

SPECIAL FORUM: CONFLICT ARCHAEOLOGY

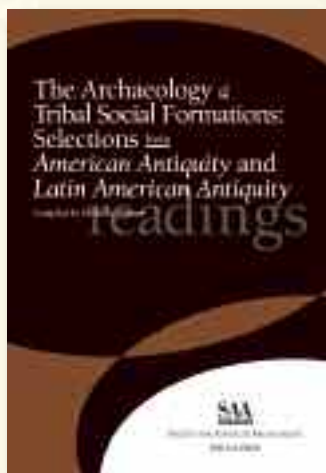
# the **SAA** Archaeological record

SEPTEMBER 2010 • VOLUME 10 • NUMBER 4



SOCIETY FOR AMERICAN ARCHAEOLOGY

## READERS FROM THE SAA PRESS



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# the **SAA** Archaeological record

*The Magazine of the Society for American Archaeology*

**VOLUME 10, No. 4**

**SEPTEMBER 2010**

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## EDITOR'S CORNER

Jane Eva Baxter

*Jane Eva Baxter is the editor of The SAA Archaeological Record.*

It was both an honor and a surprise to be nominated for the editorship of *The SAA Archaeological Record*. *The SAA Archaeological Record* and its predecessor, *the SAA Bulletin*, have been important outlets for my own writing, beginning in 1996 when I wrote my first column as a member of the Student Affairs Committee. That article, on how to create a professional poster, was translated into multiple languages and is still cited in various sources on student professionalism. Later writings on my archaeology in film and television class still generate emails to my inbox nearly a decade later. My own experiences with the publication give me a firsthand appreciation for its importance for our discipline, and I look forward to taking on this challenge in a way that keeps the publication both relevant and vibrant for readers and a valuable outlet for authors.

My proposal for *The SAA Archaeological Record* under my editorship is twofold. First, I want to keep the content of the publication diverse and relevant for readers. I very much believe that as members of the SAA this is your publication, and I look forward to working with you as authors and readers to continue the strong tradition of scholarly and professional content that is the hallmark of *The SAA Archaeological Record*. Second, I believe *The SAA Archaeological Record* holds an important place in the SAA as the most widespread, consistent, and proactive form of communication the SAA has with its members. In this sense, it is important that *The SAA Archaeological Record* keep the diverse membership of the SAA informed and engaged with the organization. A new, regular column from the SAA President and a regular column that profiles a SAA volunteer are part of this emphasis. Working with SAA Committees and Interest Groups to put together topical forums and individual articles that relate to the charges and interests of these SAA organizations is another large part of my editorial plan.

I also have a few requests of you as members. First, please consider *The SAA Archaeological Record* as a venue for publication. I am happy to listen to ideas for potential contributions and work with authors to see the work through to publication. Second, I encourage you to submit letters to the editor to comment on articles published in *The SAA Archaeological Record*, or other aspects of the publication. Creating conversations among members is one of the many ways *The SAA Archaeological Record* can help strengthen the SAA for us all. Finally, if you have high quality images that would make appealing cover photos, please send them along. Not every group of articles produces visual content that makes an enticing cover, and it would be great to have some images to draw upon over the next three years.

This issue, my first as editor, contains materials that were acquired under the editorship of Andrew Duff, and I am grateful for his patience and guidance during this transition. Featured is a set of three papers that address issues of cultural heritage in wartime, a forum, guest-edited by Jamie Brandon, on conflict archaeology, and a series of single-authored papers. Thanks to all the authors as well for working with Andrew and me during this transition.

I look forward to serving you all over the next three years. If you have questions, comments, photos, or submissions/submission ideas, please do not hesitate to contact me at [SAAAR@depaul.edu](mailto:SAAAR@depaul.edu).



## FROM THE PRESIDENT

Margaret Conkey

*Margaret Conkey is the President of the Society for American Archaeology.*

**A**s we enter the fall season, I want to share with you two very important SAA initiatives that are just around the corner: the distribution of a Needs Assessment Survey to the membership on October 13, 2010, and a new procedure for volunteering for committee service debuting in November.

### Needs Assessment Survey

We need your input in order to ensure that SAA is continuing to meet your needs as members. To that end, beginning on October 13<sup>th</sup> a Needs Assessment Survey will be conducted via the web. The first survey of this kind was conducted back in 2003, and the 2010 survey will provide both new and longitudinal data. All members are asked to participate and every member has an equally important voice.

The survey will be conducted by an independent third party that specializes in membership surveys. It should take about 25 minutes to complete and all responses are completely anonymous. Surveys will be distributed on October 13, 2010 through a secure link sent to you by this email (saasurvey@association-research.com). A postcard containing the link will be mailed out to those members without a current email address on file with SAA.

To ensure receipt of the survey, please inform membership@saa.org of any changes to your email address prior to the October 13<sup>th</sup> distribution date. You can also add (email address) to your email "approved list" so that it is not sent to a junk folder. Your participation in this survey is critical to the development and future directions of SAA, and we cannot do it without you! Watch for the email on October 13, 2010.

### Get Involved! New Process for Volunteering for SAA Committee Service

We want all members of SAA to get involved, and we want to make it easy. SAA currently has close to 40 committees engaged in the work of the Society. These committees generate ideas, guide action plans, develop recommendations for review by the Board of Directors, and collectively move the Society forward. Our committees are fueled by the 400+ volunteers who serve on them. We hope that you will want to be one of those volunteers! We are simplifying the process.

Debuting this November, SAA will put out an open call to its members with a list of committees that have available slots. The call will be sent to the membership through an email announcement containing a hyperlink to the online form. A postcard containing the link will be mailed to those members without a current email address on file with SAA. Please update your email address through the Members Section of SAAweb or with membership@saa.org to ensure receipt of the open call. Anyone interested in committee service will be able to respond to the call via the online form. You will need to respond to the following question: "What would you bring to the committee?" All open committee slots will be filled through this method. Please note that those members wishing to be *re-appointed* to a committee on which they are currently serving must also apply through the open call.

Appointments made through the open call will begin at the close of the Annual Business Meeting in Sacramento. All appointments are two-year commitments, with occasional exceptions. In addition to this open process to volunteer, a Board action has been put into place aimed at building student committee involvement. Beginning with the appointments for spring 2011, most committees will be required to appoint at least *two* student members. This is a wonderful chance for students to become more hands-on within SAA. I and the Board would like to see many more members get involved and take advantage of this easier, flexible, and straightforward way to volunteer. If you are thinking of committee service, all committee charges and compositions, along with their current memberships, are posted on SAAweb. I encourage you to check them out.

We are excited about these new initiatives and ask that you keep your eyes out for upcoming announcements regarding the Needs Assessment Survey and open call for committee members this fall. Please be sure that your email address is up-to-date with SAA and contact membership@saa.org with any changes. I hope these two initiatives will encourage you to get involved!



## IN BRIEF

**Tobi A. Brimsek**

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

### **Sacramento in 2011!**

The 76<sup>th</sup> Annual Meeting of the Society for American Archaeology will be held in Sacramento, California, March 30-April 3, 2011. There are co-headquarters hotels, the Hyatt Regency Sacramento and the Sheraton Grand Sacramento, both of which are adjacent to the Sacramento Convention Center. The convention center, along with the two headquarters properties, will be the hub of all meeting activity. There are two properties exclusively for students: Clarion Hotel and Holiday Inn Express. These properties are about 4 blocks from the convention center and next to one another. Both offer complimentary wireless and parking as well as, in the case of the Clarion, a continental breakfast, and in the case of the Holiday Inn Express, a complimentary hot buffet breakfast. An additional student as well as general overflow property is the Best Western Sutter House, approximately the same distance from the convention center as the two student properties, and offering similar amenities.

Complete reservation information, including cut-off dates, for all five of the properties is available on SAAweb, and of course, will be included in the Preliminary Program, available in December. Click on the "2011 Meeting Hotel Information" link on SAA's homepage ([www.saa.org](http://www.saa.org)) to see this information now. Updated information on hotel availability will always be posted on SAAweb on the meeting hotel page.

As Meg Conkey, SAA's President has said, "Think of Sacramento as a California destination: with the Sierra Mountains and Napa-Sonoma Valley wineries nearby and plenty of great archaeology." We hope to see you there!

### **How Do I Get a Free Year's Membership in SAA?**

It's simple. As a Sacramento meeting attendee, register at any of the five official SAA meeting hotels by January 10, 2011, and your name will be entered into the drawing for the free year's membership. There will be one drawing for those in regular-rate rooms and one drawing for those in student-rate rooms. Don't miss out!

### **Staff Transitions**

Meghan Tyler has been promoted from coordinator, Membership and Marketing to manager, Membership and Marketing, effective July 1, 2010. Eliza van Beuren joined the staff on July 12, 2010 as our new coordinator, Membership. Eliza is a recent graduate from Washington and Lee University.

### **October 13, 2010**

This is the day the 2010 Member Needs Assessment Survey link will be electronically distributed to the full membership. Through this survey we asking two things of you—for your time, about 25 minutes, and for your input. This is your opportunity to provide input to future directions for SAA. We are looking for a 100% response. I hope that you will consider helping us out. Remember that the survey will be web-based with a link provided via email (or postcard, should we not have your current email). For more detail, please see Meg Conkey's column, *From the President*, on page 3. The survey is being conducted for SAA by an independent third partying, specializing in this type of research.

### **Are You Interested in Serving on an SAA Committee?**

You may have been thinking about serving on an SAA committee or maybe that had not yet occurred to you. SAA is hoping that you will think about it. Later this fall (likely early November), there will be an open call to the SAA membership to solicit members interested in serving. All open committee slots will be posted and filled through this call. Appointments will be made for slots available as of the close of the Annual Business Meeting in Sacramento. Anyone currently serving on a committee and who wishes to be re-appointed must also apply through the open call. For more detailed information, please see Meg Conkey's column on page 3.

#### **Needs Assessment Survey**

Surveys will be distributed to all SAA members on October 13, 2010 through a secure link sent to you by this email ([saasurvey@associationresearch.com](mailto:saasurvey@associationresearch.com)). A postcard containing the link will be mailed out to those members without a current email address on file with SAA.



# ARCHAEOPOLITICS

David Lindsay

*David Lindsay is Manager, Government Affairs at the Society for American Archaeology.*

**B**ritish Prime Minister Harold Macmillan, in response to a question from a journalist about what poses the greatest challenge to politicians, is supposed to have replied “Events, dear boy, events.”

No one knows for sure if Macmillan actually uttered the phrase. Nevertheless, the quote is an accurate observation of how quickly occurrences can alter political perspectives and priorities, and make things once deemed unlikely—or even impossible—suddenly achievable.

The Historic Preservation Fund (HPF) was created in 1976 to help support the programs created by the National Historic Preservation Act. HPF funds, which can go to State and Tribal Historic Preservation Offices and Certified Local Governments, also build historic preservation initiatives around the country by requiring a 40 percent match in non-federal monies. This ensures substantial involvement in and support for preservation work in communities.

The HPF is funded with receipts from energy leases on the outer continental shelf (OCS). Authorized to receive \$150 million in OCS receipts annually, it is subject to the congressional appropriations process, and in past years Congress has allotted far less to the HPF than the authorized amount. In fact, after adjusting for inflation, funding for the HPF has been mostly flat over the past decade. Given the rising costs of just about everything during that same time, this amounted to a de facto cut in funding, making the already difficult task of effective cultural resource preservation work even harder.

Over the years, many preservation groups pressed Congress to increase appropriations for the HPF, if not to its full authorized level, then at least a significant increase. Given the number of demands placed on the federal budget, however, these pleas fell mostly upon deaf ears. Congress needed much of the OCS lease revenue for other priorities. Full funding for HPF was going to remain very much a long shot, unless the equation changed.

Two things happened to finally change that equation. The first was the creation of the Coalition for Full Permanent Funding of the Historic Preservation Fund (<http://www.fullyfundhpf.org/home>). This alliance, spearheaded by the National Conference of State Historic Preservation Officers, consists of more than 200 national, regional, state, and local preservation groups, including SAA. From the grassroots to the nation's capital, the Coalition sends Congress a clear, unified, and effective message on the value of historic preservation, and the need for full HPF funding.

The second development was the tragic explosion and sinking of the Deepwater Horizon rig in the Gulf of Mexico. In addition to claiming 11 lives, the accident resulted in the damaged well-head releasing tens of thousands of gallons of crude oil into the Gulf daily. This accident, and its economic and environmental damage, caused Congress and the nation to re-examine offshore oil and gas development, the regulations that govern it, and the government agencies charged with enforcing those regulations.

After more than three months of deliberations, the result was several bills in the House and Senate designed to reform the offshore energy industry from the bottom up, and to ensure that a greater portion of the federal revenues from OCS leases, royalties, and fees were dedicated to environmental damage restoration and resource conservation. One of the proposed reforms in the House bill (H.R. 3534) was to guarantee full funding for the Land and Water Conservation Fund. After much hard work by congressional leaders, the Coalition, and others, a provision guaranteeing full funding for the HPF was included in the legislation, as well. The language survived consideration in committee and on the House floor, with the bill passing on July 30.

As of this writing, the Senate still must act on its version of the legislation, so there is still a great deal of work to be done. Nevertheless, in just four months, what was for years considered a long shot is now very much possible.

# SACRAMENTO IN 2011

Sannie Kenton Osborn, Dana McGowan & Susan Stratton

*Sutter's Fort. Photography by Lee Foster. Courtesy of Sacramento Convention & Visitors Bureau.*

The 2011 annual meetings of the SAA will be held in Sacramento, the state capital of California. Downtown Sacramento and the nearby Midtown neighborhood (Downtown/Midtown) offer an inviting venue for the meetings. This park-like area with tree lined streets is pedestrian and bicycle friendly and has an excellent public transit system.

*Eureka! (I have Found It)* The news of gold discovery in nearby Coloma, California was brought to Sutter's Fort (now within the city boundaries of Sacramento) in January 1848. This discovery sparked the California Gold Rush and a significant influx of prospectors to the American West. Sacramento was at the forefront of the westward expansion, serving as a commercial, agricultural, and transportation center for the Forty-Niners and subsequent settlers. Today, the city retains much of its historic character despite its transformation into a vibrant modern city.

Downtown Sacramento is filled with museums and historic parks. Many of these are within walking distance of the convention center including some of the crown jewels of the California State Park system: the California State Capitol Museum; the California State Indian Museum; Sutter's Fort State Historic Park; Old Sacramento State Historic Park with its thriving business district dating to the 1850s and the renowned California State Railroad Museum. Also accessible by a short walk or public transit are the Crocker Art Museum, the Sacramento History Museum, the California State Library and Archives, and the Wells Fargo History Museum. The world class California Automobile Museum is a short walk from downtown, where you can see 100s of classic cars on display, along with rotational special exhibits. Should you need a brief respite from the scholarly pursuits of the meeting, take a leisurely stroll through the Capital rose garden or catch a few rays on one of the many benches provided throughout the historic Capital grounds. Underground Tours of Old Sacramento resume in April 2011. These provide visitors with a glimpse of Sacramento's history from the 1860s through the 1870s when streets were raised in hopes of providing greater protection from flooding.

Sacramento is easily navigated by its system of streets laid out with sequential numbers running north-south and alphabetical letters running east-west. From this layout comes our local downtown terms "Eat the Grid" and "Shop the Grid". The downtown/midtown area hosts a diversity of dining and drinking options in close proximity to the Convention Center. Midtown is also the center of Sacramento's art, music, and cultural scene.

For a fine dining experience try the critically acclaimed downtown restaurants such as Ella, the Grange, Mulvaney's, and Waterboy. For faster service and less cost, there are dozens of small ethnic restaurants, sandwich shops, and chain fast food purveyors within a block or two of your meeting hotel. And yes, there are breweries: Brew It Up, Pyramid Alehouse, River City Brewing Company, and Rubicon Brewing Company—they are all within walking distance of your hotel so try one or try them all! The Downtown/Midtown area also has numerous boutique shops, antique stores, art galleries and music venues.

Several tours are being planned for meeting attendees. More information about these will appear in the next issue. We are hoping that some of you will be able to enjoy a boat excursion on the Sacramento River to visit historic shipwrecks, learn about significant prehistoric archaeological sites along the river's edge, and witness the complex system of historic levees and weirs that still today offer flood risk reduction for the urban areas of the Central Valley.

