



the
SAA archaeological record

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the SAA Archaeological record

The Magazine of the Society for American Archaeology

Volume 2, no. 5

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Cover Photo: Overview of Square Tower House located at Mesa Verde National Park, Colorado. Photo credit: Marvin Lynchard, National Park Service.

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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.

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EDITOR'S CORNER

John Kantner

John Kantner is an assistant professor of anthropology at Georgia State University.

World Trade Center Archaeology

One of the many highlights of this issue of *The SAA Archaeological Record* is an extraordinary piece contributed by Richard Gould of Brown University. Dr. Gould and his students joined Dr. Sophia Perdikaris and her students of Brooklyn College, CUNY, to offer their services in the recovery efforts after the 9/11 terrorist attacks on the World Trade Center. The article is a moving personal narrative of the archaeologists' experiences in the weeks and months after the tragedy, but it is also a guide to other archaeologists interested in disaster recovery of any kind. If any lesson can be taken from the article, it is that archaeologists have much to offer in the wake of tragic events such as 9/11, but we have to be properly prepared so that our services will be welcome and effective. Dr. Gould encourages anyone wondering how to get proper training and form archaeological recovery teams to contact him at Richard_Gould@Brown.edu.

Ideas for Future Thematic Issues

It's hard for me to believe, but my time as editor of *The SAA Archaeological Record* is halfway over! I am therefore trying to plan for my remaining year and a half in this position, and the Associate Editors and I have tentatively identified three special thematic issues and their likely dates of publication. These are listed below.

May 2003 (April 1st deadline)

November 2003 (October 1st deadline)

March 2004 (February 1st deadline)

Efforts in Site Preservation

The State of Academic Archaeology

Archaeology of American Ethnicity

If you would like to contribute to any of these issues, please let me know as soon as possible at kantner@gsu.edu or (404) 651-1761! I also always appreciate any additional ideas you might have for the magazine.

Call for Cover Photos

In the September issue, I made an appeal for cover photos, and a handful of you have responded with some wonderful images from all over the Americas. Please keep them coming! ☺

E-tiquity . . . have you seen it?

Go to <http://e-tiquity.saa.org>

On Geophysical Survey

As an archaeologist practitioner of near-surface geophysical survey in the context of a medium-sized cultural resource management (CRM) firm, I have followed with interest the series of articles by Ambos and Larson on their work at the northern Irish site of Navan (2002, 2[1]:32–38 and 2[3]:3–4) and the response by Frederick (2002, 2[3]:3). In an attempt to “round out” the exchange for the benefit of those who have no experience with geophysical survey technology in archaeology, I would like to offer some observations.

First, near-survey geophysical survey techniques are routinely used in CRM archaeology in the United States, although the degree varies from agency to agency and state to state, generally reflecting how much experience the resource managers have had with the possible results and their access to archaeologists experienced with geophysical survey. My own work has demonstrated that the various techniques particularly enhance “Phase 2 evaluation,” the exploration of an archaeological site to determine Eligibility (2001, “Complementary Geophysical Survey Techniques: Why Two Ways Are Always Better than One,” *Southeastern Archaeology* 20[1]:31–43).

Frederick suggests that the failure to get results—to produce what he calls “successful surveys”—has slowed the widespread use of geophysical techniques in the States because, in part, of the “transient and often non-architectural remains associated with prehistoric sites, especially hunter-gatherer sites.” There are several problems with this viewpoint. For example, Frederick raises something called “success” as a measure of the survey effort. Geophysical survey techniques are no better or worse than other site-evaluation techniques, including shovel testing, test pitting, strip plowing, surface disking, and deep testing. When they are *all* viewed as techniques to gain knowledge about an

archaeological site, in which *no one technique* should be relied upon to the exclusion of all others, geophysical survey techniques become a useful tool, used where the field archaeologist feels he or she can make a significant contribution. Keep in mind that programmatic evaluation of archaeological sites in CRM generally demonstrates that most sites will not support further archaeological research. If geophysical survey results have contributed to this decision in the case of a given site, does this mean that the geophysical surveys have been unsuccessful?

Which brings me to Ambos’s and Larson’s interesting survey at Navan. Those of us who do geophysical surveys have a tendency to hit the public (and our fellow practitioners) with our most dramatic results, with colorful presentations that make your socks roll up and down. Add terms like “virtual excavation” (Ambos and Larson 2002:32) or “CAT scan archaeology” (I picked that one up from a senior archaeologist new to geophysics) and you go a long way toward marginalizing geophysical survey techniques in the everyday tool kit that we use in our field research. In short, the unwary “wannabe” who goes out and buys a geophysical rig and fails to get exciting results is liable to lose interest in his/her expensive toy. Important as the results from Navan are, they are only one, very seductive, part of the picture.

Current geophysical technology is expensive, although, as Bruce Bevan has demonstrated in National Park Service (NPS) workshops, you can get significant geophysical data on archaeological sites with homemade equipment that costs pennies. It may not produce colored “virtual” images like those of Navan, but it can be just as important in archaeological evaluation. In CRM, speaking from my own experience, it is possible to build the cost of the technology into the fees you charge, to make the technology pay for itself. My academic friends are buying into the technology

with strategic assists from their colleges and universities seeking to enhance their educational programs. This is producing some interesting programs that integrate geophysical survey into more traditional training programs, and the program run by Ambos and Larson at CSU–Long Beach would appear to be one of them.

But if the geophysical technology is viewed as simply another super tool like a total station or a laser level to equip the “complete” field program, I see problems. In fact, in my experience there is more underutilized geophysical survey equipment than there should be, buried away in tool closets and trotted out once a summer or on some special occasion. Effectively using geophysical survey techniques involves considerable immersion in data collecting and analysis. I am not suggesting that an archaeologist not make the jump into geophysical data collecting, but rather to do it after getting some idea of what is being done in archaeo-geophysics. A good place to start is the NPS workshop in near-surface geophysical techniques. For, although geophysical survey techniques may be just another technique for collecting data in the field, it takes a lot more experience to collect and interpret geophysical survey data than it does, for example, to make a controlled surface collection or dig a shovel test. The effort, however, is rewarding, even here in the States where we are cursed with all those transient hunter-gatherer sites.

R. Berle Clay
Cultural Resource Analysts, Inc.

Ambos and Larson (2002, 2[1]:32–38) provide interesting insights into combining cesium vapor magnetometry (CVM) and ground-penetrating radar (GPR). By way of contrast, my colleagues and I from EDAAW, Inc. conducted a conventional GPR sample survey on Landing Hill, a few miles south of CSU–Long Beach. This was part of a

CRM project at relatively low-density shell deposits with few features or artifacts; they were not the dense shell middens typical of coastal Southern California (Underwood, Jackson, and York, 2001, *Interim Report on Archaeological Testing and Proposed Data Recovery at Hellman Ranch, Seal Beach, California*. Submitted to the City of Seal Beach).

Landing Hill consists of an uplifted marine terrace of clays and silts with relatively shallow bedrock. It lacks naturally occurring rock, so any that showed up as a GPR anomaly was viewed as possibly cultural. The GPR survey was done during our Southern California rainy season, and it was very wet. At the time of our fieldwork, there was luxuriant growth of wet grasses and annuals over most of the terrace. We had to drive a tracked vehicle back and forth across the project area to compact the grass. GPR hates having an air space between the instrument and the ground surface. Also, GPR does not penetrate well in moist conditions.

Predictably, our results with the GPR were poor. We had two kinds of difficulties: signal penetration and interpretation. Because of the wet conditions, we obtained only 30–60 cm of signal penetration. However, since the survey area had been farmed for many decades, the upper 50 cm or so was rather homogenized by plowing. We were interested in the less-disturbed cultural materials below the plow zone, but our GPR signal would not reach down that far. Anomalies were plentiful, but at first it was difficult to discern small pockets of gravel from what we hoped might be fire-affected rock, flaked stone debris, or other cultural materials. To ground-truth some of these signals, we conducted informal excavation at several anomalies, enabling us to interpret the signals more accurately. Small amounts of gravel had evidently eroded down from a nearby oil production work area over the years, causing a distinctive “scattered” signal that we eventually learned to ignore.

No doubt, the combined CVM/GPR approach advocated by Ambos and Larson would have worked better, especially for detecting hearth features, since burning creates a strong magnetic anomaly. Still, it was an informative test that left me, at the time, with some thoughts about future GPR research: (1) Do GPR fieldwork in the dry season. (2) Assess the soil matrix of the survey area and the features you hope to find. Do not expect miracles; GPR probably will not provide the kind of signal allowing discrimination between cobbles and manos or between gravel and flakes. (3) If you cannot reasonably expect to encounter stone features, metal objects, or distinctive soil changes, it might be better to put your resources elsewhere. Our GPR investigations cost about \$20,000, roughly equivalent to 40 AMS radiocarbon dates.

Several months after our research at Landing Hill, I attended a ground-penetrating imaging radar (GPIR) presentation by Witten Technologies, Inc. Their particular system was developed in conjunction with the Electrical Power Research Institute to prevent undocumented underground utilities from inadvertent damage during construction projects. With conventional GPR, the

output consists of plots of anomalies in a plan-view projection, and interpretation can be difficult. With the GPIR, you get a three-dimensional (3D) image, which helps when interpreting the data. With post-processing, you can also get CAD or GIS 3D images of the soil column that can be rotated and manipulated.

The Witten GPIR field device consists of several radar units mounted on a small trailer, allowing a survey swath of about two meters in width. By having parallel radar signals, they get a large amount of data from the side and from ahead and behind, which facilitates the 3D imaging. They claim this allows better penetration too, some 4–5 feet in wet clay and up to 100 feet in dry sand, with an average of 5–8 feet. Using multiple radar sensors on a single carriage would have advantages over the Ambos and Larson method, and if published images are to be believed, it seems to have much greater resolution. GPR and GPIR technology has obvious merit in some archaeological research but, even with these new technologies, we should not expect miracles.

*Jackson Underwood
EDAW, Inc.*

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SAA RESPONDS TO THE KENNEWICK MAN COURT DECISION

News release from the Society for American Archaeology.

The Society for American Archaeology (SAA) is generally pleased with Friday's decision by a Federal court in the litigation concerning the 9,000-year-old remains of Kennewick Man (Bonnichsen et al. v. United States, Civil No. 96-1481JE, District of Oregon). This crucial decision not only affects the disposition and opportunities for scientific study of the 9,000-year-old remains of Kennewick Man, but will have far-reaching consequences for the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA).

The lawsuit was originally filed in 1996 by a group of prominent scientists who asked the court to prevent the U.S. Army Corps of Engineers from giving these remains to a coalition of Indian tribes for reburial. The tribes had claimed Kennewick Man's bones under NAGPRA and had asked the government to stop all scientific studies. In their lawsuit, the scientists argued that the remains were of great scientific importance. They further argued that the remains were not demonstrably Native American and their cultural affiliation could not be determined, thereby questioning the legal validity of the tribes' claim.

SAA President Robert Kelly stated that "Judge Jelderks's decision in the Kennewick case will go a long way toward restoring the balance between the interests of science and those of Native Americans that Congress mandated when it passed NAGPRA in 1990." The ruling makes clear that in order for a modern tribe to make a valid claim, it must have a shared group identity, a demonstrated "cultural affiliation," with an identifiable earlier group to which the ancient individual belonged. As SAA had argued in its *amicus curiae* brief, the court found that no such relationship has been demonstrated: "The Kennewick remains are so old, and information as to his era so limited, that it is impossible to say whether the Kennewick Man is related to the present-day Tribal Claimants" (Opinion, p. 38). For this and other reasons, the court rescinded the government's decision to give the remains to the tribes under NAGPRA, and ordered the government to allow scientific studies requested by the plaintiffs.

The central compromise of NAGPRA, strongly supported by SAA, was to provide tribes with the right to reclaim the remains of their ancestors where lineal descent or cultural affiliation

could be established but to retain human remains for scientific study where a reasonably close connection to a modern tribe could not be established. However, in the 12 years since the passage of NAGPRA, the balance between scientific and Native interests provided for in the law has been badly eroded through administrative decisions that have, in practice, distorted the statutory definition of cultural affiliation in order to accommodate the interests of Native American groups at the expense of scholars' ability to expand our knowledge of the past through study of the affected remains and objects. Judge Jelderks's opinion does nothing to undermine NAGPRA's objectives as they were intended by Congress. However, as the first significant judicial review of key legal issues, it provides an urgently needed corrective to the expansive interpretations of the Act that have been too often employed by federal agencies and museums.

The Kennewick decision will have a pervasive impact on the implementation of NAGPRA nationally because it so clearly lays out the legal requirements that must be fulfilled by claimant tribes and so carefully articulates the meaning and evidentiary demands of "cultural affiliation," upon which most NAGPRA repatriation claims rest.

In its *amicus curiae* brief, SAA also argued that the remains should be considered Native American for the purposes of NAGPRA, citing the language and intent of the statute. In this respect, SAA supported the position of the U.S. government and all the Indian tribes involved in the case. The court, however, reached a different conclusion. Its decision stated that "the term 'Native American' requires, at a minimum, a cultural relationship between remains or other cultural items and a present-day tribe, people, or culture indigenous to the United States. A thorough review of the 22,000-page administrative record does not reveal the existence of evidence from which that relationship may be established in this case" (Opinion, p. 30). SAA believes that the logic employed by the judge suggests that this aspect of the ruling will affect only extremely rare cases but it is disappointed that the judge rejected its arguments on this issue.

👉 *KENNEWICK, continued on page 6*



IN BRIEF

Tobi A. Brimsek

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

SEE YOU IN MILWAUKEE!

The 68th Annual Meeting of the Society for American Archaeology will be held in Milwaukee, Wisconsin, April 9–13, 2003. Sessions will be held in the Midwest Express Center, which is connected by skywalk to our headquarters hotel, the Hilton Milwaukee City Center. Reserve early:

HEADQUARTERS HOTEL:

Hilton Milwaukee City Center (\$124/single/double)* Reservation cut-off date: March 12, 2003. Phone: (414) 271-7250 or (800) 445-8667.

STUDENT PROPERTIES:

Ramada Inn City Centre (\$84 single-quad)** Reservation cut-off date: March 10, 2003. Phone: (414) 272-8410 and ask for Reservations.

Best Western Inn Towne Hotel (\$76 single-quad)** Reservation cut-off date March 7, 2003. Phone: (877) 484-6835 or (414) 224-8400.

**Student guests must present a current student ID upon check-in to qualify for these rooms.

For any reservations, please be sure to mention that you are

with the Society for American Archaeology/SAA group to receive these rates. Should you encounter any problems while making your reservations, please do not hesitate to contact SAA's executive director, Tobi Brimsek, email: tobi_brimsek@saa.org or tel: (202) 789-8200.

DOES SAA HAVE YOUR EMAIL ADDRESS? ARE YOU CONNECTED?

In today's fast-paced environment, email has the immediacy of a phone call without the intrusion. Many of you, 84% in fact, have told us how to keep in touch electronically. But 16% of our members are still electronically "out of touch." Please take time to make that connection. Send your email address to membership@saa.org.

Please understand that your email address is never released to others, and we use it sparingly. Let me give you an example—there are times when an interest group or a committee wants information emailed. In all cases, we do the emailing from headquarters rather than send the list to anyone. We don't spam you!

Just as important as getting connected is staying connected. About 10% of our emails to you are routinely undeliverable. Please tell us if you change. Thanks for keeping us informed. We are listening. ☺

KENNEWICK, from page 5 ↩

SAA welcomes the clarity the court's opinion will bring to how NAGPRA is interpreted. The decision sets important precedents that will balance the legitimate interests of tribes in reclaiming the remains of direct ancestors with the equally legitimate public interest in understanding the human past. Such balance was Congress's intent when NAGPRA was passed.

With nearly 7,000 members, SAA is the leading professional organization of archaeologists in the United States. For more

than a decade, the Society has led the scientific community in national discussions about the repatriation of Native American human remains and cultural items. SAA was the primary scientific organization involved in a coalition of Native American organizations, museums, and scholarly societies that pushed for NAGPRA's enactment in 1990. Since that time, SAA has closely monitored NAGPRA's implementation and has consistently provided comment on these matters to Congress, government agencies, and the courts.

The court's opinion may be found on the web at <http://www.kennewick-man.com>. ☺

LANDSCAPES TO PHYTOLITHS, THE 68TH ANNUAL MEETING IN MILWAUKEE HAS IT ALL

Kenneth E. Sassaman

Kenneth E. Sassaman is Program Chair for the 68th Annual Meeting.

After pouring through the approximately 1,400 abstracts submitted for the 68th Annual meeting in Milwaukee, I am thoroughly impressed by the breadth of our collective intellectual pursuits. Indeed, symposia and contributed papers and posters for the upcoming meeting may set a record for topical diversity. Geographical range is vast too, with many papers and sessions on the archaeology of Europe, Africa, Asia, Oceania, and South America, along with the usually large batch of presentations on Mesoamerican and North American archaeology. There truly is something for everyone at the upcoming meeting, so be sure to attend. Here is a preview of coming attractions.

Research on landscapes, sacred spaces, and monumentality is featured in eight symposia. Topics include continuity and discontinuity in the meanings of built environments; relationships between spaces of the living and the dead; the symbolic construction of place among migratory people; and the monumentality of cultural identity. Each of these sessions showcases a productive synergy between humanistic and scientific approaches to the past, underscoring the intimate relationship between anthropology and archaeology that is our shared intellectual legacy.

