communities” (<http://www.mohegan.nsn.us/education/fieldSchool.aspx>). Not all field schools can or should adhere to such an agenda, but field school organizers still should evaluate in which contexts and to what degree Native Americans can be involved as collaborators, specialists, lecturers, and/or students.

In sum, emphasis should be placed on the inherently multidisciplinary nature of archaeological research, with field school organizers exploring all dimensions through which students may become active members of their field school communities. Students should come to understand how any particular research project may require interfacing with different specialists as well as with different private and public agencies and stakeholders. This sentiment is expressed by a former student of the San Clemente Island field school, who said that field school

changed my perception of archaeology by replacing the image of isolated researchers working on their own research with the more dynamic image of archaeological research as a collaborative effort undertaken by a community of people with various experiences, interests, [and] goals [Perry 2004:251].

Through these experiences, students appreciate the collaborative nature of archaeology, in which collegiality and effective communication are not only desirable but essential to the success of any project.



Figure 3: Undergraduate and graduate students from Pomona and Pitzer Colleges, as well as California State University–Northridge, excavating at Eel Point, San Clemente Island.

Public Interpretation

Another facet to consider is how students may become public representatives of the research, especially in urban field school contexts. During field school orientations, there should be some discussion regarding how to address the public, including research objectives, site (or regional) significance, and potentially sensitive or contentious issues. The field school at the Village of Deerfield, Massachusetts through the University of Massachusetts–Amherst is one of the few that not only formally acknowledges the need to interface with the public, but also includes “learn how to do public interpretation” as one of its training objectives (http://www.umass.edu/anthro/Images/fieldschool_files/fieldschool_2005.htm).

This summer, I visited the field school for the Cahokia Palisade Project through the University of Missouri–St. Louis as a

member of the public. I did not meet any field school staff member, but rather spoke to several volunteers and students who were very receptive to answering questions about the progress of the excavation. Given the public nature of this particular excavation, they were prepared with a poster presentation on the project that highlighted previous research and current objectives. Students used this to contextualize the findings in the exposed excavation units, resulting in a professional and informative presentation in an informal setting. In doing so, these students were active representatives of the research and community of the field school.

Student Assessment

Aside from the particular skills imparted and the communities involved, student assessment is the sphere that needs the most improvement in order to facilitate full integration into the archaeological community. Methods of assessment should be given much more attention, especially considering that the vast majority of students are receiving university credit for their participation. The primary means through which students are assessed in field schools is their participation and field notes or journals. Other instruments used less frequently include oral presentations, exams, and independent research on specific aspects of the project that culminate in written papers. Although the literature for numerous field schools stresses the importance of research designs, understanding of such theoretical and methodological dimensions appears to be rarely assessed. Students often are not required to frame their own research questions or interpret the data themselves beyond their journal writing and informal discussion.

Provided that there is sufficient supervision, ways to improve assessment include student analysis and interpretation of one particular aspect of the research project, such as lithic, ceramic, or faunal analysis. These efforts could culminate in a paper or oral presentation in which the students are actively engaged in data interpretation and present it formally to others at the field school, including their peers. Students also could be required to generate a research design for future fieldwork based on the original research design and the findings generated during the field season. In this way, staff members can assess the degree to which their students have understood and applied the theoretical underpinnings and methods of the research program. As an active participant in the overall process of archaeological research, “one begins to think and operate as a fully indoctrinated member of that community” (Perry 2004:251).

Conclusion

To conclude with an anecdote, one of my students recently returned from an archaeological field school at Taos, New Mexico offered through Southern Methodist University. In

response to my question regarding how he liked it, he said “I really feel like I’m a much better archaeologist now.”

Inevitably, there are competing objectives in archaeological field schools that require staff members to engage in a difficult balancing act between research, teaching, varying levels of student interest and experience, logistical constraints, and other demands. However, what we must never lose sight of is that field schools do provide one of the major—perhaps the most important—instructional contexts in which students of archaeology can be transformed into practitioners of archaeology. To ensure that individuals become “better archaeologists,” the archaeological community needs to engage in discussions regarding what constitutes a meaningful or effective field school experience, focusing on issues of breadth of training, community formation, and student assessment.

Note

For this brief article, I identified a list of archaeological field schools in the U.S. using the following Internet searches. First, I used Google and looked under “archaeology field school” and “archaeological field school,” as well as their plural forms. Specific websites I consulted were, in no particular order, <http://www.archaeologyfieldwork.com>, <http://shovelbums.org>, <http://archaeology.about.com/od/currentdigs/>, <http://www.earthwatch.org>, and <http://www.archaeological.org/webinfo.php?page=10016>. I also searched under specific universities that I know have archaeology programs to ensure that I wasn’t missing anything. There was a great deal of overlap between these websites; however, the general ones did not have everything, which suggests that some field schools could do a better job of advertising broadly given how important the Internet is for students searching for the “right” field school. In addition, there were a lot of broken links and outdated information to sort through. The final criteria for inclusion in my list were whether the field schools were offered in the U.S. in the summer of 2005, sponsored/hosted by an accredited college or university (two-year community colleges were included), and available for academic credit.

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↳ PERRY, continued on page 4



CRM: BEYOND ITS PEAK

Lawrence E. Moore

Larry Moore is a Cultural Resource Specialist with Wyandotte Net Tel and a contractor housed within the Southwestern Power Administration, a Department of Energy agency, in Tulsa, Oklahoma.

In the previous essay (Moore 2005), a mixed forecast was given: in the near future, we can anticipate exciting archaeological opportunities and economic crisis. As we look forward to the opportunities, it is also important to assess where we are today, which is the goal of this essay. American archaeology is in transition after the growth phases of two important cycles have completed. One cycle is cultural resource management (CRM), an aged industry in a vulnerable position. The other cycle is the academic debates that stimulated the profession for over 50 years and can be viewed as a source of strength in the future. These cycles are associated with two value systems operating within American archaeology: historic preservationist and archaeological scholarship. The preservationist ethic is currently dominant, although this will likely change in the near future. Finally, a demographic cycle is maturing that could jeopardize American archaeology. Recognizing these issues facilitates preparation for growth and avoiding an untimely demise.

The Dual Ethics

While several value systems operate within American archaeology, two are widespread. They are often blended but can be identified by the initial concept that is emphasized: research or preservation. Since the earliest days of the profession, American archaeology has had a value system focused on scholarly research. Within this ethic, archaeological tasks are done to achieve archaeological goals, and honest, disinterested, and competent research is valued. Also included in this ethic is a mild version of cultural relativism. The Society for American Archaeology's (SAA) Ethics Statement of 1961 (*American Antiquity* 27[2]:137–138) was one of four statements characterizing professional scholarship. SAA's Mission Statement of 1996 is a contemporary revision of this ethic, framed as a Public Archaeology statement.