And if you think you or your family will have exhausted all that Sacramento has to offer, consider extending your visit to California to take advantage of other nearby destinations. There should be great skiing in the Lake Tahoe area (about two hours away); San Francisco, a world class destination, is easily accessible by public transportation or driving. And the Napa Valley Wine Country is less than an hour away by car. Explore the gold rush era towns of the Mother Lode, Sutter Creek voted best town

➤ ANNUAL MEETING, continued on page 20





# FIELDWORK IN THE AGE OF DIGITAL REPRODUCTION

## A REVIEW OF THE POTENTIALS AND LIMITATIONS OF GOOGLE EARTH FOR ARCHAEOLOGISTS

Adrian Myers

*Adrian Myers is a Doctoral Candidate with the Department of Anthropology at Stanford University.*

The “virtual globe” computer application Google Earth (GE) released in 2005 is now widely used by the general public and planners, as well as by researchers and teachers in the social sciences (Sheppard and Cizek 2008:2105) (Figure 1). Using images taken from GE in PowerPoint presentations or connecting directly to GE for overhead demonstrations in the classroom are both now both commonplace. The ease of access, the striking 3D visualization, and the price (free) are a seemingly perfect combination that contributed to widespread adoption (for a general introduction to using GE, see Crowder [2007]; for an introduction to GE for archaeologists see Parcak [2009a:43–51]). All of this is made possible though the powerful backing of Google, which is, for better or worse, arguably the most influential company in existence (Schneider et al. 2004; Stross 2008; Vise and Malseed 2005).

Though archaeologists’ use of satellite imagery is not new, and is certainly not necessarily tied to the proprietary application GE (e.g., Fowler 1997; Fowler and Fowler 2005), the possibilities that GE has brought to the satellite remote sensor’s table are significant. GE has proven uses for visualization and presentation. But what about potential for research—is GE suited for more intensive, research question-driven applications?

### Early Uses: Visualization and Pedagogy

An article in *Geology Today* (Lisle 2006) appearing soon after the release of GE praised it as a “new geological resource,” specifically for its potential for aiding classroom instruction of geology. Lisle (2006:32) suggests that it “will be particularly useful for teaching geomorphology, structural geology and geological map interpretation,” and ultimately, “will do to the atlas and globe businesses what the Internet has done for encyclopedia salesmen.” A more recent article in the *Journal of Human Evolution* (Conroy et al. 2008) laments the lagging adoption of Geographic Information Systems (GIS) by paleontologists, and proposes that GE might remedy the situation. The article is centrally

focused on GE as a tool for visualization and communication; the authors demonstrate just how easy it is to share 3D visual information about the location of fossil finds, via email.

Shortly after the release of GE in June 2005, news services began to pick up on stories of avocational, arm-chair archaeologists discovering previously unknown archaeological sites sitting at their desks using only GE (e.g., BBC News 2005; Handwerk 2006). Perhaps related to this media coverage, in 2006 several short articles appeared in newsletters and journals directed at archaeologists, each touting GE as an intriguing and worthwhile new resource for the discipline.

Ullmann and Gorokhovich (2006) provide an introduction to the software aimed at archaeologists, including a tutorial. They give step-by-step instructions on basic functions, including how to fly to a location based on a known latitude and longitude, and how to overlay an image. In an article appearing in the *The SAA Archaeological Record*, Ur (2006) provides a generally enthusiastic introduction to GE for archaeologists, but also warns of potential negative repercussions. The article emphasizes the potential of GE for visualization and collaboration, but most important to Ur is GE’s usefulness in the classroom—he states that this is its most promising aspect (Ur 2006:36). Ur also raises an interesting issue in suggesting that GE could lead to an increase in looting, and he is particularly concerned about the ease with which links (known as “placemarks”) to specific archaeological sites can be published on the Internet. Ultimately for Ur (2006:38), GE is a “fantastic tool for archaeology,” and its significance centrally “lies at the interface with students and the interested public.” Ur (2006:38) also rightly suggests that “remote sensing specialists are not going to abandon ArcGIS.”

Following Ur’s assessment, it is appropriate that The Global Heritage Fund ([www.globalheritagefund.org](http://www.globalheritagefund.org)), a California based

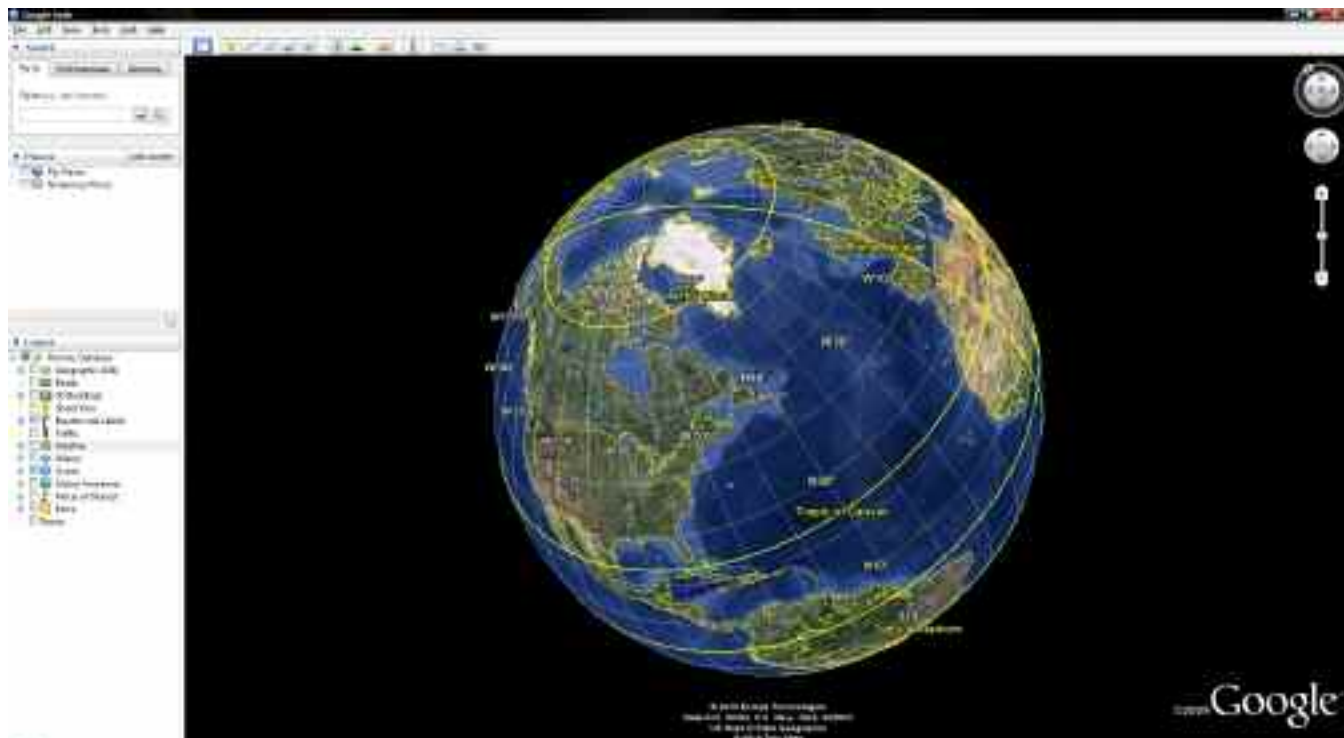


Figure 1. Google Earth.

nonprofit working to protect endangered cultural heritage sites in developing countries, has partnered with GE Outreach ([www.earth.google.com/outreach](http://www.earth.google.com/outreach)) to create virtual interactive tours of endangered sites. The content is accessed in the “Global Awareness” layer tab in GE. Click on the layer, and Global Heritage Fund placemarks will pop up, each marking the location of an endangered site. Click on a placemark, and a pop-up window appears with text, images, and video content about the site. GE proves to be an innovative and flexible medium for communicating information and awareness about archaeological sites.

Beck's (2006) overview of GE is cautiously optimistic. He sees GE as a significant resource for visualizing and interpreting landscapes and archaeological sites, especially by contributing to an appreciation of the wider geographical contexts of specific sites. He highlights as positive GE's potential for education to mass audiences, as well as its help to archaeologists studying areas where other remotely sensed data is not available. Beck is, however, skeptical of the compression of the images (leading to reduced resolution), the fact that users do not have access to the raw data behind the images, and the uncertainty about “how the data can be accessed, who owns the copyright and how the data should be archived” (Beck 2006).

### Locating and Mapping Sites

The use of GE in the social sciences is shifting relatively slowly from visualization and pedagogic applications to research applications. Some archaeologists are beginning to move from simple visualization of known sites to locating previously unknown sites. Thomas et al. (2008; Thomas and Zipfel 2008) use GE in a virtual survey of large areas of Afghanistan, a country in which on the ground archaeology has been nearly impossible since the late 1970s (due to wars, occupations, and uncooperative regimes). The project has three complementary goals: (1) to update and check the plans of previously known sites, (2) to create plans for unplanned previously known sites, and (3) to analyze imagery to locate possible previously unknown sites.

They virtually revisited the known medieval Islamic site of Bust and found that an existing site plan from the 1970s missed significant detail and did not cover the entire site—partly because many of the features were likely not even visible from ground level. Using the satellite imagery from GE provided a macro perspective that made visible large features, and they thus created a revised site plan. They also compared the point locations of known sites in Afghanistan from a gazetteer with the areas where GE provides high resolution imagery, and found that 250

(19 percent) of all known sites in Afghanistan are covered by high resolution imagery. Significantly, 217 (87 percent) of these sites so far lack plans of any kind.

The researchers also developed a methodology for systematic virtual survey of large areas to locate potential archaeological sites, on average spending about 10 hours scanning each block of 275 km<sup>2</sup>. Potential sites were initially marked using the GE Placemark tool, and were then cross-checked by a second surveyor to minimize error and to inspect in more detail. The test project resulted in the identification of 451 potential archaeological sites (Thomas et al. 2008:24).

As this work in Afghanistan demonstrates, GE can be a valuable tool for investigating expansive areas, and perhaps particularly for areas that are dangerous, or normally off-limits to the archaeologist. Since the coverage of GE over the Earth's surface does not take into account who owns the land being photographed, or any wishes for secrecy that that person, institution, or government might have, there is now the possibility of virtual archaeology not only in war zones, but also in top-secret areas. In this vein, Myers (2010) uses satellite imagery from GE to record and interpret the Camp Delta prison camp complex at Guantánamo Bay, Cuba.

### Quantifying Looting

Conventional satellite imagery has been used to investigate the looting of archaeological sites. The process involves visually scanning aerial or satellite images and noting areas where looters pits have been dug; the pits appear as pock-marked areas on and around archaeological sites. But the central published reports on the topic rely on purchased commercial satellite data, which is a significant financial burden if large areas are to be assessed (Hritz 2008; Stone 2008a, 2008b). As reported in a recent issue of *The SAA Archaeological Record*, in an ongoing research project quantifying the looting at archaeological sites in Jordan, Contreras and Brodie (2010a, 2010b) demonstrate that using the free imagery provided by GE allows for expansive study areas at almost no cost. Purchasing the commercial data that covered their test study area would have added up to approximately USD \$9–2.5 million. Thus they conclude that their cost-effective methodology for quantifying looting has much to contribute to the heritage management policy-making process.

### Monitoring Change over Time

One potentially useful application of GE to heritage and site management is the possibility of assessing change over time at sites. The recently released GE 5.0 is loaded with new features, including a dataset of historical imagery accessed through the “historical time slider” control. This function is as easy to use as any other aspect of GE: the user simply navigates to an area of interest then uses the mouse to drag the time slider left or right.

When dragged to the left, the most current satellite image (which is displayed by default) changes to the next oldest image, and will do so continually for as many images as are available. As with all the imagery on GE, just what historical images are available depends entirely on GE's database of images (what they are able and have chosen to purchase and collate). A test of the feature while viewing the Stanford University campus revealed imagery going as far back as 1948, but another test while viewing the city of Vancouver, Canada, showed that 1991 was the oldest image available.

Considering the uneven coverage of historical imagery in GE, where necessary a combination of GE and other remotely sensed imagery, such as CORONA or SPOT for example, could be used to track change over time (though this would quickly add to the cost). This use of GE and other data could make major contributions to how we assess and intervene at threatened archaeological sites. Erosion, encroaching development, looting, and other taphonomic processes could be tracked and quantified. Layering the successive historical and recent images in a GIS would create an analyzable digital archive of the site's change over time.

### Technical Issues

A widely mentioned critique of GE is that it does not provide universal high resolution coverage. Though some archaeological reconnaissance might still be possible at lower resolutions (very large earthworks might be discernable, for example), for the most part, archaeologists' use of GE is dependent on the availability of high resolution imagery. The problem of low resolution coverage, however, is gradually becoming less of an issue. GE continually updates coverage, and there has been a noticeable improvement since its release in 2005. Additionally, GE is a sponsor of a recently launched satellite, GeoEye-1, that is beginning to transmit .5 m resolution images that will be loaded into GE ([www.earth.google.com/geoeeye](http://www.earth.google.com/geoeeye)).

The fast-changing nature of software and electronics in general is highlighted by the fact that in a recent article Parcak (2009b:362) criticizes GE for not providing the date that images were taken—an issue that was resolved by the April 2009 release of GE 5.0. This last point links to another possible problem: the fact that GE is a proprietary software package developed by a private company. Thus, just as archaeologists' use of hand-held global positioning systems (GPS) is, for the moment at least, dependent on the whim of the United States Department of Defense, archaeologists' use of GE is dependent on the for-profit company Google. Similarly, GE uses a proprietary file format (.KMZ). As open-source software advocates are quick to remind us, proprietary file formats have become obsolete and even unusable when their creators close up shop. Though it could be argued that Google does not appear to be going anywhere soon,

these do remain valid critiques.

### Ethical Issues

Ur (2006) is concerned that GE might aid looters as much as it helps archaeologists. He notes that in print publications, archaeological sites can be plotted on a 1:250,000 map, a scale small enough that the precise location of the site would still be difficult to find without additional information. Conversely, the location of GE's placemarks, the primary tool for marking locations in GE, cannot be abstracted. Since placemarks are easily shared online (on project websites or blogs for example), and with relative ease loaded onto a handheld GPS, Ur rightly urges caution with how we use and digitally distribute them.

Moshenska (2009:50) rightly reminds us to be wary of the impersonal "bombardier's-eye view" provided by aerial and satellite perspectives—an overreliance might lead to research that dehumanizes our subjects. We must always remember that a satellite image is at the same time both a generalizing abstraction and a very particular representation. GE then is clearly not a straightforward substitute for fieldwork. Ideally, it would only be used in conjunction with the standard on-the-ground and personal methods known to all archaeologists. Where this is not possible, we must exercise caution when putting forward interpretations of sites and features.

Along with the concern about dehumanization of research subjects is the simple fact that the people captured by Google's satellites have no say in the recording of their persons and property, and no say in their online representation. As I have discussed at greater length elsewhere (Myers 2010), GE might even be seen as a sort of panoptic viewing technology that has the potential to do violence upon those being viewed. This perspective of GE as panopticon surfaces a complex, provoking, and perhaps irresolvable tension. Any use of GE by archaeologists should be accompanied by thoughtful discussion on this tension; over time, this discussion might result in resolution.

### Conclusion

There are both benefits and drawbacks to the increasing integration of GE with the work of archaeologists. Problems raised by archaeologists and others include concerns over data ownership and permanence, GE's reliance on proprietary software and file formats, the irregular availability of high resolution imagery, the possible use of GE by looters, and the ethical issues of dehumanization and representation. The benefits of GE integrated with archaeology include: the possibility of locating previously unknown sites and reassessing known sites (perhaps particularly in war zones and in other areas that are difficult or impossible to access in person); economical monitoring and assessments of looting; and the potential to assess change over time at archaeological sites. Ultimately, though our use of GE

should be considered and thoughtful, and though we must continue to reflect on the possible ethical repercussions of its use, the application is clearly a useful and relevant addition to the archaeologist's toolkit.

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# ADVICE FOR PROSPECTIVE GRADUATE STUDENTS

Cerisa R. Reynolds and John C. Willman

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If you plan on going to graduate school, you will likely need to spend much of your undergraduate career preparing for it. While there is *no* definitive checklist of experiences that will automatically get you in to a graduate program or make you a successful graduate student, what follows is a list of things that will (1) teach you invaluable information and/or skills essential to various careers in archaeology, (2) prepare you for the exciting challenge that is graduate school, and (3) help you become a more competitive applicant when applying for graduate programs.

## Utilize Your Professor's Office Hours

Office hours are generally underutilized and underappreciated by undergraduates, and paradoxically they are among the most useful resources available to students that wish to pursue graduate studies. Office hours not only allow you to clarify issues and topics discussed in lecture, but they also provide a chance to ask your professors for more information on a particular subject that interests you. Try asking them to tell you more about their research and how they became interested in archaeology, and ask them for advice on beginning your own archaeological career.