Many other innovative sessions caught my eye as particularly fresh or provocative. *After Collapse: The Regeneration of Complex Society* will feature case studies on the reestablishment of disintegrated states across the globe. *Woman the Toolmaker* reports the results of an ethnoarchaeological study of traditional hideworkers in Ethiopia. The theoretical constructs of "embodiment" are examined from a biological point of view in *Embodying Identity*. The ritual and bioarchaeology of human reinterment is the subject of *Secondary Burial in Eastern North America*. *Negotiating with Plants* explores the roles of plants in the construction of cultural boundaries. *Rethinking Craft Production* will consider the horizontal integration of crafters in complex society. *The Archaeology and Ancient Borderlands* explores the archaeology of geopolitical borders in cross-cultural perspective. And the analytical utility of fractal geometry is the subject of *Fractals in Archaeology*.

There are sessions on Plains earthlodges, cave archaeology,

Paleoindian, mortuary ritual, Aleut towns, resistance, ethnohistory, and a day-long symposium on phylogenetics. Rock art comes of age in four symposia. Earth sciences are featured in six symposia. At least 15 sessions feature Mesoamerican archaeology, and another 10 each showcase the latest on the American Southwest and Eastern Woodlands. The program also includes tributes to some of our greatest colleagues on the verge of retirement, as well as the Fryxell symposium in honor of George "Rip" Rapp, Jr., and an invited session to honor the late Gordon R. Willey. Retrospectives on William McKern and Walter Taylor are worth checking out.

Forums in Milwaukee include discussion of the Kennewick decision, the relevance of the Register of Professional Archaeologists, online antiquities sales, alternatives to academic careers, student involvement in national organizations, and collaboration with Native Americans. Eighteen luncheon roundtables are offered on topics ranging from oral history to the origins of agriculture, and from CRM to grant writing. And if that weren't enough, the 2003 meeting will boast one of the largest arrays of posters and poster symposia ever offered, as well as hundreds of contributed papers in general sessions covering every imaginable topic, time period, and piece of geography.

Be sure to arrive Wednesday for the opening session, *Thinking and Drinking Beer: Archaeological Perspectives*, which features a cross-cultural perspective on the production and consumption of our organization's signature beverage. And don't miss the Thursday invited session on archaeology in the Western Great Lakes region, a great prelude to the field trips offered to local archaeological attractions.

With so much to do you may be anxious about getting from session to session to catch all the great papers. Trust me, the meeting venue is far and away the easiest I've even seen to negotiate. The two floors of the convention center are carbon copies of design, with spacious rooms, broad corridors, and direct vertical access. You won't need to refer to the floor plan every time you move.

Don't miss the 2003 SAA Meeting in Milwaukee; I promise you'll find it intellectually rewarding and a great place to hang out for a few days. Now, back to work ensuring that the Maya sessions are not all scheduled for the same time. ☐



NEWS FROM THE PUBLIC EDUCATION COMMITTEE (PEC)

Beverly A. Chiarulli

Beverly A. Chiarulli is Chair of the Public Education Committee.

Since our retreat and planning session before the 2001 annual meeting in New Orleans, the Public Education Committee (PEC) has been busy with several new initiatives and projects. One of our goals has been direct outreach to teachers and other professional groups interested in using archaeology in their classrooms and programs. One part of our strategy has been to staff exhibit booths and participate in other conferences and events. The SAA has a traveling exhibit booth that is available for members to use in local and state events.

Last year, in partnership with the Project Archaeology Team and the Anasazi Research Center of the Bureau of Land Management (BLM), we staffed exhibit booths at the National Interpreters Workshop in Des Moines (Shirley Schermer) and the National Council for the Social Studies (NCSS) annual meeting in Washington, D.C. (Megg Heath, Suzanne Boles, Jeanne Moe, and Maureen Malloy). PEC members also attended or staffed exhibit tables at the Maryland (Maureen Malloy), Pennsylvania (Sarah Clark, Alicia Ebbitt), Iowa (Shirley Schermer, Lynn Alex), and Wisconsin (Bonnie Christensen) Council for the Social Studies state meetings, and the Iowa and Pennsylvania Science Teachers Association meetings. As a result of contacts made at the NCSS meeting, Maureen Malloy, SAA Manager for Public Education and Outreach, was invited to participate in a panel discussion at the Society for Historical Archaeology annual meeting. The AIA annual meeting in Philadelphia was attended by PEC members (Beverly Chiarulli, Sarah Clark, and Alicia Ebbitt) who participated in an archaeology fair held in conjunction with the meeting. In the spring, PEC members Pam Wheat and Linda Derry were part of a panel discussion at the American Association of Museums annual meeting in Dallas. Altogether, PEC members have been responsible for contacting over 7,000 nonarchaeologists throughout the country.

As coordinator of the PEC's Annual Archaeology Month contest and a BLM state archaeologist, Dan Haas worked with Maureen Malloy to create an exhibit about the Archaeology Month posters from states with large BLM landholdings. This event took place in the Department of the Interior Building in Washington, D.C. We plan to have even more activities in the coming year as part of our continuing partnership with the BLM and a new 5-year

partnership agreement the SAA recently signed with the Bureau of Reclamation. We will again have booths at the National Interpreters Workshop and the NCSS. The Reclamation funding will provide support for our Native American Educators project and for a redesign of the PEC component of the SAA website.

We've also received support from the National Park Service (Southeastern Archeological Center and the Archeology and Ethnography Program) to sponsor a workshop at the annual meeting featuring Tim Merriman, Executive Director of the National Association for Interpretation (NAI). The workshop is titled "Public Outreach to Promote Stewardship—Lessons from the 'Interpretive' Profession." SAA's first principle of archaeological ethics is "Stewardship." How do we effectively encourage this in the public? Noncaptive audiences require "an interpretive approach." Interpretation stimulates connections between the interests of the audience and the resource. Stewardship starts with these personal connections to get people to care. Communications research indicates that people remember themes but forget facts. Training scientists to facilitate these connections and to communicate thematically and effectively is the specialty of the NAI. Dr. Merriman, who is also the coauthor of the book *Personal Interpretation*, will teach this interactive 8-hour workshop customized for archaeologists (cost: \$99).

The PEC will also sponsor a second workshop, "Archaeologists as Educators: Techniques for Classroom Explorations and Public Outreach," at the annual meeting in Milwaukee. Because most archaeologists lack formal training in educational methodologies, they find themselves uncertain when facing or writing for audiences of varying ages and abilities. This workshop will fill that gap by providing basic information and training in how to use educational techniques that are specifically applicable to archaeologists. Workshop facilitators are professional educators with many years of experience who have bridged the gap between archaeology and public education. Although the workshop is presented at a basic level, more experienced archaeology outreach specialists may find it useful for refining their approaches (cost: \$29 for meeting attendees).

↪ PEC, continued on page 10



STUDENTS, MAKE YOUR MARK: STRATEGIES FOR JOURNAL PUBLISHING

Chad Gifford and Lauren Bigelow

Chad Gifford is teaching this Fall at Barnard College. He is also a co-director of the Pambamarca Archaeology Project in Ecuador.

Lauren Bigelow is a Ph.D. candidate at Northwestern University.

While it may be easy to appreciate the adage “Publish or Perish,” it is much more difficult to know how to actually publish. This article summarizes information presented at the SAA Forum “Students, Make Your Mark: Strategies for Journal Publishing,” held at the 66th Annual Meeting of the SAA in New Orleans on April 21, 2001. This informal event brought together ten editors from national and regional journals who discussed journal publishing as it relates to student professional development. The editors described their journals and participated in an extended question and answer session in which audience members raised specific issues. The goal of the Forum was to demystify the publishing process for students.

The suggestions and ideas summarized here from the Forum will be more or less relevant to you depending on your stage of research, the particular type of archaeology that you do, and the type of publication you want to prepare. The information gathered from the participant editors is presented according to the major stages involved in publishing in archaeological journals. Our hope is that this summary is rich enough in ideas to help as many students as possible in their professional development.

Know Your Journals and Their Audiences

Given the great number of archaeological journals that exist, as well as the fact that each one has particular standards and habits, it is important to step back before you begin writing to consider your options. Recognize the simple fact, for example, that commercial journals are generally more flexible and may have fluid relationships with their editorial boards. Society journals, which are accountable to the society and its constituents, are typically more careful and conservative in selecting articles for publication. Even if you already have your ideal target journal in mind, be flexible.

You may be surprised to learn that your work fits better elsewhere, that it will be easier to publish in another journal, and that more people will actually read your work in this other forum.

In looking over the universe of archaeological journals, also con-

sider the great difference between regional versus synthetic or national journals. If your topic is geographically focused and empirically heavy, consider a regional audience; if you have a comparative point to make or your topic is theoretically broad, consider the latter. In either case, read through at least the last five years of the journals you want to submit to and try to identify trends in content as well as the acceptable writing style of the recent contributors. Your submission should not deviate too far from this standard. Also try to anticipate how stiff the competition is at different journals; some journals publish annual acceptance rates.

You should also keep in mind the obvious point that different journals are better suited for different types of publications, so select a journal according to the nature of your contribution. Are you prepared to write an article with original research as well as a new theoretical pitch? Or are you more likely able to produce a research report presenting data and only some interpretation? Are you writing “comments” in response to other publications? These different types of articles will find better and worse fits at different journals. In trying to make these decisions, there is nothing wrong with contacting editors up front with inquiries about the suitability of your article to the journal in question.

Preparing Your Submission

With a specific journal in mind, you then need to prepare your article. It goes without saying that the arguments and makeup of your work should be seamless and precise. Also, you should tailor your article to fit the journal's standards and style, or its “culture.” This point is crucial. We heard repeatedly in the Forum that perhaps the worst mistake authors make is shopping the same manuscript from journal to journal. It goes without saying that you should not submit your article to two journals at once.

As for the journal's culture, consider how articles are typically organized internally in your target journal, and be sure that your article is similarly well organized. Using clear and logical headings and subheadings can help. Obviously, be concise in your writing. To this end, share your paper widely with friends and colleagues and be open to criticism; generally, these readers'

comments will anticipate your reviewers' opinions. Do not take feedback personally.

Next, you can facilitate an easier review process if you make sure that your paper has no technical problems. This means carefully studying the editorial style guidelines, including page limitations. You should produce illustrations at the highest quality possible. Next, be sure that your citations and bibliography match up and that you have caught all your spelling errors and typos. The editors recognize less-experienced writers because they overemphasize the bibliography. The point is not to show you've read everything under the sun, but to concentrate on being concise in your use of citations. In actually submitting your article, be certain to follow instructions about number of copies, electronic versions and illustrations, etc. While these suggestions seem basic enough, many editors stated that it is surprising how many submissions are incomplete.

Some questions from the audience concerned the nature of the cover letter that you should include with your submission. Clearly, one way or another, your article will speak for itself, so keep your cover letter simple. There is no reason to dwell on or hide the fact that you are a student, and you should include a history of any past attempts to publish the same or similar articles. You are welcome to include a short list of possible reviewers (or people you think should not review) as well as your most current contact information. The idea behind suggesting reviewers is simply that the journal editor may not be as familiar with your area of research as you are.

Finally, there was some discussion in this Forum about students coauthoring with senior archaeologists in hopes of getting their first publication off the ground. There are some obvious points to keep in mind in considering this option. If the content of the

article is all your own, then you should probably submit it alone. Likewise, if you have produced an excellent piece of work, then there should be no problem in getting it published as it stands. The obvious upside to coauthoring with a more experienced archaeologist is that he or she may provide you with extra support and guidance.

The Peer Review Process

Typically the readers reviewing your submission are selected according to the editor's knowledge of your topic, the suggestions from your cover letter or the editorial board, or your list of citations. Journals take different amounts of time to turn around your submission, so you can expect a response in anywhere from two to eight months. There are generally four levels of response from journals: acceptance, acceptance with revisions, revise and resubmit, and rejection. If you are asked to make revisions, be sure to closely follow the reviewer's comments. And congratulations!

Acknowledgments. The SAA Forum "Students, Make Your Mark: Strategies for Journal Publishing" was originally cosponsored by the Student Affairs and Publication Committees. We are indebted to the journal editors who roused themselves early on a Saturday morning to share their wisdom with us; they are: Patricia Fournier (*Latin American Antiquity*), William Green (*Midcontinental Journal of Archaeology*), Fokke Gerritsen (*Archaeological Dialogues*), Susan Kent (*American Antiquity*), Tim Kohler (*American Antiquity*), Lynn Meskell (*Journal of Social Archaeology*), John O'Shea (*Journal of Anthropological Archaeology*), Katharina Schreiber (*Latin American Antiquity*), Michael Smith (*Latin American Antiquity*), and Greg Waselkov (*Southeastern Archaeology*). We want to thank Katharina Schreiber in particular for sharing with us her short guidelines for publishing in archaeological journals. ☐

PEC, from page 8 ↻

I encourage all of you who are interested in public outreach or in improving your outreach skills to attend one or both of these workshops. Remember, there are teacher conferences in your state that are easy to attend and provide a great opportunity to find out what teachers want to know about archaeology. The SAA exhibit booth is available for your use for only the cost of shipping. Contact Maureen Malloy in the SAA office for details. Let me and other members of the PEC know the kind of public outreach programs you have or are organizing and let us know what you think the SAA should do to help you. ☐

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WTC ARCHAEOLOGY: WHAT WE SAW, WHAT WE LEARNED, AND WHAT WE DID ABOUT IT

Richard A. Gould

Richard A. Gould is a Professor of Anthropology at Brown University.

Immediately after 9/11/2001, there was a nationwide response by individuals and organizations to help in the rescue and recovery operations at the World Trade Center (WTC). This rush of support was overwhelming. Many of you were among the archaeologists who volunteered, following a call by Dr. Sophia Perdikaris (Assistant Professor, Anthropology & Archaeology, Brooklyn College, CUNY), and I want to commend all who came forward at a time of terrible pain and confusion to help in whatever way they could. The principal result of this initial effort was a roster of 300 trained archaeologists on the SAA website who stood ready to help—among them two small teams from Brown University and Brooklyn College. This initial effort, however, quickly became mired in what Dr. Perdikaris (Sophia from now on) called the “polite brush-off.” Agencies like the Federal Emergency Management Agency (FEMA) and the New York Police Department (NYPD) were not eager to invite archaeologists—or anyone else without an established relationship to them—to come to New York to perform relief and recovery work. The SAA roster was never activated.

On March 1, 2002, a forensic archaeology team consisting of 17 volunteers from Brown University, Brooklyn College, and the Providence (Rhode Island) Police Department arrived in New York to conduct trial excavations at the invitation of the NYC Medical Examiner’s Office. The goal of this effort was to find, record, and recover human remains of WTC victims for later identification, especially for relatives of these victims who sought a measure of emotional closure. This trial was something that should have happened months earlier, had we been able to get permission. At the time, the results appeared to be inconclusive. We now know that there were positive results that went far beyond our initial expectations and did much to overcome the feelings of loss and disappointment that surrounded those terrible days. This is my first attempt to chronicle the experiences surrounding this odyssey. Writing about this is almost as hard as experiencing it because of the extreme emotions it produces—everything from grief shared with innumerable relatives and friends of victims met on the streets of lower Manhattan, to elation and pride in the volunteers and their commitment and professionalism in the face of this disaster.

Out of all this, we have found a new role for archaeology in responding to mass-casualty disasters, and I

VOLUNTEERS PARTICIPATING IN 3/1-2/2002 RECOVERY EFFORT AT THE BARCLAY STREET PARKING LOT SITE, NY

Team Leader: Dr. Richard A. Gould

Brown University Archaeologists: Jennifer Trunzo, Paul White, Gabriel Flores, Julie Esdale, Leah Rosenmeier, Dr. Katharine Woodhouse-Beyer (Bryn Mawr College), Brian Gohacki

Brooklyn College Archaeologists: Dr. Sophia Perdikaris (Team Leader), Jennifer Borishansky, Jennifer Braun, Matthew Brown, Marianna Betti

Safety Officer: Hilliary Creely

Medical Officer: Dr. James Harper III

Providence Police: Sgt. Napoleon Brito, Detective Patricia Cornell

hope our experiences at the WTC can serve as a general guide to how we can respond effectively to similar events in the future.

The Early Days

My first visit to the World Trade Center occurred on October 6. I went without any specific expectations, but what I saw could only be described as a life-changing experience (Figure 1). Moving east of the police lines past West Broadway and out beyond Church Street, I encountered fragmented human remains along with other debris in alleyways, on top of dumpsters, and on fire escapes. Unlike the principal streets, these locations had not yet been washed or swept by the city cleanup crews. They were still covered with a layer of concrete dust mixed with other materials that included ash and small pieces of bone. The appearance and texture of this dust was like “kitty litter,” only grittier. I was at street level outside the police lines, and there were hundreds of people walking around—many clearly in distress. With this in mind, I did not attempt to examine any of the bone fragments for fear of calling attention to them. People did not recognize these bones and walked past—or, in some cases, over—them. I returned on October 7 and saw more of the same.

From October 8–13, I contacted Sophia to compare notes and learned that she had seen blood-stained papers blown over into Brooklyn. I then communicated with Terry Winter and Michael Berkowitz, Podium Managers at the New York Mayor’s Office of Emergency Management (OEM), to report what we had seen and to discuss how we could form an archaeological team to recover these remains. They were helpful and even apologetic, but they told me that Mayor Giuliani had ordered that the cleanup begin right away. They were already dispatching power-washing teams to the neighborhoods I had visited. They had no objection to our working outside “ground zero,” but they were not optimistic about our success. At no time did I encounter obstructionism from the officials, but it was clear that any recovery effort of this kind must begin quickly and not interfere with rescue operations or cleanup. People near the WTC needed to get back into their apartments and get their businesses back up as quickly as possible. What was needed, therefore, was for archaeologists to get in right away, coordinate with the “first-responders” and cleanup crews, and be able to perform archaeology at “warp speed.”

