



the
SAA Archaeological record
JANUARY 2007 • VOLUME 7 • NUMBER 1

SOCIETY FOR AMERICAN ARCHAEOLOGY



Give the SAA a Gift on its 75th!

The SAA Endowment Campaign

In 2005, the SAA Board approved a five-year campaign to add \$500,000 to our endowment totals.

The choice is yours! Your donation can benefit Public Education, Native American Scholarships, or the SAA General Endowment. Or you can divide your gift between all three.

Your generosity today can help ensure the SAA's future!



Bruce Rippeteau, University of South Carolina, retired, made a \$10,000 leadership gift to the SAA. Early in his career, some 30 years ago, as Colorado State Archaeologist, Bruce and FBI special agent John Deans (r), completed a BLM archaeological antiquities enforcement effort.

Professional Responsibility/Professional Opportunity

When asked why he gave to the SAA campaign, Bruce Rippeteau replied: “Serious financial giving to one's foremost professional society is, I think, one of the several duties of an archaeological career. The Society for American Archaeology forms a ‘large tent’ that serves as our professional home. I saved for this gift from my employment, and I am confident that this is money well spent.”

The Society for American Archaeology is our primary national professional organization. It serves a very diverse membership of over 7,000 archaeologists.

The SAA has a legacy of over seven decades of serving the profession. Through the years, the professional stature of the SAA, coupled with creative leadership of its members, Board, several dozen committees, and numerous task forces, have all combined to shape a dramatically expanded role for archaeology at the national level. Those efforts were motivated by a vision of the future.

This endowment campaign is about the future of the SAA and the future of our profession. Bruce Rippeteau's “serious financial giving” was done in the year of his retirement. For students and other members who are far from retirement, a donation of \$15 can represent very serious giving. This is the opportunity for every SAA member to make a gift of any size. Through broad participation, we will make a serious difference. We can all help ensure that our profession continues to change, grow, and adapt for a future that will be very different from today.

Please, consider becoming a donor and help ensure the future of the Society for American Archaeology.

**To the generous people who have already stepped up to
“Give the SAA a Gift on its 75th,” thank you!**

How to Give?

Use your 2007 dues invoice to make a donation—on-paper or on-line. Your generous five-year pledge will make a difference for the SAA and for American archaeology in the 75 years to come! If you have any questions, please contact Tobi Brimsek at 202-789-8200.

the SAA Archaeological record

The Magazine of the Society for American Archaeology

VOLUME 7, No. 1

JANUARY 2007

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The 2006 field camp for the Wailau Archaeological Research Project, which is investigating traditional irrigation agriculture in Wailau Valley on the remote north shore of Moloka'i Island, Hawai'i. Photo credit: Windy McElroy.



The *SAA Archaeological Record* (ISSN 1532-7299) is published five times a year and is edited by John Kantner.

Deadlines for submissions are: December 1 (January), February 1 (March), April 1 (May), August 1 (September), and October 1 (November); send to John Kantner, *The SAA Archaeological Record*, John Kantner, VP for Academic & Institutional Advancement, School of American Research, PO Box 2188, Santa Fe, NM 87504-2188. For information, call (505) 954-7238, fax (505) 954-7214, or email kantner@sarsf.org.

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[www.saa.org/publications/
thesaaarchrec/index.html](http://www.saa.org/publications/thesaaarchrec/index.html).

Past issues of the *SAA Bulletin* can be found at

[www.saa.org/publications/
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EDITOR'S CORNER



EDITOR'S CORNER

John Kantner

*John Kantner is Vice President of Academic & Institutional Advancement
at the School of American Research.*

In anticipation of a new editor, and to assist potential contributors, I reprint some of the Frequently Asked Questions that originally appeared in this column two years ago:

Where do I send my submission? To an Associate Editor or to you?

I encourage potential contributors to directly contact an Associate Editor, if appropriate. Each Associate Editor is responsible for one of the regular columns: Networks, Insights, Exchanges, Where Are They Now, Interfaces, Government Affairs, Working Together, and Public Education. They solicit articles from authors they would like to see contribute to their column, and I also send them relevant articles that are submitted directly to me. The Associate Editors assist me through their extensive connections and knowledge in particular areas of archaeology—they essentially provide a brief, accelerated peer-review process appropriate for our short production schedule.

Is there a limit to the length of my submission?

We prefer manuscripts that run 1500–1800 words with 2–3 figures, as appropriate. Longer articles can sometimes be accommodated, but their publication is often delayed since our issues are of fixed length and always full. Bibliographies consume lots of space, so please keep these as streamlined as possible; only cite references that are essential. We do not run footnotes or endnotes; such information should be incorporated into the main text. Each submission should be accompanied by a brief byline that indicates the affiliation of each author.

How should the figures be prepared?

Figures can be full-color, and we accept slides, photographs, and digital files. Digital line art, including charts and graphs, work best if saved in EPS format. Digital photographs should be originally taken or scanned at a size of at least 4"x6" at a resolution of 300dpi; digital images that are taken or scanned at a lower resolution, and then resized larger, are not acceptable! The best digital format for photographs is TIFF, although the high-quality JPEG format also works. Remember to include captions for each figure.

Note that any photograph that features identifiable individuals can only be used if those individuals have signed photo releases! These releases should read something like, "I hereby give the Society for American Archaeology permission to use the photograph [give info about the photo] in which I am a subject. I understand that this photograph will be used in SAA publications and related online media. [Date and Signature]."

Do authors receive reprints?

Authors can order additional copies of an issue, at a rate of \$5 per copy, if the order is placed before the issue goes to press. If the request is made after an issue has been printed, the price goes to \$10 per copy, and those requests may not be filled if the stock is depleted. There is a shipping and handling charge of \$6 for the first five copies, and then \$1 for each additional five copies. These fees cover the cost of UPS ground service.



Ethics

As co-organizers of the SAA Ethics Bowl, we are writing in regard to an incident that occurred this spring at the annual meeting in San Juan concerning the announcement of the winning Ethics Bowl team in several contexts as the “Ethical Aztecs”—a sobriquet that offended some SAA members. We see this as an opportunity to sensitize ourselves and the SAA membership to this and similar concerns about cultural representation, which may go unnoticed to many, but can be hurtful to others. Our intention in discussing this issue is for us all to learn from these events, and to help each other become ever more aware of the repercussions of words and actions—all the more important in the context of a professional society that seeks and honors diversity.

As many SAA members are aware, the use of indigenous-based imagery for university mascots has been a serious issue for campuses across the country. Many schools have changed their names, eliminated offensive images, or otherwise taken steps to address this issue. San Diego State University (SDSU) has held forums and widely discussed the mascot issue in the context of their university (<http://www.sdsu.edu/identity/positionpaper.html>; <http://www.sdsu.edu/mascot/>). However, even though the name of a mascot or similar words or imagery may be acceptable on a particular college campus, this does not mean that it might not be problematic in another context. For example, there are times when it may not be problematic for an anthropologist or archaeologist to use certain words in the context of one particular community, but the same language might be highly offensive in another setting.

The name “Ethical Aztecs” was never a part of the official event (mascots are not part of the Ethics Bowl); it originated as an off-the-cuff remark by a moderator to

relieve the tension of the final competition. In talking with the SDSU team afterwards, they expressed that they would never have associated themselves with this moniker. We ourselves were not sensitive to the potential consequences and made the mistake of not immediately addressing the matter when it came up a few minutes into the final round. None of us anticipated that the term would come up again when SDSU was handed the winning trophy at the Business Meeting. We began to develop a response at that time, but, in the meantime, the name “Ethical Aztecs” was unfortunately published in the May 2006 issue of *The SAA Archaeological Record* (6[3]:51). President Ames requested a retraction of this wording after it was brought to his attention.

None of the parties involved wishes to blow the incident out of proportion. We rather want to use it to educate ourselves about the underlying issues of concern and our responsibilities in the matter. It appears that very few of those who heard the sobriquet in several different contexts picked up on what was happening or realized that the name was potentially offensive, which shows a general lack of awareness of these issues. We are taking the following course of action, of which this letter is a part.

First, we plan to use a different but similar hypothetical scenario as a basis for a case study in the 2007 Ethics Bowl, where participants and others will have a genuine opportunity to discuss these issues with students, mentors, and SAA members. Second, after consulting with the Committee on Ethics, we have revised the guidelines for the Ethics Bowl to remind participants of the need for respect and sensitivity in their use of language and to ask that each team be identified by the formal name of its institution. Finally, we offer this letter as an apology for any harm, however unintentional, caused by the incident. And we thank the Committee on Native

American Relations for their article in a forthcoming issue of *The SAA Archaeological Record*, which uses what happened in San Juan as a starting point for constructive dialogue on ways in which diversity can be fostered within the SAA.

Julie Hollowell

Chip Colwell-Chanthaphonh

Co-organizers of the SAA Ethics Bowl

PennDOT

As it happens, I was hiring another archaeologist to work at the Pennsylvania Department of Transportation (PennDOT) when I opened the September issue of *The SAA Archaeological Record* to see Scott Anfinson’s article (6[4]: 27–29). While I heartily endorse his comments, I would like to extend them. Over the last eight years, I have led hiring teams to fill 15 cultural resources vacancies—eight archaeologists and seven architectural historians. During that period, I have interviewed well over 50 archaeology candidates. All of the individuals hired have met the Secretary of Interior (SOI) Standards for either archaeology or for architectural history. While PennDOT is not the transportation agency with the largest number of professionals, we do have front-row seats in the development of transportation projects. I think I have learned a few things about professional requirements for government cultural resource management (CRM).

PennDOT holds to the SOI Standards, largely because they are the basis of a delegation agreement we have with the Federal Highway Administration and our State Historic Preservation Office. We take pains to break down and measure candidates against the requirements contained within the Standards. There are five individual requirements: (1) advanced degree; (2) professional experience; (3) supervised experience; (4) conducted research; and (5) experience as a

supervisor. We find that these produce a competent archaeologist who is able to guide work, can judge the work of others in a wide range of situations, and is able to think and apply current laws and regulations. If these Standards are to be meaningful to the profession (and I think they are), then how much gets accomplished through formal education? My own experience tells me "not much." The average candidate acquires requirements 1, 4, and perhaps three of the four months of requirement 3, usually through a field school. By my calculations, this leaves the average freshly minted M.A. graduate lacking 12 months for requirement 2, one month of requirement 3, and 12 months of requirement 5—two or more years away from being allowed to walk through our doors as an employee.

Currently, virtually all of the candidates who do meet the Standards get the additional requirements through apprenticing themselves to a CRM firm and working their way up the corporate ladder. Sometimes this serves the candidate well, sometimes poorly, because simply meeting the Standards gives an incomplete profile of what is needed to be successful at PennDOT. In order of importance, we are also looking for candidates who understand ethics and integrity; collaborate with nonprofessionals, especially engineers; balance priorities; resolve disputes; apply Section 106 of the National Historic Preservation Act; review scopes of work and proposals; get good work out of bad consultants; train nonprofessionals; actively involve and educate the public; consult with Native American tribes; understand and use predictive models; and interpret site soils.

At even the most progressive schools, candidates get formal training in no more than a third of this list, often crammed into 1–2 courses of dubious merit, such as a Section 106 course taught by an academic who has never

applied it in real situations. Some of these desirable skills we will train; however, I am not able to train or educate a new employee in all skills. So my questions back to Scott Anfinson are these: "Are you willing to add 2–3 additional years to the traditional M.A. program to give me CRM-ready employees who will be effective? And, if not, do you believe there is a better way to handle this 'gap' than the current chaos of unguided individuals seeking their way through the maze of professional development?"

Where is the post-degree program? Why, in all of the ink spilled over this issue, aren't people talking about this gap in education? Maybe it's time to create post-degree certification programs that get graduates to SOI Standards and give them job skills along the way. The CRM business hasn't done this, the academic institutions certainly haven't done this, nor (unlike Scott) do I believe they are about to any time soon. The Baby Boomers are retiring, and the pool of professional archaeologists is indeed shrinking. We cannot afford to continue to waste human capital in this manner. At some point, the issues of quality and quantity will become an embarrassment. Should that happen, you might as well shutter us up in the museum with the philologists and antiquarians, because the game will be up.

*Ira Beckerman
Pennsylvania Department of
Transportation*

SEND US YOUR POSTERS!

The SAA Public Education Committee and the Council for Affiliated Societies invite states to participate in the Archaeology Day, Week, or Month poster competition at the 72nd Annual Meeting in Austin, Texas. If you know of a terrific archaeology poster published to commemorate an Archaeology Day, Week, or Month, between April 2006 and March 2007, please send it in! The deadline for submissions for the April 2007 meeting is March 26, 2007.

All posters received by the March 26, 2007 deadline will be displayed at the meeting. All those attending the conference are invited to vote! (The ballot is in your registration packet.) Awards will go to the top three "best" posters as determined by a vote of participants at the meeting.

SUBMISSION REQUIREMENTS:

1) Name, title, mailing address, email, and phone number for the contact person. Information must be typed and printed out on a white 8½ x 11 inch piece of paper.

2) Two copies of state poster. Posters must be clean, unmounted, and unfolded.

U.S. Postal Service deliveries should be sent to: Allen Dart, Old Pueblo Archaeology Center, P.O. Box 40577, Tucson, AZ 85717-0577.

FedEx and UPS deliveries should be sent to: Allen Dart, Old Pueblo Archaeology Center, 5100 W. Ina Road, Bldg. 7, Tucson, AZ 85743.

For more information, please visit the SAA Archaeology for the Public Webpage: <http://www.saa.org/public/resources/ArchPoster.html>

The contest is sponsored by the SAA Public Education Committee and the Council of Affiliated Societies.



IN BRIEF

Tobi A. Brimsek

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

A Taste of Austin

The Austin meeting, SAA's 72nd Annual Meeting, has the potential to be one of SAA's best annual meetings ever! In addition to the rich program of symposia, forums, general sessions, and posters, there is an extraordinary choice of activities:

- The President's Forum is back! This is a no-conflict session from 11 am–12 pm on Thursday, April 26.
- The CRM Expo will be held once again on Saturday, April 28.
- ArchaeologyLand! is back on Saturday, April 28.
- Field Trips abound—the San Antonio Spanish-Colonial missions; a tour of Belle shipwreck artifacts at the Bob Bullock State History Museum, and of the ship's hull undergoing conservation treatment at the Conservation Research Laboratory at Texas A&M University in College Station; and a trip to the Gault Site Lab. In order to go forward, field trips must fill during the advance registration process.
- Workshops provide opportunities—"Introduction to High-Density Scanning," "Education Programs Evaluation," and "Meeting the Press Head On." Register for one or all!
- And don't forget the roundtable thematic lunches on Friday, which through generous sponsorships, are offered at \$6.60 per person for lunch and a stimulating hosted discussion. Please note that for the first time, tickets to these lunches will **NOT** be available onsite in Austin. The only way to get a ticket to one of these conversations is to sign up during advance registration!

Details on these aspects of the meeting and many more are found in the Preliminary Program, which is posted on SAAweb (<http://www.saa.org>) and was dropped in the mail at the turn of the year. Even if you are already registered as a participant, don't forget to consider registering for some of the events described above!

Abstract Extra for 2007

The Society is testing an enhancement to the meeting abstracts this year. Should you purchase the abstracts, you will receive, along with the printed version, a CD with a searchable PDF containing all of

the abstracts. This non-reproducible CD will be included at no additional charge. Please use the meeting evaluation form to share feedback on the availability and utility of the CD.

Volunteering at the Austin Meeting

The 2007 annual meeting volunteer program is gearing up right now for Austin, Texas! For just 12 hours (3 shifts of 4 hours) of volunteer time, you will receive complimentary meeting registration, a free copy of the *Abstracts of the 72nd Annual Meeting*, and \$5 per shift. Spots fill quickly, so think about submitting your application now! For complete details and to fill out an application online, visit SAAweb (<http://www.saa.org>) and click on the volunteer program button on the front page. If you have any questions, please contact Darren Bishop, Coordinator, Membership and Marketing, at (202) 789-8200 or by email at Darren_Bishop@saa.org.

New SAA Gear Available Online and in Austin

We are pleased to announce that we have added new merchandise—complete with the SAA logo—to our line of SAAgear. These new items include light blue, classic oxford, long-sleeve shirts in both men's and women's sizes; navy blue and pink (women's only) golf shirts; 16-oz. Nalgene water bottles available in three colors; navy blue brushed twill caps; mechanical pencils; and die-cut brass key chains. To view the entire line of SAAgear, simply go to <http://www.saa.org>, select "SAA Marketplace," click the "SAAgear" link under "Product Categories," and start browsing! You will also find SAAgear to buy and bring home at the SAA booth in the exhibit hall during the annual meeting in Austin.

E-Voting and Paper Ballots—Vote Now!

The 2007 election is open! Ballots/candidate statements have been distributed either via the postal service or an email link to the web voting site from the email address SAA@vote-now.com. Whether you are voting via the web or on paper, please cast your ballot before the deadline of February 12, 2007. Give your voice to SAA's governance. Thank you.



SAA ENDOWMENTS

Susan M. Chandler

Susan M. Chandler, Treasurer of SAA, is President of Alpine Archaeological Consultants, Inc. in Montrose, Colorado.

Although the day-to-day operations of SAA are funded largely through member dues, annual meeting income, and institutional journal subscriptions, SAA has also established a number of endowment funds with the goal of generating income for the future. These include the Public Education Endowment Fund, The Native American Scholarship Fund, and the SAA Endowment Fund, often referred to as the “General Endowment.” Dues from Life Memberships are also set aside in an endowment fund.

The SAA Endowment Fund was established in 1985 and helps ensure the future of the SAA. Income from the general endowment provides long-term financial security, keeps dues more affordable, and helps SAA fulfill its mission through the Annual Meeting; quality publications such as *American Antiquity*, *Latin American Antiquity*, and *The SAA Archaeological Record*; and programs in governmental affairs, public relations, and professional development.

The Native American Scholarships Fund was established in 1988 to foster a sense of shared purpose and positive interaction between the archaeological and Native communities. The Fund has grown by means of donations of book royalties, contributions from individuals and organizations, and the proceeds from silent auctions. Since 1998, SAA has awarded an annual Arthur C. Parker Scholarship, which supports training in archaeological methods and theory for Native peoples from the U.S. and Canada who are students or employees of tribal cultural preservation programs.