The historic preservationist value system was added into American archaeology in the 1970s, and by the end of the 1980s it was the dominant ethic within the profession. Preservation of cultural resources and traditions is the focus of this ethic. It is an

ethic of advocacy, and strong cultural relativism is common. Knowledge of and skill at maneuvering within complicated legislations are valued. SAA's Ethics Statements of 1996 reflect this value system.

At times, these ethics have conflicted, most clearly when preservation work has been accused of lacking in scholarship. In historic preservation venues, archaeology is done to achieve historic preservation goals. Scholarly research can be done through preservation projects, but it is not essential because it is not the main goal.

Cycles in American Archaeology

Two industry cycles can be identified from the last 60 years. The first is CRM, which has become prominent in terms of the number of people working in this industry, the amount of money expended within it, and the preservation ethic associated with it. CRM is part of a broader historic preservation industry generally led by historians, architects, and architectural historians. For archaeologists, this cycle began as a research-driven agenda that morphed into a historic preservation agenda. It started in the late 1960s while the Moss-Bennett Act of 1974, the planned extension of Salvage Archaeology (River Basin Surveys and Highway Salvage), was lobbied and negotiated. Today, the National Historic Preservation Act of 1966 (NHPA), as amended, leads it.

Like all industries, CRM is working its way through a predictable industry cycle. The five-phase industry model is presented as a bell-shaped curve, with time as the horizontal axis and change as the vertical axis. The phases are:

1. A developmental phase
2. A rapid growth phase
3. A de-accelerating growth phase that rolls onto a plateau and levels out
4. A phase that leads to a roll-over and rapid decline
5. The final bottoming-out phase

The first three phases are represented by an S-shaped curve of development, growth, and maturity.

CRM's early phases dated roughly (1) 1966–1975, (2) 1976–1988, and (3) 1989–April 2005. It was during Phase 2 that CRM moved from a research agenda into a historic preservation one because federal priorities shifted from sponsorship of scholarly research (via Salvage Archaeology projects) to sponsorship of historic preservation (via NHPA). In the late 1970s, federal agencies needed to streamline their archaeological compliance efforts by either invoking NHPA or Moss-Bennett. Invoking both was viewed as duplication of efforts. The NHPA, with its 1980 amendment, became the centerpiece legislation, which completed the conversion of CRM from pursuing a research agenda to a preservation agenda.

The value shift that archaeologists made to accompany this policy and funding change took several more years. Conflict between the needs and values of scholarship-focused archaeologists, government agencies, and preservation-focused archaeologists began in the mid 1970s. By 1980, all these folks were at extreme odds, and a bifurcation occurred within American archaeology. This change is seen in SAA membership (Table 1 and Figure 1), which peaked in 1976 and 1979 before declining through the 1980s as preservation-focused archaeologists avoided SAA, viewing it as a scholastic club. At the beginning of CRM Phase 3, the preservation ethic became prominent within SAA itself, tensions within the profession decreased greatly, and SAA membership rebounded to new highs. The growth in SAA membership between 1990 and 1995 was amplified by veteran preservation-focused practitioners joining SAA, solidifying the preservation ethic within the organization.

The second industry cycle is the academic debates that had American archaeology running for 50 years. The phases of this cycle are (1) 1948–1961, (2) 1962–1982, and (3) 1983–1999. Phase 1 began when Walter Taylor's (1948) critique of American archaeology challenged a profession that was intellectually plodding in the mid-1940s. During Phase 2, the New Archaeology of the 1960s and 1970s stampeded the profession. New Archaeologists debated mostly with Culture Historians, trying to make archaeology a better science. Flannery's (1982) Golden Marshalltown essay likely transitioned the cycle into Phase 3, the Processual-Postprocessual debates that questioned almost everything related to science, archaeology, and historic preservation. The polite and synthetic VanPool (1999) essay likely marks the end of the intellectual run as American archaeology moderated its passion for philosophical and theoretical debate.

The years 1988–1996 may have been the most intense and confusing years in the history of American archaeology. This was the climax of the NHPA-funded Postprocessual preservation era. It

Table 1: Selected SAA membership numbers from 1935 through 2004.

Year	Members	Percent Change in Members	Annual Growth Rate	Comment
1935	332			SAA's initial membership number
1936	531			
1942	852			End of New Deal programs
1946	673			
1956	980			
1966	1707			NHPA passed
1976	4784			
1979	4789			High mark in Individual memberships until 1994
1984	4453			
1993	4769			
1994	5300			
2004	7024			All time high number
1935–1942		157	14.41	New Deal revolution in archaeology
1936–1946		27	2.40	
1946–1956		46	3.83	
1956–1966		74	5.71	
1966–1976		180	10.86	Phase 1 of CRM cycle
1994–2004		33	2.86	

Sources: SAA Annual Reports as published in *American Antiquity* and by the SAA.

was the highpoint of the Processual-Postprocessual debates, when hyper-reflexive and culturally relativistic discourse was common. CRM reached peak status as well, readily stopping a political assault against NHPA in the mid-1990s. These were also the years that the preservation ethic fully saturated SAA via the "Save the Past for the Future" campaign. The climax culminated in 1996 with SAA adopting its popular Ethics Statements.

Since this climax, much has changed. The intellectual debates successfully closed and something new is developing. The preservation ethic is now more about ethics than preservation. CRM lingered a few years as its Phase 3 came to a close and is now in a vulnerable position. The most obvious threat is the April 2005 proposed amendments to the NHPA that would weaken its Section 106 process. This active proposal moved CRM into Phase 4, which has two parts: the time before an inflection point, the point of no return that precedes the second part, a precipitous decline.

CRM Approaching Freefall

Phase 2 and Phase 4 of industry cycles are similar because they are periods of rapid change with inflection points. They also represent positive and negative high-energy phases, respectively. In CRM, the negative energy is rising.

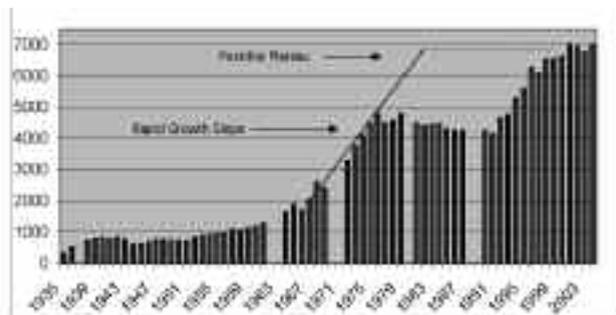


Figure 1: SAA membership numbers from 1935–2004. Data for some years was not available or was unreliable.

Currently, NHPA is the hub of the CRM industry. Other federal laws feed into it, and state and local compliance programs are often modeled after it. Forty years after NHPA enactment, the CRM compliance process is at maximum capacity with nowhere else to expand federal historic preservation policy. Likewise, the consultant industry created around it is overly competitive, keeping wages low. CRM, the most industrious part of American archaeology, is an aged industry that has worn out its welcome. American society values historic preservation but is also increasingly resistant to standardized federal compliance.