On October 28, I met with NYPD and OEM officers at their pier headquarters on W. 55th Street and delivered additional reports of our sightings. This was a difficult day, because the pier was also the assembly point for victims’ families who were being bussed to “ground zero” for the first memorial service. I spent about an hour meeting these people and realized that we were going to be faced with a terrible moral dilemma. Would these people be comforted or offended if they knew what we were attempting to do? To avoid building up expectations, I said nothing about our efforts, and as events progressed, Sophia and I avoided any statements to the press. Publicity at this stage would have been devastating.

On October 31, I sent additional reports to the OEM and NYPD but received no response. Using detailed satellite imagery of the devastated area, I was able to view debris scatters across rooftops around “ground zero,” and on November 2, Sophia and I surveyed almost 20 rooftops 7–10 blocks north of “ground zero.” We found debris, but the power-washing teams had already cleaned off the rooftops and obliterated most of the evidence. We also found a small, relatively undisturbed area next to a parking lot on Barclay Street that was later the site of our archaeological trials. Our rooftop survey and preliminary investigations at Barclay Street were done without badged authority, but we quickly attracted a crowd at the Barclay Street site and had to abandon the effort in a very short time.



Figure 1. “Ground Zero,” New York City, December 16, 2001.

In light of what we had seen, Sophia and I decided to organize a day-long workshop, "WTC Forensic Archaeology: The Search for a Role," at Brown University. I quickly raised about \$6,000 that covered the cost of the workshop and our subsequent deployment to New York. The workshop on December 15 had 37 participants, including Dr. William Belcher (U.S. Army Central Identification Laboratory, Hawaii), Gavin Donnelly (Laramie, Wyoming Police Department), and two members of the Providence Police Department forensic unit. The advice we obtained during this workshop proved invaluable, both in relation to on-site procedures and in establishing contacts with law-enforcement and emergency-services agencies. Several of the participants were colleagues from other northeastern universities (Cornell, UMass-Boston, UConn-Storrs).

Training and Deployment to New York

Shortly after the workshop, we began training. Sophia's team of four students obtained forensic training at Brooklyn College, with emphasis on the identification of human remains. The Rhode Island (RI) team obtained HAZMAT (Hazardous Materials) Awareness training with the Providence Fire Department and chain-of-custody training with the State Crime Laboratory at the University of Rhode Island (URI). I obtained additional forensic training at URI and contacted Dr. Elizabeth Laposata, the RI State Medical Examiner. On February 19, I met with Dr. Robert Shaler, the NYC Medical Examiner supervising the recovery and identification of WTC victims, to discuss his February 6 invitation to perform a trial excavation near "ground zero." Dr. Shaler and I agreed that the widely heard argument that the bodies of most WTC victims had "vaporized" was an urban myth and that a real possibility existed that many, if not most, of the victims' remains were to be found outside the boundaries of "ground zero."

We assumed that our team had the necessary archaeological expertise to perform controlled recovery of human remains, personal effects, office debris, and other relevant evidence. But we needed additional skills not normally required in field archaeology. The HAZMAT, chain-of-custody, and forensic training all proved to be necessary. One of the great lessons from this training was how important it is for student and faculty volunteers to work with local fire, police, and emergency services. The relationship that develops through joint training and deployment is priceless. One of the most positive results of this experience has been the wonderful community-based support our team received here in Rhode Island.

I revisited the Barclay Street parking lot site on February 19 and found that it was essentially intact. There were signs, however, that it had been investigated, perhaps by the FBI or NYPD. They may have found human remains, but their efforts appeared to have been superficial and focused on collecting office papers. The site surface, still covered by light-gray dust, was better protected from the cleanup than any other locality we saw. This site remained the best candidate for the proposed test of our hypothesis about human remains dispersed beyond "ground zero."

At the Barclay Street site, our teams were met on March 2 by Ralph Ristenbatt, the badged authority from the Medical Examiner's Office, and we began work at 8:30 am and continued nonstop until around 4:00 pm. The work took place within a roughly triangular area, measuring about 15 m on each side, that had a steep, 31-degree slope down to a corner bounded at its apex by brick walls and a high chain-link fence across its top.

Our first task was to remove the layer of trash covering the site at the apex of the triangle (Figure 2). Care was taken to recover materials resting on top of and in the trash, since it was covered with the



Figure 2. Team excavating Barclay St. parking lot site, March 2, 2002.

powdery gray dust seen earlier throughout the WTC area. It was bucketed and put through a 1/4-inch sieve. We then scraped down the entire surface of the site to a depth of about 6 cm and sieved the fill. At least three Brooklyn College archaeologists—all trained in forensic anthropology—manned the sieve and sorted through the debris by hand (Figure 3). They were assisted by Detective Patricia “Patti” Cornell (Providence Police), who is experienced in this type of recovery. Due to the steep slope of the site, there was only enough level ground for one sieve, but that was adequate.

The total volume of surface fill to a depth of 6 cm at the site was estimated to be 1.070 cubic meters, while the volume of surface fill that was actually excavated and sieved was approximately .937 cubic meters (90 buckets of fill). This represents 87.5 percent of the total, plus or minus 10 percent, but even a low estimate of 77.5 percent would offer a better than 95 percent level of probability that our sample was representative of the total deposits. Essentially, what this means is that we achieved a definitive sampling of the site, with the important caveat that these were mixed deposits. Only biological materials and other items that were unambiguously derived from the WTC, such as office papers and microfiche documents, were collected for the authorities. The nonbiological items were retained in custody and have been delivered to the NYPD. Shattered computers littered the site and may well have come from the WTC, but it was also possible that these items were dumped pre- or post-9/11, so they were not collected. At all times we were prepared to lay down a baseline and grid to measure and record any features or sizable items.

Ten pieces of bone were found. These were placed in an evidence bag and entered into the chain-of-custody for the Medical Examiner’s Office. The final determination, as always, is made in the forensic laboratory, but our preliminary observations were disappointing.

How should we interpret these findings? One possible explanation is that postdepositional factors such as weathering or removal by other agencies led to deterioration of the physical evidence to such an extent that it was no longer recognizable or present. An alternative explanation is that the distribution of human remains blown outward from the WTC was uneven rather than homogeneous, extending in different directions and distances from the point of collapse. The first explanation is a function of the passage of time, either due to decay or to cleanup efforts. The second explanation, while more probable, cannot be proven, but if our team had been able to conduct a rapid survey before the cleanup got underway, we could have determined the extent of the debris field from the WTC and the degree of homogeneity in the distribution of human remains. There is, of course, the third possibility that no human remains were scattered beyond the boundaries of “ground zero.” Whichever explanation applies, we were too late to perform conclusive forensic recoveries.

What Happened Next

On March 26, 2002, the *New York Daily News* published an article (“Satellite Map of Tragedy,” by Bob Port and Joe Calderone) that contained two graphics showing the GPS locations of human remains found by or reported to the NYC Fire Department (FDNY). The sites of my October 6–7 sightings appear in both graphics (the graphics are labeled “As of Nov. 30, 2001” and “As of Early March”), and the site of our March 2, 2002 excavations appears in the second (Figure 4). Whether these GPS locations resulted from my earlier reports and the Barclay Street materials we excavated is unknown, but I would like to believe that our efforts were actually noted. Whatever the source, the GPS locations provided independent confirmation that significant amounts of human remains were dispersed over wide areas of lower Manhattan outside “ground zero.” They also made the existence of such debris scatters public, precipitat-



Figure 3. Sieving team at the Barclay St. parking lot site, March 2, 2002.

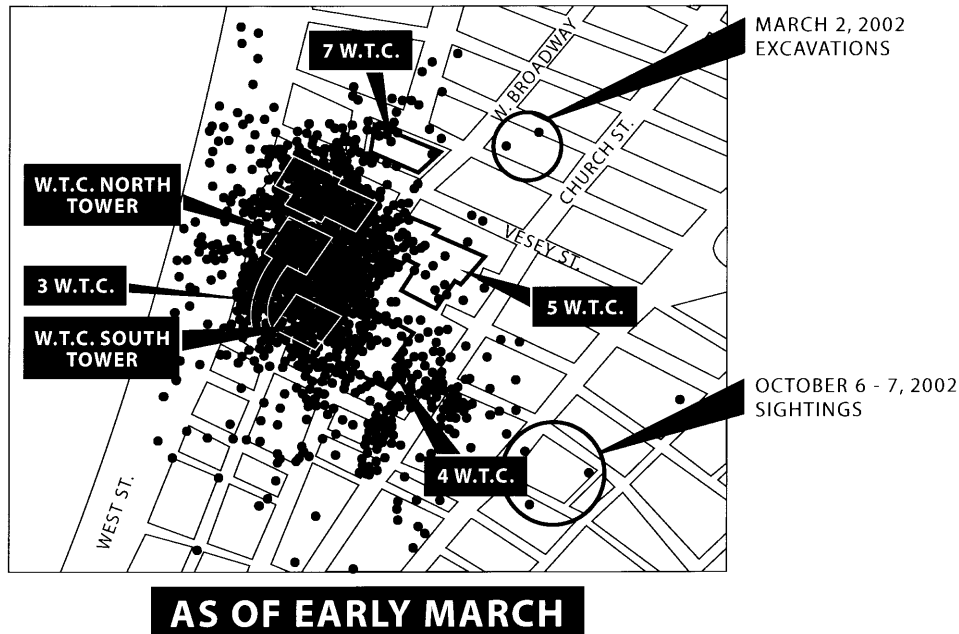


Figure 4. GPS locations of human remains reported to the NYC Fire Department as of early March, 2002.

ing a rush of inquiries by relatives of WTC victims to the FDNY and Medical Examiners Office.

This announcement was followed on June 17 by an email message to me from Dr. Shaler:

SUBJECT: AS YOU PREDICTED.

I thought you'd be interested in knowing that rescuers have been searching through other buildings near ground zero and have found some, not a lot, of body parts. In one instance, they found an almost complete shoulder. Although you guys didn't have much luck, you were certainly on the right track.

Since Dr. Shaler's message, additional human remains have been reported from rooftops in lower Manhattan, specifically from 90 West Street (*N.Y. Daily News*, Aug. 17, 2002) and 130 Liberty Street (*N.Y. Post*, Aug. 30, 2002; *N.Y. Daily News*, Aug. 30, 2002). An additional 41 bones were found recently along West Street and brought to the Medical Examiner's Office (Shaler, personal communication, September 24, 2002). These were, of course, chance finds of remains that escaped the cleanup. On Sept. 11, 2002, the total number of WTC victims verified by remains reached 1,401, or just over half the estimated number killed, with hopes that at least 2,000 will eventually be identified (*N.Y. Daily News*, Sept. 11, 2002).

Like so much of what happened at the WTC, our substantive archaeological results at Barclay Street were disappointing. For compelling personal reasons, this was almost unbearable. I found myself in a constant struggle to maintain an analytical perspective. Sgt. Napoleon "Nappy" Brito (Providence Police) and Detective Cornell pointed out that the conduct of our volunteers was impeccable and that this real-world experience was better than any simulated training. They said this was a convincing demonstration of what we could do, and they asked to deploy with us as volunteers if we were called out again. They both continue to play an active role in our training and planning for any future needs.

After an experience like this, counseling for volunteers needs to be available. We arranged with the Brown University Health Services for help, but we now have arrangements with the RI Salvation Army

for counseling with people who were also at the WTC. We also follow a simple but effective procedure to ensure that no volunteer on site ever works alone; the team is also a support group. I won't dwell on this part of our experiences, but it points to the need for support during and following recovery activities at any kind of mass-casualty event.

From an organizational point of view, our little band "won its spurs" and is now officially part of the RI Salvation Army Emergency Disaster Services under a memorandum of understanding (MOU) and a standing invitation from the RI Medical Examiners Office. What this means is that we will be badged and supported by the Salvation Army for training and deployments in Rhode Island. All the relevant authorities in Rhode Island know who we are and that we can respond quickly if anything like this happens again—including non-terrorism events like air crashes, ship disasters, or weather-related emergencies. After our return from New York, we were invited by the RI Salvation Army to stock up on safety and medical supplies for future needs. Keep in mind that most of these supplies (Tyvek suits, rubber gloves, face masks, eyewash, band-aids, etc.) get used up rapidly in the field.

I am currently seeking MOUs in adjacent states to authorize our role elsewhere in southeastern New England. Meanwhile, our volunteers have been invited to join the Region I (New England) Disaster Mortuary Operational Response Team (DMORT), a volunteer forensic recovery unit sponsored by the National Health Service, and several of us have applications under review. This will bring an archaeological component into DMORT's forensic activities and will extend our reach nationwide. I am approaching other federal agencies for help with training and to let them know who we are and what we can do. These actions help to clarify our role as archaeologists who can respond quickly, assess the situation right away, and call for reinforcements if needed. Meanwhile, I urge any of you who wish to participate to seek training from your local law-enforcement and emergency services, and let me know about your interest and any special skills you think would help us. We have shown the authorities that archaeology is not just an academic exercise or glorified treasure hunt, but that good archaeological science can address urgent human needs at critical moments. We can work quickly to recover human remains and other evidence and enter it into a valid chain-of-custody for identification, ultimately bringing a measure of comfort to relatives and friends of victims.

Our motto is: "If it's there, we'll find it!"

Some Lessons of WTC Archaeology

1. Don't rush in. We are not "first-responders." To be effective, however, we must be poised to move in quickly once the disaster areas are no longer "hot." FEMA and other relief agencies do not want us to become part of the problem.
2. Contact your local police, fire, and other emergency-service authorities for training. Even when the training does not seem relevant to your needs, it is essential to be aware of what other workers at the scene are doing. It is also important to establish good working relationships at the local level before attempting to gain acceptance at the national level.
3. Seek training in HAZMAT and chain-of-custody procedures as soon as possible if you wish to serve as a volunteer. There is plenty of other training, too, that can be useful. For example, when Sophia and I surveyed the rooftops north of "ground zero," we found that debris had blown down into vertical air shafts. I am discussing training for our team with the Providence Fire Department in "ropework and confined spaces" so that we can deal with this kind of situation. Who would have imagined before 9/11 that we would need to know this? There just isn't enough time to get training after the event.
4. Look for ways to share your expertise with teams from police/fire departments so that the training isn't just one-way. For example, since becoming acquainted with the forensic unit of our local police and the fire department's public safety divers, I have organized training sessions on mapping underwater archaeological sites, which can easily be applied to recording underwater crime/incident scenes. One of our volunteers (Douglas Anderson) will be training the forensic unit of the Providence Police in the use of the Total Station.

5. Any rapid-response team of this kind must include experienced medical and safety officers. Depending on the situation, there may also be a need for crowd control and other kinds of “backup.” Anywhere in public view, there will be a need to control public access, following standard emergency practices as defined by the circumstances of the disaster and by the controlling agency. Archaeological team activities must be consistent with those practices.

6. Be extremely cautious about giving information to the press. The effects of premature announcements can be devastating for grieving family members and will damage the team’s credibility. Have one person designated to answer public queries and media questions—and don’t volunteer information unless absolutely necessary.

Pressure from the media can be terrific. On October 6, I witnessed a confrontation at St. Pauls Chapel, close to “ground zero,” where there were memorials set up and people in mourning. A van of “photo-journalists” appeared, and these individuals rushed toward the mourners. A National Guard Sergeant intervened and pointed out a sign that asked people not to take photographs. As the photographers attempted to shove past the Sergeant, he radioed for backup and armed Guardsmen appeared and formed a cordon around the mourners. There was much shouting from the photographers about their First Amendment rights, but eventually they moved on. There were vans like this cruising continuously throughout the WTC area. Anyone doing archaeological recovery work needs to appreciate how quickly they can attract unwanted attention.

7. If you wish to organize a local volunteer forensic archaeology recovery team, seek sponsorship from a local agency you find compatible and supportive. Our experience with the Salvation Army has been extremely positive, but you will find other organizations, too, that will help if you ask. An MOU with an organization like this is essential, and MOUs with federal agencies like the FBI’s regional emergency response teams (ERTs) can be important, too.

8. Seek advice from your local Medical Examiner’s Office, and make sure they are kept informed about your activities. Remember, they are the ones who will invite your team to the scene.

9. Learn to apply your archaeological skills quickly, and be ready to adapt the methods of good archaeological science to unique and even chaotic situations. This may mean some loss of detail, but it’s essential to keep ahead of the cleanup so the evidence is recorded adequately. Since 9/11, I have been trying to find ways to apply my knowledge of archaeology to problems of controlled recovery at mass-casualty events. I urge you to think about this, too. This is still very much a work in progress, but the WTC experience has shown that we have a role if we are willing to accept it.

This has been a very brief account of what was a complex and emotionally exhausting series of encounters. It has been over a year since 9/11, and there are still many things connected with this experience that I can’t make myself write about. When I met with Dr. Shaler in February, he commented that: “This has been a learning experience for us all.” Indeed, it has been like trying to drink from a fire hose, and it still is. ☐



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TEACHING WITH “INDIE”: USING FILM AND TELEVISION TO TEACH ARCHAEOLOGY

Jane Eva Baxter

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As members of the professional archaeological community, we are keenly aware of the images of our profession portrayed in popular films and on television. The concern and interest we have in these images can be seen in the publication of a recent session of the Theoretical Archaeology Group entitled *Digging Holes in Popular Culture: Archaeology and Science Fiction* (Russell 2002) and the discussion of these images in newsletter publications and at professional conferences (e.g., Harris 2001). The depiction of archaeologists and archaeological research in film and television is a legitimate cause for concern, because these often erroneous and stereotyped images are a driving force in shaping popular perceptions of our discipline.