## Get Experience

Professors often have several projects for students to work on—ranging from fieldwork to cleaning and processing artifacts and data. Opportunities are not equally available in every department, which makes contact with your professors all the more important since they often know how you can get involved with projects in cooperating departments or universities, find positions with cultural resource management (CRM) firms, or discover a field school that suits your interests. In addition, many study abroad programs and international field schools are available to anthropology majors. Check with your professors or your school's study abroad coordinator and you will probably be surprised at the variety of projects and locations to choose from.

*Fieldwork.* Taking a field school is one of the best things you can do as an undergraduate. Everything you have read about and

heard about in your classes comes to life in the field, and having a chance to learn it all in a field-school setting can be an incredibly rewarding experience (see Piscitelli and Duwe 2007). Most archaeological jobs require you to have successfully completed a field school prior to being hired, and it is recommended by many that you complete a field school before graduate school (see Neusius 2009). In addition, as a student at a field school, you will likely make many professional connections with people you may be working with for years to come. Perhaps, most importantly, taking a field school will allow you to make sure that archaeology is really what you want to do; this is an excellent thing to figure out before signing several years of your life away to a graduate program. After taking your first field school, you should try to get additional field experience. Since most jobs in archaeology today are CRM positions, getting CRM experience as early as possible is a good idea.

*Laboratory Experience.* Getting some experience in a laboratory setting prior to graduate school will allow you to become familiar with a variety of analytical methods and material types early in your archaeological career. Taking a course that teaches you the basics of processing and analyzing archaeological remains is an excellent way to begin this process, and a class that requires you to complete an artifact analysis of your own could be particularly beneficial. Volunteering for lab positions is another wonderful way to make connections and get laboratory experience. Entering graduate school with a hands-on familiarity of laboratory basics will make your graduate experience much more comfortable. In addition, you just might find your calling—and a collection to study for your M.A. and/or Ph.D.—while working in a lab prior to graduate school.

## Professionalization

As an aspiring archaeologist you should start joining professional organizations, be thinking about publishing your research (see Frame and Duwe 2009; Gifford and Bigelow 2002) and start trying to meet people you hope to someday work with. Perhaps your school has courses geared toward teaching students how to be successful interviewees, give an effective public

presentation, network, or develop a resume. If so, take these and make the most of them—they really can help you become a better, more attractive applicant to graduate programs.

*Attend Archaeological Meetings.* Presenting your research at archaeological meetings is a fundamental part of being a professional archaeologist and provides you with immediate feedback from colleagues. As an undergraduate, nothing holds you back from participating in most meetings and attendance is often encouraged. Talk with your department's professors and graduate students to see how you might put a presentation together for a meeting based on work you have done or would like to do. You could also check with the conference organization to see if there are any volunteer positions available, as this is a great way to meet people and become familiar with the structure of an archaeological conference.

*The Curriculum Vita.* The curriculum vita (CV) (your professional resume) is an incredibly important component of the professionalization process and you should begin making yours as soon as possible. If a course addressing the formation of a CV is not offered in your department, several options are available: talk with people in your department for advice on how to construct a good CV, look online at how your professors or other archaeological professionals have formatted their CVs, or go to your school's career center. A CV should include any fieldwork you have done, your lab or volunteer experiences, any scholarships or awards you have received, any conferences you have volunteered for and/or presented at, and any academic positions you have held. It is important to make sure that your CV presents your history and your experiences—or, why you are a good candidate for a position or program—in an attractive and coherent manner.

### Choosing Undergraduate Course Work

*Challenge Yourself.* Graduate school is no easy feat for most people, and making sure that you are up to the challenge will make life easier on you in the future. Do this by taking large course loads, upper-level courses, and advanced lab and/or research and writing classes. If you are in a department that has a graduate program, enrolling in graduate-level courses is one of the best ways to prepare for graduate school. Having a job while also being a student is one excellent—if often stressful and unavoidable—way to learn how to manage your time, so think of this too as preparation for your future career as a graduate student. Ensuring that you are able to cope with a difficult schedule and many course requirements will help you overcome the shock of graduate school. (This is a difficult line to walk, though, as you do not want to *overwork* yourself and wind up exhausted—rather than rested, excited, and prepared—when you begin graduate school.)

*Take a Variety of Courses.* In graduate school, you will likely only have time to take a rather small and streamlined list of required courses, so taking a large variety of courses while you can is a good idea. This will be beneficial not only for your personal happiness and development but also for increasing your academic breadth. For starters, remember that anthropology is a four-field discipline, and even if—depending upon your department and program—you may not be required to take sociocultural, linguistic, or biological anthropology courses, taking classes in these anthropological subfields will help you gain a holistic appreciation of the human past and present. In addition to taking various classes within the anthropology department, now is also the time to take classes from any other discipline that interests you. Many geology, history, and writing-based classes, for instance, are not only interesting but also quite useful in an archaeological career. In fact, archaeology is a discipline well known for borrowing techniques developed in other fields and has an ever-increasing focus on interdisciplinary work. Developing an interdisciplinary appreciation as an undergraduate can open doors for collaborative work in the future.

*Writing, Writing, Writing.* One of the most valuable things you can do before applying to graduate school is to master the art of writing a good paper. Take courses designed to teach you how to write a research paper, meet with your instructors to talk about how to improve your writing style, and make sure that you learn how to write both technical and less technical reports. Of course, paying attention to how articles, books, and other reports are written will help you in your quest to improve your own writing, as will reading various guides to critical thinking, synthesizing data, and presenting your argument (see Kintigh 2005). Being able to write effectively will help you succeed in undergraduate courses, be a valuable employee in many academic or non-academic archaeological settings, and be a very competitive applicant for graduate school.

### Time Off

Taking some time off from school after finishing a bachelor's degree can be very important to some students and has many advantages. First, most graduate programs require you to take the Graduate Record Examination (GRE). Taking coursework while studying for the GRE may not be possible for everyone, and many students choose to take the test more than once to improve their scores. Having a free semester or two before graduate school could provide you with adequate time to prepare for and potentially retake the GRE. Second, not all of us know that we want to pursue archaeology from the moment we start college. If you only became serious about a career in archaeology in the last year or two of your short time as an undergraduate, some extra time to gain more experience or explore your specific interests is particularly significant. Time away from school to make a bit of extra money for the application process and mov-

ing expenses once accepted is also a necessity for many transitioning students. Finally, some students are worried that once out of school they will not want to return. If this is the case, it may very well be that graduate school is not the right choice to begin with and finding this out earlier rather than later is very useful.

### Closing Note

Each person's journey to graduate school will be different, but if you really want to become a graduate student, you have to work hard at it, you have to seek out various opportunities, mentors, and projects, and you need to push yourself to do more (often much more) than is required or even expected of you as an undergraduate. Graduate school is not easy, and neither is the professionalization process that often gets you to graduate school, but the experiences along the way are amazing, the people you meet are incredible, and each difficult task you complete is likely to further fuel your passion for archaeology. The quality that often sets one applicant apart from another is experience—so meet with professors, talk with graduate students, volunteer, or create your own way to get more involved in archaeology. Put your best self forward, approach each situation with drive and vigor, pay attention to what other people have

done to succeed, and most importantly, never be afraid to ask for help or advice. Those around you want nothing but good things for you and the field of archaeology, and we wish you the best of luck in your graduate career.

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# JUST HOW USEFUL IS ARCHAEOLOGY FOR SCIENTISTS AND SCHOLARS IN OTHER DISCIPLINES?

Michael E. Smith

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**W**hat is archaeological knowledge useful for? Do we have something distinctive to say about the past that scholars in other disciplines are, or should be, interested in? It is easy to think of a variety of disciplines and approaches for which archaeological data and findings might be interesting, relevant, and useful. But among these fields, there is great variation in the degree to which archaeology is taken seriously. Should archaeologists be concerned about whether our data are useful to other disciplines? Why have archaeologists been more successful in reaching audiences in, say sustainability studies than in political science or economics? If this is a worthwhile topic to pursue, what can we do to promote archaeology beyond archaeology? These were some of the questions considered in the plenary symposium at the 2009 Annual Meeting of the Society for American Archaeology, “Archaeology Beyond Archaeology” (organized by Michael Barton, Michelle Hegmon, and Michael Smith).

My goal in this paper is to provoke discussion of these questions among archaeologists, and the papers presented at the SAA symposium provide a point of departure. In this essay I am less interested in a rigorous scholarly discussion than in reviewing the topic broadly. More detailed treatments can be found in the publications of the participants, many of which I cite below. The topic of the use of archaeology by the general public, while of great importance to the discipline, is left for others to explore. Table 1 lists the papers presented at the SAA session. The present paper is a revised version of my opening presentation.

These papers (and the research programs they describe) provide a broad sample of work in “archaeology beyond archaeology.” They can be divided into three themes that I call human ecodynamics, modeling of complex adaptive systems, and comparative social science. Archaeology has clearly had a positive impact on research in the first two domains, whereas its role in the latter domain has been almost invisible.

Because the target audience of this paper consists of archaeologists, I refrain from providing a lengthy discussion of the rea-

sons why archaeological data are (or should be) particularly valuable for research in other disciplines. The most commonly discussed reason is the broad coverage of archaeology, both temporally and spatially. We are the only discipline with data on human societies across a truly long duration, and our fieldwork covers all humanly occupied parts of the earth (for further discussion, see Kirch [2005], Redman [2005], or van der Leeuw and Redman [2002]).

## Domain 1: Human Ecodynamics

Kirch (2005:411–414) provides a nice summary of the development of archaeological research in this area. After building a successful research program of environmental archaeology in the mid-twentieth century (Butzer 1982), archaeologists began to interact intensively with ecologists and related scholars in the 1990s. Kirch notes two strands of this work: historical ecology (Crumley 1994; McIntosh et al. 2000), which developed in close collaboration with environmental historians and ecologists, and

**Table 1. Presentations in the Symposium,  
“Archaeology Beyond Archaeology”**

- 
- Michael Smith, Just How Useful is Archaeology for Scientists and Scholars in Other Disciplines?
  - Timothy Kohler, Model-Based Archaeology as a Foundation for Interdisciplinary and Comparative Research, and an Antidote to Agency/Practice Perspectives
  - Michael Barton, From Narratives to Algorithms: Extending Archaeological Explanation Beyond Archaeology
  - Margaret Nelson, Long-term Vulnerability and Resilience
  - Joseph Tainter, Energy Gain and Organization
  - Patrick Kirch, Archaeology and Biocomplexity
  - Rebecca Storey, Urban Health from Prehistoric Time to a Highly Urbanized Contemporary World
  - Carla Sinopoli, Historicizing Prehistory: Archaeology and historical interpretation in Late Prehistoric Karnataka, India
  - Michelle Hegmon, Crossing Spatial-Temporal Scales, Expanding Social Theory
  - Robert Costanza, Sustainability or Collapse: What Can We Learn from Integrating the History of Humans and the Rest of Nature?
  - Discussants: Robert Costanza, James Brooks
-

human ecodynamics, a more explicitly archaeological approach (McGlade 1995). I use the term “human ecodynamics” here to cover these and other related research that link environmental archaeology to the discipline of ecology and related fields. Within this domain, I identify four themes of active current research in which archaeologists are interacting with other scholars and making contributions beyond the confines of archaeology: sustainability, resilience, long-term change, and modeling (I single out the latter theme for separate treatment as a second broad domain).

*Sustainability.* Many archaeologists are active participants in the explosion of research in the broad area of sustainability science (Kates et al. 2001). Joseph Tainter, for example, has made numerous contributions to sustainability studies, including both empirical analyses of archaeological data (Tainter 2006) and theoretical works (Allen et al. 2003). At the symposium, ecological economist Robert Costanza (2000, 2007) discussed the IHOPE project (Integrated History of People on Earth), a broad transdisciplinary investigation in long-term human-environmental dynamics. The fact that seven archaeologists are included as authors in *Sustainability or Collapse?*, the flagship publication of this project so far (Costanza et al. 2007), signals the potentially important role of archaeology in current sustainability research.

*Resilience.* The concept of resilience has recently come to the fore in both ecology and sustainability research. I single it out here because it provides a narrower domain where linkages between archaeology and ecology may be easier to see. Resilience can be defined as “the amount of change a system can withstand while retaining certain functions and/or structures” (Redman and Kinzig 2003:2). Although Robert McC. Adams (1978) was the first archaeologist to use the concept, it was not taken up intensively by archaeologists until after 2000 (e.g., Redman 2005; Redman and Kinzig 2003; Scarborough 2000). Participants Margaret Nelson, Michelle Hegmon, and their colleagues have been particularly active in applying the resilience concept to archaeological data (Hegmon et al. 2008; Nelson et al. 2006).

*Long-term change.* I use this category as a catch-all for archaeologists pursuing research on human ecodynamics that is not strongly wedded to the sustainability or resilience fields. For example, Kirch (2007) employs the concepts of sustainability and resilience in his research, but takes a broader perspective on long-term change that is more firmly rooted in archaeology. I would also include archaeological research in the human ecology and landscape approaches in this category (e.g., Fisher and Feinman 2005; Hornborg and Crumley 2006).

Quantitative modeling is used in the above approaches in vari-

ous ways, and a number of researchers in human eco-dynamics employ the technique of modeling. Nevertheless I single this out as a separate research domain because it forms a distinct intellectual and scientific approach of its own.

### Domain 2: Modeling of Complex Adaptive Systems

The domain of modeling of complex systems is both broader and narrower than the first domain. It is broader in that the complex systems approach transcends archaeology and ecology to include many additional disciplines, and it is narrower in that work in this domain is distinguished most strongly by its methods rather than its concepts. The field of complex adaptive systems is strongly associated with the work of the Santa Fe Institute. Although some authors suggest that this field differs greatly from the systems theory of the 1960s (Kohler and van der Leeuw 2007:5), it sounds to me very much like the systems theory I read as a graduate student in the 1970s (e.g., Buckley 1967; Maruyama 1963), but with better concepts (scale-free networks, chaos theory) and significantly improved methods (agent-based modeling, network analysis); see Bentley and Maschner (ed., 2003; 2008).

Although archaeologists adopted some concepts from the systems theory of the 1960s (e.g., Flannery 1968), there is little indication that this work excited much interest among scholars in other disciplines. One possible exception is Tainter’s (1988) *The Collapse of Complex Societies*, a work employing systems concepts that has been influential both within and outside of archaeology. Today, however, archaeologists have become contributing members of broader communities working with complex adaptive systems. For example, a number of archaeologists have affiliations with the Santa Fe Institute (e.g., Robert McC. Adams, Tim Kohler, Sander van der Leeuw, Henry Wright). Agent-based modeling is a growing method within archaeology (e.g., Kohler and van der Leeuw 2007; Wilkinson et al. 2007), and this work is being done within a scholarly community that seems to value the data and findings of archaeologists (Alessa et al. 2006). Indeed, Michael Barton and other archaeologists have been involved in the establishment and promotion of the Open Agent Based Modeling Consortium (<http://www.openabm.org>).

### Domain 3: Comparative Social Science

In comparison with the first two domains, the role of archaeology in comparative social science scholarship has been far less productive. Although most anthropological archaeologists working on complex societies would probably claim to be interested in comparisons and interaction with disciplines like geography, economics, or social history, in fact the level of collaborative work is quite low. Moreover, the impact of archaeology on most social science disciplines seems negligible. Why is this?

*External Obstacles.* Most social scientists who work on contem-

porary society don't really care what happened thousands of years ago. This is to be expected, since it is hard to argue that a knowledge of, say, growing inequality in Neolithic China can contribute directly to a better understanding of social classes today. But this lack of interest also extends to scholars who claim to have an interest in past societies and their changes through time.

Geographer Rhys Jones (2004) identified a phenomenon in scholarship in historical geography that can be called “recentism” (the term is from Sluyter 2005). Jones uses citation analysis to document a trend in major journals of historical geography toward increasing concentration on more recent periods in comparison to earlier periods. In the second half of the twentieth century, more and more papers were published in these journals on the present and recent past, with increasingly fewer papers on the medieval, or pre-medieval periods. Although I have not done a comparable citation analysis, my impression is that similar publishing trends exist in other journals of historical social science. In other words, scholarship in the historical social sciences has paid less and less attention to the distant past while concentrating more and more on the nineteenth and twentieth centuries. Thus, it is not surprising if scholars in these fields pay little attention to archaeology and the distant past.

In many cases, scholars in other disciplines are simply ignorant of the field of archaeology. The fields of economics and economic history can illustrate the situation. A very small number of economic historians take archaeology seriously as a source of data on ancient economies, and apply various economic models and methods to our data (e.g., Steckel 2008; Temin 2003). A few others take archaeology seriously and collaborate with archaeologists and ancient historians to analyze aspects of ancient economies (e.g., Hudson and Wunsch 2004). But the standard procedure for economists interested in understanding ancient societies is to apply models based on modern capitalist societies to an imaginary setting in the distant past, with no consideration that there might be any relevant archaeological data. Thus economist Yoram Barzel (2002) and political scientist Mancur Olson (2000) both believe they can explain the origin of the state without any data on early states; needless to say their models are off base and archaeologists do not find them convincing. Shouldn't we try to combat such ignorance?