Having entered Phase 4, CRM's decline is accelerating. Figure 2 shows a partially developed bell-shaped curve of CRM field projects. From the mid-1980s through 2000, fieldwork nationwide declined nearly 40 percent. The long-term trend is downward, with the slope getting steeper. CRM Phase 3, the maturity phase, was a period of declining fieldwork as planning processes expanded across a generally fixed environment (fixed number of federal agencies, fixed corridors for projects, fixed number of federal lands, etc.) that led to redundancies in project locations, diminishing opportunities for fieldwork, and diminishing returns from fieldwork. As planning successes compound, fieldwork continues to decline, and the industry notches downward even further.

Significant changes to the industry are also underway. Politicians are re-evaluating NHPA. The standardizing aspects of it, the Section 106 process, are targeted for reduction, while the customizing aspects of it, Preserve America and Certified Local Government programs, are being enhanced. Likewise, the office of the Keeper of the National Register of Historic Places was severely reorganized in 2005. The Advisory Council for Historic Preservation (ACHP), the NHPA supporting agency, revised its policy document (36.CFR.800) in 2004, such that its control over the Section 106 process was weakened, and its two offices were consolidated in 2005. Additionally, ACHP is now administering part of the Preserve America program, likely a new direction for the agency. Stress from these changes is increasing, as expressed in

frequent negative commentaries on industry chat boards.

Additional stress is coming in the form of another value shift. In CRM Phase 4, the tensions between the ethics of archaeological scholarship and historic preservation will reappear as archaeologists again struggle with reprioritizing their values. A new ethic is emerging that involves Public Archaeology and multivocal interpretive discourse. CRM hasn't breached the inflection point of Phase 4 yet. But it will—in one to five years. While the proposed 2005 NHPA amendments put CRM into Phase 4, something else will trigger the inflection point. This larger threat to CRM and all American archaeology is the rising wave of Baby Boomer retirements.

Going Critical

The Baby Boomer wave rolling through American society is bringing great changes. The U.S. economy expanded to accommodate this large generation as they entered the workforce. Most of American archaeology's growth since 1966 is due to this expansion. The American workforce, however, will contract as the Baby Boomers retire, and archaeology will also contract unless it uses the wave to its advantage. While American archaeology is currently not in decline, as seen by SAA reaching a membership high in 2004, the profession is not expanding either. The profession has a high turnover rate, and staffing has been on a plateau for about 20 years.

Zero growth in staffing can be inferred from SAA membership patterns. Table 1 and Figure 1 show membership patterns going back to 1935. After growing rapidly from 1966 to 1976, membership declined in the 1980s because the profession was bifurcated. On Figure 1, a straight line has been drawn to represent the rapid growth slope extended to 1984, when the Baby Boomer expansion ended. This speculative curve indicates what SAA membership could have been if there had not been a bifurcation in the profession. Quantitative projections actually suggest that American archaeology greatly overshot the plateau in the early 1980s and pulled back in the mid-1980s. The number of field reports generated in the 1980s (Figure 2) supports the idea that the rapid growth rate continued well into that decade. Growth in the profession ended when the Baby Boomer expansion ended.

When the forthcoming labor contraction sets in, two things will happen. First, the number of archaeologists will decline disproportionately. The Baby Boomers are currently about 48 percent of the profession, based on the 1994 SAA census (Zeder 1997) compared to the 2004 total. Baby Boomers entering American archaeology created a growth rate of almost 11 percent during the years 1966–1976 (Table 1). Since demographic waves generally have symmetrical characteristics, the decline rate will be

equivalent. The retirement of 48 percent of the profession will compound to reduce staffing by nearly 75 percent during the years 2009 through 2016. At the same time, American archaeology will enter into an era of leadership crisis. Baby Boomers are not evenly distributed across their generation. Two-thirds of this group is bunched at the oldest end, the mid-50s to 61 (Association Research Inc. 2005:3). As this generation controls American archaeology, the retirement of the senior management level will break the social networks that keep the industry functional, and there will be fewer people in important positions to advocate for CRM. Academia will decline as well, lagging CRM as enrollments decline. Whole programs, businesses, and departments will be consolidated or terminated.

Initially, the contraction will be considered a labor shortage. Actually, it will be a large imbalance between labor supply and demand that vanishes as managers decide that fewer staff is appropriate. Vacancies will not be refilled unless they are viewed as essential or beneficial; archaeology is not normally essential to society, nor are its benefits widely acknowledged. Archaeology, especially CRM, is in position to be eliminated. Therefore, it has to be repositioned, taking advantage of the demographic trend. The most important task is to create new jobs in new areas for entry-level and mid-career archaeologists. These new positions and work venues must have growth potential, meaning they will not be CRM jobs. The new job market instead is Public Archaeology. Changing the job descriptions of those who are not ready to retire toward different types of work is also important. People currently doing mostly CRM tasks need to do more interpretive projects engaging the public, such as Passport in Time. Finally, retired archaeologists need to stay involved as long as possible, volunteering or working on a temporary basis.

Conclusion

American archaeology is approaching another milestone in its history. On the one hand, its intellectual vigor has successfully completed a growth curve through academic debates. More phases of intellectual growth are to come. On the other hand, the CRM cycle has run into a decline phase. It will likely shrink to a minimum level. Finally, all American archaeology is threatened by the demographic changes ongoing in American society. The best way to take advantage of these changes is to place young people in new jobs in Public Archaeology.

We know that history does not repeat itself. But cycles do. Look again at Figure 2, renaming it the Public Archaeology Wave of the Future. In 1968, Salvage Archaeology was declining and CRM was on the horizon. Today, CRM is declining and Public Archaeology is on the horizon. We have that entire wave ahead

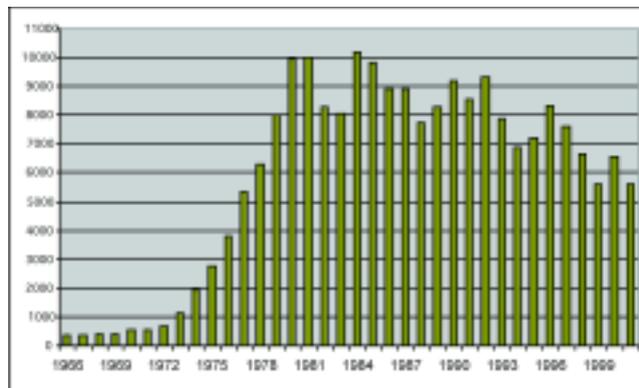


Figure 2: The NADB Wave shows the explosive growth and steady decline of CRM fieldwork in American archaeology. The chart plots the number of reports per year from 1966 to 2001 from 18 states as listed in the National Archaeological Database (NADB), August 2004 update. These states have fairly complete listings for those years: Alabama, Alaska, California, Colorado, Delaware, Hawaii, Iowa, Kansas, Kentucky, Maryland, Minnesota, Montana, Ohio, Oklahoma, Oregon, Texas, Utah, and Vermont. All other states do not fully participate in the database. The NADB is not a comprehensive list of reports and publications, and contains redundancies. This sample uses 212,110 listings from the approximate 354,244 total within NADB.

of us because it represents another Baby Boomer transformation of our society.