The fact that these images are both ubiquitous and problematic makes them a particularly effective tool for the teaching of archaeology at an undergraduate level. The pedagogical strengths of such an approach are twofold. First, film and television depictions of archaeologists are familiar to virtually every undergraduate student, and as such provide a common language for dialog and a platform for exploration in the classroom. Second, these films force students to engage with familiar images and even more familiar mediums of information in new and challenging ways, allowing them to develop their critical thinking skills while learning about the discipline of archaeology. In this brief article, I will present my own experience in developing a course entitled “Archaeology in Film and Television” and suggest ways that undergraduate educators might integrate popular film and television into their archaeology courses.

Course Development and Structure

The Archaeology in Film and Television course initially was developed as a summer course that I taught as a graduate student at the University of Michigan. Since then, I have revised the course as part of the Liberal Studies Program at DePaul University and teach the course as a “focal point seminar” to freshman students during their second quarter at DePaul. My two primary goals in developing the course were to teach students critical thinking skills and to teach students the social

context of the discipline of archaeology. Films and television programs therefore are not continually paired with a discussion of “why this isn’t like real archaeology,” but instead the course is structured to look at how different films and television episodes address important ethical and social concerns in the practice of archaeology today.

The basic course structure pairs topical book chapters and articles from scholarly journals with selected popular films and television shows. Each week the class begins with a brief introductory lecture and questions to guide the viewing of the film/TV episodes in ways that engage the week’s readings. The class views the film/TV episodes together, and the final element of the class is a student-run discussion that explores the media images and readings in relation to the week’s topic. Students then are required to combine these readings, the film or television episodes, and the class discussion into a weekly reaction paper that formulates a cohesive position statement relating to the week’s topic.

Course Content and Suggestions for Materials

The course begins with a historical perspective on the different types of archaeologists depicted in films and allows students to break down stereotyped images of archaeologists. To illustrate these stereotypes, we watch *Indiana Jones and the Last Crusade*, featuring “The Jones boys”: one a youthful adventurer, the other a romantic on a lifelong quest. An excellent source for educators to get an overview of the history of archaeology in film is David Day’s 1997 book, *A Treasure Hard to Attain: Images of Archaeology in Popular Film*. This book includes a filmography of over 200 films, ranging from early silent films to 1990s Hollywood blockbusters, that either feature archaeologists as characters or involve archaeology in the plot. This filmography is a comprehensive supplement to the few films I suggest below based on the success I have had with them in my classroom.

The next five weeks of the course focus on different issues of ethical and social concern in contemporary archaeology. This portion of the course is paired with a writing assignment in which students are asked to write a film treatment for a Holly-

wood film or television episode that features an archaeologist as a lead character. Their original film treatment must address one of the topical issues discussed in class. The topics covered are:

Week 2: "Who is an Archaeologist?: Race, Gender, Ethnicity and Archaeological Practice." Suggested films/TV: *The Relic Hunter* (1999–2002), *Tomb Raider* (2001), *The Mummy* (1999), and *The Mummy Returns* (2001).

Week 3: "Past Meets Present: Issues Surrounding Race and the Prehistoric Past." Suggested film: *One Woman or Two* (1985)

Week 4: "Archaeology and Nationalism." Suggested film: *Raiders of the Lost Ark* (1981)

Week 5: "Who Owns the Past?: Archaeologists, the Public, and Indigenous Communities." Suggested Film/TV: *Indiana Jones and the Temple of Doom* (1984), *Star Trek Voyager "Emanations"* (Season 1 Episode 9, 1995), *Walker, Texas Ranger "Tribe"* (1998), *King of the Hill "Arrowhead"* (1997)

Week 6: "Looting and the Antiquities Trade." Suggested TV: *Star Trek the Next Generation "Gambit"* (1995), *South Park "Mecha-Striesand"* (1997)

The seventh week of the course changes the focus to how fictional depictions of life in the past are used to legitimize prevailing cultural categories and social roles in our culture today. The class watches the 1981 Ringo Starr film *Caveman* and students watch episodes of *The Flintstones* as part of their homework. These popular media offerings are paired with readings on the archaeology of gender. Students assess how gender roles in contemporary culture are projected onto the past in the film/television episodes and consider how such projections use the past as a way of legitimizing and naturalizing our perceptions of gender roles in the present.

The final two weeks of the course address documentary television. Specifically, we watch archaeological documentaries made for different media outlets (PBS, History Channel, Discovery Channel, A&E, and network television). Each student is also assigned an out-of-class project where they research the marketing strategies of a particular station; a five-year history of the archaeology programming on the station; and the types of advertising, marketing, and associated programming that surrounds archaeological documentaries on their network. Each student also is required to review two different documentaries produced by their assigned station.

We focus on two themes in this segment of the course. The first integrates the students' experiences with their out-of-class projects. As a class, we spend time looking at how different television channels construct and market themselves as sources of knowledge for the public. We consider which channels are perceived to be sources of entertainment versus those geared

more toward education, and how those different messages are constructed by networks and embraced by the public. We then watch and compare archaeological documentaries made for public television, cable television, and network television. The students are then asked to draw conclusions about the relationships among station marketing, public perception, documentary style, and documentary content.

The second theme encourages students to consider how documentary films either address or ignore the social and ethical issues presented and discussed in the first portion of the class. Students enjoy this section because most have formulated well-informed and strongly held opinions, and they feel empowered in their ability to apply their knowledge to a different medium. I also encourage students to compare and contrast how these issues, and archaeology generally, are portrayed in entertainment film and television versus documentary films.

Using Film and Television in Other Archaeology Courses

It is recognized that most department curricula do not have space for a course exclusively devoted to archaeology in film and television, and most instructors do not necessarily need the entire course structure presented above. However, the pedagogical values of using popular film and television in the classroom make it worthwhile to consider adopting aspects of the course into other archaeology courses.

Popular films can be integrated into archaeological courses at all levels and which cover a wide variety of topics. For example, I have used the *Caveman* in a course on archaeology and gender and have used films such as *Black Robe* (1991) and *The Mission* (1986) in courses on the archaeology of colonial contact. The very fact that such films are fraught with inaccuracies makes them excellent tools for class discussion and gives students an opportunity to become aware of their growing knowledge. Any one of the topics used in the first seven weeks of the above course outline could be integrated into a variety of courses, offering students an opportunity to address ethical issues and social concerns in archaeology while critically considering the images of archaeology offered by Hollywood.

Documentary films are a medium already common in the archaeology classroom. Instructors traditionally have used these films to illustrate archaeological fieldwork and to give students "firsthand" experience with archaeological sites around the world. It is possible to do more with these films, even in courses with different pedagogical and topical foci. For example, in my introductory archaeology course, I use the NOVA video *Mystery of the First Americans* in my course section on the peopling of the New World. This film, produced in 2000, is an excellent illustration of current archaeological theories surrounding the peopling of the New World. The film is centered on the discovery of Kennewick Man and spends a

1/2 page ad

ARTICLE

great deal of time on the relationships between Native American communities and archaeologists. While I use the film for a lecture on the peopling of the New World, I also have the students read several articles about debates surrounding human skeletal remains and use the film as a springboard for a class discussion and an opinion paper on archaeological ethics.

In classes that use multiple documentary films, a different approach might be useful. Instructors could select videos produced by different types of media outlets to be shown throughout the course. While focusing on course content, instructors could also create a parallel course theme that looks at how different television channels construct and market themselves as sources of knowledge for the public. Such a focus does not diminish primary course objectives and adds an opportunity to teach students to think critically about media portrayals of our discipline. Students in our courses who do not pursue a career in archaeology will almost undoubtedly continue to watch television, and they may in fact find such an approach the most lingering and germane aspect of the course for their future.

Popular film and television portrayals of archaeology are problematic, but they can also be used to our advantage in the classroom. These media images provide a common basis for class discussion, challenge students to rethink their preconceptions about archaeology, and empower students to recognize their growing understanding of our discipline. Rather than keep our concerns about Hollywood's portrayal of archaeologists at a professional level, perhaps the best way we can diffuse the power of our rivals in the representation of our discipline is to invite them into the classroom. ☒

References Cited

Day, David

1997 *A Treasure Hard to Attain: Images of Archaeology in Popular Film*. Scarecrow Press, Lanham, Maryland.

Harris, Rebecca

2001 Archaeology Hollywood-style and Beyond. *The SAA Archaeological Record* 1(5):21-23.

Russell, Miles

2001 *Digging Holes in Popular Culture: Archaeology and Science Fiction*. Oxbow Books, Oxford, UK.

SEDUCING ADVENTURE TOURISTS BY DAMAGING SITES: A PERUVIAN EXAMPLE

Justin Jennings

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Over the last 20 years, a new kind of tourist has emerged. These travelers are avoiding the traditional tourist destinations like London, Paris, and Cancun and instead trekking through Nepal, visiting shamans in the Amazon Jungle, and spelunking in remote areas of Mexico. According to some observers, these vacationers are driven by a pursuit of the “authentic” and “exotic” in the far reaches of the globe. Whatever the impetus for their travels, an industry of adventure tourism has emerged to cater to the needs of these new sightseers. Tour companies’ trucks, boats, and guides have made it easier and less time-consuming for tourists to travel off the beaten path. Some areas that were once only visited by the occasional aid worker, vagabond trekker, or anthropologist are becoming inundated with waves of adventure travelers.

The engagement of archaeologists with this new face of tourism is essential. Adventure tourists are now visiting archaeological sites that only a few years ago were protected by their isolation. In some instances, the expansion of this industry has outpaced government’s ability to manage these remote cultural resources. Especially in the third world, no one is overseeing the maintenance of these sites. No one, that is, except the people who live around them. Local people, often subsistence farmers and pastoralists, are aware of the money that they can make if they are able to draw visitors into the region. They recognize the interest of outsiders in local archaeological sites, and some communities even take steps to renovate these sites to attract more adventure travelers. In some places, archaeological treasures are being damaged by ill-advised renovations. This is the case in the Cotahuasi Valley of southern Peru.

With its rim towering in parts over 3,500 meters above the river, the Cotahuasi Valley is the deepest canyon in the world (Figure 1). The landscape is spectacular with areas of sheer, 1,000-meter high cliffs; lush, spring-fed hillsides; and large, unstable talus fields. Long-occupied villages are perched on narrow ridge-tops or plateaus high on the valley’s flanks, while larger towns sit along the river bottom. Well-preserved ruins from a number of prehistoric cultures are sprinkled among agricultural terraces and ensconced atop rocky knolls. In short, the valley has great potential as a tourist attraction, and tour operators and development agencies have been quick to extol its virtues.

Cotahuasi’s potential for drawing tourists went largely unrealized for many years both because of the specter of terrorism, which haunted it until the mid-1990s, and because of its location at the terminus of a bone-jarring 14-hour bus ride from the city of Arequipa. Over the last few years, the Shining Path’s guerrilla movement has been contained, and improvements to the road have cut three hours off the travel time. Adventure travelers began to trickle into the valley in the late 1990s, and I joined this flow first in 1997 and, again, for a longer period of time in 1999. During my visits, I witnessed some of the changes that villagers and local officials made to Cotahuasi’s archaeological resources in reaction to these first tourists.



Figure 1. A view of the Cotahuasi Valley.

During my first stay in 1997, I visited the valley for a few days to see if it was a good location to conduct my dissertation research. The cousin of a woman that I met on the bus became my guide, and we climbed up to see some of the ruins. One of the sites that I visited was Tiquay Cancha Cancha. As we alternately slashed through brush with a machete and gingerly stepped around jumping cacti, I was struck by the site's rich diversity of architecture and ceramics dating from at least 1,000 years of Cotahuasi prehistory. I later decided to do my Ph.D. work in the valley and to excavate a small portion of Tiquay as part of that research. When I returned in 1999 to the site, however, things had changed. The vegetation from large parts of the site had been slashed and burned, and a foot trail bisected the site. The damage that was caused by these actions—endangering the structural stability of walls and harming or destroying surface artifacts—was minor relative to the wanton destruction of sites by looters and bulldozers. Nonetheless, considerable archaeological data were lost or jeopardized. When I asked the members of the local community who was responsible for these changes, they claimed responsibility. When I asked why they did it, they told me they wanted to bring in more tourists like me.

The misguided renovation of Tiquay is not an isolated phenomenon. Throughout the valley, villagers have taken steps over the last couple of years to prepare their ruins for the anticipated tourist invasion. At Cahuana, for example, local people have cleared away the central sector of the site (Figure 2). They also took renovation a step further than people living around Tiquay by beginning to rebuild structures using surrounding "wall fall." In some cases, these reconstructions depart radically from the building's preserved foundations. The *piece de resistance* of their efforts consists of two diverging serpents cut into the earth that fan out from a prominent rock outcrop. At Maulkallacta, a former Inca administrative center, buildings are also being renovated. The mayor of the nearby town of Puica is so enthusiastic about the idea of bringing tourists to the site that he is soliciting funds and engineering help to build a road up to the ruins.

Across Peru, communities are justifiably seeking ways to market their prehistory to tourists. The experi-



Figure 2: Renovated sections of the site of Cahuana taken from above.

ences of some archaeologists suggest that in a few cases these efforts threaten to create consequences similar to those that are occurring in the Cotahuasi Valley. In one example, the success of government reconstructions at the Nasca cemetery of Chaucilla has spurred other local landowners to consider how to make their nearby archaeological resources into tourist hot spots (Christina Conlee, personal communication, 2002). In another example, local communities in remote areas of the Vilcabamba region are beginning to clear jungle vegetation from ruins in order to attract tourists. Held together for centuries by this living growth, the walls of these ruins quickly crumble when this vegetation dies (Vince Lee, personal communication, 2002).

The United Nations has designated 2002 as the International Year of Eco-Tourism. This year is a time to review the industry's social, economic, and environmental impacts on the world. One of the major issues under consideration is the effect of adventure tourism on previously isolated regions. As archaeologists, many of us find ourselves in places where few other travelers have come before. Whether we like it or not, local people often consider us to be a kind of tourist or at the very least as someone who reflects the desires of Western sightseers. By our frequent visits to and questions about ruins and artifacts, we are in no small way helping to stimulate both the local interest in archaeological sites as well as the subsequent actions taken to renovate them. In this Year of Eco-Tourism, we should become better aware of the long-term impact of our fieldwork.

Adventure tourism does not seem to be a passing fad—more travelers will come to see isolated ruins, and locals will continue to spruce the sites up for them. We have a responsibility to work closely with local communities, provincial governments, and tourist agencies to find low cost, sustainable ways of developing these sites for tourism without destroying them. In Cotahuasi, I have begun working more closely with local leaders and tour guides to implement a plan to protect the valley's archaeological resources. To preserve these places for generations to come, however, much more work remains to be done. ☐



THE ROLE OF CULTURAL RESOURCES IN THE GREEN DEBATE—FIT FOR MAN AND BEAST

Meghan Sittler

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Many environmentalists, in accordance with the belief that humans are separate from their environment, see the “best environment” as one that is untouched by humans and therefore in ultimate pristine condition (Dryzek 1997; Shabecoff 2000). Arguably, this type of environment does not exist and has not existed since the evolution of modern humans. Appropriate environmental decision-making is reliant upon two key points as described by Charles Redman (1999). First, “there is no absolute when referring to the natural environment.” Because of the constant change undergone by the environment through long-term processes, natural cycles, and continual evolutionary change of all species comprising an ecosystem, a “natural” environment can never and has never been definitively described. Humans as members of dynamic ecosystems have a necessary, natural, and traditional role in altering every environment, and therefore most environments have developed under pressures created by human societies. Second, as Redman (1999) stated and Press (1994) echoed, it is the values and goals of these cultures that define the “ideal or best environment.”

The “Green Debate,” as the environmental discourse has been coined throughout its development since the 1960s, has been centered on issues surrounding unnatural and natural ecosystems. The separation of humans from their ecosystems and the resulting inability to see human impacts and understand the role of humans as a member-species in natural systems led to environmental degradation such as pollution, deforestation, ozone depletion, accelerated extinctions of flora and fauna, as well as overpopulation and adverse health conditions for humans. It was the enlightenment, by scientists such as Rachel Carson, to the harmful impacts certain human behaviors and technological advances were having on the environment that led to the environmental movement and the continued “green” discourse today (Dryzek 1997; Worster 1994).

Out of this social, political, and scientific movement have come regulatory policies and legislation such as the National Environmental Policy Act of 1969 (NEPA); the Endangered Species Act of 1973 (ESA); various amendments to the clean air and water acts; and the designation of national parks, wilderness

areas, wild and scenic rivers, forests, monuments, and reserves. Arguably, all of these acts were drafted according to the view that humans are separate or distinct from their environment and therefore present or past human impact on the environment is thought unnatural and correspondingly undeserving of protection and management. Admittedly, society and our technological advances have caused degradation of the environment, but these are the result of humans not recognizing their role as components of natural ecosystems. Human society must see itself as a natural resource to allow for the conservation and preservation of all biotic and abiotic components of the greater ecosystem so that appropriate legislation mandating the protection of natural systems can be developed.

Archaeologists are afforded the unique opportunity to provide the scientific and cultural link between humans and their environment. Beginning with the American Antiquities Act of 1906 and extending through subsequent public laws such as the Reservoir Salvage Act of 1960, the National Historic Preservation Act of 1966, the Archeological and Historic Preservation Act of 1974, and the Archeological Resources Protection Act of 1979, cultural resources have been given legislative credence. Many of these laws were drafted alongside environmental legislation developed during the growth of the discipline of ecology and the “green movement” (Worster 1994). The confluence of preliminary environmental legislation and cultural resource policy was the drafting of NEPA; the intersecting nature of cultural resource and environmental policy is mirrored in various language parallels found particularly in the National Historic Preservation Act of 1966 (NHPA) and the Endangered Species Act of 1973.