The Public Education Endowment Fund was established in 1997 and helps support SAA’s ever-growing activities in public education. SAA reaches out to archaeologists, educators, and the interested public through workshops, exhibiting the Archaeology Education Resource Forum at professional meetings, publishing *Archaeology and Public Education* and other resources for educators, and supporting the Network of State and Provincial Archaeology Education Coordinators. The money contributed by members to this fund helps these programs directly and also helps to leverage additional funding from outside grants.

The SAA endowment funds, like most permanent endowment funds set up by nonprofit groups, are carefully invested in a

manner that will generate income on the principal balances, yet preserve capital. The endowment funds allow SAA to engage in long-range planning, knowing that there will be ongoing support for programs and operations.

In recent years, the SAA Board of Directors has been able to use the interest and dividends generated by the endowment funds to finance a number of projects that SAA could not have otherwise afforded without a dues increase. The principal in each endowment remains untouched so that it can continue to grow and produce more income in the future. Recent or planned projects include the following:

- rental of digital projectors at the 2005 Annual Meeting (General Endowment)
- implementation of e-voting for the 2006 election (Life Members Endowment)
- an additional 16 pages for each September issue of *The SAA Archaeological Record* (General Endowment)
- support for a student intern for two semesters in the Education and Outreach program (Public Education Endowment)
- support for a student intern for two semesters to work on public relations/ communications (Life Member Endowment and General Endowment)
- support for a student intern for two semesters to work with the Manager of Government Affairs (General Endowment and Public Education Endowment)
- \$1,000 Student Research Award, to be awarded at the 2007 Annual Meeting (General Endowment)
- redesign of SAAweb to improve navigability and current organization (General Endowment—not yet implemented)

Donations from SAA members help build the endowments and ensure the future of the Society. You can either add a donation to the endowment(s) of your choice on your dues form, or you can make an annual pledge to the “Give the SAA a Gift on its 75th” fund-raising campaign (see the back cover of this issue). If you have questions about how you can help, please contact the Chair of the fund-raising campaign, Bill Doelle (tel: [520] 881-2244; email: bill@desert.com), or Tobi Brimsek (tel: [202] 789-8200; email: tobi_brimsek@saa.org).



RESOLVE TO PACK YOUR BAGS AND COME TO AUSTIN!

Pam Wheat-Stranahan and Pat Mercado-Allinger

Pam Wheat-Stranahan and Pat Mercado-Allinger are co-chairs for the Local Advisory Committee.

If you only make one resolution this year, resolve to join your colleagues at the SAA Annual Conference in Austin, Texas, April 25–29, 2007. The spring is an excellent time to visit the city, with maximum temperatures averaging 79°F and lows ranging from the high 50s to the low 60s. You will likely be treated to a beautiful palette of wildflowers as you approach the Texas Hill Country, whether you arrive via ground or air transportation. By the way, even the airport is a part of the live music scene, offering as many as three music venues! Is it any wonder why the city is known as the *Live Music Capital of the World*?

This year's conference attendees will experience convenience on many levels. The headquarters hotel, the Hilton Austin, is steps away from the Austin Convention Center and is located two blocks from the 6th Street Entertainment District. Eclectic eateries and nightclubs abound in the Warehouse and 2nd Street districts, and both are short walks from the hotel. A "must see" is the nightly emergence of the world's largest urban bat colony from the Congress Avenue bridge at Town Lake, near the convention center. For a unique mix of shops and restaurants, don't miss the South Congress (or "SoCo") District, a brief bus ride away. Public transportation options include numerous bus routes and free 'Dillo trolleys, both of which run in the vicinity of the conference hotel and convention center. Check the Capi-

tal Metro website (<http://www.capmetro.org/index.asp>) for current bus route and schedule information. We also encourage conference-goers to visit the Austin Visitors and Convention Bureau website (<http://www.austintexas.org/home/>) for helpful maps, visitor guides, and information on attractions, dining, and entertainment.

You should also resolve to participate in at least one of the special conference excursions. Among this year's choices are a trip to the San Antonio Spanish-Colonial missions; a tour of Belle shipwreck artifacts at the Bob Bullock State History Museum, and the ship's hull undergoing conservation treatment at the Conservation Research Laboratory at Texas A&M University in College Station; and a trip to the Gault Site Lab and then on to the site itself, where evidence of nearly 11,000 years of occupation has been recovered.

Of course, the 2007 conference program offers a multitude of compelling sessions from which to choose, but resolve to enjoy the good company of your fellow attendees when you find yourself in Texas's fabulous and funky capital city! So don't delay—register for the conference, reserve your hotel room and make your travel arrangements, and JOIN US IN AUSTIN!



Sixth Street Night. Credit: ACVB Photo.

72ND ANNUAL MEETING

PLANNING FOR AUSTIN!

Elizabeth S. Chilton

Elizabeth S. Chilton is the 2007 Annual Meeting Program Chair.

PHOTO CREDIT: AUSTIN SKYLINE AT NIGHT. ACVB PHOTO/DAN HERRON

The Preliminary Program for the 72nd SAA Annual Meeting in Austin, TX, April 25–29, 2007 was mailed in early January and posted on SAAweb in late December. The sessions will be held in the Austin Convention Center, which boasts nearly 900,000 square feet of space. There will more than 2,000 presentations, 170 sessions, and 350 posters. The diversity of geographical areas represented, topical foci, theoretical perspectives, and practical applications are most impressive. There will be 20 concurrent sessions every day, including Thursday evening and Sunday morning. I would like to call your attention to just a few of the highlights of the meeting:

- The Opening Session, sponsored by the SAA Program Committee: “Borders, Boundaries, and Bridges in Texas Archaeology” (Wednesday evening).
- The President’s Forum, organized by Ken Ames: “Peopling of the Americas” (Thursday morning).
- Two SAA Board-sponsored sessions: “Central American Archaeology: Current Situation and Future Perspectives,” organized by Barbara Arroyo and chaired by Daniel Sandweiss; and “The Discipline of Archaeology,” organized by T. Douglas Price, Margaret Conkey, and Vin Steponaitis.
- The CRM Expo, which was on hiatus in San Juan, will be in the Exhibit Hall on the Saturday of the meeting.
- “ArchaeologyLand,” featuring hands-on archaeology and cultural history-based activities, will also be back at the Austin Hilton.

Three other events organized by the Public Education Committee include: “Education Programs Evaluation: Prospects and Planning” (a workshop); “Diversifying Archaeology’s Impact through New Forms of Public Engagement: Current Happenings in Public Archaeology” (a forum); and “Taking the Camino Real to School” (a symposium that includes teachers from Chiuhua, Mexico).

As in past years, there will also be 15 roundtable lunches on a diverse array of exciting topics. If you are interested in participating in any of these, please sign up ahead of time, as no tickets will be sold on-site in Austin (details are in the preliminary program). The topics and hosts include:

- Heritage Values: The Past in Contemporary Society (Phyllis Messenger)
- Archaeology and Race (Amy Young)
- World Archaeologies (Joan Gero)
- Writing and Publishing (James Skibo)
- Navigating the Academic Job Market (Catherine Cameron)
- Origins of Agriculture (Ofer Bar-Yosef)
- Coastal Archaeology (Scott Fitzpatrick)
- Challenges for Women in Archaeology (Silvia Tomaskova)
- The Business of Archaeology: A Primer for Becoming a CRM Professional (Deborah Cox)
- Share, Remix, Reuse: Making the Most of Digital Archaeology (Eric Kansa)
- Archaeochemistry (Nikolaas van der Merwe)
- Indigenous Archaeology in North America (Joe Watkins)
- GIS and Archaeology (Tim Murtha)
- Strategies for Success in Graduate School (Mary Van Buren)
- Working with Communities: Theory and Practice in Public Archaeology (Carol McDavid)

I would like to take this opportunity to thank the 2007 Program Committee: Michael Barton, Michael Chazan, Maria Franklin, Eric Kansa, Sarah Whitcher Kansa, Desirez Martinez, Robert Paynter, Ventura Perez, Bruce Ream, Elenor Reber, William Saturno, George S. Smith, Alexia Smith, Michael O. Sugerman, Michael Wilcox, Martin Wobst, and Pei-Lin Yu. I would like to offer a very special thanks to our Program Coordinator this year, Angela Labrador.

Looking forward to seeing you all in Austin!



CHOOSING AN ARCHAEOLOGICAL FIELD SCHOOL

Matthew Piscitelli and Samuel Duwe

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The field school is the backbone of archaeological training; it provides a skill set that no classroom could possibly offer. Whether you are excavating, surveying, mapping, or using a plethora of other skills vital for modern fieldwork, it is during your first field experience that the Brunton and the Marshalltown find their way into your life. Field courses are a tradition deeply ingrained in the history of the discipline and a place where lifelong friends often are made. To see this, one only needs to go to the hotel lounge at the SAAs. You will find an unlikely group of individuals sitting together swapping stories of six weeks spent in some strange place.

Archaeological fieldwork has diversified greatly over the years, and this has yielded a dizzying array of opportunities for students who try to pick out a field school. This article is concerned with addressing the question: which field school is right for me? Both your interests in archaeology and your career goals are important considerations in your decision. It goes without saying that some students will either love or hate fieldwork, regardless of the situation. But if you are certain that this is something you might like to try, then perhaps the following thoughts will help in making an informed decision. Chances are you will have a blast wherever you end up.

Project Type

The first question you have to ask yourself is what do you want from a field school? No single field school can teach you everything, but perhaps you want to focus on gaining excavation experience, or maybe survey or mapping skills. In recent years, field schools have expanded into other topics as well, such as working with Native American groups or the public through educational outreach. There are also opportunities to learn valuable skills and gain field experience outside of dedicated field schools. For example, a summer working for a cultural resource management (CRM) firm will help you to refine skills such as laying out grids and digging test pits.

Ultimately, the type of field school you choose is based on two factors: your interests and your career goals. The first factor is incredibly important. For example, survey is great if you like to hike and see large portions of the landscape, whereas excavation provides a unique experience to uncover the past right before your eyes. In addition, a field school may use a particular technology or methodology (i.e., remote sensing or geoarchaeology) that piques your interest. Read the project description, talk to your advisor and other students, and see if it sounds like something you would enjoy. Keep in mind you will be doing this for up to six or eight weeks. The second factor is based on what you want to do with archaeology as a career. Do you want to enter the job market after your undergraduate education, or apply to graduate school? Many CRM and federal government projects are survey-based, so having these skills will properly equip you for work after college. If you are continuing your studies, however, you might consider what types of fieldwork would be beneficial for your future research, be it survey, excavation, or a specific methodology.

Project Site and Living Conditions

One can find fieldwork opportunities almost anywhere, whether on another continent or in your own state. Although the “romantic” tradition of living in a tent for the summer is still alive and well, field school living conditions range from sleeping under the stars to living in an air-conditioned apartment. While it might sound more exotic to be in another country where luxuries are at a minimum, examine your personality before signing up for something that might make you uncomfortable.

It may seem obvious, but think about what area of archaeology interests you. If it is the U.S. Midwest or Southwest, for example, you should consider a field school in those areas. You will be able to get to know your future colleagues and gain experience with the type of archaeology you are pursuing. The same can be said about working abroad. If you want to do European archaeology, consider traveling out of the country. Attending a field school overseas offers a unique set of challenges and rewards. Can you speak the language, and if not, are you okay with feeling a little out of place? Can you be out of touch with everyone back home for half a summer and deal with “snail mail,” infrequent phone calls, and dial-up Internet that you can only use once a week? Are you okay with eating and drinking things that may seem odd? And there is climate. Remember that when you’re basking in the rays of the sun in the northern hemisphere, down in the southern half it is winter—it might be the rainy season or just plain chilly. It is also worthwhile to examine how you value privacy and personal space. You will be with your fellow students almost non-stop and sometimes in particularly close situations. Contact the project director to ask questions about the living conditions, political climate, etc. Hopefully they will make you feel more confident about the experience. (As for your parents, that is another matter.)



Figure 1: The Harvard Archaeological Field School crew observes the excavation of a large, deep archaeological feature.

Living conditions often go hand-in-hand with the cost of attending the project (see below), but all field schools will provide some sort of room and board. This might mean bringing your own tent and eating what you or the project director cooks, but it can also mean living in a dorm building and eating in a mess hall. Some programs may supply two meals a day and others three. In most cases, weekday meals are provided but weekends are your responsibility—meaning you should bring a little extra spending money. On the other end of the spectrum, there may be apartments and a full-time chef. Which would you prefer? Each answer will be unique to the individual, but refrain from judging yourself too harshly if you would rather have a roof over your head. With all of the choices out there, finding a place that is comfortable should not be a problem.

Costs and Funding

The two major factors that influence the cost of field schools are the tuition rates for the host college or university and the cost of living for that geographic region. Some universities charge large amounts of money for out-of-state tuition or for summer courses. The high price of tuition might mean taking a field school from your own school to cut costs, but which also could give you a chance to perform follow-up analyses and work with the project long-term. A limitation you may face is the need to fulfill a departmental requirement, so paying tuition to receive college credits may be mandatory. If the field school is not affiliated with your own college or university, it is essential to find out whether the program offers academic credit that is transferable to your school. Often, departments that require field experience for the major will have criteria that define what is an appropriate field school. In such instances, refer to your particular department and especially your advisor for help.

As noted earlier, living conditions also affect how much you will pay. Would you be comfortable living in a tent and saving a thousand dollars, or would you rather spend extra to feel not so far from home? If your field school is abroad, summertime plane tickets can be expensive. Remember that there might be additional expenses, particularly for foreign studies. In some cases these might include things like passport fees, immunizations, supplementary insurance, or side trips you might want to take.

There are ways to spend little to no money at all on a field school. Some programs have financial aid scholarships, and others are affiliated with the National Science Foundation's Research Experience for Undergraduates (REU) program. In addition to having plane tickets, room, and board provided, you may receive a stipend. Another way to reduce your cost is to volunteer at the field school. This usually involves the same work and learning experience, but without paying tuition and therefore not receiving college credit. Ask the project director what options are available, and check outside sources of funding.



Figure 2: A Harvard Archaeological Field School participant delves into his work in order to excavate a shaft burial from Tiwanaku, Bolivia.

Field School as a Research Experience

A field school is hard work, and you will be generating more data than any one person can analyze. While some students may want to attend a project to learn a skill, others take joy in the fact that they can continue to be part of the research experience *after* fieldwork is completed. In recent years, a number of field schools have begun to emphasize student research projects, many of which are showcased at the SAA Annual Meeting. Other students have taken a small project from field school and developed it into a M.A. thesis or even a Ph.D. dissertation. Involvement in a field school that makes you part of the research process not only makes getting your hands dirty seem more worthwhile, but it also allows for career development. A paper or poster presentation looks great when applying to graduate school, and continuing research relationships means extended opportunities to pursue your own projects in the future.

Many field schools with this sort of focus have evening lectures (often by campfire light) and student research projects as part of the curriculum. These features are generally a good indication of a project that will include you in the research experience. Read the project description and talk with the project director to make sure that the orientation of the field school fits your interests. The Internet is a good place to start your research, but remember that word of mouth often provides the most intimate and realistic picture of a field school program.

Resources

When these considerations are taken into account, finding a field school that is right for you becomes easy. Several organizations post free online resources advertising digs and field schools, including the Archaeological Institute of America (<http://www.archaeological.org/webinfo.php?page=10016>), the American School of Oriental Research (<http://www.asor.org/ASORCAP.html>), American Anthropological Association (http://www.aaanet.org/ar/fs/fschool_current.htm), and Shovelbums (<http://www.shovelbums.org>). A detailed list including session dates, affiliated universities or museums, site conditions, and room and board information is extremely helpful to obtain a complete picture of the field school, but if this information is not provided, don't hesitate to contact the director for more information. Good luck, and we look forward to seeing you in the field!



THE PEER-REVIEW PROCESS FOR AMERICAN ANTIQUITY AND LATIN AMERICAN ANTIQUITY

José Luis Lanata, Mark Aldenderfer, and Michael Jochim

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Far from being perfect, the peer-review process is nevertheless the most effective way to assure the quality of a publication. Because they have used peer review from their very beginnings, *American Antiquity* (AAQ) and *Latin American Antiquity* (LAQ) are journals of high academic impact with strong reputations in the world academic community. The peer-review process seeks not only to identify the highest-quality manuscripts, but also works to improve the clarity of presentation of any author. The process is based on four fundamental principles: the importance of the diffusion of knowledge, the assurance of the preservation of knowledge in different media, the maintenance of control over the quality of knowledge that is disseminated, and the proper crediting to investigators and their discoveries and scientific contributions. Taken together, these principles maintain the excellence of scientific knowledge in any field (Meadows 1974; Ravetz 1973; Ziman 1968).

Our task as editors is far from mechanical, and is much more than inviting, receiving, and transmitting reviews to authors and informing them as to whether their manuscript has been accepted or not. Each case is different, and to arrive at an evaluation of a manuscript depends in great part on how well the reviewers do their job. If a manuscript receives three “excellent” and two “goods,” for example, this does not automatically mean we will accept it for publication. Much depends on the quality and thoroughness of the reviews. At times, this has led to problems with some authors who can’t understand why we have asked for changes in a manuscript when it has been rated “excellent” by at least one reviewer. There are very few instances when all reviewers are in total agreement about a paper, and when reviews differ substantially, as they often do, the resolution of the situation requires that we initiate a dialogue with the authors and reviewers to come to some agreement.

Recently, the editors of *Nature* (2006) published a comment where they presented a series of case studies of how and why reviewers’ opinions of a manuscript varied and how their editors attempted to resolve such differences. We have experienced similar situations during our editorial terms. Without question,

Lejos de ser perfecto, el *peer-review-process* es sin duda la forma más eficaz de asegurar la calidad de una publicación. Debido a que *American Antiquity* (AAQ) y *Latin American Antiquity* (LAQ) han adoptado el *peer-review-process* desde sus inicios es que son considerados journals de alto impacto académico, con una muy fuerte reputación entre la comunidad académica mundial. El *peer-review-process* apunta no solo a identificar los manuscritos de más alta calidad si no que también opera para mejorar la claridad de la presentación realizada por cualquier autor. Este proceso se basa en cuatro principios fundamentales, la importancia de la difusión del conocimiento, asegurar su conservación a través de diferentes medios, tener un control de calidad del conocimiento difundido y darles el correspondiente crédito a los investigadores de sus aportes científicos y descubrimientos. Estos principios en conjunto tienden a mantener la excelencia del conocimiento científico en cualquier disciplina—ver Meadows (1974), Ravetz (1973), y Ziman (1968).