*Internal Obstacles.* If we want other scholars to use our data and findings to illuminate phenomena beyond the archaeological record, two things are required. First, we need to explore other disciplines to discover concepts that can serve as bridges between those fields and archaeology. We will need to develop material indices and measures for the concepts and phenomena of interest. Second, we need to analyze and present our data in

ways that can be compared to the findings of other disciplines. At present, non-archaeologists have a hard time accessing our data. They can read the summaries and syntheses that we write, but these typically do not have the richness and detail of our actual data, which are presented in formats that generally exclude non-expert analysis. The translation of archaeological data into formats so that others can use our data—not just our end-product interpretations—should be an important goal (Drennan and Peterson 2006). In another paper (Smith 2010) I illustrate these points with examples from the study of urbanism.

Transdisciplinary research projects can help break down the artificial barriers created by current disciplinary structures (Wallerstein 2003). Transdisciplinary work is important because “many, if not all, of the traditional approaches, as well as many heterodox tactics, fail to answer the most pressing issues plaguing the world” (Polimeni 2006:2).<sup>1</sup> Van der Leeuw and Redman (2002) argue that archaeology should take the lead in such transdisciplinary research on social and environmental issues.

*Some Promising Directions.* The participants in the SAA opening session joined others (e.g., Morris 2004; Smith 2010; Tainter 2008) in arguing that archaeology can and should generate both empirical data and theoretical insights of value to other social science disciplines and history. Carla Sinopoli's symposium paper explored some of the relationships between archaeology and history in the study of the Indian past; she joins Moreland (2001) and others in arguing that archaeology has more to offer historians than simple facts about individual places or events. Michelle Hegmon's paper went even farther than Sinopoli in this regard. While at a basic level archaeology is like history in telling us about “one damn thing after another,” archaeologists have developed a considerable body of theoretical knowledge of potential use in other disciplines. At the session, Hegmon singled out aspects of temporal and spatial scaling as crucial components of distinctively archaeological knowledge with broader implications. In contrast, Rebecca Storey's paper focused on a single empirical domain—urban health—in which archaeological data have especially great potential for illuminating broader realms of scholarship (Storey 2006).

### Comparison of the Three Domains

In contrast with the third domain above, it seems to me that archaeology has been quite successful in promoting its mission and data in the areas of human ecodynamics and modeling of complexity. What factors may account for this differential success? Here are four likely contributing factors.

1. *Greater convenience in working with natural scientists than social scientists.* Natural scientists seem more inclined to participate in transdisciplinary research focused on specific questions than do social scientists and historians. Issues of

“turf” that inhibit such collaborative research are far more pronounced in the social sciences. In many disciplines, the postmodern paradigm has inhibited transdisciplinary research by its emphasis on “deconstruction” and “problematization” trends that slow the establishment of bodies of empirical findings.

2. *The use of common concepts and methods that bridge disciplines.* Concepts from ecology (e.g., ecosystem, resilience) and complexity theory (e.g., dynamic systems, feedback) serve to link archaeological research to work in other disciplines. There is a conscious attempt by archaeologists working in the first two domains to use these concepts in ways compatible with other fields. The adoption of methods such as agent-based modeling and GIS spatial analysis by archaeologists also helps bridge differences between disciplines. This contrasts greatly with the social sciences, where each discipline has its own theoretical framework. Concepts employed by multiple disciplines (e.g., social capital, culture, social class) are defined and used differently in each. There are few fora in the social sciences equivalent to the Resilience Alliance, where efforts to standardize concepts and compare diverse fields are encouraged.
3. *The simplification required for common concepts and methods.* Modeling and comparison are methods that require significant levels of abstraction and simplification. This tends to be appreciated to a greater extent in the natural sciences in comparison with the social sciences and humanities. Archaeologists working in the first two domains employ simplification in order to foster interaction with scholars in other fields.
4. *Higher levels of institutional support.* The level of institutional support for research is much higher in domains 1 and 2 than in the social sciences. The level of grant funding is much higher and there are special programs within the National Science Foundation that have supported much of the research by archaeologists in domains 1 and 2. The seminars and publications of the Santa Fe Institute also support this research, and there are a number of journals that actively publish work in this area (e.g., *Ecology and Society*). Although there are journals that publish comparative social science research (e.g., *Social Science History*, *Comparative Studies in Society and History*), their count of archaeological papers with a broader audience is quite low. And while there are a few programs that specifically support transdisciplinary research in domain 3 (e.g., several programs of the MacArthur Foundation), they are far more limited in their funding, visibility, and broader impact on research.

### Discussion

One way to start bringing our work to the attention of scholars in other disciplines is to publish beyond archaeology. Within the domains of human ecodynamics and modeling, a growing number of archaeological publications are written, at least in

part, with an intent to attract interest from scholars outside of archaeology (Kirch 2005; Peeples et al. 2006; Redman et al. 2004). This trend has been slower to develop within historical social science, however (Morris 2004; Smith 2009; Smith 2005). If we think our scholarship is of interest to others, then we need to present it in venues where it can become part of the wider realm of scholarship on human issues, from health to inequality to urbanism.

I do not want to suggest that all archaeologists should take time from their digging or classifying to explore other disciplines. We need to concentrate on what we do best. But there is a growing awareness that such interactions beyond archaeology can be both intellectually fruitful and professionally rewarding for the discipline. I think I speak for my co-participants in the 2009 SAA symposium in calling for continued exploration of the topic of “archaeology beyond archaeology.”

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### Note

1. For an example of this kind of research, see descriptions of the project, “Urban Organization Through the Ages: Neighborhoods, Open Spaces, and Urban Life” (<http://latelessons.asu.edu/urban>).

#### Needs Assessment Survey

Surveys will be distributed to all SAA members on October 13, 2010 through a secure link sent to you by this email ([saasurvey@associationresearch.com](mailto:saasurvey@associationresearch.com)). A postcard containing the link will be mailed out to those members without a current email address on file with SAA.

## 76TH ANNUAL MEETING

ANNUAL MEETING, from page 6

in the gold country by *Sunset Magazine*. For those looking for more excitement, whitewater rafting season on the South Fork of the American River traditionally starts at the beginning of April.

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# THE MONUMENTS OF MEN

## HEROES OF CIVILIZATION

Robert M. Edsel

*Robert Edsel is the founder and president of the Monuments Men Foundation for the Preservation of Art.*

President John F. Kennedy once said: “A nation reveals itself not only by the men it produces, but the men it honors, the men it remembers.” We as a nation have done a very poor job honoring the accomplishments of the Monuments Men and women, and even worse when it comes to preserving and utilizing their rich legacy. In these last few years our country has paid a horrible price. The wisdom of the ages tells us that those who ignore history are destined to relive it. Events in Iraq in April 2003 made sad proof of this timeless truth. How different it might have been!

Within weeks of the Japanese surprise attack on Pearl Harbor on December 7, 1941, key American museum personnel, scholars, and other respected officials in the cultural world set in motion actions that within less than two years resulted in the creation of the American Commission for the Protection and Salvage of Artistic and Historic Monuments in War Areas, known as the “Roberts Commission.” Under their aegis a section was created known as the Monuments, Fine Art, and Archives, or MFAA. These “Monuments Men,” initially a part of the Civil Affairs Division, were later attached directly to the various individual Allied Armies in the field of battle<sup>1</sup> (Figure 1). These scholar-soldiers, many of whom volunteered, were the unlikeliest of heroes; most were accomplished museum directors, curators, art historians and educators, artists, architects, and librarians.

At the outset their responsibilities were to protect cultural monuments and assist with temporary repairs when possible. With no more than 22 men working in Italy, and less than a dozen in France by D-Day plus 30, their task was seemingly impossible. Hitchhiking was a common mode of transport as they had almost no vehicles. The resources available to them to do their job were pitiful. So much of what they accomplished occurred as a result of personal initiative and ingenuity.

As the war progressed and the full scope of Hitler and the Nazi’s greatest theft in history became known, the Monuments Men’s attention shifted to locating and protecting tens of thousands of the most treasured works of art, including paintings by Rem-

brandt, Vermeer, and Leonardo da Vinci, and sculpture by Donatello and Michelangelo, to name but a few (Edsel 2006). In the closing months of the war these Monuments Men, by that time numbering no more than 37 or so American and British officers and soldiers, located in more than 1,500 hiding places—salt and copper mines, castles, and other structures above and below ground—paintings, sculpture, church bells, Torah scrolls and other religious artifacts, stained glass, the great libraries of Europe, the entire contents of the Reichsbank—including gold worth about five billion in today’s dollars, and even the trolley cars from the city of Amsterdam. It was the greatest treasure hunt in history, a hunt that continues to this day.

At war’s end, when most of the Allied Forces were being demobilized and sent home, the Monuments Men’s work had just begun. Western Allied central collecting points were created almost overnight to house the hundreds of thousands of cultural items and art treasures being located and removed from repositories throughout Germany and northern Austria. The Monuments Men needed everything: research assistants, photographers, typists, packers and shippers, to name just a few of their personnel needs. Within a few months, their ranks rose to a total number of about 350 or so men and women from 13 nations, of which about 70 percent were American. Restitutions began after just two months, initially focused on returning the iconic works of art stolen from the key Allied countries. The great *Ghent Altarpiece* was first followed by the *Bruges Madonna*, and then token restitutions of select paintings to France and the Netherlands. The restitutions that followed took years and in fact, occupied some of the Monuments Men and women until 1951, when the final collecting point was closed (Figure 2). By that time, more than five million cultural items had been returned to the countries from which they had been stolen.

The actions of the Monuments Men were without precedent. It was the first time an army attempted to fight a war while mitigating damage to cultural treasures. Historic orders were issued on numerous occasions by the Supreme Allied Commander, General Eisenhower, stating that: “We are bound to respect those monuments so far as war allows.” At the end of the war,



Figure 1. The cover photo shows Monuments Man James Rorimer (with notepad) and American GIs at Neuschwanstein Castle in Bavaria, where the Nazis stored thousands of treasures stolen from private French collections (National Archives and Records Administration, College Park, Maryland).

the policy of the Western Allied nations was clearly announced to the world: to the victors do NOT belong the spoils of war. That which was stolen was ordered returned.

More orders were issued. General Bradley stated: “we are a conquering army, but we are not a pillaging army.” The statements of these leaders during World War II stand in stark contrast to comments we heard from the U.S. Secretary of Defense in the aftermath of the looting of the National Museum of Iraq: “Freedom’s untidy, and free people are free to make mistakes and commit crimes and do bad things...stuff happens.” How much better prepared and led we as a nation would have been had the sage words of Monuments woman Edith Standen been headed: “it is not enough to be virtuous, we must also appear so.”

Lest you think all the attention of the Monuments Men was focused on Europe, consider that Monuments officer Langdon Warner, one of the world’s leading authorities on Asian art and a noted archaeologist, pleaded with the War Department to avoid bombing the key Japanese cities of Kyoto and Nara in the closing days of the war. He successfully made the case that destruction of these cultural centers would forever impair Japan from rebuilding. Today, in both Kyoto and Nara, there stand shrines built by the citizens of those cities honoring Langdon Warner for his actions.

Several years ago an archeologist was interviewed about how Iraq’s treasures could have been better protected. In response to a suggestion from the reporter that perhaps such noted scholars could assist in the field, the archeologist demurred and said “it is too dangerous; someone could be killed.” During the fighting in World War II, two Monuments Men were killed.

Every time we walk into a museum, a church, or library in West-



Figure 2. Monuments Man and Polish liaison officer Karol Estreicher (holding painting), and Monuments Man Lt. Frank Albright (right of painting) returned Leonardo da Vinci’s *Lady with an Ermine* to its home in Cracow, Poland in April 1946 (National Archives and Records Administration, College Park, Maryland).

ern Europe, we enjoy a timeless part of who we are as a civilization because of the sacrifices the Monuments Men and women made 65 years ago. They wrote the book on the protection of cultural property during armed conflict. They placed their lives and careers at risk to stand on the principle that the timeless and irreplaceable cultural treasures belonging to mankind should be protected and returned. They left us a legacy so replete with life-affirming examples there can only be one action required of us: to find the courage to follow their example.

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### Notes

1. This article summarizes material developed more fully in Edsel 2009.



# CULTURAL PROPERTY PROTECTION IN STABILITY OPERATIONS

Dick Jackson

*Colonel (Ret) Richard B. "Dick" Jackson is the Special Assistant to the Army Judge Advocate General for Law of War Matters.*

Cultural property protection has, once more, risen to a level of prominence in the law of war. The United States Government, after receiving the advice and consent of the Senate, deposited the instruments of ratification for the 1954 Hague Cultural Property Convention on March 13, 2009.<sup>1</sup> Yet the adherence to the Hague Convention has been a hallmark of U.S. military operations for many years,<sup>2</sup> and Department of Defense (DOD) policy has been to apply the law of war [of which the 1954 Hague Convention is an integral part] "during all armed conflicts, however such conflicts are characterized, and in all other military operations."<sup>3</sup> Over the last several decades, the result of our adherence to these standards in armed conflict has been manifest in our conduct on the battlefield. But what of the application of this Convention in less certain times, during the post-conflict or stability phase of operations?

The protection of cultural property should serve as a key focal point in stability operations and counterinsurgency efforts by the U.S. military, even if such protection is not required as a matter of law. If the center of gravity of the counterinsurgency (COIN) fight is the people,<sup>4</sup> then their cultural heritage is the conscience of the people, often serving as their ethnic or religious touchstone (or even a flashpoint for opposing ethnic groups) and a visible symbol of their society. Three illustrations of the importance of cultural property are available from recent U.S. and coalition operations: the protection of Eastern Orthodox monasteries in Kosovo; the destruction of the 1,200 year-old spiral minaret in Samarra, Iraq; and the looting of the Iraqi National Museum. As a matter of law, each deserved varying degrees of protection from the ravages of warfare, ethnic hatred, and post-conflict chaos. It is clear, as a matter of policy, that their protection serves the interests of peaceful resolution and stability in the post-conflict phase of military operations. Evolving military doctrine in this area would do well to provide for the essential security and restoration or preservation requirements of similar cultural icons in the future.

## Kosovo

Cultural property and religious sites have often been the object

of destruction by ethnic belligerents bent on destroying the cultural identity of opposing groups. Harvard historian András J. Riedlmayer documented the systematic destruction of cultural and religious properties in Bosnia (Riedlmayer 2008) and Kosovo (Riedlmayer 2000), and testified during Slobodan Milosovic's trial in the Hague for ethnic cleansing in the Balkans.<sup>5</sup> Shortly after the UN-sanctioned coalition operation in Kosovo began, the United Nations Education, Scientific and Cultural Organization (UNESCO) felt compelled to issue a warning to the people of that region, be they Serb or Kosovar Albanians, to respect and protect cultural property.<sup>6</sup> But the destruction of cultural and religious property in Kosovo did not stop. Kosovar Albanians, frustrated with the lack of progress in political resolution of their final status as a country, engaged in "reverse ethnic cleansing" of Serbian enclaves and religious sites throughout Kosovo. In the resultant riots of 2004, several religious sites, including the reconstructed Monastery of the Archangel at Prizren, were destroyed by crowds of angry Kosovar Albanians (Nyheter 2007).

In discussing the obligation to protect cultural property with the legal advisor of the NATO contingent assigned that area of Kosovo, it became readily apparent that "national caveats" prevented the use of deadly force to protect property in UN peace-keeping operations; human rights law took precedence over the law of war in cultural property protection.<sup>7</sup> Some national contingents felt constrained by the European Convention on Human Rights, Article 2, which protects the "right to life," to never use deadly force to defend property, even if the property was occupied.<sup>8</sup> This legal interpretation resulted in a perverse result: in several locations during the 2004 riots, NATO contingents following their own national instructions, evacuated Serb enclaves and religious sites, rather than defend those properties with deadly force, thereby implicitly engaging in the ethnic cleansing they were there to prevent. The proud and dedicated Italians, however, protected the fourteenth-century Monastery at Decani, vowing not to evacuate their post and defend the lives of the monks, as well as the precious property, designated a world heritage site in 2004.<sup>9</sup>

### Iraq

The application of cultural property law in post-conflict stability operations in Iraq has been discussed in numerous fora over the last several years (Corn 2005). Books have been written about the looting of the Iraqi Museum, a tragedy that resulted in the loss of thousands of artifacts, dating to the dawn of civilization in Mesopotamia (e.g., Bogdanos 2005; Johnson 2006–2007; Rothfield 2008). But the legal analysis of both incidents bears repeating, in order to establish the legal obligations, so that the policy implications are clear for post-conflict stability operations.