Language Parallels

The language of cultural resource policy is sound, but in enforcement, interpretation, and public understanding or acceptance, it is almost completely subjective and malleable. As mentioned above, NHPA and the subsequent preservation and protection acts are similar in language and structure to laws such as the Endangered Species Act of 1973 (ESA), which provides for the protection of species whose existence is threatened

or endangered. Section 2(5) of ESA declares that one of the major findings of the legislation is that

to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants.

The language of NHPA and other cultural resource law is written with the same intent as the above clause of the ESA; the only difference is in the focus of interest. For example, the National Historic Register, established under the NHPA, can be seen as the cultural parallel to the Threatened and Endangered Species List that is provided for under Section 4 of ESA; historic structures and prehistoric sites are in danger of destruction as a product of construction and development and other natural processes, and, like fish, wildlife, and plant species, they are nonrenewable.

The ESA, while not always extensively enforced, is generally adhered to with greater regularity and more strictly enforced than any of the cultural resource laws. However, because it too is subject to interpretation by various agency and departmental heads, the ESA can be classified as a procedural protectorate, as can the NHPA and NEPA. The greater salience of the ESA's purpose, focus, and importance to the general public is most likely the factor that allows it to be enforced with more regularity than its cultural resource counterparts. Simply stated, public policy is driven by the public and therefore is only as strong as the public's understanding of its necessity in society.

Archaeologists not only need to seize the legislative opportunities to properly conserve and manage cultural resources, but, more importantly, they must continue to improve the saliency of the human dimensions of ecosystems and their relevance to important environmental and social issues today and in the future. This can be accomplished by building on current public involvement and education campaigns. Archaeologists and cultural resource managers should continue to include natural resources and cultural links to the greater ecosystem in the scope of their research rather than solely emphasizing material culture.

Ultimately, the United States needs to adopt an environmental mandate to provide for the protection and conservation of our renewable and nonrenewable resources, including endangered species and cultural resources, under the same constitutional guideline. Adapting the fundamental law of the nation to include environmental rights and ethics as intrinsic civil rights requires the acceptance of these rights by the general public. Scientists informing the public of the goal and necessity of their

project can catalyze public thought to recognize the holistic nature of ecosystems and their extraordinary value. Collaborative management regimes are currently gaining ground in ecosystem management, and they more actively include the local public, a wide spectrum of scientists, and agency representatives in resource management decisions than does the traditional public meeting format mandated by NEPA. These new approaches should not be feared by scientists but rather can be utilized to increase the public understanding of the importance of natural resource issues (Lee 1993; Daniels and Walker 2000; Yaffee 1996). Publicizing science in a consumer-friendly manner and involving the public in resource management decisions, while arguably time-consuming and costly (although not more than presently expended), does not cheapen or discredit science; rather, it adds value.

Seizing this unique relationship that cultural resources legislation has with environmental legislation and its corresponding place within the "green debate" can only benefit the discipline, the public, and the resource management issues of today and tomorrow. ☐

References Cited

- Daniels, Steven E., and Gregg B. Walker
2001 *Working Through Environmental Conflict: the Collaborative Learning Approach*. Praeger, Westport, Connecticut.
- Dryzek, John A.
1997 *The Politics of the Earth*. Oxford University Press, Oxford.
- Lee, Kai N.
1993 *Compass and Gyroscope: Integrating Science and Politics for the Environment*. Island Press, Washington, D.C.
- Press, Daniel
1994 *Democratic Dilemmas in the Age of Ecology*. Duke University Press, Durham, North Carolina.
- Redman, Charles L.
1999 *Human Impact on Ancient Environments*. University of Arizona Press, Tucson.
- Shabecoff, Phillip
2000 *Earth Rising: Environmentalism in the 21st Century*. Island Press, Washington, D.C.
- Worster, Donald
1994 *Nature's Economy: A History of Ecological Ideas*. Cambridge University Press, Cambridge.
- Yaffee, Steven L.
1995 "Ecosystem Management in Practice: The Importance of Human Institutions." *Ecological Applications* 6:724-727.

ARCHNET

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ArchNet, the WWW Virtual Library of Archaeology, originated at the University of Connecticut in 1993 and is approaching completion of its first decade on the Internet. The ArchNet website is designed to promote appreciation, understanding, and knowledge about archaeology and the preservation and interpretation of cultural resources, both prehistoric and historic. It is a virtual library of web links and is a free educational service. In 2001, ArchNet was transferred to its new home at the Archaeological Research Institute (ARI) at the Arizona State University in Tempe. The new URL for ArchNet is <http://archnet.asu.edu>, and we suggest if you have an existing web link or bookmark, this would be a good time to update it.

ArchNet was created by cofounders Jonathan Lizee and Tom Plunkett at the University of Connecticut in November 1993 and quickly gained international attention as a central archaeological web resource for teachers, students, the general public, and professionals alike. ArchNet has become known for its well-organized content and ease of navigation and serves as a jumping off point for research on a variety of topics. The website quickly gained national attention and was mentioned in *The Road Ahead*, the 1995 book by Bill Gates describing his vision of the "information superhighway."

Since its inception, ArchNet grew through the volunteer efforts of the cofounders. A few years ago, Jonathan Lizee and Tom Plunkett moved to other institutions and began looking for a new host for ArchNet who would continue its educational, noncommercial mission. In the spring of 2001, ArchNet migrated to ARI, which is a research unit of the Department of Anthropology at Arizona State University. (The ARI website [<http://archaeology.asu.edu>] had been featured as "ArchNet Site of the Month" in March 1997.)

Initially, the ArchNet content focused on Connecticut and East Coast archaeology. The content soon expanded to include topical and regional resources from around the world. ArchNet has long been used by teachers and students and for educational activities from grade school through college levels. We now also encourage additional development of ArchNet resources and use by graduate students and professionals. The explosion of archaeological listings on the World Wide Web since 1993 has had enormous impact on the amount of information available for ArchNet registration. Consequently, new categories have been added, such as Underwater Archaeology, Rock Art, and lists of Bibliographic References, and we have also added Archaeological Conference Listings. Content has been expanded in every section.

The ArchNet Audience

ArchNet received nearly one million hits during the last year. To provide an example of current ArchNet usage and the distribution of its audience, we compiled user statistics from January through July 2002. The number of hits per day averaged 11,879.5, and has peaked as high as 22,000. The average number of actual users per day is 1,530, each delivering several site hits.

Usage statistics were also compiled using the domain name extension; for example, ".com" and ".net" may originate from anywhere in the world and actually constitute the largest number (60%) of ArchNet users. However, some countries and organizations have extensions that are more specific and allow us to geographically map the ArchNet audience; for example: ".sg" for Singapore, or ".mx" for Mexico.

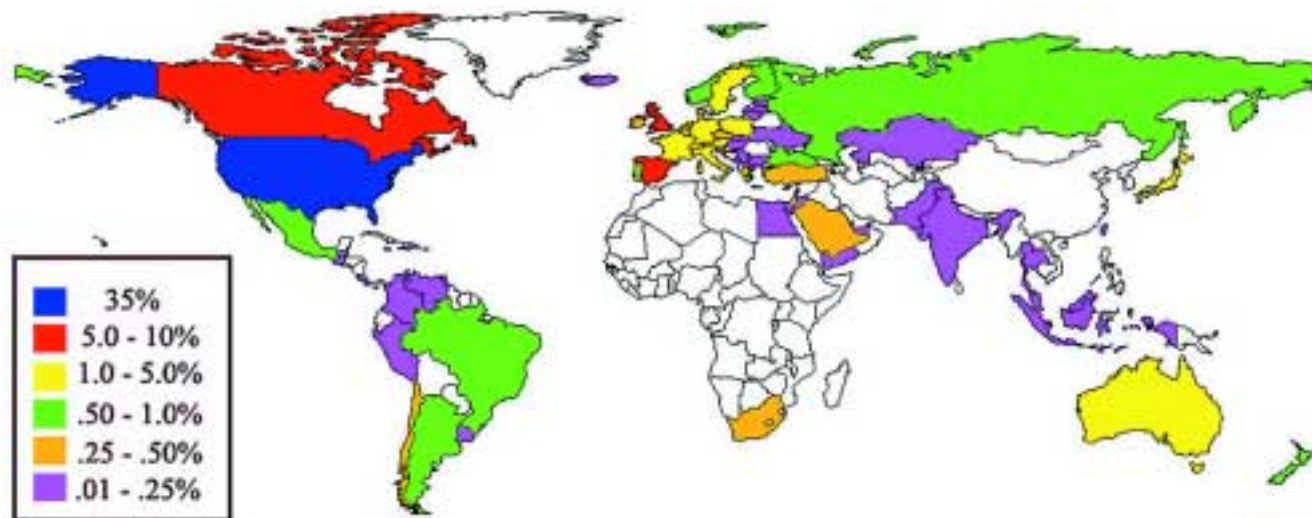


Figure 1. ArchNet use mapped by geographic area. GIS map by Julien Riel-Salvatore.

Based on these domain name extensions, ArchNet is accessed by users from 75 countries representing all parts of the globe (Figure 1). Although ArchNet is most popular in English-speaking countries, it has an increasing international audience (Figure 2).

Public Outreach

ArchNet continues to be a major public outreach portal for archaeology. The ArchNet staff receives frequent, and sometimes entertaining, email questions from users. Some are looking for links to field opportunities, avocational societies, or college selection. Others may say, "I want information regarding archaeology" or "How does archaeology relate to math?" Some are about an object, such as, "Hello, I have recently found an Aztec god in my father's belongings. . . ." or perhaps wanting a crossword puzzle answer, "Inhabitant of one of the vast steppes in northern South America. Seven letters, 'L _ A _ E _ O'. Do you have any clues?" or "I'm looking for something on lost continents like Atlantis."

To respond to the many inquiries from ArchNet users, we have improved access to ArchNet documentation relating to the mission statement, editorial policies, and navigation. There are links to Listservs, book and journal publishers, and general answers to archaeological questions. Several FAQs have been written in response to the most commonly asked questions received from readers. ArchNet receives email from a large number of grade school and high school students inquiring about the specifics of an archaeological career. We have created a general FAQ to answer a whole suite of these questions and provide links to other resources.

Some topics and resource sections have been greatly expanded in recent years, such as "virtual" archaeology pages, archaeological site tours, and simulated excavations. The new registration form allows registrants to identify their websites for younger audiences (K-12), and the new Educational & Research Resources section provides lists of websites for teachers, including those suitable for classroom use. Two popular educational websites for children include a guided tour by a friendly cow that speaks in puns and guides students through a virtual survey and site excavation of the Reed farmstead (<http://www.kidsdigreed.com>); and the Maya Adventure presented by the Science Museum of Minnesota, which includes images from the museum's anthropological collections and activities developed by the museum's education division (<http://www.sci.mus.mn.us/sln/ma/index.html>).

The ArchNet Working Group

Originally, ArchNet was written in HTML and new web links were added manually to the content.

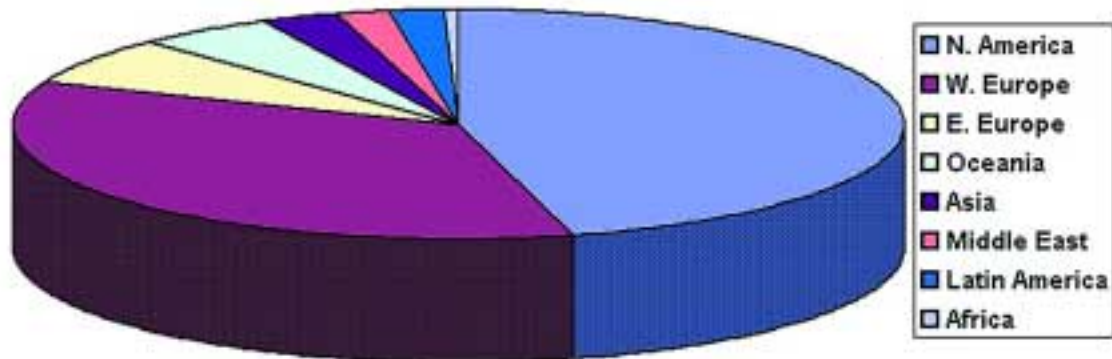


Figure 2. ArchNet audience by geographic region, in descending order by relative frequency. Chart by Destiny Crider.

Along with the Internet, ArchNet expanded over the last decade and manual updates and maintenance have become quite time-consuming. When ArchNet was transferred to ARI, the first few months of effort focused on integrating some 900 unregistered sites and verifying the thousands of existing links. At the same time, our staff began an analysis of the structure, content, and usage. From this have emerged plans to automate website maintenance, implement online registration, and expand content while maintaining ease of navigation. Given the current size of the website and its future growth, the ArchNet staff decided that it was inefficient to continue the manual strategy for validating and cross-indexing the thousands of existing and new links.

The ArchNet Working Group was established at ARI to discuss improvements to the website while maintaining the original mission. Topics include the server environment and security, ease of access and search capabilities, and the development of a database structure for the content. The goal is to identify long-term developments for the site. Arleyn Simon, Curator of ARI, is the director of the ArchNet project. James Ames, ARI System Administrator, provides network and administrative support, as well as consulting on programming options. Destiny Crider, ARI staff, is the web administrator, designer, and content manager. Alanna Ossa, ARI staff, develops relational database programs and query scripts for ArchNet. Joseph Urban, professor of Computer Science at ASU, provides interdisciplinary consultation. Chandrashekar “Shekar” Ningegowda, ASU Computer Science MS, developed an algorithm to automatically detect broken links and notify the ArchNet web administrator. Other ARI staff have assisted ArchNet: Julien Riel-Salvatore has updated the French, Italian, and Spanish language web links and European web page; Joshua Watts has helped develop many of the FAQs and also answered individual queries from users; and Gerardo Aldana gave useful insights into navigation, user accessibility, and design issues.

ArchNet Reorganization and Automation

The ArchNet Server environment (Figure 3) provides infrastructure that takes advantage of the full capabilities for Internet services to provide instantaneous data to world. The computers are networked for flexibility and accessibility. Although the first stage of reorganization is focused on development of the relational database for automated data access, the structure is there for expanded web capabilities, which can support advanced graphics and other applications.

To handle site growth and maintenance efficiently, we have developed and are implementing a program for automation of the site registration process, the beta version of which goes online in September of 2002. This highly detailed registration form provides the registrant a greater

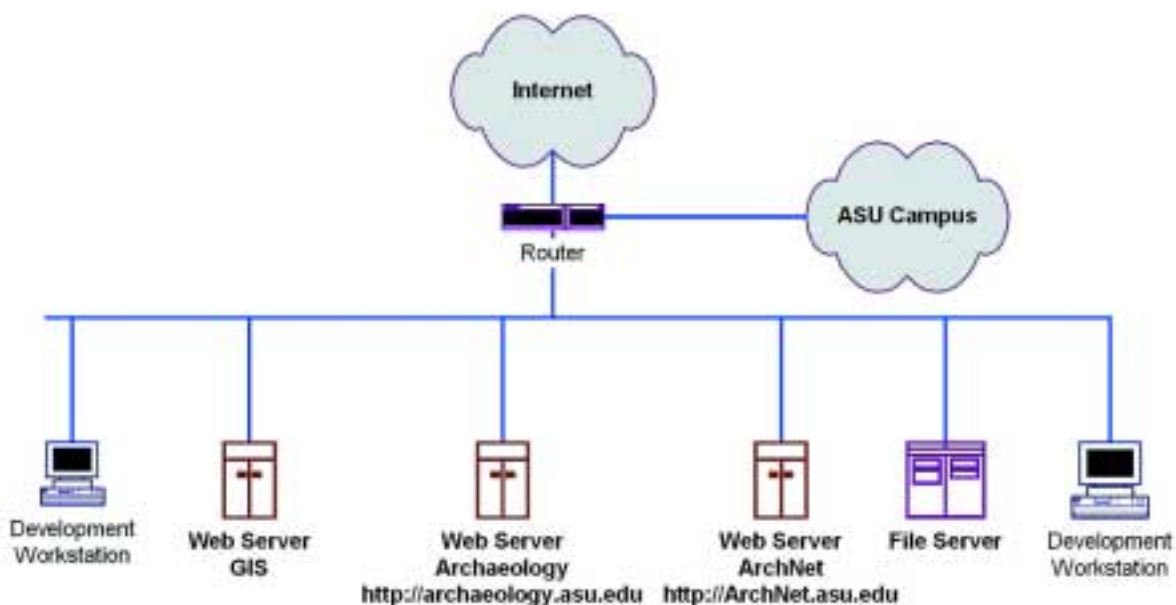


Figure 3. Schematic of the ArchNet server environment at ARI on the campus of ASU. Drawing by James Ames.

number of categories and cross-indexing for their website. The registration form feeds all of the website information into a relational database developed through MySQL (<http://www.mysql.com>) and PHP (<http://www.php.net>) scripting, both of which are open source and cross-platform. The ArchNet relational database will also improve performance, capabilities, and presentation, as well as enhance the query process. The new structure makes it easy for the professional researcher to locate resource materials (including links to conferences and professional papers, professional site reports, maps, catalog collections, and online data) and for educators and the public to find topics of interest.

The automated ArchNet registration form and website will be beta-tested in September 2002; look for this link on the main ArchNet page. In the beta test, we will populate the database with existing web links and test the usability of the Subject, Regional, and Resource categories. An online feedback form will allow users to comment on the navigation, categories, delivery speed, and the overall design. The SAA members are our most specialized audience, and we value their input and insights, which will be useful for website improvement.

We plan to maintain the current version of ArchNet until all areas of registration and database automation have been tested and streamlined. Only at that point will there be a complete conversion to the new automated ArchNet system. The conversion process will provide a certain degree of continuity with the original ArchNet. However, there will be some structural reorganization to improve navigation and search capabilities; consequently, some user bookmarks may need to be updated at that time.