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TWENTY-TWO YEARS OF NEAR STASIS IN REVIEW TIME FOR JOURNAL MANUSCRIPTS

R. Lee Lyman

R. Lee Lyman is Professor and Chair of the Department of Anthropology, University of Missouri-Columbia.

Priority of discovery is sought by virtually all researchers (Merton 1957), and being the first to publish a new finding is one, if not the major, way to establish priority (Board 1982). Publishing peer-reviewed journal articles in a timely manner enhances one's chances of gaining promotion, salary, professional status, and proof that one is worthy of a new grant. Publishing is also often a moral and ethical obligation (Clapham 2005). The length of time between submission and publication of peer-reviewed journal articles is thus of some concern to potential authors. Journal editors agree that "review time"—the amount of time between the date a manuscript is submitted and the date when the author receives the editor's decision—significantly influences the speed with which a manuscript is published (Chubin 1985; Taubes 1996). Few data, however, have been published, so it is difficult to determine if review time has changed over the years.

Some journals have initiated an electronic submission process. This is meant to make the review and publication process more cost-efficient and to speed-up the review itself by eliminating the time it takes for a paper manuscript to be delivered to an editor and subsequently to reviewers. It also decreases the time it takes for reviewers to respond to the requests of editors and for an editor's decision to be delivered to an author. (One might argue that electronic submissions also save postage costs and reproduction costs, but only the author saves money if reviewers print out paper copies of electronic manuscripts, make comments on them, and mail them to editors who in turn mail them to authors.)

In light of the preceding remarks, two questions arise. First, given the larger number of scientists now who are writing and trying to publish, has review time changed over the past 20 years? Second, is review time shorter for an electronic submission than for a paper or hard copy submission? I address both of these questions based on personal submission and publication data spanning 1983 to 2004, inclusively, with particular attention to the review process for the SAA's flagship journal, *American Antiquity*.

Factors Influencing Review Time

Three variables influence the duration of review time. *Transit time* concerns the time of transmission of a manuscript, whether hard or electronic copy. This period minimally comprises four steps: author to editor, editor to reviewer, reviewer to editor, editor to author. It may comprise two additional steps if associate editors serve as a link between an editor and a reviewer, but I ignore this possibility here. Intranational surface mail for each step typically takes less than one week, such that a temporal duration less than four weeks comprises transit time. The second variable that influences review-time is *editor time*, the period during which a manuscript is in an editor's possession, which includes the time between both the first two steps of transit and the last two steps of transit. The third variable is *reviewer time*, the time that a manuscript is in a reviewer's possession and comprising the time between the second and third steps of transit time. The responsibilities of an editor are to gather input from referees regarding the suitability of submitted manuscripts and to produce journal issues on schedule. Editor time thus comprises 1–2 weeks that first involve selecting appropriate reviewers and later making a decision regarding a manuscript in

light of reviewers' comments. Given these responsibilities, it is likely that there is minimal editor time for any given manuscript. Indeed, this manuscript itself was rejected by a half-dozen journal editors with less than three weeks contemplation each and without peer review.

A Personal Case Study of Review Time

Between 1983 and 2004, I kept records on the submission history of each of 67 manuscripts in the form of copies of dated cover letters to editors and dated letters from editors to me regarding whether or not a manuscript was accepted or rejected. Data analyzed here consist of review time for each manuscript, the title of the journal the manuscript was submitted to, the year when a manuscript was submitted, and whether a manuscript was rejected or accepted. Because I am an anthropological archaeologist who studies both human prehistory and paleozoology, I also noted whether the journal to which a manuscript was submitted focused on archaeology and anthropology (hereafter referred to as "behavioral science") or on natural history. The former include *American Antiquity*, *Journal of California and Great Basin Anthropology*, *Journal of Northwest Anthropology*, *Journal of Archaeological Science*, *Journal of Anthropological Research*, *Journal of Archaeological Method and Theory*, *Journal of Anthropological Archaeology*, and others. The latter include *American Midland Naturalist*, *The Holocene*, *Journal of Mammalogy*, *Marine Mammal Science*, *Northwest Science*, *Paleobiology*, *Palaios*, *Quaternary Research*, *Western North American Naturalist*, and others. Twenty-one manuscripts were submitted to journals of natural history; 46 manuscripts were submitted to behavioral science journals. Average review time for nine manuscripts submitted to *American Antiquity* is not statistically different from the average review time for 37 manuscripts submitted to other behavioral-science journals (Table 1a; Student's $t = 0.2$, $p = 0.84$). There is thus no reason to separate data for *American Antiquity* from that for other journals.

A bivariate scatterplot of the year when a manuscript was submitted against the number of weeks of review time displays no pattern (Figure 1). A simple best-fit regression line plotted through the point scatter has a very low coefficient of determination ($r^2 = 0.017$) and a negligible but positive slope (0.13). If the five manuscripts with review times > 30 weeks are omitted, the slope of the simple best-fit regression line increases slightly to 0.17 (coefficient of determination = 0.048). The two regressions suggest an increase of 2–3 weeks in review time over the sampled period of 22 years. Mean review times for the pre-1995 subsample (approximately the first half of the sample) and the post-1995 subsample are, however, not significantly different (Table 1b; Student's $t = 0.134$, $p > 0.89$). There is little evidence for change in review time from 1983 to 2004. Nor is there any significant difference between the mean review time for behavioral science journals and that for journals of natural history (Table 1c; Student's $t = 1.42$, $p > 0.16$). These results suggest that there is no basis for division of the sample of 67 manuscripts into two subsamples based on when a manuscript was submitted or based on the kind of journal to which a manuscript was submitted.

The sample includes 32 manuscripts that were rejected and 35 that were accepted. Both subsets include manuscripts that were initially rejected, revised, resubmitted, and subsequently rejected or accepted. For various reasons, different journals were sometimes chosen for resubmission of a rejected manuscript. Revised and resubmitted manuscripts were not always reviewed by the same referees that examined the first version. All 67 manuscripts are therefore treated as independent of one another for purposes of comparing review times for rejected manuscripts and review times for accepted manuscripts. Average review time of rejected manuscripts is no different than that for accepted manuscripts (Table 1d; Student's $t = 0.015$, $p > 0.9$).