Nuestra tarea como editores dista mucho de ser labor mecánica. Va mucho más allá de invitar, recibir y remitir evaluaciones a los autores informándoles si los manuscritos son aceptados o no. Cada caso es diferente, y llegar a su evaluación final depende, en gran medida, en cuán bien los revisores realizan su trabajo. Por ejemplo, si tenemos tres “excelentes” y dos “buenos” para un manuscrito, no quiere decir que automáticamente debamos aceptarlo para su publicación. Mucho depende de la calidad y meticulosidad de las evaluaciones. En algunos casos, esto nos ha llevado a situaciones en las que algunos autores no comprenden porque les solicitamos realizar cambios en el manuscrito cuando ha sido calificado como “excelente” por lo menos por un revisor. Son muy pocos los casos en los que los revisores tienen un consenso general en la evaluación de un manuscrito, y cuando difieren sustancialmente, como suele ser la norma, la resolución de esta situación amerita que debamos comenzar un diálogo con los autores y los revisores a fin de llegar al mismo.

Recientemente, los editores de *Nature* (2006) publicaron un comentario en el cual presentan una serie de casos de cómo y

reviewers play a vital role in the peer-review process, and the majority of reviewers make a sincere effort to evaluate the theoretical context of a paper, the ways in which theory and method articulate, and the consistency of the conclusions offered. At times, it happens that a reviewer misses a key problem or concern in a paper that is noticed by another, and it is our role as editors to determine the significance of this problem and to communicate it to the author. Unfortunately, there are instances when authors, reviewers, and editors miss a critical point that is only discovered by a reader of the published paper.

To avoid such problems, the large majority of papers we receive go through as many as three, and sometimes four, reviews before they are finally accepted, and it has been our experience that few papers pass through the first review without requests for significant changes or modifications. Authors should bear this in mind—it is likely you will be asked to modify your paper. It is worth noting that many papers receiving three “excellents” and two “goods” are returned to the authors for revision if reviewers make a strong case for this to be done. The author has the following two options: accept the comments and incorporate them into the revision, or defend the original version and argue clearly as to why the proposed changes suggested by the reviewers are not reasonable. We see this interaction and exchange as the fundamental spirit of the peer-review process, which is to improve individual manuscripts and build a solid body of scientific knowledge in our field. Our job as editors is to manage and maintain the quality and rigor of this process.

We also think it is important to address questions and concerns authors may have about the length of time it takes to receive notice of the disposition of a manuscript. For *LAQ*, we ask that reviewers return the review form to us within three weeks. For *AAQ*, we request a four-week turnaround. We will consider extensions of the deadline, depending on personal situations, fieldwork demands, or other factors. In general, most reviewers comply with the deadline even while they are in the field, but we recognize that in such circumstances, limited access to the Internet or regular mail makes the review process more challenging. Unfortunately, some reviewers fail to meet the deadline, and in such cases, we make every effort to get the reviewer to send us the review as quickly as he or she can. Only a small number of reviewers never respond to our repeated requests. Except for a very small number of papers, then, the time from manuscript submission to author notification is no more than two months.

Bourne and Korngreen (2006) offer 10 rules for reviewers, and we think these are worth repeating, with a few modifications, for our journals:

- (1) If you cannot do a review by the deadline, don't accept the

porque la opinión de los revisores sobre un manuscrito difiere y cómo sus editores se esfuerzan para resolver esas diferencias. Nosotros hemos experimentado situaciones similares durante nuestra gestión. Sin duda, los revisores juegan un rol importante en el *peer-review-process*, y la mayoría de ellos hacen un sincero esfuerzo para evaluar los aspectos teóricos que presenta un manuscrito, la forma en que articulan teoría y método y su consistencia con las conclusiones presentadas. A veces es posible que un revisor pueda involuntariamente pasar por alto un punto o tema importante que otro de los invitados si advierte. Y es nuestro rol como editores remarcar la importancia de ese punto y destacarlo en nuestra comunicación al autor. Si bien no es frecuente, también es posible que algún tema crítico pase desapercibido tanto para autores, revisores y editores y que sea finalmente advertida por un lector del trabajo ya publicado.

A fin de evitar esto, la mayoría de los manuscritos que recibimos pasan por varias revisiones—tres y a veces cuatro—antes de ser totalmente aceptados, siendo nuestra experiencia que son pocos los casos en los que un manuscrito se acepta en su primera evaluación sin que se le soliciten cambios y modificaciones importantes. Los autores deben tener esto en cuenta—si es que se le solicita modificar su manuscrito. Y esto debe ser considerado cuando un manuscrito que recibe tres “excelentes” y dos “buenos” es reenviado a los autores para revisión cuando los comentarios vertidos por los evaluadores así lo sugieren. En ese punto los autores tienen las siguientes dos opciones: aceptar los comentarios e incorporarlos en la revisión, o defender la versión original argumentando claramente por que considera que los cambios propuestos por los revisores no son, a su entender, razonables. Nosotros vemos en esta interacción e intercambio el espíritu fundamental del *peer-review-process*, que es mejorar la calidad individual de cada manuscrito y construir un cuerpo sólido de conocimiento científico en nuestro campo. Es función de los editores mantener e incrementar la calidad y rigurosidad de este proceso.

Otro tema que nos parece importante comentar sobre las preguntas y dudas que muchos tienen en relación al tiempo que toma notificarles el resultado de la evaluación a los autores. En el caso de *LAQ* solicitamos que los evaluadores nos regresen el formulario con sus comentarios en tres semanas. Por su parte, *AAQ* sugiere un término de cuatro semanas. Estos plazos pueden extenderse un poco de acuerdo con situaciones personales, realización de trabajos de campo, así como otros diferentes motivos. En general, la mayoría de los revisores aceptan los períodos mencionados, incluso cuando están de trabajo de campo. Queremos destacar esto pues son muchos los casos en los que colegas cumplen en fecha aún cuando se encuentran en lugares remotos y con limitado acceso a Internet o correo postal, lo que sin duda hace al proceso más demandante para ellos. Desafortunadamente, muchos se demoran con la fecha de envío

- invitation. Importantly, let us know via email that you have declined.
- (2) Always identify any conflict of interest you might have as a reviewer.
 - (3) Write a review that you would be satisfied in receiving if you were the author.
 - (4) As a reviewer, never forget that you are, in a sense, an author of the paper under review.
 - (5) Enjoy and learn from the reviewing process.
 - (6) Develop a reviewing method that works for you.
 - (7) Don't waste time on papers that don't merit serious review due to major flaws or very poor quality.
 - (8) Maintain the anonymity of the peer-review process. Anonymous peer review is standard SAA policy, but you are free to name yourself to the author if you wish.
 - (9) Be clear, direct, and neutral as well as decisive in your review.
 - (10) Please use extensively the Extended Review Section of the review form.

There are many instances where reviewers fail to adhere to these rules. Many of those invited let us know that they do not have time to do the review, and some offer us names of alternates. Many of those invited, however, never bother to reply to our request, and as editors, this can be quite frustrating. It also slows the review process. Situations involving conflicts of interest can be quite difficult, and they often demand delicate treatment. In some instances, we as editors are already aware of potential conflicts. But there are of course many of which we are unaware, and unfortunately, we only discover them after we have received a review. This usually leads us to discard or discount the review because of this potential bias, and unfortunately, this tends to slow the entire review process.

We note that authors tend to be quite grateful to reviewers who notify them of inconsistencies and contradictions in their manuscripts. Thus the role of the reviewer is of the greatest importance. The reviewer is often one of the first to receive notice of original or new discoveries or of novel arguments. The reviewer, as a recognized expert in the subject matter of the paper, has complete freedom to suggest that authors develop their ideas further or to recommend cuts or changes in any part of the paper. You are the expert, and although the editors do their best to remain current in the literature, it is not reasonable to expect them to be expert across all areas or techniques. Thus if you fail to offer us a thorough review, there is a chance the editors will recommend a paper less than worthy for publication. It is for this reason that we make every effort to obtain large numbers of reviews across a wide spectrum of viewpoints.

When you accept an invitation to review, make it a thorough, well-considered one. Identify those areas of a manuscript that are not clear, and give the author concrete suggestions for changes. Even though the author may decline your suggestions,

de la revisión; bajo esas circunstancias hacemos todos los esfuerzos posibles para que el revisor cumpla con su compromiso lo antes posible. A pesar de ello, es pequeño el número de revisores que nunca contestan nuestras repetidas solicitudes. Salvo un muy bajo número de casos, no se está demorando más de dos meses en remitir al autor la evaluación del trabajo.

Bourne y Korngreen (2006) ofrecen diez reglas para los revisores, y creemos que merece la pena repetirlas, con algunas modificaciones para nuestros journals:

- (1) Si no puede cumplir con el tiempo pedido, no acepte la invitación. Es muy importante que nos lo haga conocer vía email que usted declina la misma.
- (2) Siempre tenga en cuenta cualquier posible caso de conflicto de intereses para actuar como revisor.
- (3) Escriba una revisión en un estilo semejante al que usted le gustaría recibir si fuera el/la autor/a.
- (4) Como revisor, nunca se olvide que es, en un sentido amplio, un/a autor/a del manuscrito que está evaluando.
- (5) Disfrute y aprenda del *peer-review-process*.
- (6) Emplee un tipo de evaluación que funcione para usted.
- (7) No pierda tiempo en manuscritos que no ameritan una revisión seria pues contiene importantes fallas y/o es de muy baja calidad.
- (8) Mantenga su anonimato en el *peer-review-process*. El anonimato es una política estándar de la SAA, pero el revisor el libre de identificarse si es lo desea.
- (9) Mantenga su anonimato en el *peer-review-process* si lo desea; esto es una posibilidad que ambos journals de la SAA le otorga.
- (10) Sea claro, directo y neutral pero firme en sus comentarios.
- (11) Utilice sin problemas la *Extended Review Section* de los formularios de revisión.

Hay muchas instancias en las que los revisores parecen no cumplir con estas reglas. Muchos de los invitados nos contestan que no pueden cumplir en tiempo y forma con lo pedido, incluso sugiriendo colegas como alternativa. Otros tantos invitados, sin embargo, no se preocupan ni siquiera en contestar nuestra invitación. Esto, para nosotros los editores, es frustrante y además demora innecesariamente el proceso de revisión. Situaciones de conflicto de intereses pueden ser un tanto más difíciles y requieren un tratamiento más delicado. Circunstancialmente es probable que, como editores, sepamos de la existencia de potenciales conflictos. Pero a veces no, y de esto nos damos cuenta al recibir la evaluación. Lo que nos lleva a desechar o descartarla por ser parcial, retrasando todo el proceso. No hace falta decir que un autor agradece al revisor cuando el mismo encuentra una inconsistencia o una contradicción. En este sentido la tarea del revisor es sumamente importante, recibiendo de primera mano información original, ya sea de nuevos

it is likely that your challenge has made him/her think about their argument a bit more clearly.

The peer-review process is fallible, but despite the many places in which it could fail, it remains the best way to determine the academic quality of a manuscript. It is a constant learning process, and every day something new arises. Despite its small problems, it is the tool that each of us as academics and members of SAA use to rank the journals as well as the institution itself. We are each part of it, and it is our mutual responsibility—authors, reviewers, and editors—to maintain the highest of standards.

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descubrimientos o argumentaciones novedosas. El revisor, como reconocido especialista en alguno de los temas que discute el manuscrito, tiene la total libertad de sugerir a los autores que desarrollen más sus ideas o acorten o cambien partes del texto. El es el experto, y los editores hacemos lo posible para estar al corriente de toda la bibliografía de una región o de una determinada técnica, pero no es razonable pensar que podemos estar al corriente en todas ellas. Es por eso que si el evaluador falla en enviarnos una buena revisión, existe la posibilidad de que los editores publiquemos un trabajo que no lo merezca. Por ellos nosotros brindamos nuestro mejor esfuerzo para obtener un número significativo de revisiones que abarquen el amplio espectro de temas que se tratan en un manuscrito.

Cuando acepte ser revisor, extiéndase lo necesario en sus sugerencias, evaluando con la mejor consideración posible. Identifique aquellos aspectos que pueden no estar claros, y ofrézcales a los autores sugerencias concretas para realizar cambios. Aún cuando puedan no aceptarlos, usted los está desafiando a que presenten sus argumentos de manera más explícitas.

El *peer-review-process* puede ser falible, pero más allá de sus fallas, ha mostrado ser la mejor forma que tenemos para evaluar la calidad académica un manuscrito. Es también un constante proceso de aprendizaje, en la cual cada día aparece algo nuevo. Más allá de sus pequeños problemas, es la herramienta con la que cada uno de nosotros, como académicos y miembros de la SAA, jerarquizamos cada vez más tanto a los journals como a la institución. Somos parte de ella y es nuestra responsabilidad conjunta—autores, revisores y editores—mantener los estándares más altos.

Native American Graves Protection and Repatriation Act (NAGPRA) Grants

The National Park Service's (NPS) National NAGPRA Program invites proposals for FY2007 NAGPRA Consultation/Documentation Grants

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THE EMERGENCE OF GEOARCHAEOLOGY IN RESEARCH AND CULTURAL RESOURCE MANAGEMENT: PART II

Joseph Schuldenrein

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In Part I of this two-part series on geoarchaeology in cultural resource management (CRM) that appeared in the November issue of *The SAA Archaeological Record*, the general concepts and principles of geoarchaeology were discussed, and fieldwork and sampling were introduced. In this final article, a detailed assessment of geoarchaeology's utility for compliance work in CRM is provided. Geoarchaeology can and should be integrated in each phase of the compliance process. Reference here is made to the discovery/survey (Phase I), testing (Phase II), and data recovery (Phase III) stages of an undertaking. Within these broad parameters, the degree to which earth science approaches are applied varies by specific Scopes of Work (SOW), regulatory requirements (federal, state, and municipal), and even by contractor. In this brief summary, I touch on some of the more critical elements of geoarchaeological application as they relate to the Section 106 compliance process.

Applications in the Compliance Process: Phase I and II

Most CRM archaeologists make their livings documenting simple artifact scatters and testing whether or not they extend into the substrate. It has been estimated that in excess of 80 percent of CRM projects do not extend beyond Phase I, and another 15 percent are concluded at the testing phase. For prehistoric projects in particular, it should be noted that landscape considerations factor significantly into the research strategies utilized for both phases.

Most teams consult U.S. Geological Survey (USGS) topographic maps to obtain broad guidelines for field relations—landforms and terrain gradients—and U.S. Department of Agriculture (USDA)/Soil Conservation Service (SCS) county soil maps to obtain a preview of subsurface “soil” composition in advance of shovel testing. Less frequently, aerial photos and/or bedrock geology maps are consulted. While these strategies remain relevant, they have been in use for well over 25 years and have major shortcomings. County soil maps, for example, are produced largely for agricultural purposes and have limited information regarding buried deposits below 3 ft, and they pay scant attention to depositional sources even in alluvial contexts. For archaeological purposes, the question of buried soils is paramount. Approaches should be reassessed in light of key mapping and technological advances made by the USGS, individual state geological surveys, and other planning agencies that assist in large-scale terrain analysis. Paper maps or online plots are widely available at minimal cost. Land use maps are also useful and can be supplied by clients (e.g., developers or engineering firms) who have done advance work on a given project.

Currently, the most valuable geoarchaeological resource for Phase I and II research is the surficial geology map, which presents the distribution as well as the age of surface sediments. These maps are typically issued by state geological surveys and represent the collective mapping efforts of staff experts in regional Quaternary and bedrock geology. In some states, only partial coverage is available. In states that are partially capped by glacial deposits, for example, detailed surface mapping may only cover glaciated regions.

It is necessary for the geoarchaeological consultant to be familiar with the map availability for a particular project area. Expedient application of this resource provides the researcher with a preview of the antiquity and composition of the terrain that his/her project is likely to encounter.