Conclusion

As ArchNet makes the transition into its second decade of activity on the Internet, we invite you to drop by and test out the ever-growing content and evolving design and organization of the website. ArchNet encourages the development of online exhibits, virtual museums, archaeological reports, digital catalogs and libraries, and educational materials. The continued success of ArchNet depends upon the content developed by you, the community of archaeological experts. We encourage you to register your archaeology website with ArchNet, so that the link will be listed among other similar resources and readily accessible to international users. ☺

WIRELESS NETWORKED DEVICES IN FIELD ARCHAEOLOGY

Ethan Watrall and Staffan Peterson

Ethan Watrall and Staffan Peterson are Ph.D. Candidates in the Department of Anthropology at Indiana University, Bloomington. Mr. Watrall is also a Research Associate at the Glenn A. Black Laboratory of Archaeology, where Mr. Peterson is a Prehistory Research Fellow.

One of the primary reasons for the growth and attractiveness of wireless computing is that it can supplant cables between devices, thereby allowing them to freely roam in space. Combining wireless communications with portable, inexpensive, lightweight hardware such as mobile phones or personal digital assistants (PDA), as well as with location-awareness capability from Global Positioning System (GPS) technology, yields a powerful, mobile platform that can easily be integrated with other prominently used technologies such as Geographic Information Systems (GIS). While the possibilities for the implementation of wireless networking technology in archaeology are quite endless, one could easily posit several practical scenarios.

Wireless networking could permit archaeologists without direct access to wired network access to upload real-time progress reports to their lab, including field notes, photos, maps, database entries, and transit data. Back at the lab, support staff might map the surface collection using a desktop GIS and merge new data into the database. Photos and text could be uploaded to the excavation website. Off-site investigators could make a decision to adjust the excavation strategy, and the next morning, digital maps could be downloaded by the field crew, with artifact distributions, topo lines, and instructions ready for that day's work. In this way, the analytical phase of an investigation could be more tightly integrated with the discovery phase, an important methodological development for archaeology.

Wireless technology could also greatly aid in the public-education component of a large archaeological project. As the World Wide Web increasingly becomes a suitable medium for the dissemination of publicly consumed archaeological information, archaeologists could develop a system in which mobile devices are used in conjunction with database-driven technology to facilitate real-time publication. Handheld PDAs could be employed to collect both data and site reports in the field. That data could then be uploaded directly to a database on a server using wireless technology that would automatically generate web pages for public consumption using a back-end database-driven technology such as Active Server Pages, ASP.NET, Cold Fusion, PHP, or JSP.

The purpose of the brief discussion that follows is to provide an introduction to some of the more pertinent issues that need to be considered in attempts to integrate wireless networking technology into an archaeological project. It is not intended to offer complete coverage of all the issues that should be considered, but instead should be used as a springboard for archaeologists interested in the subject. It is also important to remember that, given the highly dynamic nature of the wireless networking industry, many of the issues discussed here are in a constant state of flux. We have attempted to provide a picture that is both representative of the technology today and somewhat forward-looking.

Wireless Networking Technology

In recent years, wireless networking technology has developed at a rapid pace. And, as with most embryonic technologies, a variety of networking standards have emerged. These include Wireless Wide Area Network (WWAN), Wireless Local Area Network (WLAN), and Wireless Personal Area Network

(WPAN), all of which are optimized for different purposes and in different (but sometimes overlapping) domains. The very notion of standards implies that these technologies have enjoyed widespread use and acceptance. A discussion of archaeologically oriented implementation of wireless technology requires an understanding of the benefits and limitations for each.

NETWORKING TECHNOLOGIES IN DEPTH

Wireless Wide Area Networks (WWAN) are used primarily in cell phone-based communication. While the current generation of cell phones is optimized primarily for voice transmission, through WWAN they can also accommodate some level of data transmission. However, the next generation (“3G”) cell phones, which are currently only seriously implemented by Verizon, will have a far higher rate of data transfer, making them far more suitable as integrated data-management and data-manipulation platforms. Given the potential range and speed of this technology, it is one to watch for increased applicability to archaeological fieldwork.

Wireless Local Area Networks (WLAN) have an effective data transmission range of up to 100 meters and more in open-air settings. WiFi 802.11a (or IEEE 802.11b) and the forthcoming 802.11g and HiperLan2 are all WLAN-based, high-bandwidth, medium-range wireless networking standards. In the United States, only WiFi has been effectively put into practice. The technology itself is relatively costly, but the price is coming down rapidly. While WiFi operates on a 2.4-GHz broadcast frequency—the same used for mobile and cell phones (and microwave ovens)—HiperLAN2, 802.11a, and 802.11g will ultimately operate in the 5-GHz range, thereby increasing the data transfer rate (but not range) of many WLAN-enabled mobile devices.

Bluetooth and HomeRF (or 802.11 FHSS) are versions of Wireless Personal Area Network (WPAN) technologies. Both employ short-range radio frequencies (effective to about 10 meters) to connect electronic devices such as mobile phones, digital cameras, PCs, and PDAs. WPAN technologies primarily are meant to eliminate the use of device cables. Of these, Bluetooth is optimized for seamless recognition of other devices, but not direct connection to the Internet, and it enables communication between devices at less than 1 MBps. HomeRF, on the other hand, fits somewhere between Bluetooth and WiFi in terms of range and data transfer rate/capacity, but survival for any of these technologies in the marketplace is an open question. IrDA is yet another type of WPAN technology. It employs infrared light in line-of-sight settings only and is currently found in many laptops, cell phones, and PDAs.

NETWORKING HARDWARE

Wireless network technologies rely on standard-specific hardware that delivers data rates ranging from quite low to almost as high as Ethernet. Beyond speed, the basic concerns with hardware are cost, size, and power consumption, each of which have major implications for archaeological implementation. Devices with higher ranges and data speeds use more power, which may not be easy to come by in some fieldwork settings. The short-range technologies such as Bluetooth typically impose small energy demands but also have lower data-transfer rates. Figure 1 compares attributes of the various standards and the types of hardware for which they are designed.

Understanding Wireless Protocols

A protocol is a specific set of rules, procedures, or conventions relating to the format and timing of data transmission between two computer systems. For the most part, protocols for data communication cover such things as framing, error handling, transparency, and line control. When two computers initiate a data-transfer session, they follow a protocol that has been predefined in order to provide the necessary structure for the exchange. It is important to recognize that for two systems to understand each other, they must be employing the same protocol—of which there are many.

Wireless Area Protocol (WAP) was designed specifically for wireless computing. It was built to accommodate the unique and fundamental limitations of wireless devices (primarily mobile and cell phones), including limited processing power and memory, limited battery life and power, limited bandwidth and connection speed, limited data-input and user-interaction capabilities, and small displays. Wireless

NETWORKS

General Standard	Specific Standard	Frequency	Peak data Rate	Range	Power load	Data Type	Applications	Relative Cost	More Information
WWAN	GSM, TDMA, CDMA, and others 3G (Third Generation Cellular)			kilometers	high	data, voice	cellular phones	higher	
				<1 km	high	data, voice, video			
WLAN	802.11b WiFi	2.4 GHz	11 Mbps	100 m (300 m open air)	medium	data	servers, desktop computers, and notebook computers	moderate	http://www.wirelessethernet.com
	802.11a	5 GHz	54 Mbps	20 m	medium	data			
	802.11g	5 GHz	20 Mbps		medium				
	HiperLAN2 (European)	5 GHz	54 Mbps		medium	data, voice, video			
WPAN	Bluetooth 1.1	2.4 GHz	<1 Mbps	10 m	low	data, voice	small personal devices	low	http://www.bluetooth.com
	HomeRF 2.0	2.4 GHz	10 Mbps	50 m	low	data, voice			http://www.homerf.org
	IrDA	infrared light (850nm)	4-16 Mbps	(30 deg. cone, Line of sight)	low	data, voice			http://www.irda.org

Figure 1. Attributes of the various wireless networking standards.

devices that employ WAP connect to a server and retrieve and send data in much the same way that a web browser connects to a web server using HTTP (Hyper Text Transfer Protocol). In fact, one of the most exciting features about WAP-enabled devices is that they can connect to both WAP and HTTP servers.

Because the capabilities of individual wireless devices differ greatly, any given wireless application should work on a wide variety of other devices to guarantee the widest possible adoption. WAP is relatively device independent, thereby facilitating universal device compatibility. In those cases where WAP-enabled applications are incompatible with a device, the use of device emulators (software that is designed to simulate WAP devices on your computer) may help. Some emulators even support the use of "skins" (replaceable screens with different interfaces) so that an application can be used on multiple wireless devices with a single emulator. This is particularly helpful for the development of archaeologically oriented applications whose intended users probably will not all employ the same mobile device upon which to run the application itself.

Visualizing and Delivering Information to Wireless Devices

Having discussed the various networking technologies by which data are transmitted, the necessary networking hardware for implementing the various technologies, and the notion of wireless protocols, we shift gears to discuss several ways in which information can be viewed on mobile devices. Archaeology has always been a discipline requiring the successful delivery of both complex textual and visual information. As we move into an increasingly digital-based model of information dissemination and delivery, we must examine methods of visualization that will not only allow us to maintain our collective need for efficient information transfer, but also allow us to take advantage of digital technology so that highly innovative, archaeologically oriented wireless applications can be developed.

WML

Earlier, Wireless Area Protocol (WAP) was presented as a method that can facilitate the successful transfer of information to wireless devices. Just like HTTP (Hypertext Transfer Protocol), WAP is a protocol that, for the most part, is not highly regarded by developers. However, just as those individuals who develop for the World Wide Web spend the majority of their time writing HTML (or another markup language such as XHTML or XML) rather than HTTP, most of the development for WAP-enabled mobile devices does not happen on the protocol level. Instead, it happens through the use of a markup language. The mistaken assumption often made is that because WAP-enabled devices can connect with traditional web servers that use HTTP, that you can then develop and deliver hypertext content to these devices using HTML. Unfortunately, as WAP devices have special user-interface requirements and restrictions, the use of HTML is not an option. Instead, a special abbreviated markup language, called WML (Wireless Markup Language), was developed for delivering content to WAP-enabled devices.

MACROMEDIA FLASH

While WML can facilitate delivery of complex textual information to WAP-enabled devices, it cannot deliver complex visual imagery, such as maps or illustrations, because of the very nature of those WAP-enabled devices. This is a problem for archaeologists, as the ability to visualize information is pivotal to the adoption of mobile wireless devices for archaeological applications. The answer to this dilemma lies not in WAP-enabled devices such as cell phones, but instead with handheld Personal Digital Assistants (PDAs).

Because PDAs are based on a traditional desktop/laptop computing model, their larger screens, ability to display high numbers of colors, and increased user input make them useful for displaying and managing complex visual information. In fact, operating systems such as Palm OS and Pocket PC can display most image formats. There are, however, significant problems using traditional image file formats (such as JPEG, BMP, TIFF, or PNG) to visualize archaeological information on wireless mobile devices. These raster formats are composed of individual pixels whose location (and color) must be stored in memory. As a result, the larger the raster image, the larger the resulting file size. Raster images also cannot be resized without adversely affecting the image's quality. These two issues alone present a significant problem for archaeologists trying to visualize complex information on wireless mobile devices.

There is, however, an alternative. Macromedia Flash has become the de facto standard for high-impact, web-based, interactive multimedia and animation. The vast majority of what is produced by Flash (the authoring program) is vector-based rather than raster-based. Vector images do not rely on individual pixels to compose an image. Instead, shapes are drawn by defining points whose coordinates are generated mathematically, making the files significantly more compact and allowing them to be easily enlarged or shrunk while retaining image quality. These advantages make Macromedia Flash a file format particularly suited for use on wireless mobile devices by archaeologists. In addition, the highly interactive and dynamic Flash format allows for the development of archaeologically oriented applications for distribution to wireless devices.

Concluding Thoughts

Wireless technology is rapidly evolving, and many of the issues discussed here will be of greater or lesser relevance depending on the course that this evolution takes. Just like its wired grandfathers—the telegraph, telephone, and Internet—wireless networking holds vast potential. The immediate appeal for archaeology is its ability to enable collaboration between field archaeologists and off-site personnel, perhaps for time-critical tasks or off-site data processing. Such team-oriented, real-time solutions promise to make fieldwork more efficient and perhaps even dissolve the historic divide between discovery and analysis. ☐

SOCIETY FOR AMERICAN ARCHAEOLOGY
Statements of Activities

For the Year Ended December 31,

	2001		2000 (As Restated)					
	Unrestricted	Temporarily Restricted	Permanently Restricted	Total	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Revenue:								
Membership dues	\$ 608,396			\$ 608,396	\$ 564,087			\$ 564,087
Annual meeting	471,739			471,739	365,225			365,225
Publications	258,096			258,096	256,189			256,189
Public programs and services	126,575	\$ 3,000		129,575	210,670	\$ 2,916		213,586
Organization and administration	85,760	7,423	\$ 45,878	139,061	69,200	8,460	\$ 67,892	145,552
Member programs and services	19,336			19,336	6,615			6,615
Awards	14,625			14,625	1,158		150	1,308
Net assets released from restrictions:		(3,353)				(6,707)		
Public programs and services	3,353	7,070	45,878	1,640,828	6,707		68,042	1,552,562
Total revenue	<u>1,587,880</u>	<u>7,070</u>	<u>45,878</u>	<u>1,640,828</u>	<u>1,479,851</u>	<u>4,669</u>	<u>68,042</u>	<u>1,552,562</u>
Expenses:								
Program services:								
Membership	89,801			89,801	143,138			143,138
Annual meeting	265,558			265,558	257,521			257,521
Publications	322,854			322,854	318,596			318,596
Public programs and services	245,788			245,788	272,137			272,137
Member programs and services	7,566			7,566	8,065			8,065
Awards	14,905			14,905	4,498			4,498
	<u>946,472</u>			<u>946,472</u>	<u>1,003,955</u>			<u>1,003,955</u>
Supporting services:								
Management and general	407,942			407,942	247,731			247,731
Membership development	33,103			33,103	30,633			30,633
	<u>441,045</u>			<u>441,045</u>	<u>278,364</u>			<u>278,364</u>
Total expenses	<u>1,387,517</u>			<u>1,387,517</u>	<u>1,282,319</u>			<u>1,282,319</u>
Change in net assets	200,363	7,070	45,878	253,311	197,532	4,669	68,042	270,243
Net assets, beginning of year as previously reported	903,585	33,829	166,295	1,103,709	710,412	81,214	41,840	833,466
Prior period adjustment					(4,359)	(52,054)	56,413	-
Net assets, beginning of year as restated	903,585	33,829	166,295	1,103,709	706,053	29,160	98,253	833,466
Net assets, end of year	<u>\$ 1,103,948</u>	<u>\$ 40,899</u>	<u>\$ 212,173</u>	<u>\$ 1,357,020</u>	<u>\$ 903,585</u>	<u>\$ 33,829</u>	<u>\$ 166,295</u>	<u>\$ 1,103,709</u>

The accompanying notes are an integral part of these financial statements.

JANET FRIEDMAN

1945–2002

In 1988, Janet Friedman learned that she had leukemia. Her reaction was a characteristic self-deprecatory observation that everyone dies and that she was lucky enough to know what she would die of. Janet lived another 14 highly productive years, but not nearly as long as she should have. Her death on January 24, 2002 was a major loss to archaeology and cultural resource management (CRM), to say nothing of the impact on her colleagues, friends, and family.

Born in Minneapolis, Minnesota in 1945, Janet moved to California as a child and developed an interest in anthropology and archaeology by the time she entered high school in North Hollywood. After a flirtation with sociology as an undergraduate, by the early 1970s she had entered the graduate program in anthropology at Washington State University. As one of “Daugherty’s Daughters”—the group of six bright, hard-working female students in the first generation of the WSU doctoral program—she worked at the Ozette Site on the Washington coast under Richard Daugherty’s tutelage, focusing her attention on laboratory analysis of the site’s enormous collection of wooden artifacts and structural remains. From 1973 to 1976, she served as a research archaeologist and Laboratory Director at the Ozette Site, completing her Ph.D. at WSU in 1975.

Like many archaeologists of her generation, Janet’s career took her away from academia and into the then-nascent field of CRM. She took on the directorship of the contract archaeology program at California State University, Chico, but by 1977 she had moved into Federal service as the archaeologist on the USDA Forest Service’s Hell’s Canyon National Recreation Area Planning Team. Hell’s Canyon was an early step in the Forest Service’s evolution from an agency whose primary mission was the production of timber to one with an explicitly multi-resource management ethic, and Janet made sure that archaeological resources received thoughtful and balanced attention. She was dismayed by the level of destruction that sites in Hell’s Canyon were suffering as a result of uncontrolled artifact digging. Unusual among archaeologists at that time, Janet recognized that dealing with this problem required her to be more than an archaeologist, and she began to develop expertise as a multifaceted resource manager. Her central interest was in ensuring that archaeological sites and other cultural resources were responsibly dealt with in agency planning and management decisions. She worked assiduously from inside the Forest Service to improve its approaches to CRM, and this dedication was initially rewarded. In 1978, she became the agency’s head archaeologist and was based in



Washington, D.C. writing regulations, establishing policy, and generally steering the Service in responsible directions. In 1979, she moved from the Forest Service to its parent executive department, the Department of Agriculture, as Assistant Director of its Office of Environmental Quality. In 1980, she became the Department’s Federal Preservation Officer, with department-wide coordinative responsibilities and the job of representing the Secretary of Agriculture on the Advisory Council on Historic Preservation.