Seven manuscripts were submitted in electronic form, and 60 manuscripts were submitted in paper

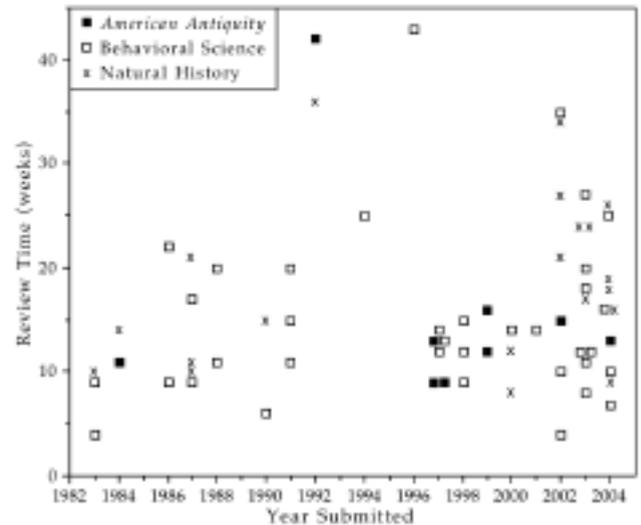


Figure 1: Scatterplot of review time against year of submission for 67 manuscripts.

form (Table 1e). Although mean review time is two weeks shorter for the electronic submissions than for the paper submissions, mean review times for these two categories do not differ significantly (Student's $t = 0.62$, $p > 0.5$). The sample of electronic submissions is small, but indicates that this form of submission is no faster than that for traditional paper submissions. A larger sample of cases of electronic submission may overturn this conclusion. For the present, however, there is no evidence here suggesting that the peer-review process for *American Antiquity* would be more rapid were the journal to adopt a mechanism for electronic, on-line submission.

Conclusions

The time between an author's submission of a manuscript to a peer-reviewed journal and the author's receipt of the journal editor's decision can vary tremendously. In the case of the 67 submissions discussed here, review times range from four to 43 weeks. No pattern in review time for the kind of journal to which a manuscript was submitted was detected in the sample, nor was there a pattern apparent in review time for manuscripts that were accepted relative to those that were rejected. Ranges and means of review times are similar regardless of any of the variables examined. The simple best-fit regression line indicates an increase in review time of 2–3 weeks over 22 years, or a bit less than one day per year. What might be the source of that increase? An editorial in *Science* several years ago indicated that “No matter how quickly manuscripts can be digitally exchanged between editors and reviewers, the major temporal sink in the review process remains the delays in the return of useful reviews” (Bloom 1999:789). Editors of various journals agree that the critical variable influencing review time is the amount of time a reviewer takes to review a manuscript (Taubes 1996). Perhaps reviewers have gradually become less responsive over the last two decades. Whatever the case, the sample discussed here suggests that the good news is that reviewers do not seem to be working more slowly in the early 2000s than they were in the 1980s. The potentially bad news is that reviewers of scientific manuscripts are not working any faster now than they were 20 years ago.

Acknowledgments

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Table 1: Descriptive Statistics for Comparative Aspects of Submission History.

A. American Antiquity Submissions Compared to Other Behavioral Science Journal Submissions.

	American Antiquity	other
N articles submitted	9	37
Mean review time (\pm SD)	15.56 \pm 10.20	14.92 \pm 8.15
Range of review time	9–42	4–43

B. Pre-1995 Submissions Compared to Post-1995 Submissions.

	Pre-1995	Post-1995
N articles submitted	22	45
N journals submitted to	13	23
Mean review time (\pm SD)	15.82 \pm 9.31	16.11 \pm 7.78
Range of review time	4–42	4–43

C. Behavioral Science Journals Compared to Journals of Natural History.

	Behavioral Science	Natural History
N articles submitted	46	21
N journals submitted to	17	13
Mean review time (\pm SD)	15.04 \pm 8.47	18.14 \pm 7.94
Range of review time	4–43	8–36

D. Accepted Manuscripts Compared to Rejected Manuscripts.

	Accepted	Rejected
N articles	35	32
N journals submitted to	20	16
Mean review time (\pm SD)	16.00 \pm 8.60	16.03 \pm 8.26
Range of review time	4–42	4–43

E. Paper Submissions Compared to Electronic Submissions.

	Paper	Electronic
N articles	60	7
N journals submitted to	24	6
Mean review time (\pm SD)	16.23 \pm 8.62	14.14 \pm 5.96
Range of review time	4–43	7–25

Time is in weeks; SD is standard deviation.

RETHINKING ABANDONMENT IN ARCHAEOLOGICAL CONTEXTS

Chip Colwell-Chanthaphonh and T. J. Ferguson

*Chip Colwell-Chanthaphonh is a Visiting Scholar at the American Academy of Arts and Sciences, and
T. J. Ferguson is the sole proprietor of Anthropological Research, LLC.*

Archaeologists often use the term “abandonment” imprecisely and speciously. The way this phrase is used in contemporary archaeological discourse is problematic, we argue, for two fundamental reasons. First, “abandonment,” as it is applied to archaeological contexts, recurrently masks a range of human behaviors, often reducing complex processes to a single event. Second, the phrase—in its colloquial, legal, and academic usage—signifies that people give up their claims and interests to a place when they move away. Although communities certainly do abandon locales and consequently surrender their claims and interests, this is not always the case. These points will be explained, drawing on examples from the Southwestern U.S., where scholars frequently discuss the abandonment of cultural landscapes, sites, and features.

Definitions and Use

“Abandonment” comes from Middle English *abandounen* and from Old French *abandoner* derived, significantly, from *a bandon*: *a* (at) and *bandon* (control). In the colloquial sense, as applied to places and structures, “abandonment” means, according to the *American Heritage Dictionary*, “to give up by leaving or ceasing to operate or inhabit . . . to surrender one’s claim to, right to, or interest in; give up entirely.” Similarly, *Webster’s New Collegiate Dictionary* defines “abandonment” as “to give up with the intent of never again claiming a right or interest in. . . . Abandon tends to suggest complete disinterest in the fate of what is given up.” In the context of cultural resource management (CRM) and heritage law, the legal definition of “abandonment” is not irrelevant. *Oran’s Dictionary of Law* defines the legal concept of “abandonment” as the “complete and final giving up of property or rights with no intention of reclaiming them and to no particular person.” *Black’s Law Dictionary* similarly defines “abandonment” as

the surrender, relinquishment, disclaimer, or cession of property or of rights. Voluntary relinquishment of all right, title, claim and possession, with the intention of not reclaiming it. . . . The giving up of a thing

absolutely, without reference to any particular person or purpose, as vacating property with the intention of not returning, so it may be appropriated by the next comer or finder. . . . The relinquishing of all title, possession or claim, or a virtual, intentional throwing away of property.

While some archaeologists may claim that they simply use “abandonment” as a technical term to say a site is “no longer occupied,” these definitions clearly demonstrate that the term’s actual meanings imply much more to people speaking the English language.