*Snipers in the Minaret, Revisited.* The placement of U.S. military snipers in the 800-year old spiral minaret in Samarra was a tactical decision, intended to overwatch key terrain (a road intersection that had “become the scene of almost incessant attacks”) (Corn 2005:40), but also driven by the obligation of occupying forces, to provide security for the local populace from terrorist attacks. Even if the most stringent cultural property protections of Article 4(1) of the 1954 Hague Cultural Property Convention apply, requiring States to refrain “from any use of the property or its immediate surroundings . . . which are likely to expose it to destruction or damage in the event of armed conflict,”<sup>10</sup> the law allows these obligations to be waived “in cases where military necessity imperatively requires such a waiver.”<sup>11</sup> It is very difficult to argue to a tactical commander that “imperative military necessity,” derived from the Hague rules for occupation to provide security for the local populace, does not trump the requirement of the commander to respect the property. But a thorough understanding of COIN tactics and the importance of this monument to the patrimony of Iraq may have dictated a different outcome. While, as a matter of law, the use of the minaret by military snipers was permissible, as a matter of policy and COIN tactics, the destruction of the minaret that resulted from its occupation was antithetical to U.S. interests in establishing a stable Iraq that protects its antiquities from harm and respects the sanctity of ancient religious sites.

*The Looting of the Iraqi National Museum.* The looting of the Iraqi National Museum received a great deal of media attention, much of which exaggerated the effects of the looting and ignored the efforts of the museum staff to hide and preserve the most valuable objects, reflecting the ancient history of the Tigris and Euphrates River Valleys (Bogdanos 2005:270–271). In the protection of cultural property from looting, the 1954 Hague Convention requires military forces: (1) to refrain from “theft or pillage” in the conduct of military operations; and (2) in occupation, to “as far as possible, support the competent national authorities of the occupied country in safeguarding and preserving its cultural property.”<sup>12</sup>

There are no allegations that U.S. military forces participated in

looting; in fact, General Order #1 specifically prohibits such conduct.<sup>13</sup> As a matter of law, the obligation to “as far as possible, support the competent national authorities” does not attach until an occupation is established, which requires that “organized resistance [be] overcome and the force in possession must have taken measures to establish its authority.”<sup>14</sup> And there is still considerable controversy to this day about when U.S. forces established effective control over the area of Baghdad, near the museum, which would trigger the protection of an occupying force (compare Bogdanos 2005:205–211 with Johnson 2006–2007:139). However, while there was no legal obligation to prevent looting during a period of chaos between major combat operations and “occupation,” both Colonel Bogdanos and Major John C. Johnson rightly concluded that U.S. forces should have provided protection for the museum, to assist Iraqi authorities, sooner (compare Bogdanos 2005:205–211 with Johnson 2006–2007:139). It may or may not have prevented the tragedy; nonetheless, the failure to adequately plan for stability operations, even during the combat phase of operations, clearly was a lesson learned from Operation Iraqi Freedom (OIF).

### Doctrinal Lessons Learned

The Army has been called one of the great learning institutions in the United States (Ignatius 2008). And in many respects, that learning is relearning the lessons of the past.<sup>15</sup> But U.S. Army doctrine has certainly made great strides in the last five years to incorporate counterinsurgency doctrine and stability and support operations into the mainstream of Army thought and practice. The seminal doctrinal publication in that regard is Field Manual (FM) 3-24, Counterinsurgency,<sup>16</sup> followed more recently by the capstone manual for all Army operations, FM 3-0, Operations.<sup>17</sup>

While the COIN Manual emphasizes counterinsurgency tactics and winning the “hearts and minds” of the populace, FM 3-0 recognizes stability and support operations as one of three primary missions for the Army, an integral part of “full-spectrum operations,” across the conflict spectrum, from peacetime engagement to major combat operations. The COIN Manual makes security of the populace and public order “over-arching requirements of counterinsurgency operations.”<sup>18</sup> And enabling of host-nation capabilities, like protection of public facilities, is also a key tenet of both COIN and stability operations.<sup>19</sup> Finally, respect for cultural norms and objects has become an integral part of both stability and counterinsurgency operations. FM 3-0 emphasizes: “Cultural awareness makes Soldiers more effective when operating in a foreign population and allows them to leverage local culture to enhance the effectiveness of their operations.”<sup>20</sup> The COIN Manual educates Soldiers on the importance of “cultural forms,” including symbols or cultural objects, which counterinsurgents can use “to shift perceptions, gain support, or reduce support for insurgents.”<sup>21</sup> Cultural aware-

ness, too, is a critical competency for successful counterinsurgency.

Cultural awareness training, including the recognition of key cultural artifacts, has become an essential training block for deploying Soldiers (Wegener 2005). For example, Dr. Rush, of the Fort Drum Cultural Heritage section in the Directorate of Public Works, has developed (in conjunction with Colorado State University) an excellent pre-deployment training brief for Iraq.<sup>22</sup> And the United States Army John F. Kennedy Special Warfare Center and School, in conjunction with experienced Civil Affairs Officers, developed a useful guide for identification, planning considerations, documentation, and preservation of cultural arts, monuments, and archives.<sup>23</sup> These training resources enhance preparedness and make cultural property protection an important consideration in military operations.

Civil Affairs doctrine provides only limited support for cultural heritage protection, however. Only one such expert, Major Corinne Wegener, a reserve Civil Affairs officer who is an art curator in Minneapolis, was available to assist the Iraqis in restoring their National Museum in 2003 (Wegener 2005). And due to the difficulty of recruiting and retaining such expertise (particularly in a reserve function, subject to frequent deployments), the continued reliance on cultural property expertise in Civil Affairs is problematic.<sup>24</sup> As a result, almost no dedicated functional expertise is available to perform the tasks required to preserve, restore, and reconstruct cultural property that has been ravaged by warfare.

The military doctrine for assigning responsibility for protection of cultural property in stability operations is still evolving. The management of interagency efforts in reconstruction and stabilization was assigned to the Department of State, Office of the Coordinator for Reconstruction and Stabilization (CRS).<sup>25</sup> While DOD policy has been to adopt stability operations as a core military mission, roles and functions assigned to civilian agencies and indigenous professionals have not been well defined.<sup>26</sup>

Stability operations can only be successfully accomplished with integrated civilian and military efforts. Provincial Reconstruction Teams in Afghanistan and Iraq<sup>27</sup> and recent legislation authorizing interagency reserve stability and reconstruction teams<sup>28</sup> are the first signs that all U.S. Government capabilities are being mobilized to support these efforts. Civilian infrastructure protection and the development of indigenous capabilities in the area of cultural property protection must continue to rely on an integrated approach, incorporating the capabilities of the myriad actors and organizations of governmental and non-governmental organizations and civil society.

Governments and international organizations have provided support to cultural property protection, to some degree, in current conflicts. The Italian government provided crucial support to the Iraq Department of Antiquities in restoring the damage done to cultural artifacts in Baghdad (Rothfield 2008:135–140). And UNESCO is establishing a fund to support cultural property protection in armed conflict, pursuant to Article 29 of the Second Protocol to the 1954 Hague Convention.<sup>29</sup> The provision of funds for this purpose, once finally approved by the States parties to the Second Protocol, will provide important intergovernmental resources for the protection of cultural property during armed conflict (Bouchenaki 2008:207–218).

There have also been developments in the capability of civil society to support cultural property protection in stability operations. The Second Protocol, in Articles 11 and 27, recognizes a role for “non-governmental organizations having objectives similar to those of the [1954 Hague] Convention,” to include UNESCO, the International Committee of the Blue Shield and its constituent bodies, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and the International Committee of the Red Cross (ICRC).<sup>30</sup>

Most law of war practitioners are familiar with the ICRC role in assisting States parties to apply the Geneva Conventions, but few have heard of the International Committee of the Blue Shield, which has a similar mission focusing on the protection of cultural property. The recent establishment of a U.S. Committee of the Blue Shield should serve to assist military personnel in the training and dissemination of cultural property materials, as well as (eventually) the type of emergency response capabilities provided by established humanitarian organizations like the ICRC (Wegener 2008:165). Employment of these capable nongovernmental assets would normally occur through Civil-Military Operations Centers, along with Civil Affairs assets, so that crisis-response capabilities resident in civil society will be available to assist in stability operations.<sup>31</sup>

### The Way Ahead

Protection of cultural property in stability operations has had a checkered past. While the legal obligations of cultural property protection in armed conflict have been scrupulously adhered to, the legal obligations to provide such protection in stability operations have been less clear. To varying degrees, the destruction of cultural property during stability operations in recent coalition operations in Kosovo and Iraq has demonstrated the failure of legal mechanisms in ensuring such protection, as well as the importance of emphasizing policy solutions and delineating responsibilities for the protection of cultural property during post-conflict stability operations.

Sarah Sewell, Director of the Carr Center for Human Rights at Harvard University, has noted that the law is necessary, but not sufficient, to protect humanitarian concerns in armed conflict; policy development has, in many instances, outstripped advances in the law.<sup>32</sup> The way ahead for cultural property protection during armed conflict includes continued protection of key sites, through improved intelligence and targeting techniques;<sup>33</sup> continued emphasis on this issue in the planning and conduct of offensive combat operations will sustain an excellent U.S. military track record in this area.<sup>34</sup> And the advances in military doctrine over the last several years, including the adoption of counterinsurgency concepts and acknowledgement of a core stability operations mission, highlighted by the COIN Manual and Army Field Manual 3-0, have brought cultural property protection to a new level of emphasis in military operations across the spectrum of conflict.

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- Author’s interview with the Legal Advisor to the NATO contingent at Prizren, March 2005 (even though the monastery at Prizren was occupied, the contingent responsible evacuated the property, rather than resorting to deadly force to protect it).
- See note 8; see also European Convention for the Protection of Human Rights and Fundamental Freedoms of November 4, 1950, 213 U.N.T.S. 221.
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gency (COIN Manual) (2006).

17. Department of the Army Field Manual 3-0 (FM 3-0), Operations (2008).

18. COIN Manual, see Note 27, p. 6-1.

19. COIN Manual, at 6-6. See also FM 3-0, Note 17, pp. 3-7.

20. FM 3-0, Note 17, pp. 3-16.

21. COIN Manual, Note 17, pp. 3-8.

22. Under Secretary of Defense Legacy Resource Management Program, Iraq Cultural Heritage Training (2008), <http://www.savingantiquities.org/0947/09476/resourcesiraqenl.html>, accessed July 20, 2008.

23. Department of the Army, GTA 41-01-002, Civil Affairs Arts, Monuments and Archives Guide (2005).

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25. The White House, National Security Presidential Directive (NSPD) 44, Subject: Management of Interagency Efforts Concerning Reconstruction and Stabilization (7 Dec 2005), p. 2.

26. DOD Directive 3000.05 (28 Nov 2005), Subject: Military Support for Stability, Security, Transition, and Reconstruction (SSTR) Operations.

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28. See Department of State, Secretary Condoleezza Rice, "Remarks at the Civilian Reserve Corps Rollout" (16 Jul 2008), <http://www.state.gov/secretary/rm/2008/07/107083.htm>, accessed July 29, 2008.

29. See, e.g., UN DOC CLT-07/CONF/212/4, Adopted Recommendations, Second Meeting Of The Committee For The Protection Of Cultural Property In The Event Of Armed Conflict (<http://unesdoc.unesco.org/images/0015/001593/159306E.pdf>), accessed July 29, 2008.

30. Second Protocol to the Hague Convention of 1954 for the Protection of Cultural Property in the Event of Armed Conflict (26 Mar 1999), [http://portal.unesco.org/en/ev.php-URL\\_ID=15207&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=15207&URL_DO=DO_TOPIC&URL_SECTION=201.html), accessed July 29, 2008; this Protocol entered into force on 9 March 2004, and there are currently 48 States parties, although the U.S. has not yet submitted this Protocol to the Senate for ratification.

31. See generally Department of Defense, Joint Publication 3-57, "Civil-Military Operations" (8 July 2008), Chapters III and IV. See also Wegener 2005:171.

32. Sarah Sewell, keynote address at the University of Virginia International Humanitarian Law Conference, co-sponsored by the ICRC, UVA and TJAGLCS (31 May 2007).

33. Chairman Joint Chiefs of Staff Instruction 3160.01, "No-Strike and the Collateral Damage Estimate Methodology" (14 Nov 2008), p. B-1.

34. The increased policy emphasis on targeting that has resulted in humanitarian benefits was the specific example used by Sarah Sewell in her UVA address. See Note 33.

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# THE LOOTING OF THE IRAQ NATIONAL MUSEUM AND THE FUTURE OF CULTURAL PROPERTY DURING ARMED CONFLICT

Corine Wegener

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Few images of the 2003 U.S. invasion of Iraq have been as powerful and persistent as those of the looting of the Iraq National Museum. Over three days, approximately 15,000 museum objects representing our shared cultural heritage were taken and hundreds more were damaged. Six years later, there are signs of positive changes in the U.S. military and in the cultural heritage professional community which may help prevent such a tragedy in the future.

The story of the looting of the Iraq National Museum has been told in a number of publications over the past several years (see Bogdanos 2005; Rothfield 2009), but a few key facts bear repeating. As the flagship institution for Iraq's archaeological patrimony the museum contained as many as 500,000 thousand objects.<sup>1</sup> During three days of looting, the staff of the museum estimates that approximately 15,000 objects were taken from the galleries and storage areas. That number would have been higher if not for the precautions taken by the museum staff to evacuate most of the collection from the galleries to a secret storage area and to take protective measures for the remaining objects (see Youkhanna and Gibson 2008).

A number of books and articles document the military planning process leading up to the U.S. invasion of Iraq (see Gordon and Trainer 2006; Ricks 2006). Most agree that while a great deal of attention went into planning for the defeat of the Iraqi military, very little thought went into planning for the post-conflict stabilization phase. As a nation that had not ratified the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, U.S. policy was to observe those parts of the 1954 Hague Convention that were considered customary international law. This included avoiding targeting of cultural property and admonishing U.S. military personnel to refrain from looting or defacing cultural property. However, in the months leading up to the war some U.S. academics and cultural heritage professionals warned Pentagon staffers that many regional museums in Iraq were looted by Iraqi civilians after the First Gulf War, and this would almost certainly happen during the

U.S. invasion.<sup>5</sup> Unfortunately these warnings did not translate into a command emphasis on protecting cultural sites in Iraq, nor did planners adequately provide for supporting Iraqi authorities in their efforts to protect domestic cultural property and sites.

Once stability returned to Baghdad, the Iraq Museum staff returned to begin the slow process of inventorying losses, stabilizing damaged objects, and recovery. Some looted objects were recovered under a "no questions asked" policy in which Iraqis returned a number of important museum objects. Others would be recovered during raids within Iraq and at customs entry points in other countries over the next several months. To date, just under half of the estimated 15,000 objects looted from the museum have been recovered.

In addition to the looting of the Iraq National Museum, Iraqis burned the National Library and portions of the Iraqi National Archives were damaged by water. Looters also turned their attention to more than 12,000 archaeological sites across the country. While the Iraqi State Board of Antiquities and Heritage has increased efforts to provide archaeological site guards and refurbish damaged cultural institutions, it is an ongoing challenge of providing training, equipment, and funding while instability still prevents routine safe access to many areas.

As shocking as the looting of the Iraq National Museum was for the international community in 2003, the looting and destruction of cultural property during armed conflict is certainly not new. During WWII, the U.S. Army Civil Affairs Division established the Monuments, Fine Arts and Archives teams to deal with cultural property issues. The "Monuments Men," as they were often called, consisted of individuals with civilian cultural heritage expertise already serving in the military. This handful of individuals performed the task of protecting, salvaging, and repatriating cultural property with great passion and professionalism.<sup>2</sup>

While the successes of the Monuments Men were gradually forgotten until relatively recently, the U.S. Army Civil Affairs branch still has responsibility for Arts, Monuments and Archives. However, today America's all volunteer military force has few personnel with civilian cultural heritage qualifications. This proved a critical shortage when responding to the looting of the Iraq Museum. As an art historian and curator serving in the Army Reserves, I was mobilized only after the looting and arrived in Baghdad to find myself the only cultural heritage professional assigned to work with the Iraq Museum and Ministry of Culture.