Figure 1 shows the application of this strategy to an extensive Phase I/II sewer-line expansion project that was done along a prehistorically sensitive terrace flanking a tidal reach of the Raritan River in northern New Jersey. Simple shovel testing was deemed inappropriate by regulators because of obvious disturbance to upper deposits. By superposing the footprint of the pipeline on the surface geology map (Stone et al. 2002), it was possible to identify areas of buried prehistoric potential based on mapped distributions and ages of Late Quaternary deposits and landforms (Phase I; Figure 1a). The next step was systematic placement of geoprobe cores that ground-truthed the mapping units and isolated pristine alluvial deposits that were sampled for dating purposes (Phase II; Figure 1b). It was possible to eliminate disturbed tracts from testing, to date buried deposits that conformed to the age of known Woodland occupations in the area, and to isolate the only intact buried segment of the landscape that could potentially preserve archaeological materials. All this was done without extensive subsurface disturbance. As a result, the sewer authority was able to determine if it wished to test for additional prehistoric site potential or to reroute a small segment of the line. They opted for

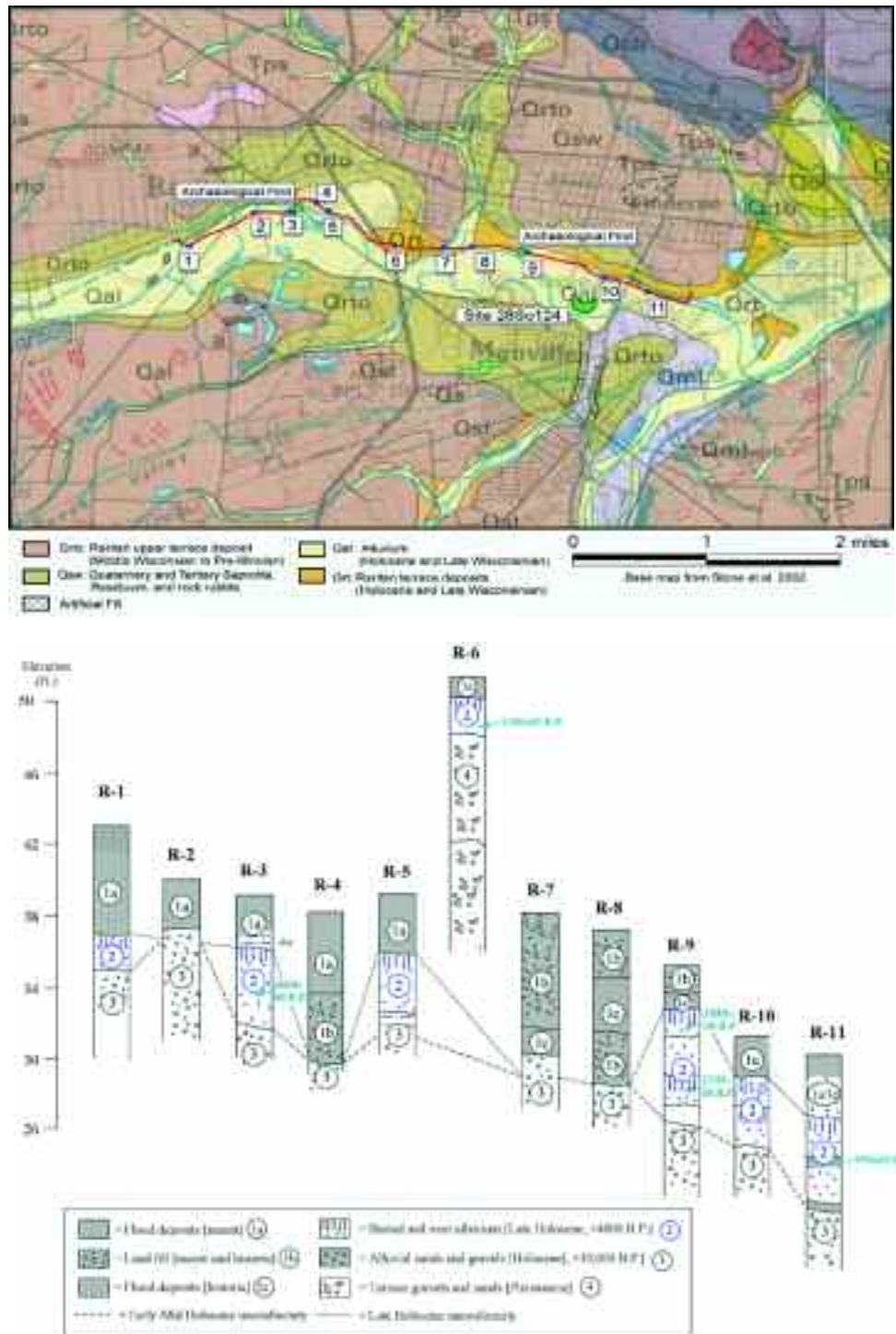


Figure 1: The use of surficial geology maps to preview the archaeological sensitivity of subsurface alluvial deposits for a Phase I/II sewer-line survey. The sewer line is superposed atop a map of Late Quaternary deposits to determine locations for subsurface testing: (a) synthesis of stratigraphy along locations tested with a geoprobe; (b) strata in blue indicate intact alluvial deposits of Woodland age. The segment R-9 to R-11 was deemed archaeologically sensitive.

the former, with the regulator's approval. The geoarchaeological survey and testing effort produced the baseline for a Phase III excavation that was both scientifically sound and cost-effective.

A second major issue for Phase I/II prehistoric endeavors is the question of "small site" formation process. Questions of site integrity are invariably raised when numerous prehistoric artifacts show up either on the surface or, more importantly, within the upper solum (or top 50 cm of formal soil). While surface artifacts are never considered *in situ*, there is considerable evidence that even repeated plowing displaces artifact assemblages only locally, to the point where activity areas can be recognized within the Plow Zone ("Ap" soil horizon). My experience is that most regulators will nevertheless tend to dismiss such concentrations at all but the largest sites. A more common red flag is the "perception" of site burial. Site burial can be the product of a broad range of processes, but the most common are accretion of sediment by earth surface processes (wind, water, gravity); upbuilding of the soil; and bioturbation either by rodent activity, vertical migration through the substrate, or "tree-throws."

Since the Phase I/II project may not afford latitude in the way of subsurface exploration—exposures may be limited to a series of test pits—the geoarchaeologist's exploratory window is minimal. In such cases, paradoxically, the pedostratigraphic perspective is most appropriate for synthesizing observations. Unless one is working on or near an active floodplain, dune, fan, or dynamic geomorphic setting, a classic artifact scatter will occur on a well-drained landscape feature, where at least meta-stable terrain conditions can be inferred. It follows that soil formation is sustained and extensive, such that soil horization can be traced. Limited depth of exposure will typically allow the geoarchaeologist to examine only the upper solum—A-E-Bw horizons in the temperate Eastern Woodlands; A-Bw-Bk horizons in the carbonate-rich surfaces of the Plains and Desert West—and to infer site formation on that basis.

Figure 2 illustrates a typical setting in the Eastern Woodlands for a Phase I site. The site contained a series of low-density artifact sets from different time frames on a meta-stable surface. The incorporation of the artifacts within the weakly cohesive fabric of the Cambic (Bw) horizon is a function of soil upbuilding, long-term weathering, and probable bioturbation that crosscuts both the Late Archaic and Woodland time frames without producing an extensive cover mantle (see Cremeens 2004 and Mandel and Bettis 2001 for discussion on soil development through time). This is a widespread signature for prehistoric sites that have been gradually buried by sediment in an environment that remains strongly pedogenic. It is for this reason that pedostratigraphic templates are preferable at many stand-alone Phase I and Phase II sites.

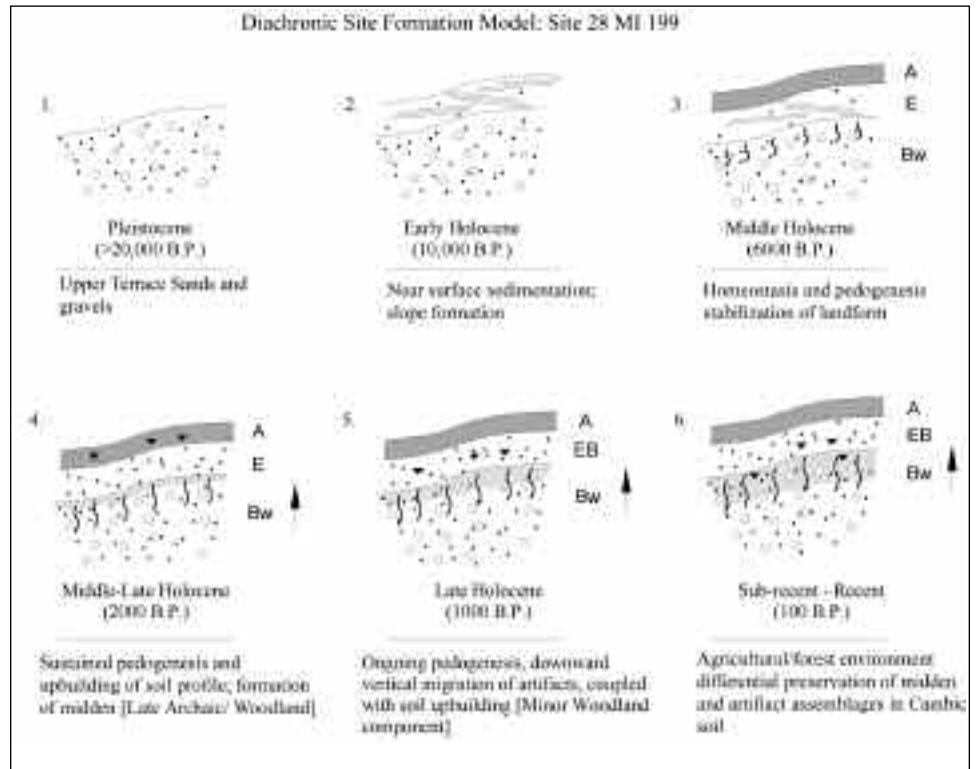


Figure 2: Diachronic model of site formation and preservation at a low-density, multicomponent prehistoric site (Phase I), Eastern Woodlands.

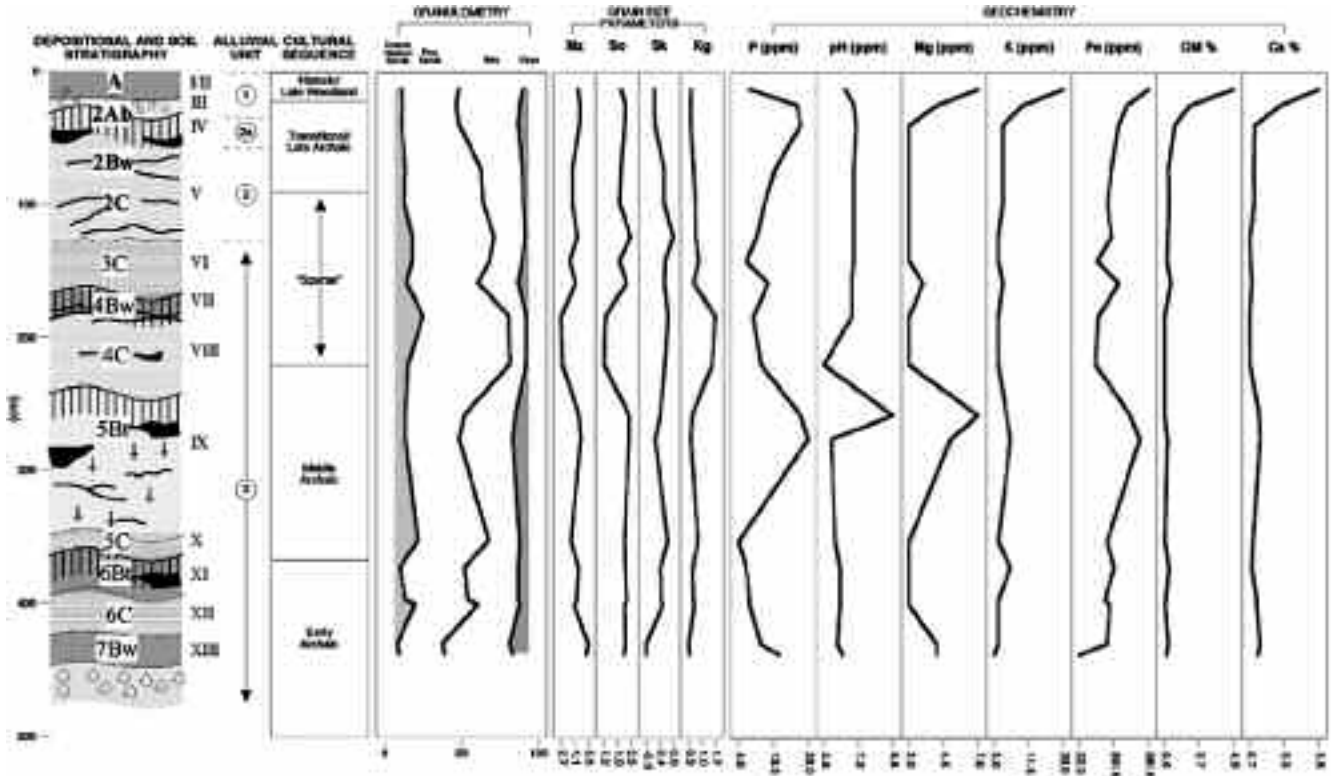


Figure 3: Composite stratigraphy and sedimentology, Sandt's Eddy prehistoric site, Delaware River (Phase III). Emphasis is placed on Early to Middle Holocene alluvial and cultural history of the valley (from Schuldenrein 2003).

Applications in the Compliance Process: Phase III

In the compliance process, the Phase III level of investigation is initiated when an undertaking cannot avoid impacts on the parcel of land deemed to contain an archaeological site of significance. Data recovery is initiated, and a systematic Research Design provides the basis for its implementation. Geoarchaeological inputs in Research Designs are increasingly solicited to maximize information yield at this final stage of the compliance loop. Geoarchaeological involvement is of use for both prehistoric and historic sites, albeit in slightly different ways.

Prehistoric sites

Since the early days of CRM, geoarchaeologists were summoned to help and even structure excavations at stratified, multicomponent sites in alluvial landscapes. Such sites remain the signature venue for geoarchaeological research in North America. However, increased awareness of the breadth of geoarchaeological interpretation is now beginning to resonate within the regulatory community. Whereas earlier projects stressed reconstructions of local floodplain geography and paleoenvironmental modeling, contemporary projects place increased focus on the synthesis of drainage-wide chronologies and stratigraphies that have implications for linked settlement and climatic models.

Operationally, a series of independently driven CRM projects form the basis for drainage-wide syntheses. A relevant example is drawn from two separate stratified site investigations along the Delaware River valley, at the margin of the terminal Wisconsinan glacial moraine. Each investigation called for detailed landscape reconstructions bolstered by appropriate laboratory analysis.

Figure 3 presents the composite stratigraphy and sedimentology of the 5-m-thick first terrace (T-1) of the Delaware at the Sandt's Eddy archaeological site on the eastern Pennsylvania border. It is one of the few Northeast sites preserving a near-continuous Holocene flood record, indexed by both radiocarbon dates (not shown in this column) and cultural horizons ranging from the poorly known Early and Middle Archaic through the better-documented Late Archaic and Terminal Archaic periods. As shown, the alluvial episodes (depositional) are punctuated by sustained intervals of soil formation and surface stability, cycles that extended for several thousand years. Following the Middle Archaic, limited occupation parallels a change in the landscape history as the Delaware was transformed from a dynamic and laterally migrating stream to one that was entrenched in its channel (after 6000 BP). An exponential reduction in sedimentation (see the minimal accumulations for the Late Archaic to Woodland periods) corresponds to stabilization of the 5-m terrace and the passage to an overbanking stream regime.

Such complex sites benefit by integrating the various stratigraphic frameworks discussed in Part I of this series. They allow for comprehensive interpretations of landform construction and dynamics (litho-stratigraphy); separation of sustained periods of landform stability (pedo-stratigraphy); and assessments of relative duration and patterns of site utilization by prehistoric groups (archaeo-stratigraphy). As noted earlier, a more comprehensive stratigraphic framework is afforded by allostratigraphy, which in this case is informally represented by the Alluvial Units (Figure 3). Detailed analyses of the sediments are presented on the righthand portion of the graphic, with peaks in various geochemical parameters signaling soil weathering and/or the impacts of human occupation (organic content, phosphorous). Vertical changes in grain size attest to changes in the stream energy of the Delaware through time (see Schuldenrein 2003 for detailed discussion).

Sandt's Eddy is unique as one of the few locations that preserve a detailed record of the Delaware's early Holocene sequence. More commonly, first terrace (T-1) complexes preserve the last 3,000 years of prehistory, recording the later Holocene when flooding produced largely overbank deposits as channels were typically confined to their banks, and only the most massive flood events are recorded on terrace tops. Figure 4 shows a typical late Holocene geoarchaeological sequence for the Delaware drainage, at Lower Black's Eddy, approximately 40 km downstream from Sandt's (Schuldenrein et al. 1991). Here, the fine-grained, overthickened, upper Holocene alluvium with an intermittent Bw horizon documents the transition from the Late Archaic to Woodland sequence and permits a detailed reconstruction for the Late Holocene, which was largely compressed in the capping deposits upstream at Sandt's. Geochemical indicators illustrate co-varying trends in organic and phosphorous enrichment consistent with human occupation on an already stabilized surface where organic compounds are actively disaggregating. The Archaic midden horizon represents the interdigitation of human waste products with a naturally humified organic horizon.

On a larger scale, the two stratigraphies are complementary: the upstream segment at Sandt's provides a rare succession of Early Holocene geomorphic and cultural events, while the downstream segment at Lower Black's Eddy offers a more typical glimpse at the long-term flooding behavior of the present stream. Comparisons with more fragmentary geoarchaeological sequences the length of the drainage have allowed us to develop a timeline that links temporal occupations with landform types and discrete soil and sediment complexes in near-surface and deeply buried contexts. These associations will eventually be fed into a GIS platform to allow planners to formulate strategies for future investigations of the alluvial archaeology of a key Eastern Woodlands settlement locus.

Historic Sites

Until recently, geoarchaeological applications to historic sites have been infrequent. Prevailing wisdom was that landform histories were more relevant to prehistoric environments where centuries and millennia, rather than decades and years, accounted for the environmental transformations that affected the course of human settlement. Moreover, the terrains of historic site investigations have often been con-

centrated in urban settings where deep accumulations of landfill limited accessibility and inhibited laterally extensive exposures. Finally, one of the traditional stratigraphic frameworks for historic site investigation, the Harris matrix (Harris 1993), has not been widely embraced by geoarchaeologists. Ambitious CRM projects in many cities across the U.S., however, have exposed the unique geoarchaeological signatures of calamitous and disastrous events. The San Francisco earthquake of 1906 is one example, and, more recently, Gould (2002) has called attention to the archaeology of the future in his dramatic excavations at the tragic site of the World Trade Center in New York City.

Just as historic archaeologists draw on different resource bases, datasets, and methodologies to approach urban sites, geoarchaeologists must utilize other avenues to structure this area of research. The most obvious sources for information on past urban environments are historic records, maps, and diaries. The latter are especially informative for the eastern U.S., as early colonial geographers, for example, provided painstaking documentation of the physical settings of their nascent cities prior to the extensive land-clearance efforts that heralded the Industrial Age in the early nineteenth century. Geoarchaeologists must also interact more closely with historic archaeologists who tend to be more familiar with the archived literature of their regions. Ultimately, the geoarchaeologist may be afforded the opportunity to synthesize even limited exposures of natural stratigraphies with landscape features depicted on maps or described in detailed historic accounts.

Figure 5 is a projection of landforms depicted on seventeenth-, eighteenth-, and nineteenth-century Dutch, British, and early American topographic maps of Lower Manhattan. Detailed descriptions of their shapes and dimensions have been further refined in archived accounts of local geographers, naturalists, and antiquarians of the same periods. The features are superposed on the grid of the current, flattened Manhattan streetscape together with the locations of major archaeological sites that have been excavated over the past two decades. The landforms identified as “Kalkhoek Promontory” and “Catimuts Hill” are depicted as hillocks on historic maps but were almost certainly vestiges of the Wisconsin kettle-and-kame topography that is preserved in upstate New York. The feature known as the Collect Pond conforms to a 5-acre, postglacial impoundment favored by the Dutch for ice skating in the winters and picnics in the summers. By the eighteenth century, the Collect was the center of the tanning industry in New York City, its spring-fed waters drawn upon for animal hide processing. In the early nineteenth century, the Collect became a health hazard, promoting diseases, such as typhus, when animal carcasses were routinely discarded along its margins. The Collect was backfilled shortly thereafter.