In 1982, Janet was forced from her position at the Department of Agriculture and out of the federal government altogether. After a brief stint as a private consultant, a year with the Advisory Council on Historic Preservation, and a sojourn as archaeological advisor to a consortium of U.S. and Costa Rican universities developing biological research programs in Costa Rica, Janet moved into the position of Senior Environmental Scientist for United Engineers and Constructors. In this position, she provided broad-based historic preservation, environmental review, and tribal consultation services to the Department of Energy’s (DOE) nuclear waste repository siting program. In 1987, she accepted a position of Project Director for SRA Technologies, Inc., managing the Environmental Impact Statement for DOE’s high-level nuclear waste repository. Upon completion of this project, she took the job she would hold for the remainder of her life, supervising environmental review work for Dames and Moore, Inc. of Bethesda, Maryland.

In her publications and even more in her professional practice, Janet exemplifies those archaeologists in public service who have moved beyond archaeology to assume roles in interdisciplinary applied research and management. She was an inspiration to her colleagues and a role model for many young professionals, not only in archaeology and cultural anthropology but in biology, ecology, and a variety of other fields. As Richard Daugherty put it in a letter to her husband, Janet had “great talent and ability, and a vibrant passion for living.” In her life and in her valiant struggle with the cancer that ended it, Janet set standards that most of us can barely hope to meet.

—Thomas F. King, Ruthann Knudson, Leslie E. Wildesen
Ruthann Knudson is Superintendent, Agate Fossil Beds National Monument and Research Associate, California Academy of Sciences, Harrison, NE. Leslie E. Wildesen is President, Environmental Training & Consulting International, Inc., Denver, CO. Thomas F. King is in private CRM practice based in Silver Spring, MD.



NEWS & NOTES

Cotter Award for Excellence in Park Archeology to Ken Wild, Virgin Islands NP. In 2001, a multiyear project of archaeological and supporting studies at Cinnamon Bay, St. Johns Island, Virgin Islands National Park, was guided to conclusion by Park Archeologist Ken S. Wild. Beginning in 1998, the project focused on precontact native Taino culture (A.D. 900–1500) and an early seventeenth-century plantation village with a slave cemetery at Cinnamon Bay. Investigation of the Taino ritual and residential site was the first major scientific excavation in U.S. Virgin Islands of the native people who met Columbus. Funded from Park Service resources and large contributions generated by Friends of the Park, project volunteers and staff accessioned 50,000 archaeological materials. Specialists from several natural resource disciplines, academic anthropologists from mainland universities, and Caribbean professional researchers assisted in the project. Hundreds of Virgin Island high school or grade school students as well as students from eight mainland colleges and universities volunteered thousands of hours. Ken Wild, a 20-year Service archaeologist, developed the project research design, coordinated fieldwork, guided an on-site laboratory, established volunteers' schedules, accommodated media coverage, and arranged for colleagues' contributions. His leadership of the Cinnamon Bay project has had a major impact on Caribbean archaeology and inspired local interest in heritage resources. The John L. Cotter Award is an unofficial, nonmonetary annual recognition of a park archaeological project, guided by a Service employee or partner, which is an exemplary effort following the model of excellence set by Dr. Cotter as a leading

Park Service archaeologist. The award is made by the community of Service archaeologists each year: further information may be obtained from Roger Kelly, Pacific West Region's Oakland Support Office (email: roger_kelly@nps.gov). Nominations will be accepted until February 28, 2003.

IGERT Award to University of Arizona for Archaeological Science. The Integrative Graduate Education and Research Traineeship (IGERT) Program of the National Science Foundation has awarded a five-year grant for graduate training in Archaeological Science to the University of Arizona. The award is for \$2.6 million over 5 years, more than 80% of which is allocated to direct graduate student support in the form of stipends, full tuition, and other expenses. Funding is also provided for graduate student internships in archaeometric laboratories elsewhere, for short courses to be taught by visiting specialists, and for paid internships in University of Arizona laboratories for science teachers in Tucson-area public schools and for minority undergraduate interns. The proposal was submitted on behalf of a group of 28 individuals from five academic units (Anthropology, Physics, Geosciences, Materials Science and Engineering, Laboratory for Tree-Ring Research), the University of Arizona Graduate College, two private companies (Desert Archaeology Inc. and Statistical Research Inc.), and the U.S. Geological Survey. The first graduate student intake will be in August 2003. Students may be admitted through any of the participating academic departments and would receive their Ph.D. degree in that discipline. All IGERT-funded students must be U.S. citizens and would typically receive an

initial two years of full funding (stipend of \$21,500 plus full tuition) with a possibility of a third year of full or partial support. The program has three major foci, to which all students will be exposed before specializing in one or more of them: (1) chronometry, (2) paleoecology, and (3) materials and technologies. Inquiries should be directed to the IGERT Co-ordinator, Dr. David Killick, email: killick@u.arizona.edu, web: <http://w3.arizona.edu/uanthro/igert>, phone: (520) 621-8685.

New National Park Service Archeology & Ethnography Website. Please visit the National Park Service Archeology & Ethnography program website at <http://www.cr.nps.gov/aad>. Our whole design is new, and the content of our pages either has been updated or is new. See our expanded "For the Public" section with pages on amateur archaeology, caring for sites, more teacher resources, and Frequently Asked Questions. The current issue and back issues of *Common Ground: Archeology and Ethnography in the Public Interest* are now online. Our section on Distance Learning is new and features on-line courses, including the popular "Managing Archeological Collections." One of our new guides is "Archeology for Interpreters," inviting learners to explore the world of archaeology through online activities, illustrated case studies, and fun facts, and to apply what they learn to public interpretations about the past. It provides the opportunity to learn about basic archaeological methods, techniques, and up-to-date interpretations. It also illustrates basic relationships between archaeology, preservation, and preservation laws. See the "Sites and Collections" section for a much more in-depth look at the long-

term preservation and care of archaeological sites and collections across the United States. Our "Peoples and Cultures" section is totally revamped and focuses on the goals, activities, and products of NPS ethnographers.

Salmon Ruins Museum Announces Save America's Treasures Grant. Salmon Ruins Museum has been awarded a \$175,000 grant from the prestigious Save America's Treasures program of the National Park Service and National Endowment for the Arts. The funds will be used to: (1) upgrade the storage facility to properly house artifacts; (2) provide the conservation supplies necessary to clean, curate, and store the 1.5 million artifacts in the collection; and (3) fund a conservation assistant position for 2 years to carry out the curation work and help supervise volunteers. The Save America's Treasures program is a national effort to protect and preserve America's threatened cultural treasures. This grant to Salmon Ruins is recognition of the national significance of the Salmon site, its research collections, and educational efforts. Salmon Ruins is a 250-room Chacoan outlier built on the north bank of the San Juan River around A.D. 1090 and occupied into the late 1200s. Salmon Ruins today is protected and preserved as part of the San Juan County Museum Association's 22-acre preserve, just west of Bloomfield, New Mexico. The Save America's Treasures award is part of a program that started just over a year ago with the partnership between Salmon and the Tucson-based Center for Desert Archaeology. As part of the matching requirements for funding the grant, Salmon will need to raise \$16,000 in additional contributions. Another aspect of the match will be donated volunteer time for curation and conservation activities. With the grant, Salmon needs a larger pool of volunteers. To contribute money toward the Salmon matching fund or to volunteer for the curation effort, please call Pam Grosnell at (505) 632-2013 or Paul Reed at (505) 632-0657.

New Doctoral Program at the University of Wyoming. The Department of Anthropology at the University of Wyoming announces a new doctoral program. This program is open to all subfields but is focused on archaeology, especially paleoindian archaeology of the Americas and hunter-gatherer archaeology of the West, especially of the northern Plains and Rocky Mountains. The department has quietly built a reputation for excellence largely due to the efforts of George Frison, whose accomplishments made Wyoming a recognized center for paleoindian archaeology. Over the past few years, the department has added new lines in all four



Figure 1. University of Wyoming students mapping a cave site in the northern Bighorn Mountains, 2002.

subfields and is presently searching for a zooarchaeologist or geoarchaeologist. The new George C. Frison Institute of Anthropology and Archaeology carries on Frison's tradition of excellence in field research, and the department has a very active fieldwork program, with ongoing research projects throughout Wyoming and Colorado (Figure 1), and it has exchange agreements with Russian and Argentine institutions. Wyoming's cultural records office is also located on campus, as is the state's archaeological collections, which house some 2.5 million artifacts. These ongoing field projects and vast collections will support a variety of doctoral research projects. We will be able to pro-

vide financial support that is competitive with the nation's other top doctoral programs in anthropology. The doctoral program is designed to create excellent research scientists, but we will explicitly prepare students to be competitive in today's job market. They are guaranteed teaching experience (beyond that of a TA) and are required to complete an internship in a nonacademic setting. Further information on the program can be obtained at <http://uwadmweb.uwyo.edu/Anth/> or from Robert Kelly at RLKELLY@uwyo.edu. Wyoming boasts the nation's best scenery, and our goal is to develop a doctoral program to match it!

MIT's Summer Institute in the Materials Science of Material Culture. MIT will convene the second annual Summer Institute in the Materials Science of Material Culture (SIMSMC), June 9–20, 2003. SIMSMC participants are a group of 15 faculty members drawn primarily from undergraduate liberal arts institutions that do not offer engineering. They are chosen each year to represent a broad range of fields, including anthropology, archaeology, art history, biology, chemistry, classics, earth sciences, environmental science, geography, history, and physics. Working together with these colleagues, four MIT faculty members—two materials archaeologists and two materials scientists—demonstrate how undergraduate teaching can incorporate the subject matter of materials science in intellectually stimulating ways that are relevant to the pursuits of the wide spectrum of disciplines common to liberal arts institutions. Each week is organized as a specific materials science and engineering/material culture module, with morning lectures and afternoon laboratory sessions. No more than two modules are considered during the course of any SI so that participants gain intense exposure to the materials science, social science/humanities, materials processing, and laboratory analytical components of the subject matter. Participant expenses are fully

paid by SIMSMC: roundtrip travel to MIT, housing on campus, and meals. Visit the SIMSMC website (<http://web.mit.edu/materialculture/www>) for an online application form and detailed information. The MIT Summer Institute in the Materials Science of Material Culture is supported by an educational grant from the Division of Materials Research of the National Science Foundation.

Julian D. Hayden Student Paper Competition. The Arizona Archaeological and Historical Society is pleased to announce the fifth 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, type-written 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 January 15, 2003. Late entries will not be accepted. 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, tel: (520) 881-2244, email: homer@desert.com.

The H. John Heinz III Fund of the Heinz Family Foundation Grant for Archaeological Field Work in Latin America. The H. John Heinz III Fund of the Heinz Family Foundation announces its grant program for archaeological fieldwork in Latin America for the year 2003. The program will fund four to six scholars to conduct archaeological research in Latin America. Applications for dissertation research will not be considered. The maximum amount of the awards will be \$8,000 each. The deadline for submission is November 15, 2002, and notification of the wards will be made by late March or early April of 2003. Request guidelines or information from Dr. James B. Richardson III, Section of Anthropology, Carnegie Museum of Natural History; tel: (412) 665-2601; fax: (412) 665-2751; email: jbr3+@pitt.edu.

THE UNIVERSITY OF ALABAMA

The Department of Anthropology of The University of Alabama is pleased to announce the creation of its new Ph.D. program.

The program has two emphases:

- The Archaeology of Complex Societies in the Americas, and*
- Biocultural Medical Anthropology, the study of the influence of social relations, culture, and biology on human health.*

Funding is available. Requests for applications materials for the 2003-04 entering class may be sent to:

Department of Anthropology
The University of Alabama
Tuscaloosa, AL 35487-0210

Faculty

James Bindon, *Medical Anthropology*
Ian Brown, *Archaeology*
Robert Clouse, *Archaeology*
Richard Diehl, *Archaeology*
William Dressler, *Medical Anthropology*
Marysia Galbraith, *Cultural Anthropology*
J. C. González-Faraco, *Ethnology*
Vernon Knight, *Archaeology*
Keith Jacobi, *Medical Anthropology*
Richard Krause, *Archaeology*
Allen Maxwell, *Cultural Anthropology*
Michael Murphy, *Cultural Anthropology*
Charles Nuckolls, *Medical Anthropology*
Janis Nuckolls, *Linguistic Anthropology*
Kathryn Oths, *Medical Anthropology*
Norman Singer, *Legal Anthropology*

For additional information about our new doctoral program contact us at:

Web site: <http://www.as.ua.edu/ant/>
Email: vknight@tenhoor.as.ua.edu
Telephone: (205) 348-5947



POSITIONS OPEN

Position: Assistant Professor
Location: Provo, Utah

Brigham Young University Department of Anthropology invites application for a one-year position in archaeology beginning Fall 2003. We seek a candidate specializing in the archaeology of small-scale societies of western North America and with research experience in the Great Basin and American Southwest. The successful candidate will be expected to teach undergraduate and graduate courses (two courses per semester) in archaeology or anthropology, mentor students, and participate in department activities. The archaeology program at Brigham Young University is diverse and vigorous with ongoing research on the complex societies of Mesoamerica and the Near East as well as the pre-European hunter-gatherers and farmers of the Great Basin and American Southwest. Brigham Young University is primarily an undergraduate institution, but the department offers an M.A. in archaeology. We seek a scholar with Ph.D. in hand and a track record of successful university teaching experience. Applications should include a letter describing teaching qualifications and research interests as well as a full curriculum vita and the names and addresses (including telephone and email) of at least three academic references. Brigham Young University, an equal opportunity employer, is sponsored by the Church of Jesus Christ of Latter-day Saints and requires observance of Church standards. Preference is given to member of the sponsoring church. Send application by November 15, 2002 to Search Committee, Department of Anthropology, Rm 946 SWKT, Brigham Young University, Provo, Utah 84602. For further information contact Joel Janetski at joel_janetski@byu.edu or (801) 422-6111.

Position: Visiting Scholar
Location: Carbondale, IL

Southern Illinois University Carbondale, Center for Archaeological Investigations, seeks its 2003–2004 Visiting Scholar (VS). The VS organizes and conducts an archaeological conference at SIUC, resulting in an edited volume of selected papers. VS assembles and edits conference volume while in residence. The successful candidate is also expected to pursue her/his research and teach one seminar in her/his specialty. 11-month term appointment. Qualifications: Ph.D. in anthropology or related discipline with specialization in archaeology. Degree must be completed by August 16, 2003. VS selected on the basis of 5-page proposal outlining nature and structure of the conference and on the strength of vita and references. Pre-application inquiries recommended. Closing date: March 1, 2003. Contact: Brian Butler, CAI, SIUC, Carbondale, Illinois 62901-4527; email: bbutler@siu.edu. SIUC is an affirmative action/equal opportunity employer.

Position: Assistant Professor
Location: Hamilton, NY

The Department of Sociology and Anthropology at Colgate University invites applications for a tenure-stream position in Anthropology at the level of Assistant Professor (Ph.D. expected by time of appointment) to commence in the 2003–04 academic year. The department invites applications from candidates who have research and teaching interests in Native peoples of Meso- or South America. Topical areas are open, but the department is interested in candidates emphasizing one or more of the following: archaeology, ethnohistory, and ethnology. Teaching duties will include sections of an introductory course in Cultural Anthropology and a

survey of the Native peoples of the New World (with examples from North, Central, and South America—a required course in the Native American Studies Program) and may include participation in the university's Liberal Arts Core Curriculum (teaching an interdisciplinary course in the candidate's geographical area of specialization). Women and minority scholars are especially encouraged to apply. Colgate is a highly selective, liberal arts college located in central New York. Review of applications will begin January 15, 2003. Send letter of application, a c.v., and have three letters of recommendation sent to: Jordan Kerber, Chair, Department of Sociology and Anthropology, Colgate University, 13 Oak Drive Hamilton, NY 13346. Colgate is an Affirmative Action/Equal Opportunity Employer. Developing and sustaining a diverse faculty and staff furthers the University's educational mission.

Position: Assistant Professor in Prehistoric Archaeology
Location: Boca Raton, Florida

Florida Atlantic University's Department of Anthropology invites applications for a tenure-track position starting Fall 2003. Applicant should be qualified to teach undergraduate and graduate courses in archaeology plus introductory anthropology (four fields). Requirements: Ph.D., prehistoric archaeology, theoretical orientation, field involvement. Preferences: teaching experience, evidence of publication, potential for grants, New World interest. Interviews planned for the AAA meeting in November. Deadline: February 1, 2003. Send cover letter, vita, 3 references to: Search Committee Chair, Department of Anthropology, FAU, Boca Raton, FL 33431. FAU is an Equal Opportunity/Equal Access/Affirmative Action institution.

POSITIONS OPEN

Position: Associate Professor

Location: Lawrence, KS

The Kansas Geological Survey (KGS) and the Department of Anthropology invite applications for a permanent full-time (12 month) joint appointment (80% KGS, 20% Dept.) in geoarchaeology and Quaternary research. The position will begin July 2003 or sooner based in KGS. The program is supported with a substantial endowment in the Odyssey Archaeological Research Fund at the University of Kansas. The position is expected to be filled at the Associate/Senior Scientist (KGS)—Associate Professor (Dept) level. A full description of duties and qualification requirements can be reviewed at <http://www.kgs.ku.edu/General/jobs.html>. Send letter of application, curriculum vita with publication record, and the names, addresses, telephone numbers, and email addresses of three professional references to: A. Delaney, HR, Kansas Geological Survey, The University of Kansas, 1930 Constant Avenue, Lawrence, KS 66047; tel: (785) 864-2152, fax: (785) 864-5317, email: hr@kgs.ku.edu. First consideration given to applications postmarked by November 30, 2002. For further technical information contact Dr. William E. Harrison: tel: (785) 864-2070, email: harrison@kgs.ukans.edu. The University of Kansas is an AA/EOE.