The good news is that the looting of the Iraq Museum and damage to other important cultural property in Iraq has resulted in several initiatives to train personnel about the importance of cultural property protection during military operations. In 2005, the John F. Kennedy Special Warfare and Center and School at Ft. Bragg published a new handbook on cultural property protection for Civil Affairs units.<sup>3</sup> At about the same time, the Archaeological Institute of America (AIA) developed its Troop Training Program in cooperation with U.S. Army Central Command.<sup>4</sup> And since 2006, the U.S. Committee of the Blue Shield, in partnership with the Archaeological Institute of American and the American Institute for Conservation of Historic and Artistic Works, has provided volunteer subject matter experts to provide cultural heritage protection training for deploying U.S. Army Civil Affairs units.<sup>5</sup>

In addition to encouraging these initiatives, the Department of Defense funded the Heritage Resource Preservation playing cards to raise awareness about respect for cultural property throughout the U.S. military. These standard decks of cards feature lively color images of cultural heritage in Iraq and Afghanistan, along with messages about respecting these sites.<sup>6</sup> And last year, new doctrinal emphasis on stability and counterinsurgency operations in the U.S. military led to the release of Army Field Manual 3-07 Stability Operations, which stresses the importance of cultural awareness and respect for cultural property and sites as an integral part of mission success.<sup>7</sup>

The most important development in the renewed U.S. commitment to protecting cultural heritage was U.S. Senate ratification of the 1954 Hague Convention for the Protection of Cultural Heritage in the Event of Armed Conflict. A number of U.S. government agencies, most prominently the Department of Defense, testified in support of ratification and many U.S. cultural property organizations joined together in a coordinated effort to promote ratification. The Lawyers' Committee for Cultural Heritage Preservation, the Archaeological Institute of America, and the U.S. Committee of the Blue Shield led a coalition of more than twenty cultural heritage organizations who supplied draft testimony to the U.S. Senate Committee on For-

eign Relations in support of ratification. With ratification complete, the U.S. joins 122 other nations pledged to protect cultural property during armed conflict.<sup>8</sup>

What does the 1954 Hague Convention do? Simply put, States Parties agree to plan during peacetime for safeguarding their domestic cultural property against the foreseeable effects of an armed conflict, to respect the cultural property of other parties to the treaty so far as military necessity allows, and to establish "within their armed forces, services or specialist personnel whose purpose will be to secure respect for cultural property and to co-operate with the civilian authorities responsible for safeguarding it."<sup>9</sup> The treaty also designates the symbol of the Blue Shield for use in marking cultural property for protection in the event of armed conflict. Similar to the international symbol of the Red Cross for humanitarian protection under the Geneva Conventions, the Blue Shield also lends its name to international organizations that support its goals. These include the Paris based International Committee of the Blue Shield (ICBS), established in 1996, and a group of Blue Shield national committees organized in 2008 under the Association of National Committees of the Blue Shield (ANCBS).<sup>10</sup>

Thirty-six Blue Shield national committees and national committees "under construction" work in their home countries to promote ratification and implementation of the 1954 Hague Convention and its protocols, provide a point of coordination and training between the cultural heritage professional sectors and their respective militaries, and to raise public awareness of the importance of the protection of cultural property during armed conflict. The ANCBS, through its office in The Hague, provides coordination for emergency assistance to cultural heritage at risk not only from armed conflict, but also for natural disasters.

The looting of the Iraq Museum, a moment when the world recognized an irretrievable loss to our shared past, has served as the impetus for a renewed commitment to protecting cultural property during armed conflict. The U.S. military now recognizes the fragile nature of cultural heritage and its key role in a nation's recovery and has taken positive steps to improve training and doctrine in this area. A number of cultural heritage organizations have joined forces to provide military training and to promote the 1954 Hague Convention. And finally, the U.S. government has recognized the importance of becoming part of the international community that places a special emphasis on cultural property by ratifying the 1954 Hague Convention. Now it remains to be seen how the U.S. will implement the treaty domestically, particularly without a department of culture at the federal level. Robust and meaningful implementation will require the coordinated efforts of all those who have a stake in protecting our shared cultural heritage.

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### Notes

1. Initial media reports were that the collection consisted of only about 170,000 objects, when in fact the 170,000 number came from just one particular inventory (Burns 2003).
2. For a history Nazi looting of cultural property during WWII and the story of the Monuments Men, see Nicholas 1995 and Edsel 2006.
3. U.S. Department of the Army, Graphic Training Aid 41-01-002, Civil Affairs Arts, Monuments, and Archives Guide (2005, 2007, 2009).
4. See "Archaeologists Teach U.S. Troops Iraq and Afghan Heritage," <http://www.archaeological.org/webinfo.php?page=10319>, accessed September 9, 2009.
5. For more information about the U.S. Committee of the Blue Shield see [www.uscbs.org](http://www.uscbs.org).
6. The playing cards project was the brainchild of Dr. Laurie Rush, a Department of Defense civilian archaeologist with the Cultural Resource Management program at Ft. Drum, New York.
7. See U.S. Department of the Army Field Manual 3-07, Stability Operations (October 2008), paragraph 5-52 Shrines and Art. "Except in cases where military operations or military necessity prevents it, the force protects and preserves all historical and cultural monuments and works, religious shrines and objects of art, and any other national collections of artifacts or art."
8. See "The United States of America deposits its instrument of ratification of the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict": [http://portal.unesco.org/en/ev.php-URL\\_ID=44806&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=44806&URL_DO=DO_TOPIC&URL_SECTION=201.html), accessed September 9, 2009.
9. For the full text of the 1954 Hague Convention see: [http://portal.unesco.org/culture/en/ev.php-URL\\_ID=35261&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/culture/en/ev.php-URL_ID=35261&URL_DO=DO_TOPIC&URL_SECTION=201.html), accessed September 9, 2009.
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# CONFLICT ARCHAEOLOGY

## STUDYING WARFARE AND AGGRESSION IN HISTORICAL ARCHAEOLOGY

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In this edition of *The SAA Archaeological Record*, we turn to studies of conflict in historical archaeology. Originally referred to as “military archaeology” or “military sites archaeology,” “conflict archaeology” appears to be the emerging consensus term. In the U.S., conflict archaeology currently, in practice, equates to historical archaeology of sites of conflict, usually between organized armies. The term has gained wide acceptance in the U.K. and Europe as well, though there it has been fruitfully applied to prehistoric situations as well as historical ones. It is now the subject of an annually published journal (*Journal of Conflict Archaeology*) and a regular conference series.

While conflict archaeology has grown substantially within the worlds of Anglo-American historical archaeology and prehistoric archaeology in the U.K., there are a number of fronts (if you will excuse the military metaphor) along which advances have been less marked. There are few if any prehistoric archaeologists in the U.S. who self-identify as conflict archaeologists. Our engagement with prehistorians and with sociocultural anthropologists interested in warfare, conflict, and militarism is not what it could or, in my opinion, should be. The papers included here are a combination of prehistoric and historical archaeological research that study conflict and are, in my opinion, exemplary of one of the directions in which conflict archaeology can expand in the coming years, emphasizing complex interplays of anthropological and archaeological research.

### Origins and Growth of Conflict Archaeology

Archaeological studies of sites associated with conflict are not new to historical, prehistoric, or classical archaeology. Schliemann's work at Troy was specifically concerned with finding the city that served as centerpiece for Homer's *Iliad* (Schliemann 1875). Well-known digs in the British Isles involved sites with defensive features, and early work in the United States, such as Fewkes's work at Wupatki National Monument (Fewkes 1904, cited in Colton 1932:34), dealt with themes of conflict. However, the roots of what bills itself today as conflict archaeology lie in the development of Anglo-American historical archaeology in the 1960s and 1970s.

Early work in historical archaeology included a number of excavations at fortifications on the eastern seaboard (e.g., Hanson and Hsu 1975). These were very similar in structure and analysis to the work done on domestic sites up to that time, posing similar questions about the lifeways of the inhabitants of the fort as were put to the people who inhabited civilian sites. One notable example is Ferguson's work at Fort Watson, South Carolina, a Revolutionary War era British logwork, taken by Colonial forces in 1781 by building a wooden tower looking into the fort from which American soldiers fire into the fort, causing the garrison to surrender. Ferguson analyzed the patterning of musket balls around the fortification walls to establish the direction from which they were fired, therefore approximating the location of the tower (Ferguson 1977).

Perhaps the most well-known conflict project completed to date is Douglas Scott and Richard Fox's work at the Little Bighorn in southeastern Montana (Fox 1993; Scott et al. 1989). Following a wildfire on the park land in 1983, Fox and Scott directed a team of archaeologists and Indian Wars enthusiasts skilled with metal detectors in a systematic sweep of the battlefield. Locating and piece-plotting bullets, cartridges, and cartridge casings allowed the archaeologists to develop a clear picture of the movements of both soldiers and warriors during the battle. In addition, the Little Bighorn project showed the effectiveness and rapidity of large-scale systematic metal detector sampling for recovering information about past moments of violent conflict. This contribution has been widely acknowledged and replicated in numerous projects both in the United States and abroad (Freeman 2001).

Developments in remote sensing technology have further aided the growth of this research area by providing tools that are much better suited to finding conflict-associated sites than are standard site location and sampling strategies (Cornelison and Cooper 2002). Most projects that are currently ranged under the banner of conflict archaeology deal with the fighting or movement of organized military bodies. The movements of those armies generate a number of different site types (camps, storage depots, outposts) whose archaeological representation

is ephemeral in the extreme. Shovel testing has rarely proven as effective as remote sensing surveys in the location of these sites, and Cornelison and Cooper have shown that standard excavation techniques are wholly unsuited to recovering sufficient material from a battlefield to generate any clear sense of what took place there. The methodological dynamism growing within conflict archaeology now evinces both a specialization of techniques and practice as well as an expanding area of archaeological scholarship.

Not all areas of conflict archaeology's growth have been equally rapid and diverse, however. Much of what has been written in the past has been situated within a particularist context heavily focused on military history. There have been a number of experimentations with other theoretical positions, such as the Carman's forays into phenomenology (Carman and Carman 2006), but the military-historical particularist approach remains dominant. This benefited the field in that it helped solidify a place in the examination of past conflicts for archaeologists and showed how the archaeological record both complements and challenges the historical record. The dominance of the military-historical particularist approach has not, however, encouraged conflict archaeologists to incorporate the work and viewpoints of anthropologists interested in studying conflict or archaeologists working on conflict at nonhistoric sites.

## What's In a Name?

In soliciting papers for inclusion in this issue, I specifically went looking for papers that could be grouped under the heading of "conflict archaeology" if we take the common thread of conflict archaeology to be a shared interest in studying the deployment of collective violence to maintain social distinctions. One of the respondents inquired whether using the term was rebranding military sites archaeology. It is and it isn't. What used to fall under military sites archaeology or military archaeology still falls within the ambit of conflict archaeology as I construe it, but the latter term is much more expansive than the former. Military sites archaeology focuses by its very appellation on situations where combatants are formally constituted military bodies, a hallmark of state-level political organization.

Yet, even within nation-states, there are forms of collective violence that either do not involve militaries or are not between them. The research conducted by Walker (2003) on the Colorado Coal Field War, pitting the National Guard against organized labor, is a good example of this.

Also, outside of state-level societies, there are other forms of warfare and conflict that do not involve standing armies and have been routinely studied to great effect by archaeologists working outside of historical archaeology. Arkush and Allen's (2007) recent synthesis of work on prehistoric studies of warfare and conflict is a compilation of such studies,

and lays the groundwork for cross-cultural interpretation of archaeological evidence of conflict and warfare. However, this same volume contains no papers on historic period conflict, which I believe reflects the intellectual barriers built and reinforced by working within a military-historical particularist context. By re-conceiving the area as conflict archaeology using the above-mentioned common thread, we open an intellectual space wherein historical archaeologists, prehistoric archaeologists, and sociocultural anthropologists may meet and exchange ideas, to our mutual benefit.

## Papers in this Edition

I solicited papers from the contributors because of my familiarity with their work and find their blending of anthropological and archaeological research both engaging and exemplary. I appreciate and encourage further research in the military-historical particularist vein, yet there are other horizons to be explored that I believe fit well under the umbrella of an expansive and diverse conflict archaeology. The papers included here stem from prehistoric and historical archaeology and represent a number of the possible directions conflict archaeology can, and I feel should, move in.

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☞ CARLSON-DREXLER, continued on page 49

# HILLFORTS AND THE HISTORY CHANNEL

## A VIEW FROM THE LATE PREHISPANIC ANDES

Elizabeth Arkush

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**T**he archaeology of prehistoric conflict is in the middle of a boom. A rapidly growing literature on the subject, in which several different theoretical approaches are emerging, demonstrates that North American archaeologists are thinking and talking about prehistoric warfare more seriously than ever before. Do they stand to gain fruitful insights or cross-fertilizations from merging with “conflict archaeology” as it is currently pursued, or at least from building bridges between the two fields? Yes and no. First I would like to briefly outline some differences between these traditions and explain why, to my mind, the distinction between them is justified. Then I would like to make the case that while American anthropological archaeologists should not adopt the aims of conflict archaeology, they can still draw inspiration from its realm of expertise.

### Why I Am Not a Conflict Archaeologist

As Carlson-Drexler points out in the introduction to this section, conflict archaeology is rooted in the archaeological study of historic battlefields, and, for better or for worse, it is aligned more closely with military history than with anthropology. Military history has always had a close relationship with military planners and decision-makers, who seek to draw on the lessons of past conflicts to improve their strategies for war and their performance in battle in the present. This means that military history focuses on the decisions of leaders and commanders, the scenes and events of combat, and the movement of war parties or armies, rather than the broader field of actions, structures, and social dispositions related to war. When military historians examine change over time, they particularly emphasize the “how” of war: military technology, strategy, tactics, military organization and logistics.<sup>1</sup> These topics, beloved by the armchair aficionado of war history, constitute what I think of rather flippantly as the “History Channel” vision of war (figure 1).

Out of the broad sweep of human history, History Channel producers reliably devote the most airtime to military themes, consisting mainly of specific battles. Military technology also finds frequent airing, with shows such as *Heavy Metal: B-17 Flying Fortress*:

In 1937, the Boeing Aircraft Company built America’s first all-metal, 4-engined heavy bomber—the legendary *B-17 Flying Fortress*. Taking on the worst the Luftwaffe offered, the 8th Air Force’s Flying Forts flew daylight bombing missions over occupied Europe’s most heavily defended cities. This is the story of the young airmen of the “Mighty Eighth” and the dangers they faced at 30,000 feet! (History Channel website, <http://www.history.com/schedule.do>, accessed 3/27/09)

I hope I am not being too cavalier when I suggest that even the scholarly literature in military history partakes in something of this flavor: despite somber statements about the grave toll of war, it faintly evokes the excitement of a small boy with a new set of toy soldiers.

From the perspective of mainstream American archaeology, this kind of branding is unfortunate. It confines “war” as a field of study to actual combat and its tools, rendering it less interesting to those of us who are not avid History Channel watchers, and obscuring how important war is and was in all human affairs. In other words, it does not conceptualize war in social terms. For conflict archaeology, the military history orientation has meant a close practical focus on fields of battle and military movement, and a rather narrow theoretical emphasis on military success or failure, advantage of terrain or numerical weakness, tactical superiority or inadequate weaponry.<sup>2</sup>

The burgeoning number of American archaeologists working on prehistoric conflict have not adopted the term “conflict archaeology” or any other label. Perhaps that is for a good reason. The great majority of us think of ourselves as anthropological archaeologists. We construe “war” broadly to encompass its many phases (Vayda 1976) and many links to other realms of society and culture. We may study tactics and technology, military organization and logistics, but tend not to think of them as the final or main aim of study. Instead, a variety of ultimate questions occupy us, often with some cross-cultural applicability. What caused episodes of especially frequent or brutal warfare? How was war related to the emergence of sociopolitical complexity and the expression of

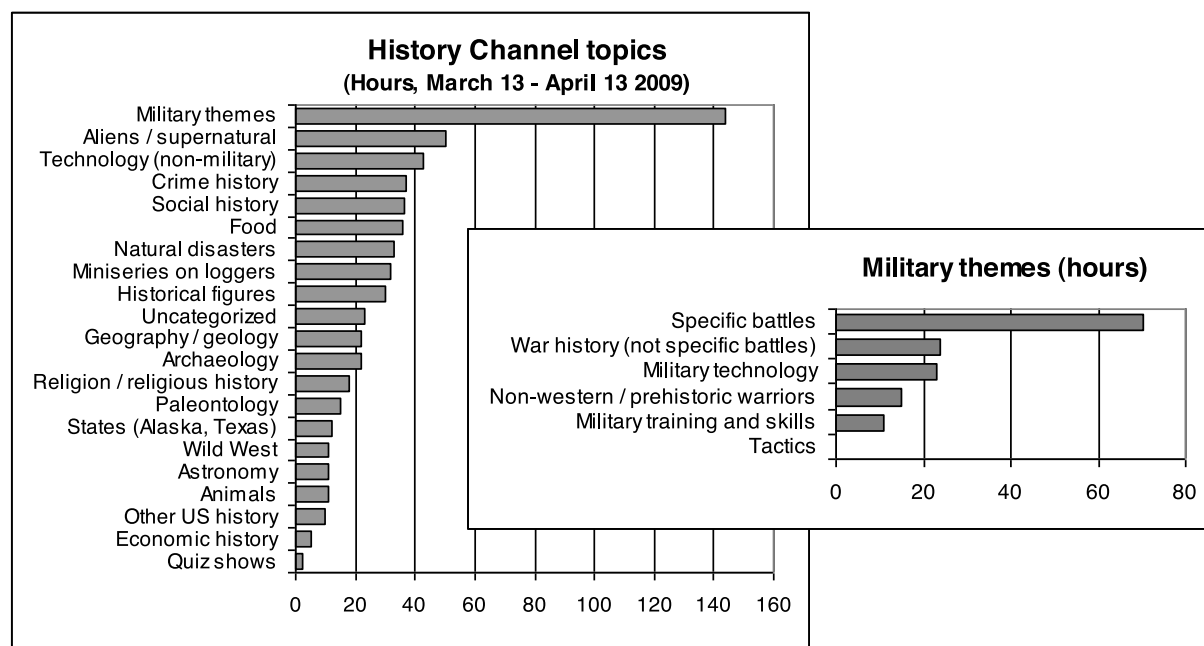


Figure 1. Topics of programming on the History Channel (by airtime).

social hierarchies? To collapse? To the making of alliances and trade networks, and the dynamics of elite factions? How did an environment of violent threat affect the way people structured their social relationships, made a living, conceptualized their social identities, and interacted with the supernatural realm? How did armies or warrior organizations articulate with political and religious hierarchies in complex societies? How did warfare and the creation of durable defensive landscapes affect the use of the land and the meanings attached to the land? How did women's versus men's lives, work, and gender identities relate to war? How did war shape culture, and how did culture shape war? So far, the lack of a label for this new field has not proven a hindrance in any way, but has allowed it to flourish and explore multiple avenues of inquiry.