Archaeological excavations undertaken in the mid 1990s at the site of the MCC Tunnel (Figure 5, right side) incorporated a geoarchaeological component when preliminary geotechnical soundings extended into undisturbed sediment, at depths in excess of 5 m. While project construction schedules and OSHA



Figure 4: Alluvial sequence at the Lower Black's Eddy site, Delaware River. The stratigraphy registers a complex of Late Holocene overbank flood events disrupted by soil formation and Late Archaic to Woodland occupations in primary contexts (from Schuldenrein et al. 1991).

restrictions inhibited the extent of and accessibility to exposures, map research and geographer accounts, coupled with detailed micro-stratigraphic observation, facilitated a reliable reconstruction of the site formation sequence (Figure 6). Thus, the upward-fining stream deposits capped by an organic horizon with decomposed bark chronicled the emergence of the historic Collect. It was possible to track the drainage history from its beginnings as part of the early Dutch agricultural system, its transformation by natural and then by controlled sedimentation, and eventually its function as the site of the British tanneries. The upper 4 m of fill correspond to the well-documented, mid-nineteenth-century efforts by the New York municipal government to raise the land surface above the levels of marine inundation. In fact, two episodes of flooding are registered within the fill sediments themselves. Finally, radiocarbon specimens taken from the profiles confirm the late prehistoric to historic chronologies preserved in the entire column (Yamin et al. 1994).

In sum, even limited fieldwork in historic environments can yield productive landscape histories when appropriate background and archival research is performed. Historic archaeology opens up new vistas for productive geoarchaeological research and site formation modeling.

Cost Efficiency

It is my experience that smaller CRM firms rarely utilize geoarchaeologists, claiming that costs are prohibitive. As indicated, however, geoarchaeology is cost-efficient as a prospection (Phase I) as well as a data-recording technique (Phases II and III). It is *optimally* incorporated on the front end of project design, irrespective of Phase. In over three decades of work, I have found that fiscal outlays for the geoarchaeological component in Phases I and II should be 15–20 percent of the total project. When the method is utilized, the net costs for Phases I and II are reduced by 25–35 percent, much of the reduction coming in the form of labor cost savings because of the higher efficiency and dependability of geoarchaeological work (Schuldenrein 2000). Many State Historic Preservation Offices and federal regulators look upon the strategy favorably, accepting it as a viable alternative to standard pedestrian survey and testing. Phase III research designs almost invariably integrate a geoarchaeological component to streamline depth and extent of excavation areas. A geoarchaeological assessment of landform history will stratify landform segments in order of potential archaeological yield. For Phase III levels of effort, cost assessments are more variable, dictated by Scope and site context. However, a figure of 20 percent of the total budget is not untenable.

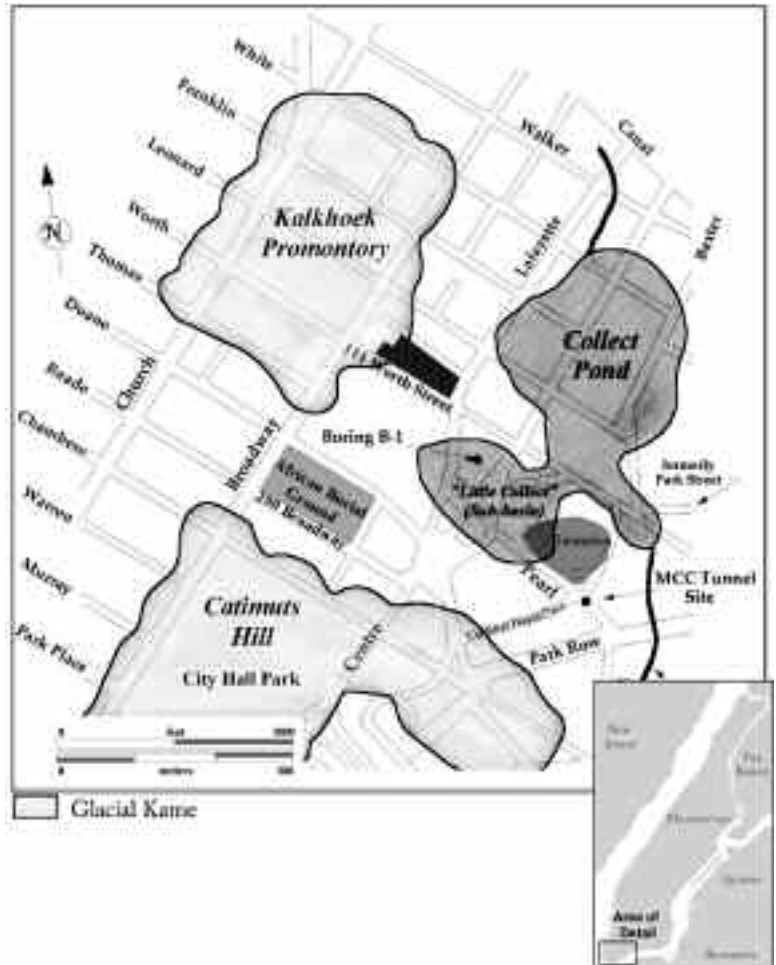


Figure 5: Projection of glacial age landforms superposed on the contemporary grid of Lower Manhattan. Catimuts Hill and Kalkhoek Promontory are glacial kames named by the Dutch settlers. The Collect Pond was an impoundment used for ice skating in winter and picnicking in the spring. It later became the prominent locus for the tanning industry. The graphic was prepared in conjunction with geoarchaeological testing for the MCC Tunnel project (from Yamin et al. 1994).

Training, Employment, and Future Directions

There is no codified structure for geoarchaeological certification. A few universities support geoarchaeologists in a variety of departments, typically in geology, geography, or anthropology, and more rarely in pedology or geophysics. Geoarchaeologists must be familiar with most of the subfields of the earth sciences. An advanced degree is necessary, preferably a Ph.D., which has become almost mandatory if a larger project is involved, and project liability issues are a factor.

It cannot be stressed more strongly that the geoarchaeologist must be strongly and formally trained in archaeology since the practitioner is invariably brought on site to answer archaeological questions. Until recently, there has been a tendency to utilize earth science professionals unversed in archaeology. A classic case is the recruitment of a structural geologist specializing in drainage histories to model floodplain evolution for a stratified site. He simply dismissed the need for Holocene sequence modeling as “a minor blip in the overall picture,” thus leaving the archaeologists without the necessary site-specific reconstruction. Most CRM firms do not have in-house geoarchaeologists and hire outside specialists. It is necessary that the specialist be familiar with CRM problems and objectives. Experience is the key to success in geoarchaeological practice because of the lack of structured training programs.

Finally, as in most of archaeology, future opportunities for geoarchaeologists will surface in nontraditional venues. Academic geoarchaeology may open up incrementally but certainly not in line with the demands of the commercial sector. CRM will continue to solicit input from earth scientists, and especially those versed in high technology.

More critically, the future of geoarchaeology is inextricably linked to the demands of a modern world in which, for better or worse, applications of the natural sciences will be applied to cope with the fragility of

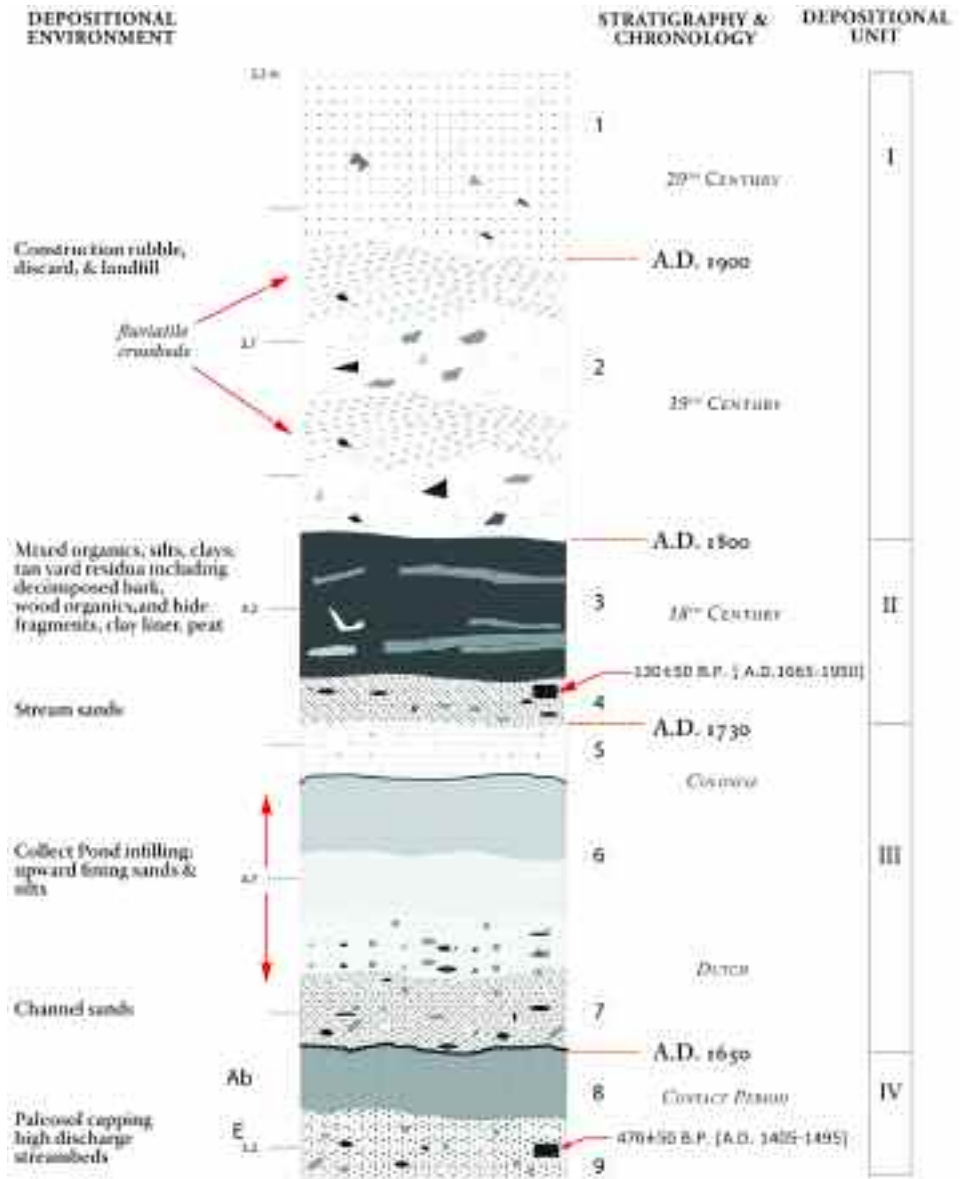


Figure 6: Stratigraphic reconstruction in the vicinity of the Collect Pond. The reconstruction was developed as a result of the integration of the historic map data (Figure 5) and a very limited field assessment (from Yamin et al. 1994).

the present eco-system. The effects of global warming, attendant natural catastrophes, and man-made disasters have already transformed human landscapes to a critical degree. It is probable that forensic geoarchaeology will be the wave of the future. Geoarchaeological techniques are as relevant to understanding the alluvial, estuarine, and marine stratigraphies left in the wake of Hurricane Katrina as they are to modeling the flood regimes of the Early Archaic. We will be all the better if the lessons of the past can be marshaled to understand and intervene in the management of the human ecological dynamic.

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CREATING *THE ARCHAEOLOGY CHANNEL* AND TRYING TO GET NOTICED

REFLECTIONS ON COMMUNICATING WITH THE PUBLIC

Richard M. Pettigrew

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Public archaeology now seems widely accepted in our profession as an appropriate career path and also as perhaps the most rapidly growing segment of the archaeological enterprise (Boszhardt 2006; McGimsey 2006; Moore 2006). I welcome this, because, as McGimsey (2006:21) wrote, “archaeologists must occasionally remind themselves that informing the public is the *raison d’être*” for our discipline. Unfortunately, we have been doing less than a stellar job, which is one compelling reason why Archaeological Legacy Institute (ALI) created *The Archaeology Channel*. (<http://www.archaeologychannel.org>).

The Archaeology Channel: An Update

I introduced colleagues to *The Archaeology Channel* (TAC) back in 2000 with an *SAA Bulletin* article (Pettigrew 2000). We were barely off the ground, but we had a big vision. The time was right to embark on the development of a website that would take advantage of Internet development to become a key venue for sharing archaeological perspectives and information. I wrote at that time, “eventually, with improving technology, better content, and growing worldwide connectivity, streaming media on the Web may rival or surpass standard TV as the preferred medium for entertainment and information sharing” (Pettigrew 2000:32).

Six years later, this prediction is fast becoming reality. A key analyst in 2000 projected that the installed subscriber base of broadband Internet connections in the U.S. would rise from 3.7 million at that time to 15.3 million in 2005. Broadband growth has been much faster, however (Figure 1). By 2005, the U.S. number already was 46.9 million. The worldwide total was 215 million and projected to grow to over 500 million (out of 1.8 billion Internet users) by 2010 (Burns 2005). Quarterly growth worldwide in broadband subscriptions exceeds 7 percent (Burns 2006). In the U.S., the Internet now is the most-used media outlet at work and second only to television at home, putting it ahead of newspapers, magazines, and radio (Wood 2006). Today,

video on the Internet is commonplace—a good example of this is YouTube, a social-networking site for video uploads, which doubled its traffic in May 2006 alone, logging 12.6 million unique visitors. In the same month, Google Video counted 7 million and Yahoo! Video 4.2 million unique visitors (Read/Write Web 2006). By the third week of July 2006, YouTube logged 12.8 million unique U.S. visitors in that single week alone (Bausch and Han 2006). These statistics clearly show that the Internet offers an unprecedented opportunity to share our knowledge and perspectives with the public.

As we hoped and expected, the popularity of TAC has grown dramatically since 2000. As reflected in Figure 2, the TAC audience was less than 9,000 unique visitors in 2000, but grew substantially thereafter, especially in 2005, which saw over 2.7 million sessions. To our knowledge, this is more than any other archaeology website. Traffic for 2006 is projected to reach about 3.7 million sessions, representing a 37 percent increase in a single year. While growth of this magnitude cannot continue indefinitely, the anticipated growth in broadband Internet connections alone would be sufficient to raise TAC traffic to 8 million



Figure 1: Broadband growth trend for U.S. home users (Source: WebsiteOptimization and Nielson/NetRatings).

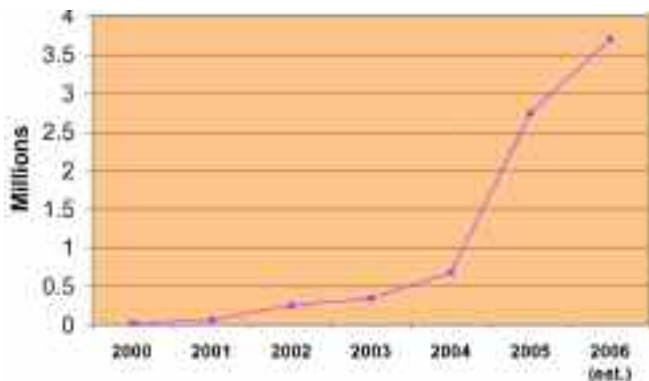


Figure 2: Unique visitor/sessions for The Archaeology Channel.

sessions by 2010, and content expansion will promote visitation well beyond that level. These factors, combined with developing relationships with key media partners, could put TAC traffic by 2010 in the range of 15–20 million sessions and possibly much higher.

Content is the foundation for TAC popularity. We began with five streaming videos in the summer of 2000, and at the time of this writing, we have 84. We are adding new videos at the approximate rate of two per month, so we should surpass 100 in 2007. In our audio area, we have been producing and webcasting our weekly news program, the Audio News from Archaeologica (done in partnership with the archaeology news website, Archaeologica.org) for more than five years and have cultivated a loyal audience of nearly 200,000 listeners. TAC audio programs also include commentaries, interviews, indigenous storytelling, and the *Human Experience* program series (two-minute essays about humanity) from the University of New Mexico. We soon will add *Wisdom of the Elders*, a series of hour-long programs produced by a Native American nonprofit in Portland about North American indigenous cultures. Other areas on TAC offer video sales, archaeology news links, a bulletin board, our quarterly TAC Newsletter, a Goods & Services marketplace, information about our film festival (*The Archaeology Channel International Film and Video Festival*), a listing of archaeology film festivals worldwide, a large Teacher Resources area, extensive web links, information and listings for supporting members and underwriters, a volunteers area, and areas describing ALI and its history.

TAC traffic growth is a consequence of program content and our longevity as well as our persistent and incessant networking, frequent program announcements via listservs and a large and growing email list, and indispensable partnerships with Internet media organizations such as WindowsMedia.com. Our strategy for the continuing development of TAC as a voice for

archaeologists and others devoted to sharing the human cultural heritage involves (1) continuance of these forms of promotion; (2) addition of new content elements in the categories already established, as well as the creation of new content types; and (3) continued efforts to expand existing fund-raising programs (membership, underwriting, product sales, and grants). Future growth of TAC depends largely on finances. Without the initial capital outlay that a for-profit corporation normally would use to create the means for income generation, ALI has invested the “sweat equity” of volunteers along with generous donor contributions to build the value we offer. Owing to increasingly attractive TAC traffic levels, our underwriting program is now our largest source of funds. Still, funding limitations mean that we must make careful decisions about investments in content development (creating value that will improve our income potential) as opposed to fundraising (which consumes enormous amounts of time, but pays the bills). The irony is that our opportunities to develop this medium into a powerful voice are endless. Our potential audience is at least in the hundreds of millions of people and the number and variety of stories to tell about the human heritage are limitless!

Competing in the Real World

Developing and promoting TAC has put ALI into direct contact with society at large in the U.S. and worldwide. The public reaction to our website has been diverse and enlightening. One early lesson was that many people in the real world are not as excited about archaeology and its value to society as I am. In fact, many people have little concept of what archaeology is or is good for. For these, archaeology is an academic or pedantic subject without relevance to their lives. However, many others find archaeology fascinating and compelling. Thus, our efforts to secure support sometimes are rebuffed and at other times are received with enthusiasm.

Our impressions of public attitudes generally match prior studies. Perhaps the most telling effort to measure the U.S. public's interest in and knowledge about archaeology was a Harris Poll conducted in 1999 (Ramos and Duganne 1999). This poll showed that Americans were quite interested in archaeology, believed in its societal value, and supported the legal protection of sites and artifacts. However, in important ways they were misinformed about what archaeologists do and why. When asked to compare media as sources for learning about archaeology, they preferred television over magazines, books, newspapers, and other sources. Unfortunately, the telephone interviews did not include the Internet among the choices, but one could argue that, in 2006, the Internet is about to exceed, or already has exceeded, television as the preferred source.