Through the decades, archaeologists have drawn on the abandonment concept in myriad ways. In many texts, writers simply state a site or location has been abandoned without express definitions. In these instances, “abandonment” is evidently not employed as a technical term, but rather in the colloquial and legal sense in which individuals have severed ties to a locale. In recent years, archaeologists have begun to carefully analyze the abandonment concept. Contributors to the edited volume *Abandonment of Settlements and Regions* (Cameron and Tomka 1993), for example, added substantial nuance to our knowledge of abandonment by drawing distinctions between event and process and between intra-site and inter-site dynamics. Even as other researchers have similarly approached abandonment as a complex phenomenon, they frequently still do not consider the much longer use-histories of sites that connect ancient places with contemporary peoples. The continued employment of a single term to define a suite of cultural and social practices is unconstructive because casual readers are unlikely to understand “abandonment” beyond its colloquial meanings.

Behavioral archaeology significantly adds to our understanding of abandonment as a process because it distinguishes cultural objects linked in a diachronic chain of interconnected events rather than as changeless or isolated phenomena (Schiffer 1995:55). However, behavioral archaeology, as characterized by Schiffer (1995:26), is also problematic because it structures ele-



Figure 1: Zuni cultural advisors, studying the Alder Wash Ruin in southern Arizona, point out that such ancestral sites are not abandoned because, as cultural advisor Leland Kaamasee said, “the spirits are still here.” (Photograph by T. J. Ferguson)

ments as either in a systemic context (“the condition of an element which is participating in a behavioral system”) or in an archaeological context (“materials which have passed through a cultural system, and which are now the objects of investigation of archaeologists”). This dichotomy encourages researchers to deem objects as refuse and sites as abandoned, when in fact they continue to be used in the present. In Schiffer’s terms, we argue, archaeological materials and landscapes often remain in a systemic context even as they become the foci of scholarly analyses. Sites thus can simultaneously exist in archaeological and systemic context, with the distinction being one of perception, cultural values, and the way they are used by different parties.

Movement and Memory

When archaeologists write that a place has been abandoned, they may mean to say that a locale has been vacated permanently, or perhaps that a village has been left as part of a seasonal movement, or perhaps that a broader landscape has been depopulated. Researchers have noted in both mobile and sedentary populations that social spaces are often periodically left and episodically occupied—revisited and returned to even after an initial use or occupation (e.g., Matson et al. 1988). As Nelson (1999:191) has shown in the Mimbres region of southern New Mexico, the movement of ancient peoples in this arid desert

does not constitute “abandonment” so much as a “reorganization by them of their use of the landscape.” Nelson (1999:193) concludes that scholars “have given too much attention to the ‘mystery’ of leaving and not enough attention to the many ways that connections to homeland were maintained.” Nonetheless, even as archaeologists recognize such complexity, they continue to depend on “abandonment” to describe a range of human behaviors, including immigration, emigration, aggregation, and dispersal.

Hill and his colleagues (2004:708), for instance, show the complexities of population shifts in the American Southwest, observing, “demographic decline was considerably more complex and involved many of the processes associated with coalescence, including migration and aggregation.” The archaeologists go on to write that in the San Pedro Valley of southern Arizona, “after more than a century of gradual decline, the final abandonment of the valley circa 1450 was by a remnant population comprised of descendants of both local and migrant groups” (Hill et al. 2004:708). While the authors surely mean to imply the fifteenth-century San Pedro Valley residents immigrated to Pueblo communities in northern Arizona and New Mexico, and thus left the valley depopulated for a time, it is clear that Pueblo communities continued to have direct connections to southern Arizona and Mexico through trade and travel into at least the 1600s. How could the San

Pedro Valley be “abandoned” when descendants continued to use landscapes their ancestors once did? Because the authors rely on the single term of “abandonment” to describe an entangled process of habitation, immigration, depopulation, and revisitation, they are compelled to disregard the continuities of place. This critique, then, is not of the authors per se, but of “abandonment”—the term is now acceptably used to describe a range of behaviors, masking both subtle and palpable continuities.

Ritual destruction of ceremonial structures also highlights the problems of using “abandonment” to describe shifts in use at a smaller scale. In an important example, Wilshusen (1986) discusses how “protokiva” pit structures dating A.D. 860–900 in Southwestern Colorado were ritually destroyed. The two modes by which abandonment was achieved included intentional burning and collapsing the roof to bury individuals interred in the floor. While Wilshusen repeatedly describes these events as “abandonment,” the Pueblo descendants of these ancient communities would instead envision these burials and ritual structures as a vital part of a metaphysical cycle. Pueblo groups believe that human bodies, as well as ceremonial structures, pass through not in a linear path from conception to life to death, but in a cycle that ceaselessly begins anew. The spirit world, clouds, mountains, caves, lakes, hills, springs, shrines, villages, kivas, and people are all believed to be connected through movement, all imbued with life and energy. In this Pueblo outlook, all things visible and invisible, past and present, are bound by intimate relationships that create the whole of human experience (Naranjo 1995). Taking this broader anthropological view is thus significant because it frames archaeological features as part of a longer and more intricate process in which landscape features retain their cultural and spiritual significance for all time (Figure 1). It also opens up new possibilities of emic understanding, allowing scholars to better study how native peoples perceived and valued their world.

By definition, “abandonment” entails disuse, the surrender of claims and interest. However, Native Americans in the Southwest often return to ancestral places and name them in ceremonial prayers. Tohono O’odham medicine men incorporate ancient sites into rituals, making offerings at petroglyph sites (Russell 1975). Navajos have both maintained intricate stories about ancient places and in seasonal movements occasionally reused ancient Pueblo villages, placing their homes on top of ruins (Begay 2004). Some Hopi clans revisit ancestral and sacred sites during annual pilgrimages, while other clans recall ancestral landscapes through shrines and prayer feathers (Figure 2). Ruins and other ancient places are used to instruct young people about Hopi history, serving as living monuments that provide tangible proof of ancestral migration and land stewardship (Kuwanwisiwma and Ferguson 2004). Many

ancestral villages are still named, stories of them still recalled (Figure 3).

In the Pueblo belief system, shrines are used to signify sacred places, but they do not need to be visited or actively maintained. As Ellis (1994:104) writes, “shrines that have fallen out of present use remain sacred and revered, since each shrine is like a telephone receiver, whose line communicates with the supernatural switchboard even when rarely employed. Each shrine contains a sacred power to be respected and never desecrated.” Many shrines contain ritual offerings that constitute inalienable possessions that were not abandoned but left in place for instrumental purposes that still have meaning today (Mills 2004:241). Pueblo elders point out that archaeological sites also are not empty or devoid of life but occupied by the spirits of their ancestors. In this view, whole sites are like cemeteries, perceived to be physically and spiritually inhabited by deceased kin. To the Hopi, burials are vital because the spirits of the dead are involved in every ceremony, as the deceased ancestors acquire supernatural power to bring rain. The ancestors thus maintain their interest in the living and continue to help their relatives (Ferguson et al. 2001). Both the physical and spiritual remains of the ancestors provide fertility and good things that are essential to the continuance of life.