Nevertheless, in the pursuit of questions such as these, there is certainly a place for tactics, military technology, military organization, and logistics. And because we are trained as anthropologists and archaeologists rather than soldiers or military historians, we are often woefully ignorant about such topics. Without adopting the relatively narrow aims of conflict archaeologists, it would serve us well to understand better how those nitty-gritty, History-Channel details of war really did have crucial repercussions for society and social change. For instance, specialized forms of weaponry trace the emergence of hand-to-hand combat and organized mili-

tias under chiefly control in late Neolithic Europe (Vencel 1999). The history of the ancient Near East was closely bound up with the problem of supplying massive quantities of grain to huge armies of footsoldiers engaged in long sieges of fortresses (Mann 1986). As military technology changed and access to it fluctuated over the centuries, it caused dramatic shifts in power between the Near Eastern model of densely populous states with large infantries, and smaller societies with access to restricted resources such as horses or iron (McNeill 1982). In other words, the "how" of war mattered a great deal. To compartmentalize it as part of a distinct "conflict archaeology" would be to divide it from its immense social ramifications. Instead, we should integrate it with our broader anthropological questions. Here I outline an attempt at such integration in my work in the late pre-Columbian Andes.

### Conflict in the Andes

In the Late Intermediate Period (LIP, ca. A.D. 1000–1450), conflict of an unprecedented intensity swept very large portions of the Andean highlands. This era took place after the collapse of two earlier, contemporaneous highland states, Wari and Tiwanaku, but before the Incas expanded to conquer the Andes. During this interregnum, societies of the highlands were relatively small in scale and politically decentralized, although in places there is evidence of increasing sociopolitical consolidation over time (Covey 2008). In many



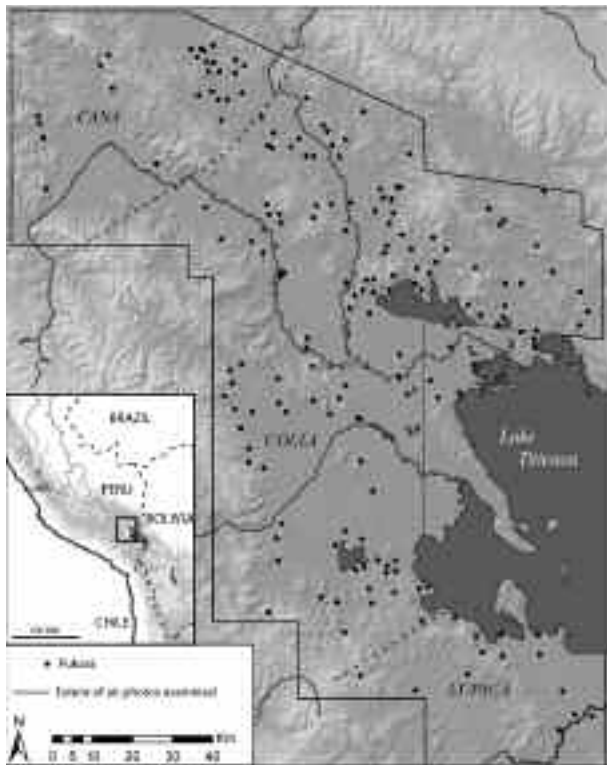


Figure 2: Pukaras of the northwest Titicaca Basin, identified through air photos and ground survey.

parts of the highlands, there was much less expression of either stratified social hierarchies or centrally integrative ritual facilities than in the preceding period. Craft technologies declined, artistic motifs became more abstract than figurative, and the Andean highlands entered a seeming “Dark Age.” It was also a time of intense warfare. The archaeological evidence for warfare consists mainly in defensive settlement patterns of hill and ridge-top settlement, often fortified with wall and ditch defenses, and sometimes supplied with slingstone piles near the walls—settlement patterns that often contrast with earlier and later periods in the same regions (Arkush 2006). A few recent bioarchaeological studies contribute to this picture, showing elevated rates of cranial trauma: in one case up to 35 percent of all interred individuals had suffered blows to the head (Torres-Rouff and Costa 2006).

Many interesting questions could be asked about this wave of conflict, only some of which relate to technology, tactics, and other ingredients of military effectiveness. One such question has to do with the relationship between frequent warfare and political fragmentation or Balkanization. Obviously, fragmentation is what allowed endemic warfare to occur. But did warfare also provide a potential tool for politi-

cal consolidation? We know that military conquest eventually underpinned Inca imperial expansion. For those earlier societies of the LIP, did conquest occur, and did it lead eventually to large-scale social integration? Why or why not?

In pursuing this question, hillforts emerge as a key aspect of the sociopolitical landscape. These hillforts, called *pukaras* in the indigenous languages of the Andean highlands, were sometimes fortified villages, sometimes temporary refuges located within easy range of settlements for use in times of crisis. They (rather than special-purpose defensive features, like great wall systems) were the primary physical defenses in the landscape. Even when not under active assault, they played an important role, deterring attack, demonstrating the strength of their builders, and defining social groups. But they probably also witnessed many of the battles of the era, judging by their stockpiled slingstone ammunition and by occasional indications of the purposeful destruction of their walls. This is why they were built. The lessons of military history (even in its pop-culture, History Channel manifestation) demonstrate that fortifications are critical in military confrontations, tipping the balance between victory and defeat (Allen 2008; Keeley 1996). Because the fortunes of war often hinge on them, so by extension do the fortunes of societies and political regimes.

In the Andes, where the rugged terrain constrains routes of travel and where high points in the landscape often have exceptionally good visibility, the inherent strength of hillforts is amplified. Documents written shortly after the Spanish conquest highlight their importance in Andean highland warfare. For instance, the Spanish chroniclers of Inca oral history describe in detail the Inca emperor Wayna Qhapaq's siege of a large, multiple-walled pukara of the Cayambi at the far northern fringe of the Inca empire (Sarmiento 1967:161–164 [1572:Ch.60], Cobo 1979:157–159 [1653:Bk.12 Ch.17]). This bloody confrontation, which took place not long before the arrival of Pizarro and his conquistadors, illuminates the formidable obstacles pukaras posed to capture and conquest.

Wayna Qhapaq first sent his forces to lay waste to the surrounding countryside, depriving the Cayambi pukara of supplies. He then made several assaults on the fort, but was repulsed each time; in one rout, the emperor himself was nearly killed. The Inca army, suffering heavy casualties, had to retreat to the nearest Inca center, Tomebamba, to await reinforcements. A small detachment which had been left to watch the pukara was attacked by Cayambi warriors and nearly wiped out (Sarmiento 1967:162). Reinforcements arrived and the Inca army resumed the attack. In fierce fighting and with heavy losses, the Inca forces managed to take four of the five pukara walls, but when their commander was killed they retreated in disarray. Pursued by the Cayambi force to the bank of a deep river, many Inca soldiers were



Figure 3: Cerro C'acjro, a pukara in the northern Titicaca Basin.

killed and others drowned attempting to cross it. Again, the action paused for weeks while Wayna Qhapaq mustered reinforcements; again he sent forces to burn the surrounding area. Leading the army himself, for a third time he invested the fortress. After several days of fighting, the Incas feigned a retreat, luring out the Cayambi warriors in pursuit, so that a concealed detachment could attack and enter the defenseless fort, setting it on fire and capturing the non-combatants inside. Seeing this, the Cayambi warriors fled and took refuge in a marsh, where they were surrounded and slaughtered.

This story may or may not be perfectly accurate, but it clearly indicates that the fate of the Cayambi rested on the strength of their pukara, and it gives a plausible picture of how such strongholds were used in war. In this account, the multiple walls of the pukara, its role as a base for offensive strikes, and the Inca's need to leave a vulnerable garrison to blockade the pukara in the interim between attacks, emerge as key strengths for the Cayambi side. The Incas were eventually victorious, but only after a protracted and bloody campaign, and only after having used their full arsenal of siege tactics: frontal assault, blockade, and deceit. The story is a dramatic illustration of the pivotal strengths pukaras offered in Andean defensive warfare.

While this history comes from the far north of the empire, pukaras were equally important in the south-central highlands. The evidence comes not just from Inca narratives about their imperial expansion but other sources as well. For instance, some generations after the Spanish conquest, Ludovico Bertonio, a Jesuit pastor working at the mission of Juli in southern Peru near Lake Titicaca, compiled a detailed dictionary of Aymara, the dominant language spoken by the

region's inhabitants, who had never fully adopted the Quechua tongue of their Inca rulers (Bertonio 1986 [1612]). In this dictionary, pukaras are associated with a rich native vocabulary. There are words for building a pukara, fleeing and taking refuge in a pukara, surrendering or capturing a pukara, and destroying a pukara. A distinct term refers to the leader (*alcalde*) of a pukara. The word "pukara" had strong connotations of safety and protection, for it was also used metaphorically to address a father, protector, or ally.

My fieldwork has focused on pukaras of the northern and western Titicaca Basin, home of the Colla ethnic group. Pukaras here are primarily fortified settlements of various sizes. While Inca oral histories from the contact period describe a large Colla regional polity existing in this region, archaeologically the area seems much more fragmented: it is dotted with numerous fortified hilltop villages and towns throughout, sites that remained in use during eight or ten generations until the Inca conquest brought a forced peace to the land. The archaeology of these pukaras reveals something of how wars were fought, which in turn speaks of the shapes of Colla polities and their changing fortunes.

#### The "How" of Colla War

Like the Cayambi fortress far to the north, pukaras in the Colla area almost always use multiple concentric walls to create a formidable defensive barrier. Rather than completely encircling the site, these walls often link cliffs and outcrops together, and are flimsier or peter out entirely on very steep terrain, supplementing naturally defensible terrain in a cost-efficient manner. Houses and probable storage structures are located within the walls, indicating that people and their property were subject to attack; by contrast, tombs may be outside the walls as well as inside, suggesting they were not



Figure 4: The outer wall at Cerro C'acjro.

desecrated in warfare. While many entrances are narrow (forcing single-file entry), baffled, flanked with inset walls, or otherwise made relatively defensible, sometimes wider gates are present, perhaps intended to facilitate the movement of camelid herds.

Several kinds of weapons appear on the surface at Colla pukaras: slingstones, bola stones (tied to a thong and thrown as a projectile weapon), projectile points, doughnut-shaped stone mace-heads once hafted to a wooden handle, and possible stone axe-heads. But as in many other parts of the Andean highlands at this time, Colla defensive architecture particularly emphasized slingstone fire. Walls often have a parapet, especially on the most accessible approaches: a raised ledge that would partially shield a defender standing on the wall, while allowing him or her to fire slingstones at attackers. Piles of these slingstones are sometimes found near the walls, usually river-rolled cobbles of a convenient size, brought up from streambeds below.<sup>3</sup> The very height and thickness of pukara walls was apparently constrained by the defenders' need to see and sling over them, for rarely do walls exceed 1.5 m high on the inside, and those that do often incorporate an inner bench and parapet. Walls are almost always positioned no more than 15 to 30 meters apart, well under the effective range of slings (Brown Vega and Craig 2009), and the space between them is usually empty of structures, creating a "killing alley" without cover where attackers who had made it past the outer wall could be subjected to withering projectile fire from the inner wall.

Obviously, defensive considerations ranked high in the minds of pukara builders. Their ongoing concern with warfare is shown by modifications to the defenses over the

course of pukara lifetimes: blocked entrances, raised and thickened walls, and multiple wall-building episodes.

Pukaras were also situated to take advantage of the exceptional visibility of the terrain of the northwest Titicaca Basin, where hills jut steeply from the flat plains and very few trees grow. A viewer on a pukara peak can often see small landscape features at 25 kilometers or more in the clear, thin air. This visibility was apparently a factor in deciding where to build. When computer-simulated sets of "pukaras" are created by randomly selecting hilltops in the northwest Titicaca basin (hilltops with the same altitude range and distribution as real pukara hills), these random "pukaras" have views, on average, of slightly less than half the terrain visible from real pukaras. In other words, Colla people intentionally selected hilltops with far better views than your run-of-the-mill hill to build their strongholds. Such commanding views of the landscape would have been highly strategic; with proper vigilance, sentries could sight an attacking war party hours before it would arrive, allowing ample time to prepare for the assault and move noncombatants, supplies, and animals into the fort. So Colla pukaras were well-positioned to prevent surprise attack, at least during the day—a noteworthy advantage, because surprise is one of the best tactics against a fort. Yet perhaps even more important than a pukara's views of the general surrounding landscape were its views of other pukaras. An observer at a pukara can usually see multiple other pukaras (to be exact, she can see an average of 3.5 pukaras within a close 10 km radius, and 6.6 within a more expansive 25 km radius). Computer-simulated sets of random "pukaras" perform wretchedly in comparison, seeing less than half as many of their fellows, and most often none at all. Again, it is clear that hilltops were not selected randomly by the Collas. A wide viewshed and good visual connections with multiple other pukaras were essential considerations in deciding where to resettle and build.



Figure 5: This view from a pukara gate includes four other pukaras: two within a close 10-km radius, and two others within 25 km.

The fact that pukaras are placed to see other pukaras is highly significant. It suggests pukaras may have used visual connections to summon nearby allied populations to their aid in times of danger, or to communicate other kinds of information. The idea is not terribly farfetched, given the fact that visual signals were used in historic wars in the Titicaca Basin (Bandelier 1910; Chervin 1913). Hence, alliance relationships, facilitated by visual connections, may have been important to the defense of pukaras. This idea is supported by the patterning of ceramic styles in the region. Groups of pukaras sharing close visual links often share ceramic styles. They are separated by distance and barriers to visibility from other groups with distinct ceramic assemblages (Arkush 2005). Large differences in size and defensive strength between adjacent pukaras also suggest relationships of hierarchy and interdependence. Thus, pukaras were not isolated islands in an ocean of hostile forces; they were enmeshed in relationships with other pukara communities.

This brings us to another curious fact about pukaras. For all their obvious emphasis on defense, most of them lack easily accessible water. No cisterns were found on the survey, and at only seven of 44 sites was a year-round spring or pond located within the defensive walls. Colla pukaras are not unique in this regard: hillforts in the Andes from all periods usually lacked an internal cistern or spring, posing inconveniences for occupation and challenges for defense in the dry season. Such forts were not equipped to sustain inhabitants and their animals during a siege of more than a few days. In other words, their builders did not anticipate such tactics. This apparent weakness indicates that prolonged active sieges were probably quite rare, and perhaps nonexistent, in the LIP. In fact, this is less surprising than it might seem at first. Extended sieges are relatively rare in the ethnographic literature on non-state societies, for they are very costly in human lives, time, and supplies. In this region, they may also have been impractical if defenders could summon allies to their aid, and force attackers to retreat.