Our efforts to attract partners among for-profit companies have

revealed a similar diversity of opinions and attitudes. As such companies must make judgments about the likely commercial success of any initiative, their reactions have been instructive. Some companies have declined to develop associations with us, while others have jumped at the opportunities we present. WindowsMedia.com (a division of Microsoft) has created a special archaeology area called "Culture Studies" populated by TAC videos and features TAC content on their home and entertainment pages. The Fifth Network, a Madison Avenue advertising firm, partners with us to employ TAC clips within their proprietary video player. Through similar partnerships, TAC videos soon will be available through Google Video and AOL Video. Successful partnerships of this kind with for-profit companies demonstrate substantial public interest in our subject matter.

The Channel's Open: Now, What's the Message?

Developing a highly visible media outlet like TAC affords our profession an opportunity to project our messages, but in the process highlights our responsibility to deliver the right mes-

sages. I'm often reminded of the inaccurate picture laypeople have about what we do and why, but at the same time, archaeologists themselves often are not mindful of the significance of our enterprise. Part of the value of conveying our messages to the public derives from the necessity that we first decide what those messages are. In effect, when we set about to explain ourselves, we expose, and then can correct, our professional weaknesses. In fact, when we commit ourselves to crafting messages for the public, we strengthen the process by which we investigate our subject matter. When we seek to convey the implications of our research to the public, we are forced to stand back from the minutiae and consider the meaning of our work for all human beings.

One of the principal concepts we must deliver to the public is that archaeology matters. Many people have a latent interest in archaeology, but fail to develop it because they do not see its relevance. Archaeology too often is regarded as a purely intellectual pursuit. However, an understanding of the human past is crit-

➤ PUBLIC EDUCATION, continued on page 44

The National Endowment for the Humanities announces a 2007 on-site Summer Institute "Oaxaca: Crossroads of a Continent"

July 1 – August 1, 2007

Application Deadline: March 1, 2007

The National Endowment for the Humanities announces a 2007 Summer Institute on the topic of "Oaxaca: Crossroads of a Continent." This four-week Institute, held on-site in locations in Oaxaca, Mexico, is an in-depth study of the history and culture of the area, with a focus on the indigenous cultures of the Zapotec and Mixtec peoples, in pre-Columbian, colonial, and contemporary contexts. Twenty-four faculty selected from community and four-year colleges and universities throughout the United States will have the opportunity to study Zapotec and Mixtec culture in the field with eight internationally known scholars and writers from a variety of humanities and social sciences disciplines. Participants will receive all lodging, internal travel and site-visit costs for all scheduled activities during the Institute, as is specified in the detailed Daily Schedule. Participants are responsible for meal expenses, for personal expenses and for their own round trip travel arrangements to and from Oaxaca, Mexico, arriving by Sunday July 1, 2007. [We are well aware of the current situation of civic unrest in Oaxaca initiated by a teachers' strike; we anticipate that the situation will be resolved well before our Institute begins.]

Project Directors:

Laraine Fletcher, Anthropology, Adelphi University

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ADVICE FOR MY GRADUATE STUDENTS

Clifford T. Brown

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I'm a junior professor in a small- to medium-size anthropology department. We offer an M.A. degree, and we participate in an interdisciplinary Ph.D. program offered by the College of Arts and Letters. So, I work with graduate students at different phases of their careers. I wrote this because I discovered that some of my students do not understand all the departmental expectations and requirements. Because I wrote this for my students, it expresses only my personal views. The opinions of other faculty members—including those in my department—undoubtedly differ. If you are a student, you should consult your own faculty advisors about these issues.

In writing this, I realized that Polonius was once Laertes. You remember Polonius; he was Shakespeare's Lord Chamberlain in *Hamlet*. He was the pompous ass who spent the whole play dispensing obvious advice, most famously to his erratic son Laertes. (If your knowledge of *Hamlet* comes from *The Simpsons*, Chief Wiggum played Polonius, and Ralph, his son, played Laertes.) I see now that Polonius wasn't born a pedant; he grew into one. We laugh at Polonius and his advice, but he was mostly right.

Some General Thoughts

Graduate school is supposed to transform you from a student into a professional. You should change from someone who absorbs knowledge from other sources to a person who creates new knowledge. This requires a major shift in thinking and behavior. Absorbing a lot of knowledge, however, is a prerequisite for creating new knowledge. You need to understand your field well before you can identify research problems and figure out how to solve them. But the process of classroom learning and the process of doing original research are utterly different; in some respects, they are the opposite of each other. I have seen indifferent students suddenly flower into excellent researchers. They are liberated intellectually by the opportunity to think creatively. I have also seen otherwise excellent students stymied by the originality needed to perform research. Conducting your own research requires creativity, independent thinking, and

self-discipline because you have to develop your own ideas and establish your own structure.

To succeed in grad school:

- Learn to write well. It does not matter how brilliant you are if you can't explain your thoughts.
- Learn basic statistics. Archaeology is a science, and statistics are ubiquitous. You can't even read the literature if you do not know statistics. You certainly can not conduct research if you don't know statistics.
- Stay in the area. If you move away, you probably will not finish.
- Live a healthy, balanced, and stable life. If you are a wreck, you can not be a good student.

Frequently Asked Questions

What classes should I take?

Take the required courses. In addition, use graduate school to acquire professional skills that will help you conduct research and get a job. So, consider studying lithic analysis, ceramic analysis, archaeological chemistry, geomorphology, archaeological computing, Geographic Information Systems, statistics, zooarchaeology, paleoethnobotany, public archaeology, and other special skills that will broaden your range of professional qualifications. Consult your advisor about courses that will best serve your goals.

How do I pick a thesis topic?

In archaeology, as in other fields, an M.A. degree is the basic prerequisite for professional practice. To get a grant, to direct a field project, to apply for and receive a permit, you normally must have an M.A. This is equally true in most foreign countries. Having a graduate degree is similarly the requirement for getting a professional-level job and for becoming a Registered Professional Archaeologist, which is the only licensure for archaeologists in the U.S.

A thesis is supposed to demonstrate that the student can conduct and report on original research. The actual subject matter of the topic may matter less than you think. Your goal in writing a thesis should be to demonstrate professional competence in archaeology. A secondary consideration should be publication. Plan to publish the key results of your thesis research. To demonstrate professional competence in your thesis, you should design a project that illustrates your ability to conceive and carry out research. This means your investigation should have a clear and well-integrated problem-oriented research design. You should be able to explain in a few sentences how your research addressed an identifiable problem using appropriate methods.

Some graduate students have a stubbornly narrow vision of what they find interesting. Some are *only* interested in Maya archaeology, or Irish archaeology, or ceramics but not lithics. I was like that. Get over yourself. Everything is interesting: art and literature, science and math. One of the great things about being an archaeologist is its *breadth*. It encompasses the arts, humanities, social sciences, and hard sciences. As an archaeologist, you can study sculpture, epigraphy, history, literature, and physics, chemistry, biology, and genetics. It can only help you to take a broad view of what's interesting.

The best advice I can offer you about picking a topic is to make sure your project is modest in scale (Figure 1). Most graduate students are ambitious and therefore pick a problem that is larger or more complex than it needs to be. Most archaeological problems are difficult to solve anyway, and to address them fully may require elaborate research. Do yourself a huge favor and design a small project that you can reasonably expect to fund and carry out in a few months. You should be able to do your research and write the thesis in 6–12 months. A small project done well is more impressive than a large one done poorly for lack of time or money. Even large research programs often just peck away at the edges of important problems. Keep in mind that a thesis is the beginning of your professional career, not the end.

What is a prospectus?

A prospectus, or thesis proposal, is a document in which you outline a program of research that will provide both data and logical structure for your thesis.

The prospectus should *clearly* explain the problem you plan to investigate and the research design for the investigation, including expositions of theory, hypotheses, analyses, data, and methods, usually in that order. Archaeological research normally embodies a particular logic that says (or implies), “Your theory determines your problem. Your problem determines your hypotheses. Your hypotheses determine your analyses. Your



Figure 1: David McKinney works on his M.A. research at Georgia State University. The advantage of a lab-based thesis is that it can be more focused and take less time than a field project.

analyses in turn require certain data. Your methods should provide those data.” The most critical thing for a research proposal to do is to explicitly present the logical relationships in this theory-problem-analysis-data-method chain for your research project. These relationships *must* exist, and you *must* explain them.

The prospectus should start with an introduction in which you present the research problem. Explaining the problem and its significance will require that you provide some background information on the problem and possibly the region involved. You may wish to include a review of the literature on your problem, although I would advise against doing this gratuitously.

Research questions only exist within a specific intellectual context or paradigm. So, for example, if you are an environmental determinist, you are hardly likely to investigate religion because you may well believe that religion is epiphenomenal—having no causal significance—and you may also believe that it *can not be* investigated, perhaps because the study of it gives rise to no testable hypotheses. Thus, all research questions depend greatly upon your overarching theory. Therefore, your prospectus should include some discussion of the theory that situates, contextualizes, or gives rise to your research problem.

Next, you should explain how you plan to investigate the problem or question you have posed. Probably the most significant, and the most creative, decision you must make in designing your research is how you will address your question—what

combination of methods you will use. Since there is really nothing new under the sun—after all, Thucydides discussed the rise of civilization in the early chapters of *The Peloponnesian War*—a common way to do original research is to apply new methods to old problems. Sometimes, though, you can apply old methods to new problems.

To address your research question in a rigorous way, you should probably express it in the form of alternative hypotheses. In some cases, formally stated hypotheses may be superfluous or unnecessary, but if you use them well, they have at least the virtue of being very clear and specific. The advantage of using formal hypotheses is that they require you to reduce a problem to its logical essentials and to then approach its solution analytically. Hypothesis-testing in the social sciences carries the risk of reducing problems of irreducible complexity to trivial statements. You should avoid this by testing the testable and using qualitative research for problems that cannot be properly addressed in terms of “if . . . then” statements. That said, hypothesis testing is ubiquitous in archaeological research design; you should only eschew it when you have a strong argument for doing your research differently.

A good hypothesis carries within it the seeds of its own solution. You test the implications of a hypothesis, so when you develop your hypotheses, you should be thinking simultaneously about what they imply in practical terms. The implication of a well-formulated hypothesis is usually a logical or statistical test that requires a certain kind of data. Where do those data come from? Your methods determine how you obtain your data. Thus, methods are a key decision and should be selected to provide the data for an unambiguous choice among your hypotheses.

Let's take an example. If, despite my advice, you decide to investigate the origins of civilization, perhaps you will choose to examine Karl Wittfogel's famous “hydraulic theory” of the origins of civilization. This theory argues that the need for agricultural intensification drove the development of complex systems of irrigation, which in turn gave rise to the bureaucratic apparatus of the state because of the need for centralized control of the irrigation system. What are the various tests one could do to try to figure out if this is true? Well, one might hypothesize that if the theory is true, then the irrigation system must precede, if only by a little, the appearance of the state. As an archaeologist, you will then have to find a good place to dig to evaluate this hypothesis. How will you conduct the excavations? How will you date the irrigation system? Do you need an absolute date, or can you show stratigraphically that irrigation preceded the state? The answers to all of these questions are the methodological choices you will have to make. It is the interplay between the question, the hypotheses, and the methods that determines whether a project is reasonable or not.

People underestimate the creativity involved in this kind of research. Most people, I think, assume that poetry requires creativity, while science is all logic. Not true. Thinking about old problems in new ways; finding and recognizing that one piece of new data that will overthrow old ideas; interweaving hypotheses, methods, and techniques so that they form a single tight fabric—these all challenge the imagination.

Some students have difficulty linking theory, problem, data, and methods in a logical way. While not rocket science, writing a successful prospectus does require that you possess a critical mass of knowledge about archaeological theory, methods, and analytical techniques. Without this minimum amount of information, you simply do not have sufficient facts at your disposal to make reasonable choices and plausible arguments. As a student, this is a good time to learn your field by reading broadly and discovering the literature you need in order to move forward.

How do I write my thesis?

You may be nervous about writing your thesis if you have never written anything longer than a term paper. If so, it may be helpful to think of your thesis as an extended essay. You've written essays before—your thesis is just a scaled-up version of an essay. And it's easy to scale it up, because for the first time, you have data to present that will help fill it out. Another convenient fact is that a thesis or dissertation (or book) is composed of pieces that are similar in structure to the whole. So, a thesis is a long essay, but it is composed of chapters, and each chapter is also a small essay. A chapter may have several sections, each of which has its own introduction, body, and conclusion, and so is like a small essay itself. Even paragraphs, when they are well-formed, are little arguments themselves. So, you might find it helpful to think of the thesis as composed of small, modular units that can be constructed and managed individually.

Along these lines, you will find it useful to create an outline before you start writing. I realize that writing is a complex cognitive process, and that people work very differently. Nevertheless, it is hard for me to imagine writing a document as long as a thesis without some kind of outline to work from. Or, rather than thinking of it as an outline, you may find it easier to think of it in terms of a table of contents. By the time you finish your research, if not earlier, you should be able to specify what the table of contents will look like.

What might my table of contents contain?

If you have conducted an archaeological field project as part of your research, then you can look at similar theses or excavation monographs—there is a fairly standard structure for presenting



Figure 2: Excavation reports follow a fairly standard format, in which background information, research problem, methods, and results are presented in a logical order.

archaeological research (Figure 2). Normally, you will have an introductory chapter in which the research problem is stated, usually with an explanation of the theoretical context. Sometimes, if it is complex, you may prefer to present the theoretical background in a separate chapter. Then you will have chapters on the environment of the site(s) and previous research at the site(s) and in the surrounding area. Depending on the focus of your research, you might write a chapter on the period or cultural complex you are studying. Then you will probably have a chapter on methods—you might have separate chapters on field and laboratory methods, particularly if they are complex or extensive. Next, you will probably need one or more chapters on the results, such as descriptions of excavations, their stratigraphy, recovered cultural features and artifacts, the components and occupations revealed, and any additional analyses you con-

ducted. Finally, you will need a concluding chapter that links your results to your problem, which should allow you to draw rational conclusions and to suggest prospects for future research.

While this is a common structure for an excavation report, if you conducted a different kind of project, the structure of your thesis will be somewhat different, but it may still contain many of the same elements. Regardless of the nature of your research project, if you are uncertain about the structure of your thesis, you can probably find a number of good models in the existing literature.

What should I do after creating my outline?

In scientific writing in general, and in archaeology specifically, most investigators prepare their figures and tables first, and then develop their text around them. This is what I was taught to do, and I find that it works well. You should put your data into a database and use this to help you conduct your statistical analyses and to prepare your tables of data for the thesis. Similarly, you will probably have excavation and/or artifact drawings and photographs. If you prepare all these before writing, you can refer to them, and to the tables, as you write.

Concluding Thoughts

The final piece of advice is to enjoy your graduate experience. Many graduate students blossom intellectually, and it can be an exciting time. And even though grad school can be stressful and even depressing, you will probably look back on it with fondness in later years when you are overwhelmed with more mundane responsibilities.

And don't forget what Polonius really said to Laertes:

*This above all: to thine ownself be true,
And it must follow, as the night the day,
Thou canst not then be false to any man.
—Hamlet Act I, Scene III*

Recommended Reading:

Kintigh, Keith

2005 Writing Archaeology: Analyses and Archaeological Argumentation. *The SAA Archaeological Record* 5(4):33–35. Posted at <http://www.public.asu.edu/~kintigh/>.

Medawar, Sir Peter

1979 *Advice to a Young Scientist*. 1st ed. Harper & Row, New York.



THE KAKAHUASI

AN ODIOS REMINDER OF A PRESERVATION PROBLEM

Justin Jennings

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It started out funny. Diego and I were clearing off the surface of a 3 x 3-m unit, and all that we were encountering was cow feces. After a few centimeters, we started to expose what we hoped was the floor of the Late Horizon/Early Colonial structure (A.D. 1430–1570) that we were investigating. Instead it was one in a series of very compact surfaces formed by a matrix of urine, excrement, and mud. Despair began to set in by the second day of pick-axing through the bedded surfaces, and I decided that we should dig only a 1-x-1-m test pit to get a better sense of the remaining stratigraphy. To our momentary relief, we soon broke through the compact surfaces to a darker, organic soil—a looser fill of urine, excrement, and mud. For the next two days, we dug through the fill until we hit sterile soil. There was crap and piss everywhere. We dug through it, screened it, inhaled it, and smelled it. By the time we had finished, Structure W had a new name, the *Kakahuasi*. “Huasi” means house in the native language of Quechua, and “Kaka,” I think, needs no translation.

While I was working elsewhere at the site the following week, I asked Diego to dig in the structure next to the *Kakahuasi*. After taking off a much thicker, feces-free, first layer, he came down on a compact surface, but this time it was a floor. The floor was associated with ceramics from the Late Horizon and Early Colonial period, and he recovered a carbon sample on the floor’s surface. After digging 20 cm more of fill, he reached sterile. The strata of this building were likely similar to those originally laid down in the *Kakahuasi*. The cultural material was the same, but regrettably the most interesting finds—worked bone and fragments of an Inca plate and an early colonial Inca cup—were found jumbled in the nasty fill of the *Kakahuasi*, where good context was lacking.

As you may have guessed, the *Kakahuasi* had been used as a cattle corral. The transformation of archaeological sites into animal paddocks is a common occurrence in the Andes today. Instead of an arduous and costly search for building materials elsewhere, farmers can more easily reconstruct the walls and

fill in the doorways of ancient homes. This type of reuse is not new to the Andes. For generations, farmers have recycled old buildings to use as garbage dumps, and many Andean archaeologists know buildings that were reused prehistorically for llama corrals. Superficially, this practice is worrisome because it obscures the original architectural layout of a site. The bulk of the damage, however, happens under the animals’ feet. Like most of my colleagues, I was vaguely aware of the dangers posed by animals—I had seen rodent bioturbation first hand, for example, at digs in California. Nonetheless, when we dug in Structure W, I was shocked by both the extensiveness of the damage and the rapidity with which it had occurred. Diego and I dug through almost 70 cm of corral slop before reaching sterile, and the building was used as a corral sometime between our first visit to the site in 1999 and when we returned for excavations in 2004. In less than five years, almost a meter of occupation layers was destroyed. A single farmer corralling his herd in an archaeological site could wipe out a small site within a generation.