All of this is not to say that archaeologists should subscribe to these viewpoints. Rather, the point is that for many Native American communities, ancestral sites and objects are still important, an integral part of their cosmography, identity, and



Figure 2: The Hopi offerings in a shrine at the archaeological site Awat'ovi, recorded in the early 1900s by Jesse Walter Fewkes, constitute inalienable possessions that have never been abandoned but left in place for instrumental purposes. (J. Walter Fewkes, 1898, *Anthropological Expedition to Arizona in 1895*. In *Seventeenth Annual Report, Bureau of American Ethnology*, Part 2:519-742. Government Printing Office, Washington, D.C., Figure 260).

physical reality. These sites are not abandoned, because native peoples have not stopped using them, they have not conceded their interests in them, and they have not surrendered their claims. Notably, Euro-American values of burial sites are not entirely different, as many Euro-Americans do not see cemeteries as empty places without spiritual force. Even informal cemeteries carry real power for Americans, as can be seen at battlefields and memorials to the dead. The continuing attempt to retrieve the bodies of American soldiers in Vietnam—costing tax payers millions annually—further reiterates the ways in which Euro-Americans recognize the social and spiritual weight of human remains. However, Pueblo and Euro-American views do contrast sharply with notions of sacred buildings. This is most clear in the Catholic tradition, in which churches are consecrated and deconsecrated. Pueblo groups do not hold that places such as kivas can be made profane through ritual transformation.

The passage of the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 further obviates the concept of abandonment as it is now used in archaeological discourse. Under NAGPRA, federally recognized tribes retain ownership and control over certain classes of ancestral remains. The idea that these objects have been abandoned in a legal sense, at the very least, is no longer tenable. Scholars should recognize, too, that prior to NAGPRA, the conceptualization of large tracts of land as “abandoned” meant that they were available for taking by non-Indian settlers (McGuire 1992). Archaeology has, perhaps inadvertently, been used and continues to be used in a political context that challenges tribal sovereignty and impacts Indian land and water resources.

Even if archaeologists fully understand the nuances of abandonment, its continued use in the public sphere is troublesome. As witnessed with the “C-word”—Caucasoid—in the controversy over Kennewick Man, it is all too easy to miscommunicate scientific terminology to the public (Thomas 2000:114). It is the responsibility of archaeologists to ensure that the public is not misinterpreting the messages of our professional language. In the case of “abandonment,” this point is particularly salient in the Southwestern U.S., because so many national, state, and local heritage parks focus on Native American sites, asking the unanswered question, “where did the people go?” This query, used in conjunction with “abandonment,” consequently evokes the feeling that ancient peoples somehow inexplicably disappeared. Such language needlessly mystifies history while alienating native peoples from their own past. The word “abandonment” consequently has implications for land management and the ways in which nonprofessionals perceive the relationship between archaeological landscapes and native peoples. This is important to American Indians, because so many of their traditional places are now under the ownership and stewardship of non-natives. When contempo-



Figure 3: Elder and cultural advisor ValJean Joshevama holds ancestral Hopi pottery at an archaeological site in northern Arizona and explains that Hopis today maintain an interest in ancestral sites because they serve as living monuments that are tangible proof of ancestral migration and land stewardship. (Photograph by Angie Krall)

rary landowners conceive of these places as uncared for, unoccupied, unused, and given up, they have little reason to consider the perspectives and values of descendent communities.

Conclusions

The term “abandonment” is often inaccurate and imprecise in archaeological discourse because it veils a range of behaviors in the past and assumes descendent communities have relinquished their present interests and claims in ancient places. While archaeologists should be acutely aware of the political consequences of disconnecting native peoples from their past, our argument is not couched in “political correctness.” We are also not contending that archaeologists never write or speak the word “abandonment.” For example, in 1780, Spanish authorities abandoned Presidio de Santa Cruz de Terrenate, a military fort along the banks of the San Pedro River in southern Arizona. This is clearly a case of giving up use, interest, and claim, and “abandonment” is the correct term to use. Our goal instead is to encourage scholars to comprehend the colloquial, legal, and technical meanings of the term and the impli-

cations these have for decoding past and present behavior. We encourage every archaeologist to carefully think about what they mean and to employ terminology that communicates their meaning as specifically as possible. It is sound writing to convey precise meaning—and it is good scholarship to develop a professional language that accurately reflects the cultural processes of the past and present.

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NEWS & NOTES

Thomas H. Naylor Student Paper Competition. The El Paso Archaeological Society is pleased to announce the competition for Spring 2006. The winning entry will receive a cash prize of \$1,000 and publication of the paper in the *Artifact*, the journal of the El Paso Archaeological Society. The competition is only open to bona fide undergraduate and graduate students of any recognized college or university. Guidelines for Thomas H. Naylor Scholarship Paper Competition: (1) the student must be at the sophomore level or above, in good standing and with a commitment to anthropology, archaeology, history, ethnology, or a related subject; (2) deadline for submission of papers is March 1, 2006; (3) the award is given in a lump sum to the student at the beginning of the academic year; (4) the student will provide four hard copies and one computer disk (CDRW or DVD/RW) of the paper that has been entered; (5) the papers are judged on a 40-point scoring system, 10 points for correct length, 10 points for relevance, 10 points for being well written/formatted, and 10 points for original research, with winners chosen during the Scholarship Committee meeting; (6) a student that has received the scholarship award for one year may submit a new paper and again apply for the next year, following the same application procedure, but students may submit only one paper per award year; (7) in the event no suitable paper is found, the Society may withhold the award during a given year; (8) in addition to the paper submitted, all students will provide a cover letter containing name, address, phone number, and email address, and a statement of educational goals, brief history of activities, and previous research must be included. The student will also provide the name of the college now attending,

grade level, and a copy of transcripts. The winning entry will be notified on June 15, 2006.

Julian D. Hayden Student Paper Competition. The Arizona Archaeological and Historical Society is pleased to announce the 7th annual Julian D. Hayden Student Paper Competition. Named in honor of long-time AAHS luminary, Julian Dodge Hayden, the winning entry will receive a cash prize of \$500 and publication of the paper in *Kiva*, *The Journal of Southwestern Anthropology and History*. The competition is open only to bona fide undergraduate and graduate students at any recognized college or university. Coauthored papers will be accepted only if all authors are students. Subject matter may include the anthropology, archaeology, history, linguistics, and ethnology of the American Southwest and northern Mexico, or any other topic appropriate for publication in *Kiva*. Papers should be no more than 30 double-spaced, typewritten pages (approximately 8,000 words), including figures, tables, and references, and should conform to *Kiva* format. If the paper involves living human subjects, author should verify, in the paper or cover letter, that necessary permissions to publish have been obtained. Previous entries will not be considered, and all decisions of the judge are final. If no publishable papers are received, no award will be given. Judging criteria include, but are not limited to, quality of writing, degree of original research and use of original data, appropriateness of subject matter, and length. Deadline for receipt of submissions is February 15, 2006. Send four copies of the paper and proof of student status to: Julian D. Hayden Student Paper Competition, AAHS, Arizona State Museum, University of Arizona, Tucson, AZ 85721-0026. For more information, contact Homer Thiel at homer@

desert.com or see http://www.statemuseum.arizona.edu/aaahs/hayden_comp.shtml.