Position: Assistant Professor

Location: Bethlehem, PA

Lehigh University. The Department of Sociology & Anthropology invites applications for a tenure-track, assistant professor position in sociocultural anthropology beginning in fall 2003. We seek an anthropologist whose commitment to both teaching and research will augment the department's "comparative cultures" focus. The standard teaching load is 2-2, with the expectation that faculty will also be active scholars. Geographical and topical specialties are

open, but candidates must have Ph.D. completed by the starting date of August 2003 and show significant evidence of research productivity and successful teaching experience. The deadline for applications is December 20, 2002. Women and minorities are particularly encouraged to apply. We will be interviewing at the AAA meeting, and are soliciting applications both at the meeting and by mail. Lehigh University is a highly competitive, research-oriented university located one hour north of Philadelphia and 90 minutes west of New York City. Send a curriculum vitae and a letter of application indicating teaching and research interests and names of four references to: John B. Gatewood, Department of Sociology & Anthropology, Lehigh University, 681 Taylor Street, Bethlehem, PA 18015-3169.

Position: Senior Archaeologist and Office Manager

Location: El Paso, TX

TRC has an opening for a Senior Archaeologist and Office Manager. Job responsibilities include PI for projects and managing a staff of 10 people. This position requires residence in the El Paso area. Salary commensurate with experience. Applicants should have specific experience within the Southwest. Although supervisory background and writing experience are required, individuals in the early stages of their careers will receive full consideration. Please include a vita and a list of referees by November 15, 2002. Timothy G. Baugh, 5400 Suncrest Drive, D1, El Paso, TX 79912; tel: (915) 581-8872. EEO/AA. Submit application by email to tbaugh@trcsolutions.com

Position: Assistant Professor

Location: Davis, CA

The Department of Anthropology at the University of California, Davis, invites

applications for a tenure-track, assistant professor in archaeology. Applicants must have a history of fieldwork and publication on the prehistory of western North America, preferably in California or an immediately adjacent region. This position is designed to enhance historical and existing strengths of the UC Davis program in the archaeology of California, and the successful candidate will be expected to conduct a program of research and supervise undergraduate and graduate student research, in California. Applicants must have Ph.D. completed by appointment begin date and will teach the normal load of four courses per academic year (quarter system), ranging from lower division to graduate level. The University of California, Davis, and its Department of Anthropology are interested in candidates who are committed to the highest standards of scholarship and professional activities, and to the development of a campus climate that supports equality and diversity. Submit vitae, the names and addresses of three referees, and a short statement of interest (two pages maximum) to: Professor Bruce Winterhalder, Chair, Archaeology Search Committee, Department of Anthropology, One Shields Avenue, University of California, Davis, CA 95616. Final Filing Date: December 15, 2002.

Position: Cotsen Visiting Scholars

Location: Los Angeles, CA

University of California, Los Angeles. The Cotsen Institute of Archaeology at UCLA (<http://www.ioa.ucla.edu>) invites applications for the annual Cotsen Visiting Scholars position. The program alternates invited senior scholars with a one-year postdoctoral position. For the 2003-2004 academic year, we invite applications for a postdoctoral fellow to join the Cotsen Institute of Archaeology and organize a conference for Spring, 2004. A stipend of \$35,000 is available in addition to funding for the conference. Candidates should send a conference

POSITIONS OPEN

proposal of up to five pages that describes the topic, its significance, and a proposed list of participants. In addition, candidates should send a CV and three names and addresses of references. Deadline for applications is February 1, 2003. Applications should be sent to: Cotsen Visiting Scholar Committee, The Cotsen Institute of Archaeology at UCLA, Fowler A-210, Los Angeles, CA 90095-1510.

Position: Assistant Professor
Location: Victoria, British Columbia

The University of Victoria (<http://www.uvic.ca>) invites applications for a tenure-track appointment at the rank of assistant professor in the subdisciplines of either biological anthropology or archaeological anthropology effective July 1, 2003 subject to budgetary approval. Candidates should hold a completed Ph.D. and have a strong commitment to teaching and research in a department whose members value cooperation between anthropological subdisciplines. The successful candidates are expected to have broad teaching abilities in their subdiscipline and more specialized research interests that indicate intellectual depth as well as breadth. Candidates in archaeological anthropology should have a strong research interest in the Neolithic and/or early complex societies with a focus on zooarchaeology, osteoarchaeology, environmental archaeology, or landscape archaeology. Candidates in biological anthropology should have a strong research interest in one or more of the following areas: osteology, paleopathology, paleodemography, forensics or growth, development, and aging. Applications must include complete curriculum vitae, the name and addresses (including email, fax, and telephone numbers) of three referees who the department may contact, copies of selected relevant publications and summaries of teaching evaluations. The University of Victoria is an equity employer and encourages applications

from women, persons with disabilities, visible minorities, aboriginal peoples, people of all sexual orientations and genders, and others who may contribute to the further diversification of the University. All qualified candidates are encouraged to apply; however, Canadian and permanent residents will be given priority. Applications should be sent to: Dr. Margot Wilson, Chair, Department of Anthropology, University of Victoria, P.O. Box 3050, Victoria, B.C. V8W 3P5, tel: (250) 721-7049, email: mwmoore@uvic.ca; Main Office: tel: (250) 721-7046, email: anthuvic@uvvm.uvic.ca before December 15, 2002.

Position: Assistant Professor
Location: Pullman, WA

Washington State University, Department of Anthropology, invites applications for a tenure-track assistant professorship, to begin August 16, 2003. Required: Ph.D. in anthropology or closely related field completed by May 2003 and a paleoecological research focus. Preferred: specialty in paleoecological reconstruction of human ecosystems; demonstrated excellence in research and teaching; ability to teach graduate-level course in paleoecology and undergraduate introductory courses in general anthropology. Analytical specialties should include pollen, phytoliths, macrofossils, or stable isotopes as applied to paleobotany or paleoethnobotany. Preference also given to those with paleoecological and archaeological experience in western North America. Experience with GIS desirable. WSU is an EEO/AA educator and employer. Protected group members encouraged to apply. Send letter of interest, names of 3-5 references (with current phone numbers and email addresses), and curriculum vita by November 15 to: Chair, Paleoecology Search, Department of Anthropology, P.O. Box 644910, WSU, Pullman, WA 99164-4910.

Position: Tenured Appointment in Archaeology
Location: St. Louis, MO

Washington University, St. Louis, Anthropology Department invites applications for a tenured appointment in archaeology at a mid-career or senior level. Geographic area and technical expertise are open, but must contribute substantively to our current curriculum, which centers upon early food-producing economies. An established, ongoing field research program is essential, as is a strong commitment to undergraduate and graduate teaching. Applications should consist of a curriculum vita, a cover letter describing current research and teaching interests, copies of recent teaching evaluations, and names of three referees. Priority will be given to applications received on or before December 1, but the search will continue until the position is filled. Address applications to Chair, Archaeology Search Committee, Department of Anthropology, CB 1114, Washington University, St. Louis, MO 63130; fax: (314) 935-8535. Washington University is an equal opportunity/affirmative action employer. Applications from women and members of minority groups are especially encouraged. This employer does prohibit discrimination on the basis of sexual orientation/preference and gender identity/expression. Employment eligibility verification required upon hire.

Position: Assistant Professor
Location: Laramie, WY

University of Wyoming Department of Anthropology seeks to fill a tenure-track line in archaeology for fall 2003 at the assistant professor level. Completed Ph.D. by starting date in anthropology with archaeology specialty required. The department seeks to complement existing faculty strengths with someone who has an active research program in Northern American archaeology with a

background in zooarchaeology or geoarchaeology, and the ability to teach a graduate-level quantitative methods course; an interest in paleoindian, northern plains, and/or Rocky Mt. archaeology, and evidence of ability to attract extramural funding are preferred. The department has recently established a doctoral program with an emphasis in archaeology and is explicitly four-fields in the BA/MA programs; candidates should address how their research would fit into such programs in their letter of intent. Responsibilities include teaching, including introductory course and possible outreach opportunities, research (interdisciplinary research encouraged), advising, and service. Send CV, letter of intent, and names/addresses/email/telephone contact list of references to: Archaeology Search Committee, Dept. of Anthropology, Univ. of Wyoming, Laramie, WY 82071. Deadline for receipt of all application materials is December 9, 2002. The University of Wyoming is an equal opportunity/affirmative action employer. This employer does not offer employment benefits to domestic partners of employees. This employer prohibits discrimination on the basis of sexual orientation/preferences and gender identity/expression.

Position: Professor of Archaeology
Location: St. Petersburg, FL

The University of South Florida St. Petersburg Program in Anthropology invites applications for a position in Archaeology, beginning August 2003. Assistant Professor, nine-month tenure track position with summer employment possible. Salary is negotiable. Position contingent upon funding. An earned doctorate in Anthropology or related discipline is required at time of appointment. The ideal candidate shall have broad training in anthropology and strengths in public anthropology and/or cultural resource management. Preferred qualifications: specialization in

Historical Archaeology with research and teaching interests in Africa/African-American, African Diaspora or Native American (U.S.) archaeology and cultures, but other areas will be considered. The successful candidate should be capable of teaching introductory anthropology (four field) and an ethnographic area specialty course. Preliminary discussions will be held at the AAA meetings. Send a letter of application detailing teaching and research interests, vita, and names of 3 references to: Prof. Jay Sokolovsky, Chair of Archaeology Search Committee, University of South Florida St. Petersburg, 140 Seventh Ave South, DAV 258, St. Petersburg, FL 33701-5016, fax: (727) 553-1526, email: jsokolov@stpt.usf.edu. Application must be received by December 23, 2002: email and fax applications accepted. USF is an equal opportunity employer.

Position: Professor of Archaeology
Location: Tampa, FL

University of South Florida, Department of Anthropology, invites applications for a 9-month, tenure-track assistant professor position in Archaeology, beginning August 2003. Ph.D. in anthropology or related field required by time of appointment. Preference will be given to candidates who have geographic specialization in Latin America or the Caribbean (or Southwestern U.S.) and experience in public archaeology/cultural resources management. The ideal candidate will contribute to our strengths in Public Archaeology and Applied Anthropology and have experience related to complex societies and methodological expertise (i.e., zooarchaeology). The successful candidate must be able to teach both undergraduate and graduate-level courses and to seek external funding (contracts and/or grants) for significant research projects. Salary is negotiable. Send letter of application, vita, and names of 3 references to Robert H. Tykot, Archaeology Search Committee Chair, Department of Anthropology,

USF, 4202 E. Fowler Avenue, SOC107, Tampa, FL 33620-8100. Deadline for receipt is December 15, 2002. Visit our website: <http://www.cas.usf.edu/anthropology/index.html>. This position is contingent upon final funding. USF is an equal opportunity, affirmative action, equal access institution. For disability accommodations, please contact the department at least five working days in advance. According to Florida law, applications and meetings regarding them are open to the public.

Position: Assistant Professor
Location: Ontario, Canada

The Department of Anthropology at McMaster University invites applications for a full-time, tenure-track position in archaeology at the rank of Assistant Professor, effective July 1, 2003. Candidates must have a Ph.D. in archaeology, a strong research and publication record, and previous university teaching experience. The successful candidate will be joining a four-field department with a tradition of collegiality and collaboration. We are seeking candidates broadly grounded in archaeology to complement existing faculty research and teaching strengths. The successful candidate will be engaged in theoretically informed research, preferably at a regional scale of analysis. The topical specialization is open, but the priority is for a candidate with skills in GIS-based applications. The priority for areal specialization is East Asia or Europe. The appointee is expected to teach undergraduate lecture and seminar courses in archaeology, contribute to MA and Ph.D. teaching and supervision, carry out an active research programme leading to peer-reviewed publications, and take on administrative responsibilities. Preference will be given to candidates whose research complements and extends the department's current

➤ POSITIONS OPEN, continued on page 44



CALENDAR

2002–2003

NOVEMBER 20–24,

2002

The 101st Annual Meeting of the American Anthropological Association will be held at the Hyatt Regency, New Orleans, LA. The theme of this year's meetings is: "(Un)Imaginable Futures: Anthropology Faces the Next 100 Years." Our Distinguished Lecture will be delivered by Timothy Earle, who has tentatively titled his talk, "Who makes culture? Alternative media for social expression and control." For more information, visit <http://www.aaanet.org/mtgs/mtgs.htm>.

2003

FEBRUARY 22–23

The 31st Midwest Conference on Andean and Amazonian Archaeology and Ethnohistory will be hosted this year by The University of Illinois at Chicago and The Field Museum. The meetings will be held at The Field Museum, Chicago Ill. For more information, visit <http://www.uic.edu/depts/anth/andes/andesprog.html>.

MARCH 15

The 26th Annual Meeting of the Midwest Conference on Mesoamerican Archaeology and Ethnohistory will be held at University of Michigan, Ann

Arbor. For further details, contact Jeffrey R. Parsons, Museum of Anthropology, University of Michigan, Ann Arbor, MI 48109; email: jpar@umich.edu.

APRIL 4–5

The Society for Economic Anthropology meets in Monterrey, Mexico, on the theme of "Migration and Economy." For more information, contact Lillian Trager, Dept of Sociology and Anthropology, University of Wisconsin-Parkside, Kenosha, WI 53141; email: trager@uwp.edu.

APRIL 9–13

The 68th Annual Meeting of the Society for American Archaeology will be held in Milwaukee, Wisconsin.

APRIL 23–26

The 2003 Annual Meeting of the American Association of Physical Anthropologists will be held in Tempe, Arizona. The call for papers is available at <http://www.physanth.org>. For additional information, contact John Relethford, Department of Anthropology, SUNY College at Oneonta, Oneonta, NY 13820; tel: (607) 436-2017; fax: (607) 436-2653; email: relethjh@oneonta.edu. For local arrangements information, contact Leanne Nash, Department of Anthropology, Box 872402, Arizona State University, Tempe, AZ 85287-2402; tel: (480) 965-4812; fax: (480) 965-7671; email: leanne.nash@asu.edu.

JUNE 21–26

The Fifth World Archaeological Congress will be held in Washington, DC, on the campus of the Catholic University of America. For more information on registration, accommodation, submitting proposals, updates on tours and workshops, or other questions, contact WAC-5 Organizing Committee, Depart-

ment of Anthropology, American University, Washington, DC 20016, email: wac5@american.edu, fax: (202) 885-1381, web: <http://www.american.edu/wac5>.

JULY 23–31

The XVIth INQUA Congress will be held at the Reno Hilton Resort & Conference Center Reno, Nevada. Full details can be found on the Congress website at http://www.dri.edu/DEES/INQUA2003/inqua_home.htm.

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strengths. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be considered first for this position. McMaster University is strongly committed to employment equity within its community, and to recruiting a diverse faculty and staff. The University encourages applications from all qualified candidates, including women, members of visible minorities, Aboriginal persons, members of sexual minorities, and persons with disabilities. Applications, including a curriculum vita and letters from three referees, should be submitted to: Matthew Cooper, Chair, Department of Anthropology, McMaster University, 1280 Main St West, Hamilton, ON, Canada L8S 4L9, tel: (905) 525-9140, ext. 23920; fax: (905) 522-5993; e-mail: cooper@mcmaster.ca. CLOSING DATE: December 31, 2002.



EXCURSIONS IN MILWAUKEE

Explore Milwaukee's wonderful architecture or take a walk through prehistory. There are an unusual number of exciting excursions (see list below) offered in conjunction with the 68th Annual Meeting in Milwaukee, April 9–13. To find out more about these fascinating outings, check the online version of the preliminary program on SAAweb in early December.

- **Tour of Great Lakes Basketry and Textiles at the Milwaukee Public Museum.** Explore the museum's extensive collection of baskets and textiles from various regional groups including the Potawatomi, Menominee, and Ojibwa.
- **Historic Architectural Walking Tour of downtown Milwaukee.**
- **Trimborn Farm Public Education Tour.** Visit lime Kilns and eight historic buildings at a National Register of Historic Places site and Milwaukee County's only historic park.
- **Lizard Mounds Tour at Lizard Mounds County Park.** See the effigy mounds, which are built in shapes resembling animals. Are they lizards?
- **Tour at Aztalan State Park.** Walk in a park that was part of a sociopolitical frontier occupied by at least four culturally distinct groups including Effigy Mound builders, Late Woodland farmers, early Oneota, and Middle Missisippians.
- **Ice Age Landscape Tour: SAA Geoarchaeological Interest Group Field Trip to SE Wisconsin Mammoth and Paleoindian Sites.** Visit selected sites on the Ice Age Landscape of Southeastern Wisconsin. Stratigraphic contexts will be exposed at all sites and no doubt will stimulate a lively wrap-up discussion at the Kenosha Public Museum

**68TH ANNUAL MEETING
APRIL 9–13 2003
MILWAUKEE, WI**

VOLUNTEERS: SAA NEEDS YOU NEXT APRIL

Would you like the opportunity to meet people interested in archaeology, have fun, and save money? Then apply to be an SAA volunteer! Volunteers are crucial to all on-site meeting services, and we are currently looking for people to assist the SAA staff at the 68th Annual Meeting in Milwaukee, Wisconsin, on April 9–13, 2003. In return for just 12 hours of your time, you will receive complimentary meeting registration, a free copy of the Abstracts of the 68th Annual Meeting, and a \$5 stipend per shift. For details and a volunteer application, please go to SAAweb (<http://www.saa.org>) or contact Melissa Byroade at SAA (900 Second St. NE #12, Washington, DC, 20002-3557; tel: [202] 789-8200; fax: [202] 789-0284; email: melissa_byroade@saa.org). Applications are accepted on a first-come, first-serve basis through March 4, so contact us soon to take advantage of this great opportunity. See you in Milwaukee!



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