Credit: Dani Murray

Overpopulation, the antiquities market, the green revolution, global tourism, and other aspects of modernity are rapidly accelerating the destruction of archaeological sites. Understandably, archaeologists are becoming increasingly concerned about these new threats to the world’s cultural heritage. We must not forget, however, about more traditional dangers like farm animals. In much of the highlands of Peru, population levels have only recently reached their pre-conquest levels. In our case, the area around the site was abandoned soon after the arrival of the Spanish, and had only been reoccupied since the 1960s. The new fields, homes, and irrigation canals threaten the ruins, and we have worked over the last few years with local farmers and political authorities to try to find a balance between preserving the site and developing the surrounding arable land. Although the locals might laugh at the image of archaeologists methodically digging through cow dung, the *Kakahuasi* will become another talking point in our conversations.



THE USE OF BARCODES IN EXCAVATION PROJECTS

EXAMPLES FROM MOSSEL BAY (SOUTH AFRICA) AND ROC DE MARSAL (FRANCE)

Harold L. Dibble, Curtis W. Marean, and Shannon P. McPherron

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The use of total stations in archaeological excavation makes it very easy to record quickly the three-dimensional coordinates of artifacts, samples, or features. The greater challenge is to link these coordinates to the actual object and to maintain this link throughout subsequent processing and analysis. Such linkages are usually made through the use of unique identification numbers that are assigned to objects as they are recovered. When dealing with several thousand or even several hundreds of thousands of objects, identification numbers tend to be both long and complicated. Each can take 1–2 seconds to enter on the keyboard, and there is always the potential to make mistakes. The use of barcodes solves both of these problems: a barcode representing an identification number can be read in a fraction of a second and with a high degree of accuracy. Here we describe barcode technology and provide two examples on how the use of barcodes has greatly increased both the speed and accuracy of maintaining those crucial links and, in the process, greatly facilitated the day-to-day handling of objects.

Background to Barcodes

A barcode is a series of vertical lines (or bars) and spaces, each of which can be of different widths. Bars and spaces together are called “elements,” which in turn are grouped together in different combinations to represent different characters. At a glance, all barcodes look pretty much alike. In fact, there are a number of different barcode formats that affect the way in which information can be coded within them. One of the more common barcode formats, and the one that is probably the most useful for archaeologists, is called Code 39 (or Code 3 of 9), which has nine bars and spaces: three are wide and the other six are narrow. The advantage of Code 39 is that it can represent a full range of capital letters, numbers, and special characters. There

is also an enhanced Code 39 that can represent both upper- and lower-case letters. Other formats may be limited to only numbers or may not include special characters. Thus, what format you use impacts what kinds of information you can place in a barcode, though virtually all commercially available barcode scanners recognize the Code 39 format.

To some extent, the size of the printed barcode varies proportionately to the number of characters being represented. However, the size of the barcode is also affected by what is called its density, which refers to the width ranges of the bars and spaces. Lower-density barcodes have wider elements and take up more space when they are printed. The thinner the bar and spaces, the less space is required and the higher the barcode density. The trade-off is readability. Lower-density barcodes are more reliably printed and more consistently read than higher-density barcodes because minor variations (due to printing or damage) are much more serious with the latter. In addition, barcode formats have rules that specify their height relative to their width and how much space is needed before and after the barcode. In our experience, however, these constraints are rarely significant to archaeologists, as numbers in the millions can easily be expressed in a highly readable barcode of just several centimeters.

There are a number of ways to produce barcodes, although most methods fall into one of three categories. First, you can install a barcode font (free versions are available on the Internet), which allows you to use your existing software to create labels. For example, you can use a database program to print barcodes by simply applying this font when printing. The advantage to this approach is that it is free and relatively easy to customize. The main disadvantage is that you need to be very aware of the barcodes rules as discussed above, particularly those concerning

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sizes. In addition, there may be other formatting rules. Code 3 of 9, for instance, requires that you place an asterisk (“*”) before and after the text that the barcode is to represent. Knowing this, one can, for example, include barcode printouts on a report in Microsoft Access by selecting a barcode font for the ID field, making sure that the font size meets the rules for minimum size (24 point, for instance). Adding the asterisk can be a little tricky, but one way is to write a separate query that creates a new field that might look something like this: “*” & [ID] & “*” where ID is the name of the field. When the barcode is read, these leading and trailing asterisks are automatically removed.

Another way to print labels is with commercial software. The main advantage to using a dedicated program is that it will come with a set of barcode formats and will take care of all the associated rules regarding size, format, start and stop characters, etc. These programs also typically have pre-set printing formats for printing labels available in office supply stores. The main disadvantages are cost and perhaps, depending on the software, some flexibility. One thing to look for in a barcode program is the ability to link to the database in which your data are stored. Finally, it is also possible to purchase software libraries that facilitate barcode programming. The main advantage is that you have all the flexibility that custom programming brings plus the rule-minding of the second option. The main disadvantages are that software libraries do cost money and it can take considerable time to write and debug these programs.

Many barcode formats, including Code 39, allow normal text to be written together with the actual barcode, which means that printed labels can still be read by humans. However, the real advantage of barcodes is not in their human readability but rather that they can be read extremely quickly and accurately by various instruments. The least expensive of these is called a “wand.” This device looks like a thick pen or laser pointer and is passed directly over the barcode. Wands are inexpensive, but they can be a little tricky to use because the wand must be angled correctly above the label and the motion used when reading a label must be smooth and at the right speed. Thus, some practice is required to get good results. So-called “barcode guns” are easier to use but a little more expensive and a little less compact. These hand-held or mounted devices are simply pointed at the barcode, and they are able to automatically find and read the information and pass it to a computer. Barcode guns come in two types: CCD and laser. CCD guns have a digital camera inside that takes a photo of the barcode and decodes it. They typically have to be within about 6 in of the barcode. Laser guns, which are what we use, are like those seen in supermarkets (Figure 1). A beam of laser light scans the object, locates the barcode, and then decodes it. This instrument is very fast and does not need to be within 6 in of the object. In our experience, the latter are quite rugged and extremely easy to use.



Figure 1: Use of a laser barcode reader.

All of these devices typically pass the data to the computer via either a wired (serial, PS/2, or USB) or wireless (typically with Bluetooth technology) interface. Both serial and PS/2 interfaces are a little less flexible since fewer computers are built with such ports and even if they are present, with serial interfaces you may need special software to read the data. One advantage of the wired interfaces is that the barcode reader typically can draw its own power from the computer through the cable. While a Bluetooth interface requires a separate power source (such as internal batteries), its main advantage is its mobility and the fact that there is one less cable to worry about in the field. In our experience, like other wireless systems, when it works properly, Bluetooth is impressive, but getting it to work the first time can be a challenge.

One of the main drawbacks of barcodes is that they are not readable without a computer to decode their information, and over time the barcode can become damaged and unreadable through excessive folding, or by exposure to too much sun and water. It is very important, therefore, not to rely totally on them. When printing a barcode of an artifact identification number, for instance, a plain text version of the identification number should be included with the barcode. Sealing the barcode separately in a small ziplock bag is also helpful. In this way, the label will still be readable despite damage or changes in computer and barcode technology. Another serious drawback to barcodes is their potentially short use-life. The main issue in our own system is the low quality of the glue on the labels. More-expensive labels stick to bags better and longer but for exactly how long is still unclear. An even larger issue, of course, is how long the instruments needed to read them will be available. As ubiquitous as barcodes seem today, it is not unimaginable that they will go the way of 8-track

tapes and record albums, and there are already a number of technologies that are perhaps superior (for example, Radio Frequency Identification, or RFID, chips), and any one of them may become the new standard. For these reasons, we consider the use of barcodes on our project as a provisional, non-archival tool designed to help us manage the collection from the point of excavation until it is turned over to a museum.

One other important issue with serious logistical implications is that the barcode system requires that each artifact is stored in its own bag, since it is impractical to affix the barcode label directly to the artifact. For us, this means purchasing 15–20,000 bags of various sizes per season. But the more difficult logistical issue comes when it is necessary to separate the objects from their bags, for example, if we want to lay out all the objects on a table. This is one reason why we immediately ink all artifacts, since there is no risk of losing their context even if they are out of their bags. However, when we are finished with such a study, potentially thousands of artifacts must be reunited with their proper bags.

Archaeological Example: Roc de Marsal (France)

Two of the authors (Dibble and McPherron, along with A. Turq and D. Sandgathe) are currently excavating the Paleolithic cave site of Roc de Marsal. Although the complete methodology is described elsewhere (McPherron and Dibble 2002), it can be described briefly as being built around the use of multiple total stations—Topcon and Leica—connected to handheld or laptop computers that collect the three-dimensional coordinates and assign unique IDs to each artifact, bucket, sample, etc. recovered from the site. In 2000, we began using barcodes to track objects from the moment of their recovery through all aspects of lab processing.

At Roc de Marsal, all artifacts over 25 mm are piece-provenienced with a total station and given a unique identification number that consists of the name of the excavation unit in which they were found (e.g., “H12”) and a sequential number unique to that unit. The combined Unit-ID (e.g., “H12-45”) represents a unique identifier for each object. The main challenge in such a system is, first, to keep the physical object in constant association with its unique Unit-ID and, second, to accurately associate any analysis of that object to this same Unit-ID. To accomplish this, we rely on two sets of labels. First are the Field Labels, which are preprinted sheets, with 24 labels per sheet, that contain new, unassigned Unit-ID numbers for objects recovered from each excavation unit. When the object is removed from the ground, it is placed in its own bag, and, after confirming the Unit-ID of the object, the next barcode label of the page is removed and affixed to the bag. These labels contain only the Unit-ID in text and barcode form (Figure 2a). In the lab,



Figure 2: (a) An example of a Field barcode with only the Unit-ID; (b) Lab barcodes customized by object type.

the Unit-ID is inked onto the artifact to permanently associate the Unit-ID with that artifact, and it is transferred to a new, clean bag. The Field Label is then scanned, and a new barcode label (called a Lab Label) is printed (Figure 2b). The Lab Labels are produced for two reasons. First, by the time the object has come from the field and been through the washing-and-labeling process, the original barcode is typically in less-than-ideal condition. Second, Lab Labels can be customized to include supplementary information derived from the database and can be designed with tracking features for subsequent processing. We have separate barcode labels for fauna and lithic artifacts, and these labels include check-boxes that are used by different analysts and lab personnel to note when an object has been through the various processing stages.

The advantages of barcodes are clear in all phases of object processing and analysis. As additional data are entered for an object, such as when it is photographed or analyzed, the first step in the process is to scan the barcode. The database is then checked to ensure that the Unit-ID is indeed a valid one and that the current data have not already been associated with the particular object. If it passes these two checks, data entry is allowed to proceed. In addition, the barcodes are used any time we want to access what is known of an object. Typically this involves scanning the barcode into the GIS so that it can provide the spatial and analytical information associated with the object. Barcodes also enable us to physically re-sort material at a much faster rate—artifacts are scanned one at a time, and the computer instantly responds with the information required (e.g., level, artifact type)—an operation that takes less than a second. And finally, making lists of materials, such as objects sent out to specialists, is equally fast—the labels of the objects are simply scanned into whatever software is used to keep the list. The use of the barcodes to enter the Unit-ID numbers is many times faster than doing it by hand, and much more accurate.

Archaeological Example: Mossel Bay (South Africa)

The Mossel Bay Archaeology Project (MAP) is a long-term field study of the Middle Stone Age in the Mossel Bay region of South Africa (Marean et al. 2004). MAP has been using total stations as its primary means for measuring and recording field observations since the first field season in 2000, and starting in 2001, we integrated barcode scanners into our total station-based recording systems. In this project, all finds, including lithics, fauna, and any other artifact or ecofact, are piece-provenienced (which we call “Plotted Finds”) with the total station, which is also used when drawing features and stratigraphic profiles. We also shoot “chits,” which are small paper targets, on all plan and stratigraphic photographs so that they can be rectified and built into our GIS. Days can go by without anyone on site using a tape measure, and no tape measures are used for any drawing or measurement recording, due to their inherent lack of precision (McPherron et al. 2005).

Between excavation and field mapping, massive amounts of total station measurements are taken—tens of thousands per field season. Tying these measurements to their context could be a daunting task, both in terms of the mechanics of recording (typing field descriptions into a total station or hand-held computer) and the potential for error in that typing. Our combination of barcode scanners, surveying software, and database management has overcome this problem.

The typical MAP excavation uses two total stations positioned at opposite ends of a cave. Each total station is positioned to cover a specific area being excavated during that day (Figure 3). Our total stations are reflectorless and are operated by hand-held computers running software called Survey Pro (developed by Tripod Data Systems, or TDS). Most total station brands have reflectorless models that cost only a thousand dollars more than those that require prisms, and we have found that the capability is cost-effective. Although we often use chits (Figure 4), with adequate light one can shoot directly onto anything. Thus, reflectorless systems allow one to shoot onto and map features that are dangerous or difficult to access. Based on our experience, the reflectorless units are as accurate as those requiring a prism within ranges from 3–350 m.

In the field, we use two types of barcode scanners because of differences in the two field computers that are used by the project. The first is a wired scanner (HHP Imageteam 3800) that is powered by and communicates with the handheld computer (a TDS Ranger), which, in turn, is cabled to the total station. These field computers are rugged, and we have not had a single failure over four excavation seasons. The Ranger comes with a keyboard wedge program that will receive the barcode data and translate it as regular keyboard entry, and we designed a hardware interface that allows us to attach and power the barcode scanner to



Figure 3: The set-up in an excavation area, showing the total station being run by the Gunner (left), the Recorder with the hand-held computer and barcode scanner (right), and the excavators.

the Ranger-powered serial port (Figure 5). While wiring your own hardware interface may seem intimidating, it is actually quite easy, as the pin-out codes are provided in the Ranger and barcode-scanner manuals. If necessary, professional electronics technicians, either at one’s university or a commercial dealer, can build the interface for you cheaply. Our other field computer, however, a TDS Recon, does not have a powered serial port. The solution was to add a Bluetooth card to the Recon and then purchase a Bluetooth-enabled barcode scanner. Several varieties run on batteries, and we use one made by Socket. These appear somewhat more fragile than the HHP, but we have gone three full seasons without malfunctions. Ultimately, wireless scanning may be the most flexible solution, as it will allow the barcode reader to move independently of the handheld computer.



Figure 4: A plan photograph of a feature (a burned area) showing targeting chits that will be shot by the total station. This particular set-up is for a photograph that will then be rectified and built into our GIS.



Figure 5: The Recorder with the Ranger handheld computer and the barcode scanner, scanning a Plotted Find and Lot Number to Survey Pro on the Ranger, thus linking the find to its x-y-z coordinates and stratigraphic provenience.



Figure 6: A set of Plotted Find bags showing the barcode labels, and Lot Number labels affixed to the form describing that StratUnit.

The challenge of any complex project is to integrate all of the measurements and descriptions easily and without long and repetitive data entry. To accomplish this, we use a relational Access database anchored by three key tables that share two fields—the Plotted Find number and a Lot Number—that define the relations among the tables. Plotted Find numbers are sequential, and so every find or sample receives a unique one. Using software called “Bartender,” the barcodes and the readable text are preprinted on sheets of return address labels. These labels are then put inside small ziplock bags and distributed to excavators in batches in small boxes (Figure 6).

Like many archaeological projects, our excavations take place within a horizontal grid system (1-m squares, and within them, 50-sq cm quads) and some type of stratigraphic unit (what we call a StratUnit) that reflects an observable anthropogenic, biogenic, or geogenic observation. Thus, all excavated materials, including Plotted Finds, will be provenienced minimally by StratUnit-Square-Quad. To each set from this provenience, we assign a single identification number called the “Lot Number,” which serves like a tracking number for a package. We generate in advance a second set of barcode labels for these Lot Numbers for use on bucket tags and excavation forms (Figure 6). When an excavator begins to excavate a new StratUnit-Square-Quad, they add this to the Lot Number table. This means that any find or observation that has a Lot Number attached to it can ultimately be associated to its full StratUnit-Square-Quad provenience through a relation to the Lot Number table. This also means that this is the last time that anyone needs to enter or

write the StratUnit-Square-Quad—one can now scan the Lot Number barcode to get that information.

The process operates as follows: an excavator puts one or two chits in place of the artifact, and drops the artifact into a bag with a barcode Plotted Find label. The “Gunner” (the person running the total station) targets the chits, and the “Recorder” (the person who runs the handhelds and keeps notes) activates the total station from the handheld. The shot is taken, the excavator passes the bag to the Recorder, and the Recorder scans the Plotted Find number and then the Lot Number to the Survey Pro database; this ties together the x-y-z coordinates, the find, and its provenience. Similarly, when mapping a hearth, the excavator places several chits, and for each shot, the Recorder scans the Lot Number, tying the feature being shot to the multiple x-y-z coordinates. Survey Pro can be set to carry over previous entries to the next, and thus if desired, multiple shots to items or lots with the same lot number need only scan it once.

Conclusions

This brief note described the use of barcodes in on our own excavation projects and also presented some background and issues surrounding their use. It is clear to us that barcodes are very effective in our own projects and that the expense of this technology is not prohibitive since it is offset by the vast increase in speed and accuracy of entering information. Although circumstances vary widely among archaeological projects, the use of barcodes is something that all projects should

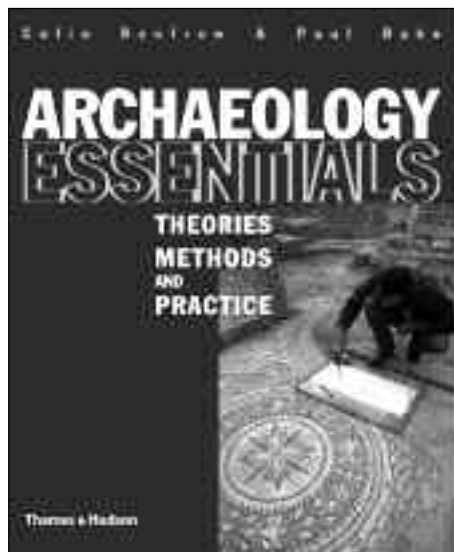
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INTERFACES

consider. One final point: while we describe here the specific hardware and software that we are currently using, computer and instrumentation technology is constantly changing. Before making any purchases, users should consult with dealers to make sure that all of the various components will work together smoothly.