Bruce Graham Trigger Appointed to the Order of Canada. The Order of Canada is the centerpiece of Canada's Honour System, with membership awarded to those who exemplify the Order's Latin motto, "Desiderantes meliorem patriam," which means, "They desire a better country." Created in 1967, the Order was established to recognize a lifetime of outstanding achievement, dedication to the community, and service to Canadians and to humanity at large. Appointments are made on the recommendation of an advisory council, with the Governor General acting as the Chancellor and Principal Companion of the Order and chaired by the Chief Justice of Canada. Three different levels of membership honor people whose accomplishments vary in degree and scope: Companion (highest), Officer, and Member. Bruce Graham Trigger has been appointed to the level of Officer. Hailed as one of Canada's most distinguished anthropologists, Bruce Trigger is renowned and respected around the world for his work in history and archaeology. He is an innovative thinker whose books and publications challenge people to question widely accepted beliefs and stereotypes, such as the role of Native cultures in history. His two-volume work focusing on the Huron people and the fur trade, *The Children of Aataentsic: A History of Huron People to 1660*, is a classic in its field. The investiture ceremony took place on Friday, November 18th, 2005 at Rideau Hall in Ottawa, where he received from the Governor General the insignia of membership.



CALENDAR

APRIL 26–30

71st Annual Meeting of The Society for American Archaeology will be held in San Juan, Puerto Rico.

MAY 1–5

The 1st Annual Conference of the Association for Interpretation will be held at the Sheraton Old San Juan in San Juan, Puerto Rico. The conference, titled “Connecting People to Places Through Sustainable Heritage Tourism,” will bring together 150–200 delegates from 30–40 nations in an effort to create opportunities for professional development for attendees and establish a network for professional associations and individuals involved in heritage interpretation around the globe. Although the deadline for submittal of proposals has passed, those interested in becoming a speaker can contact Lisa Brochu, at naiprograms@aol.com. For additional information about the conference and for registration materials, please visit <http://www.interpnet.com/iwh>.

MAY 15–19

Current Archaeological Prospection Advances for Non-Destructive Investigations in the 21st Century, a National Park Service workshop on archaeological prospection techniques, will be held at the Fort Frederica National Monument, Georgia. Lodging will be at the Quality Inn Island House on St. Simons Island, Georgia. This will be the sixteenth year of the workshop dedicated to the use of geophysical, aerial photography, and other remote sensing methods as they apply to the identifica-

tion, evaluation, conservation, and protection of archaeological resources. The workshop this year will focus on the theory of operation, methodology, processing, interpretation, and hands-on use of the equipment in the field. There is a tuition charge of \$475.00. Application forms are available on the Midwest Archeological Center’s website at <http://www.cr.nps.gov/mwac/>. For further information, please contact Steven L. DeVore, Archeologist, National Park Service, Midwest Archeological Center, Federal Building, Room 474, 100 Centennial Mall North, Lincoln, Nebraska 68508-3873; tel: (402) 437-5392, ext. 141; fax: (402) 437-5098; email: steve_de_vore@nps.gov.

JUNE 18–26

The Obermann Center for Advanced Studies Research Seminar, “Comparative Archaeologies: The American Southwest (AD 900–1600) and the Iberian Peninsula (3000–1500 BC),” will be held at the University of Iowa in Iowa City, IA. Eight to ten fellows will be selected: half specializing in the Iberian Peninsula and half working in the American Southwest. Fellows will be paid a \$1,000 stipend, plus up to \$1,500 (or \$2,000 for overseas travel) to cover travel, housing, and per diem for duration of seminar. The application deadline is January 30. For more information, visit the seminar website at <http://www.uiowa.edu/obermann/comparativearchaeologies> or contact Jay Semel, Director of the Obermann Center for Advanced Studies, N134 Oakdale Hall, The University of Iowa, Iowa City, IA 52242; tel: (319) 335-4034; email: jaysemel@uiowa.edu.

JUNE 23–26

The Society of Africanist Archaeologists (SAfA) 18th Biennial Conference will be held in Calgary, Canada. The program includes a pre-conference day on June 22 that offers the options of attending a student session or going on one of two excursions. Students are encouraged to participate fully in the conference. Submissions of thematic sessions, individual papers, and poster presentations are invited. Proposals should be sent to safaconf@ucalgary.ca (please start the subject line with “Program”), or submissions can be mailed to Program Chair SAfA 2006, Department of Archaeology, University of Calgary, Calgary AB, Canada T2N 1N4; fax: +1 403 282 9567. Deadlines: Feb 1 for preliminary proposals for thematic sessions; April 1 for session, paper, and poster proposals and for conference registration. Application for travel assistance (limited to Africans resident in Africa) should reach the organizing committee as soon as possible. Website: <http://homepages.ucalgary.ca/~safaconf/SAfA/>.

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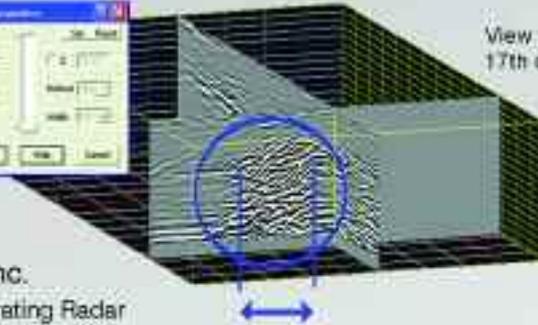
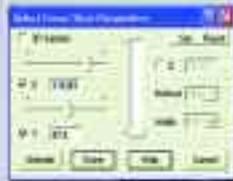


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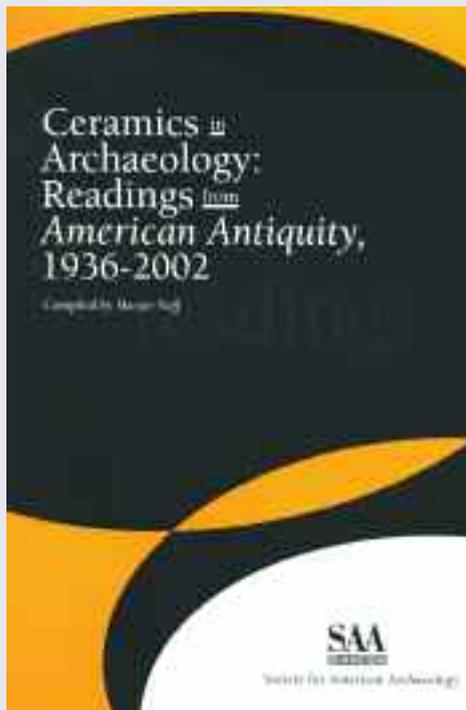
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