Acknowledgments

The Roc de Marsal project is supported by the National Science Foundation, the Leakey Foundation, the University of Pennsylvania Research Foundation, the University of Pennsylvania Museum of Anthropology, the Service Régional de l'Archéologie, and the Conseil Général de la Dordogne. The fieldwork at Mossel Bay is supported by the National Science Foundation, the Hyde Family Foundation, the Institute for Human Origins, the Dias Museum of Mossel Bay, and Iziko South African Museums.

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NEWS & NOTES

National Park Service's 2007 Archaeological Prospection Workshop. The National Park Service's 2007 workshop on archaeological prospection techniques, entitled "Current Archaeological Prospection Advances for Non-Destructive Investigations in the 21st Century," will be held May 14–18, 2007, at the HAMMER Training Center, Richland, Washington. Lodging will be at the Guest House, Richland, Washington. This will be the seventeenth year of the workshop dedicated to the use of geophysical, aerial photography, and other remote sensing methods as they apply to the identification, evaluation, conservation, and protection of archaeological resources. The workshop this year will focus on the theory of operation, methodology, processing, interpretation, and on-hands use of the equipment in the field. There is a tuition charge of \$475. Application forms are available on the Midwest Archeological Center's website at <http://www.cr.nps.gov/mwac/>. For further information, please contact Steven L. DeVore, Archeologist, National Park Service, Midwest Archeological Center, Federal Building, Room 474, 100 Centennial Mall North, Lincoln, NE 68508-3873; tel: (402) 437-5392, ext. 141; fax: (402) 437-5098; email: steve_de_vore@nps.gov.

Winner of 2006 Alfred Vincent Kidder Award Announced. The American Anthropological Association (AAA) is highly honored to present Dr. Jeffrey S. Dean the Alfred Vincent Kidder Award for Eminence in the field of American Archaeology for 2006. Through his outstanding research and publications, Dean has made fundamental contributions to archaeology over

the last four decades. His career typifies all that is best in Southwest archaeology: a sound mix of field-based research and highly conceptual analyses, healthy and open-minded skepticism, patient mentoring of younger colleagues and students, and extraordinary research productivity. Raised in Idaho, Dean received his B.A. and Ph.D. in anthropology from the University of Arizona. His 1967 dissertation was the first study to push tree-ring dating into anthropology by answer-



ing questions about the organization of households and villages, migration, and abandonment. He became an Assistant Professor in Dendrochronology at the Laboratory of Tree-ring Research at the University of Arizona in 1967, rising to the rank of Professor in 1977. He is currently Agnese and Emil Haury Professor of Archaeological Dendrochronology and Professor of Anthropology at the University of Arizona, as well as Curator of Archaeology for the Arizona State Museum. In his research, he has provided chronological frameworks for almost every portion of the Southwest, conducted field work to expand the chronology, and corrected long-standing errors in specific chronologies. He developed models for paleoclimatic reconstruction

and was the first to fully define low-frequency and high-frequency climatic processes for the Southwest. Dean also has made seminal contributions to theory and method in the modeling of ancient demography, multidisciplinary approaches to paleoclimate, and understanding cultural responses to climate change. His recent work as a member of a team of social and computer scientists at the Santa Fe Institute demonstrates the utility of agent-based modeling in archaeology. His service to the profession has been extensive, including Treasurer of the SAA, President of the Society for Archaeological Sciences, and President of the Arizona Archaeological and Historical Society. A Fellow of the AAA, Dean received the Lifetime Achievement Award from the SAA. Jeffrey Dean espouses and upholds the highest ethical standards and is an excellent teacher and mentor; his work has impacted hundreds of colleagues and students.

National Science Foundation Increases Awards. The National Science Foundation's (NSF) Archaeology Program has increased the maximum amount that can be requested for Doctoral Dissertation Research Improvement Grants from \$12,000 to \$15,000. Complete competition information may be obtained from the NSF website at <http://www.nsf.gov/sbe/bcs/arch/suppdiss.jsp>. For questions, contact the Program Director, John Yellen, at tel: (703) 292-8759 or email: jyellen@nsf.gov.

NEWS & NOTES, continued on page 44



POSITIONS OPEN

POSITION: ASSISTANT PROFESSOR

LOCATION: LAS VEGAS, NEVADA

The Department of Anthropology and Ethnic Studies at the University of Nevada, Las Vegas invites applications for a tenure-track Assistant Professor in Old World archaeology. We are seeking a prehistorian, preferably with a geographic focus on Eurasia and expertise in zooarchaeology, GIS, paleobotany, or geomorphology, although other specialties will be considered. Candidates should have a biocultural theoretic focus on arid environments and should complement existing faculty expertise. An active field program leading to publications and a history of external funding will be considered as assets. The Department is committed to a four-field approach, and teaching responsibilities include involvement in the undergraduate and graduate programs. Other responsibilities include working with graduate students on theses or dissertations and participating in service activities at the department, college, and university levels. Application materials must include a current *vitae*, cover letter, and names of three references. Materials should be addressed to Dr. Alan Simmons and must be submitted online at <https://hrsearch.unlv.edu>. For assistance with UNLV's online applicant portal, contact Jen Feldmann at (702) 895-3886 or hrsearch@unlv.edu. Please see online position description for more detail. UNLV is an Affirmative Action/Equal Opportunity educator and employer committed to excellence through diversity.

POSITION: DEPUTY DIRECTOR

LOCATION: CAMBRIDGE, ENGLAND

McDonald Institute for Archaeological Research, University of Cambridge. Job No: 50395. Salary: £43,638–£46,295. Applications are invited for the post of Deputy Director of the McDonald Insti-

tute for Archaeological Research. The role of the Deputy Director is to support the Director in overseeing the administration and research activity of the McDonald Institute, the latter including its grant, monograph publication, and conference programmes. The postholder will be actively engaged in research in any field of archaeology and will contribute to graduate research and supervision and teaching programmes in archaeology. Further particulars and an application form (PD18) may be obtained from Ms. Sara Harrop, McDonald Institute for Archaeological Research (tel: +44 (0)1223 339284; email: slh30@cam.ac.uk), to whom a letter of application should be sent, together with a CV and a completed PD18 form. Closing date: January 12, 2007.

POSITION: POSTDOCTORAL RESEARCH ASSOCIATE IN ANTHROPOLOGY

LOCATION: PROVIDENCE, RHODE ISLAND

Brown University's Department of Anthropology invites applications for a full-time Postdoctoral Research Associate in Mesoamerican archaeology for a one-year appointment, to be effective July 1, 2007. The candidate will conduct postdoctoral research on Mesoamerican archaeology, in complement to programs of existing faculty, and teach two courses during the academic year. The Ph.D. must be in hand at the time of appointment. Candidates should send a curriculum vita, a statement of research and professional goals, and the names and contact information of three individuals who would be willing to provide letters of reference to Professor Stephen Houston, Chair, Postdoctoral Search Committee in Mesoamerican Archaeology, Department of Anthropology, Box 1921, Brown University, Providence, RI 02912; tel: (401) 270-6195; fax: (401) 863-7588; email: [\[Brown.edu\]\(mailto:Brown.edu\). Review of applications will begin February 1, 2007. Brown University is an EEO/AA employer. Minorities and women are encouraged to apply.](mailto:Stephen_Houston@</p>
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POSITION: ASSISTANT PROFESSOR

LOCATION: CLINTON, NEW YORK

Hamilton College, Department of Anthropology invites applications for a two-year, visiting assistant professor position in archaeology, beginning July 1, 2007. We seek candidates with a demonstrated strength in teaching and methodological expertise in archaeological science. Ph.D. by time of appointment preferred, but ABDs will be considered. Teaching responsibilities include five courses per year: an introductory principles course, intermediate topical and area courses, and an advanced methods course. Area specialty is open; we welcome expertise in middle-range or complex societies and GIS analysis, archaeometry, geoarchaeology, or environmental archaeology, broadly construed. Hamilton provides competitive salaries and excellent research support. Hamilton provides domestic partner benefits. Please send application, including a vita and the names and contact information for three references, to George T. Jones, Department of Anthropology, Hamilton College, 198 College Hill Road, Clinton, NY 13323. Applications should be sent before February 1, 2007 when we will begin review. Hamilton College is an affirmative action, equal opportunity employer and is committed to diversity in all areas of the campus community.

POSITION: THREE-YEAR PRESERVATION FELLOW

LOCATION: TUCSON, ARIZONA

The private nonprofit Center for Desert Archaeology invites applications for a three-year doctoral fellowship in southwestern archaeology, to be effective Sep-

tember 1, 2007. The Center's Preservation Fellowship program functions in full partnership with a fellow's academic institution and provides substantial financial support in a context of diverse research and administrative responsibilities. The Fellow will be expected to define a research problem that is compatible with the requirements of his or her degree granting institution and to work within the Center's current research priorities, which are focused on the late precontact period (AD 1350–1540) in the Upper Gila River Valley of Arizona and New Mexico. The Fellow is provided a monthly stipend of \$2,000 plus health insurance, office space, administrative support, and volunteer labor through the Center's membership program. Applicants should review the information available at http://www.cdarc.org/pages/get-involved/fellow_2006_gila.php. Interested applicants are encouraged to contact Dr. William H. Doelle, President and CEO of the Center for Desert Archaeology, at wdoelle@cdarc.org. Applications should be postmarked no later than April 9, 2007.

POSITION: ASSISTANT OR ASSOCIATE PROFESSOR

LOCATION: LOS ANGELES, CALIFORNIA
 California State University, Los Angeles, seeks an assistant professor or associate

professor for a tenure-track position in prehistoric archaeology with experience in Cultural Resource Management and California prehistory. Starting Date: Fall 2007. Salary Range: Commensurate with qualifications and experience. Application Deadline: Review of applications will begin on January 15, 2007 and continue until position is filled. Responsibilities: Candidates will be expected to teach at both the undergraduate and graduate levels. Duties include teaching approximately three courses/quarter, involvement in department and university governance, student advisement, and continued scholarly research. Requirements: Applicants must have a Ph.D. in anthropology from an accredited institution of higher learning. The applicant should show potential for successful grant writing and research and scholarly activity involving students. The applicant must have a record of archaeology fieldwork, teaching experience, and an interest/ability in working in a multiethnic, multicultural environment. Desired/Preferred Qualifications: The ability to obtain the necessary permits and funding to excavate archaeological sites, teach an archaeological field class, and meet the ethical requirements to publish the recovered data. Eligibility: Employment contingent upon proof of eligibility to work in the United States and completion of the University's

Application for Academic Employment form. Application Procedure: Applicants should submit a letter of application, a detailed curriculum vita, a statement of research and teaching interests, three letters of recommendation, and official transcript from the institution awarding the highest degree to ChorSwang Ngin, Ph.D., Chair, Department of Anthropology, California State University, Los Angeles, 5151 State University Drive, Los Angeles, CA 90032-82204. *In addition to meeting fully its obligation under federal and state law, Cal State LA is committed to creating a community in which a diverse population can live, work, and learn in an atmosphere of tolerance, civility, and respect for the rights and sensibilities of each individual. All qualified individuals will receive equal consideration without regard to economic status, race, ethnicity, color, religion, marital status, national origin or cultural background, political views, sex, gender identification, sexual orientation, age, disability, disabled veteran or Vietnam eras veteran status.*



CALENDAR

2007

FEBRUARY 1

2007 Leakey Foundation Speaker Series presents "Who Were the Neandertals?" by Harold Dibble, Professor of Anthropology at the University of Pennsylvania, at 8:00 pm at the Jewish Community Center, 3200 California St., San Francisco, CA. Tickets: \$8 Members/\$10 General/\$6 Students. For more information, call (415) 321-8000 or visit <http://www.calacademy.org>. Co-sponsored by the California Academy of Sciences.

FEBRUARY 2-4

The 4th Annual Tulane Maya Symposium, titled "Murals and Painted Texts by Maya Ah Tz'ibob," will be held in New Orleans, Louisiana. For more information, visit <http://stonecenter.tulane.edu/MayaSymposium/>.

MARCH 7

2007 Leakey Foundation Speaker Series presents "African Rock Art" by David Coulson, photographer and Founder of Trust for African Rock Art, at 8:00 pm at the Lensic Performing Arts Theatre, 211 West San Francisco St., Santa Fe, NM. Tickets: free, available at the door. For more information, call (505) 954-7203 or visit <http://www.sarweb.org/>. Co-sponsored by the School for Advanced Research.

MARCH 15

2007 Leakey Foundation Speaker Series presents "Art for the Ages: Raising Awareness of Prehistoric African Rock Art" by David Coulson, photographer and Founder of Trust for African Rock Art, at 7:00 pm at the Getty Museum, 1200 Getty Center Dr., Los Angeles, CA. Tickets: free, reservations required. For more information, call (310) 440-7300 or visit <http://www.getty.edu>. Co-sponsored by the Getty Museum.

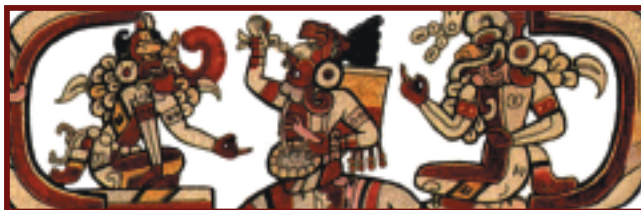
MARCH 23-24

The Archaeology of Anthropogenic Environments, the 24th Annual Visiting Scholar Conference sponsored by

the Center for Archaeological Investigations, will be held at Southern Illinois University, Carbondale. The conference will consider the archaeological evidence for human manipulation of the environment, both as a context for modern environments and as a source of data about past societies. For further information, contact Rebecca Dean, tel: (618) 453-5032; email: rdean@siu.edu; web: <http://www.siu.edu/~cai/vsconference2007.html>.

APRIL 25-29

72nd Annual Meeting of The Society for American Archaeology will be held in Austin, Texas. www.saa.org.



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NATIVE AMERICAN SCHOLARSHIPS SILENT AUCTION

Be sure to visit the Native American Scholarships Committee (NASC) booth at the back of the SAA Exhibit Hall (Booth 132) to place your bids on some "great stuff" while contributing to a worthy cause. While no silent auction was held at the Puerto Rico meetings, we look forward to seeing you all at the Austin meetings in 2007. In the three years prior to 2006, the Silent Auctions have raised over \$13,000, and we need your help to be even more successful this year! The Silent Auction was the brainchild of former NASC Chair Joe Watkins and his vice-chair, Tristine Smart, but has been carried forward by successive NASC chairpersons and committee members.

The Native American Scholarships Fund was established to foster a new sense of shared purpose and positive interaction between the archaeological and Native American communities. The Fund has grown thanks to donations of book royalties, contributions from individuals and organizations, and the proceeds from the silent auctions. In 1998, SAA began awarding an annual Arthur C. Parker Scholarship, which supports training in archaeological methods for Native peoples from the U.S. and Canada who are students or employees of tribal cultural preservation programs. The scholarship is named for SAA's first president, who was of Seneca descent.

Students have taken advantage of their scholarships to partake in some really interesting projects. In 2004, Sean P. Naleimaile attended the University of Hawaii's Rapa Nui field school with the Parker scholarship. In 2005, Larae Buckskin attended the University of Idaho's field school with the Parker scholarship, while Lizatina Tsosie and Laurie Shead attended

field schools with National Science Foundation (NSF) scholarships. Denny Gayton used his 2005 NSF scholarship as tuition assistance for graduate school. In 2006, Joey J. Condit attended the University of Hawaii's Rapa Nui field school, while Vera Asp attended the University of Oregon's field school program on Prince of Wales Island. Ashley Atkins used her 2006 NSF scholarship to attend the University of Arizona's Chevelon field school.

Donations to the 2007 Silent Auction would be greatly appreciated. In past years, contributed items included used and new books, tools and services used by archaeologists, jewelry, artwork, and Native American craft items. For example, Bill Longacre has donated some amazingly beautiful textiles and basketry from the Philippines that were among the most sought-after items. Many wonderful books from exhibitors were on sale, some tantalizing Native American crafts, jewelry, and other items, as well as hand-crafted objects from some of our own membership, including flaked lithic items from Phil Geib and hand-crafted pottery from Michael Schiffer. Most importantly, the auction booth is a fun social environment and a good place to relax between sessions. All of the funds raised go to the scholarship and to growing the endowment.

To contribute to the Native American Scholarship Fund, please contact the Native American Scholarships Committee, c/o SAA, 900 Second Street NE, Suite 12, Washington, DC 20002-3560; tel: (202) 789-8200; email: info@saa.org. If you have items for the auction, bring them to the meetings to drop off at the NASC booth (Booth 132).

PUBLIC EDUCATION, from page 27 ↻

ically important to us all. Why? This question has lots of answers (Little 2002). One of my favorite answers is that the present lacks meaning without a past. Without empirically based knowledge of prior ages, all cultures have created stories about the past to give their lives meaning. Today, in contrast, we have the methods and technical capability to *find out* what happened in the past. We no longer need to devise stories—we can lay out the evidence and show the basis for our reconstructions and explanations. This is revolutionary news—a true advance in the development of human consciousness—and we should be telling it.

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NEWS & NOTES, from page 39 ↻

National Park Service Seeks Nominations to U.S. World Heritage Tentative List. The National Park Service (NPS) Office of International Affairs is working together with the George Wright Society to draft the new U.S. World Heritage Tentative List of sites that will serve as the inventory of properties that the U.S. considers suitable for inscription on the World Heritage List. The Tentative List is being prepared with the involvement of property owners and other stakeholders, including the public, to guide U.S. nomination of future sites. The NPS invites qualified property owners to submit nominations for possible inclusion in the U.S. Tentative List. Completed nominations must be received on or before April 1, 2007. The U.S. Department of the Interior will then consider those sites for nomination over the ensuing decade (2009–2019). For more information, see the article in the May 2005 issue of *The SAA Archaeological Record*, visit the website at <http://www.nps.gov/oia/topics/worldheritage/tentativelist.htm>, or contact James Charleton, World Heritage Advisor, at james_charleton@contractor.nps.gov.

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For details and a volunteer application, please go to SAAweb (www.saa.org) or contact Darren Bishop at SAA (900 Second St. NE #12, Washington, DC, 20002-3560, phone [202] 789-8200, fax (202) 789-0284, e-mail darren_bishop@saa.org). Applications are accepted on a first-come, first-serve basis through February 1, 2007, so contact us soon to take advantage of this great opportunity. See you in Austin!



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