From these clues, an image emerges of the style of conflict at the time. The overall image is, first, of a population subjected to a severe threat, so that many dwellings had to be moved to the hilltops, places so inconvenient to live that they were rarely occupied before or after this era. Second, the emphasis on strong defenses, visibility, and projectile fire, combined with the lack of water sources, suggests a kind of warfare in which pukaras might be threatened with fierce, large-scale attacks that were nevertheless not very prolonged. (Perhaps this was because any besieged pukara could solicit reinforcements from other nearby communities.) Hence, the best hope of an attacking army was probably to take a fort in the first assault. Yet the exceptional views that pukaras enjoyed would have made it difficult to come on their defenders unawares. If a pukara was nevertheless

captured—and they surely were at times, as Bertonio's terms for destroying a pukara suggest—the victory may have been short-lived, for other populations nearby, secure in their own redoubts, would have posed a constant threat unless they too could be defeated.

### Why the "How" Matters

Let us turn from this welter of militaristic details to address two larger questions, one culture-historical and one anthropological. The culture history question: was regional integration through conquest occurring here in the LIP? Probably not. This landscape rife with fortified towns, used and rebuilt up to the eve of the Inca conquest (Arkush 2008), is best interpreted as the home of several defensive coalitions rather than a single large, conquering, centralized polity. Indeed, the defensive strength of the fortifications itself would have hindered regional integration through conquest, fostering recurrent destructive raids rather than conquest and stable control. This pattern was broken by the Incas, whose own history in the Cuzco valley during the LIP had taken a quite different path, one of regional socioeconomic integration, urbanization, and (an intriguing contrast) very little fortification. By the time the Incas embarked on the conquest of surrounding territories such as the Colla region, they had developed the emergent state institutions to muster large armies with enough logistical support to engage in long-term campaigns and prolonged sieges. Faced with these tactics, the pukaras of the Collas finally fell—though they were again brought into military service not long after, when the Collas rose in an unsuccessful rebellion against their new Inca masters.

This conclusion hints at the second, anthropological question: when is conquest likely to happen, and when not? While the set of factors facilitating or hindering conquest is too complex to be addressed here, suffice it to say that fortification holds a place among them (Allen 2008). This particular sort of fortified landscape, its defenses too sophisticated to be easily surmounted by the same kinds of societies that built them, posed a formidable barrier to conquest and stable control. Its regional history indicates how a human-engineered landscape of fortified hills could affect the interactions of its inhabitants for generations, and hints at the path-dependent trajectories of societies at war.

This is the kind of study in which I believe anthropological archaeologists can profitably learn from conflict archaeology and military history more generally. I want to stress that the "how" of war is only one part of war, and perhaps a relatively small part at that. For instance, here I have not addressed at all what Collas' social and personal experience was like of living under the threat of external violence, or how that threat (and the measures they took to mitigate it) changed the ways they structured their communities, livelihoods, and



identities. But understanding the “how” of war can be requisite to issues of broader interest: why it was waged in the ways it was, and what its likely outcomes were.

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## Notes

1. A substrain of military history contends that the aims and practice of war are shaped by culture (e.g. Lynn 2003). Nevertheless, it still prioritizes the “how” of war as the main subject of study.
2. To these concerns, conflict archaeology adds a worthy focus on the experience and actions of common soldiers, who sometimes left little mark on written histories.
3. Slingers could be quite effective, as the conquistador Enrique de Guzmán (cited in Hemming 1990:192) made clear. “They can hurl a huge stone with enough force to kill a horse. Its effect is almost as great as an arquebus. I have seen a stone shot from a sling break a sword in two when it was held in a man’s hand thirty yards away.” Juan Pizarro, Francisco’s brother, was killed by a wound from a slingstone to the head (Urteaga 1919–20: 302–303).

## Needs Assessment Survey

Surveys will be distributed to all SAA members on October 13, 2010 through a secure link sent to you by this email (saasurvey@associationresearch.com). A postcard containing the link will be mailed out to those members without a current email address on file with SAA.

# THE BATTLE OF ASTIALAKWA

## CONFLICT ARCHAEOLOGY OF THE SPANISH RECONQUEST IN NORTHERN NEW MEXICO

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**A**t 1:00 am on July 24, 1694, a Spanish military force of 120 presidial soldiers and militiamen gathered with 100 of their Puebloan allies in the obsidian-black darkness of the northern New Mexico night. The journals of their general, Governor don Diego de Vargas, record that they assembled at the base of a soaring mesa with the stated goal of making offensive war against their enemies, the natives of Jemez Pueblo and their partisans, “because of the rebellion and backsliding of the Jemez nation.” The Jemez were said to be “rebels against the royal crown” for refusing to comply with the governor’s orders and their repeated assaults on neighboring pueblos. In anticipation of the impending attack, approximately 530 Jemez people and their supporters fortified themselves in a mesa-top village known as Astialakwa, which had recently been constructed on the cliffs that now towered more than 300 meters above the Spaniards’ heads (Hendricks 2002:190; Kessell et al. 1998:281–284, 323–325).

When the morning star appeared, Vargas gave the signal to his soldiers to begin climbing the mesa. Splitting his force into two units, the majority of the Spaniards ascended from the south while their Puebloan allies (who hailed from the Keresan-speaking villages of Zia, Santa Ana, and San Felipe) circled around to the north. As the light of dawn broke, the opening volley from a Spanish harquebus cracked the morning silence, and Jemez warriors rushed to defend their village against both wings of the attack. The battle raged for hours, with the residents of Astialakwa raining rocks and arrows down upon the Spanish-Keres troops as they clawed their way up the steep and narrow trails that provided access to the mesa top. Eventually the fortifications surrounding the refuge were breached and the Jemez were caught in the middle of the pincer strategy of their aggressors. The defenders retreated into the village, barricading themselves inside their houses, where they continued to engage the enemy. The Spaniards set fire to the rooms of Astialakwa, burning at least four men and one woman alive. With the village in flames and their escape routes blocked, seven Jemez warriors leapt from the cliffs, choosing death over surrender. As the day wore on, the Spaniards secured the village room by room. By 4:00 pm the fighting had ceased, the muskets

cooled, and the village was once again quiet. The Spanish-Keres militia had carried the day. All told, 84 Jemez people perished in the battle at Astialakwa, while the Spaniards took 361 native women and children prisoner. (An additional 81 Jemez people reportedly escaped the grasp of their foes.) Following the battle Vargas awarded the spoils to his Keres allies—cattle, sheep, goats, and maize—before ordering the remaining structures of Astialakwa to be “burned and reduced to ashes” (Kessell et al. 1998:325–337).

### Archaeology and the Battle of Astialakwa

Between 2001 and 2007, the Pueblo of Jemez Department of Resource Protection and I collaborated on a research project that sought to document the archaeological remains of Astialakwa (Figure 1) and two other ancestral Jemez villages that were constructed and occupied during the Pueblo Revolt-Spanish reconquest era of 1680–1696 (Liebmann 2006, 2008). Our investigations included non-invasive methods of architectural documentation at Astialakwa, a site that retains many of its original standing walls to this day, along with intact foundations of numerous rooms and roomblocks that are still visible on the modern ground surface. During the course of these investigations we found many conspicuous signs of the battle that occurred in July of 1694, including remnants of Spanish armor (links of chain mail and thin copper plating that may have been used for protection); defensive walls and fortifications erected around vulnerable areas of the mesa top; piles of fist-sized granite cobbles stacked at trailheads (which served as ammunition for the slings of Jemez warriors); charred plaster and corn that bore witness to rooms set ablaze during the battle; and clear signs of the razing of the village after combat hostilities had ceased. Furthermore, we documented broken pottery scattered in abundance throughout the architectural units of Astialakwa with no circumscribed midden area, a pattern that likely has its origins in the violent destruction of the village in 1694.

While the material remains of the battle are striking, at first blush the archaeology of Astialakwa might seem easy to dismiss as yet another “handmaiden to history” (Noel Hume 1964), offering few new details about this conflict that were



Figure 1: Plan view of Astialakwa architecture; 50 cm contour interval.

not previously and readily apparent in the documentary record. Yet this ignores one of the crucial contributions that archaeology can provide to studies of this and other historic-period armed conflicts: a diachronic perspective. Because histories of military engagements tend to be framed in terms of discrete, short-term, temporally bounded events, it can be easy to overlook the longer-term social factors that often play critical roles in determining the strategies, tactics, and ultimate outcomes of these battles. Furthermore, archaeology can aid in documenting the experiences of participants who may be un- or under-represented in historical accounts of these battles. Such is the case of the seventeenth-century Jemez, who did not record their versions of July 24, 1694 in writing. Material culture imparts critical new information regarding the factors that shaped this conflict which are not contained in the documentary record, ultimately resulting in a richer, more nuanced understanding of the Spanish Reconquest of New Mexico.

#### Architecture and Society in the Wake of the Pueblo Revolt

The Battle of Astialakwa was the culmination of a series of events set in motion 14 years earlier, when more than 30 Pueblo villages, speaking six different languages, united in a coordinated uprising known as the Pueblo Revolt of 1680. On August 10 of that year native warriors killed 401 Spanish colonists and Franciscan missionaries, raided Hispanic settlements, and laid siege to the colonial capital of Santa Fe. The surviving Spaniards and their partisans fled the northern Rio Grande region as the Pueblos ushered in a dozen years of native independence. In the wake of the rebellion many of the Pueblos, including the Jemez, destroyed their former mission facilities and erected new villages as part of a revitalization movement that sought to rid their world of Spanish influences and revive traditional, pre-Hispanic prac-

tices (Liebmann 2008; Liebmann et al. 2005). Tree-ring dates and documentary evidence suggest that between 1680 and 1683 the Jemez constructed two new pueblos, Patokwa and Boletsakwa, occupying each of them until through the return of the Spaniards in 1692–93. A comparison of the architecture of these villages with that of Astialakwa reveals new insights into the social practices and military strategies of the Jemez people in the years, months, and weeks leading up to the 1694 battle.

Patokwa and Boletsakwa (Figure 2) share many similarities in architectural form: both consist of long, narrow roomblocks defining two proportionally large plazas, a layout identified as the “linear plaza” form in the American Southwest (Cameron 1999:207). Linear plaza pueblos are frequently utilized in construction resulting from large-scale, well-organized communal migrations. They are typically a product of pre-construction planning, developing out of work activities in which many rooms are built at the same time by erecting two or more parallel axial (long) walls first, then subdividing the space between them with multiple (shorter) cross-walls to form individual rooms. This technique, termed “ladder-type” construction (Creamer et al. 1993:16), results in rooms of similar size and walls with shared azimuths (Liebmann 2006:277). It is a very efficient method of building a new pueblo quickly, and suggests that inhabitants would have moved into these new villages in large groups rather than one family at a time (LeBlanc 1999:65). Ladder construction requires coordination of labor above the household level (Cordell 1998:27; Kidder 1958:63) because it is typically undertaken by communal work groups rather than individual family units. As LeBlanc notes, “this was group-effort construction,” resulting from strong centralized leadership. It is also an archetypal defensive pueblo layout (LeBlanc 1999:56–66).

It is ironic, then, that the village of Astialakwa—a pueblo known to have been rapidly constructed for defensive



Figure 2: Topographic maps of Patokwa (left) and Boletsakwa (right); 20 cm contour intervals.

purposes—displays such a markedly different architectural layout from that of its immediate predecessors. Astialakwa was built by the Jemez people who left Patokwa and Boletsakwa between December 1693 and July 1694. The remains of construction debris and stockpiles of masonry scattered throughout the village suggest that many of its rooms were still under construction at the time of the battle (Liebmann 2006:300–304). The irregular shapes of the simple biflagged stonework used in building the walls attest to the rushed nature of construction in preparation for the impending attack. Furthermore, patterns of wall bonding and abutment reveal that Astialakwa's roomblocks were built in suites of one to four rooms at a time, rather than as coordinated projects in which all adjoining rooms were constructed together. The resulting dispersed layout of the village (with discrete groups of rooms exhibiting highly variable floor areas scattered across the mesa top) allows us to infer that the construction of each architectural unit occurred independently of the others, and was carried out by relatively autonomous work groups. Together all these data indicate that construction was organized on the level of individual households and not by a centralized community leader or group of leaders. Finally, the noticeable lack of circular, subterranean kivas at Astialakwa—the chambers in which much of Pueblo communal religious activity is conducted—is a conspicuous divergence from the architectural patterns of its predecessors, Patokwa and Boletsakwa (as well as that of virtually every other ancestral Jemez village constructed between 1350 and 1694).

What then are we to make of the conspicuous differences in site layouts among these villages? And what do these architectural changes tell us about the 1694 battle between the Jemez and their enemies that we didn't know already? In short, we can infer that the centralized leadership which characterized the building of the linear plaza, ladder-constructed pueblos in the early 1680s was absent in the following decade. As the spring of 1694 gave way to summer, Jemez people began to anxiously move their families and belongings up the precipice of the mesa. There each family hastily constructed a few rooms for their protection. There appears to have been no overarching authority directing the construction of Astialakwa in the months leading up to the battle; rather, the strong communal leadership that had characterized the Jemez in the early 1680s had given way to a decentralized system of authority in which each family took care of themselves. The result was a village that was not architecturally optimal for defense. This lack of centralized leadership likely had repercussions on the battlefield as well, as the Jemez were ultimately unable to stave off the colonizers that they had successfully routed 14 years earlier.

When the Spaniards and their allies appeared in the valley below Astialakwa on that ominous night in late July 1694, some of these houses were still under construction. They would never be completed. Still, archaeology enables those

yet-unfinished walls to talk, and the story they tell allows some insight into the strategies and tactics employed by their builders on that fateful day in 1694. Clichéd but true, history is often written by the winners, and as a result we are regularly left with myopic accounts of military conflicts. Archaeology can (in some cases) help to redress this one-sidedness by representing voices long silenced both on the battlefield and in the documentary record. In the case of the Battle of Astialakwa, archaeology helps to build a more complete picture of the Jemez side of this important conflict, affording a glimpse into their social world in the years and months leading up to the attack that is not contained in historical documents.

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# THE MAYA...BUT NOT MISSOURI?

## AN ARCHAEOLOGICAL STUDY OF THE SOCIOECONOMIC IMPACT OF WARFARE

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For many years, significant archaeological work has been conducted on Maya sites, with Arthur Demarest's work at Petexbatun (2006) a prime example. It seems widely accepted that Mayan archaeology is applicable not only for Mayan sites and cultural processes, but that it can also be used as a case study for examining issues such as social collapse and warfare in other regions and time periods. The same can be said about the study of warfare and violence in the American Southwest. Stephen LeBlanc's (1999) work on warfare in the region, and Christy and Jacqueline Turner's (1998) examination of cannibalism and violence are noted examples, and are often cited by those examining warfare and violence in other contexts.

The current expansion of conflict archaeology to look beyond "battlefield archaeology" and seek a broader understanding of the causes and consequences of warfare and other forms of violence is a welcome development. The archaeology of the Maya and of the American Southwest has been, and should be, seen as a useful tool in evaluating cultural processes related to conflict. These localized instances of conflict have long been used to increase our understanding of larger cultural processes, across both time and space. But other contexts—not only exotic and/or prehistoric sites—have something to contribute to the discussion. The nineteenth-century conflict in Missouri is also a valuable case study.

When looking at conflict, there are multiple phases to consider—the before, during, and after, if you will. The main goal of much of the archaeological work done to date has been to identify evidence of, or reasons for, violence. A lot of focus has been on the "before" and the "during," with not much focus on the "after." While these are extremely important considerations necessary for understanding the full picture of violence throughout history, it is also important to use archaeology to add to our understanding of patterns of behavior with respect to socioeconomic responses to violence and warfare. While direct violence is certainly deadly, the long-term economic impacts can be extraordinarily devastating for the affected societal groups.

What are the long-term socioeconomic impacts of conflict? Historic sites have much to offer in that we often know, without question, that conflict took place. With prehistoric sites, it is not immediately evident or possible to know what violence took place, when, or why. With many historic sites, however, there is no need to guess what the archaeological record is telling us in that respect. Archaeology in Bates County, Missouri is a perfect example of this. The Border War of 1854–1865 is a well-documented phenomenon, in which guerrilla warfare was a fact of life for the residents of western Missouri and eastern Kansas. Studying these sites in Missouri can help us to recognize patterns of response to conflict.

War is indeed an old aspect of human history, but archaeology is looking at it in new ways (Arkush and Allen 2006; Creamer 2001; Haas 1990, 2001; Keeley 1996). More specifically, over the past decade, archaeological research has shown that pervasive violence and warfare can have a direct effect on social, cultural, and economic systems in pre- and non-state societies (Ember and Ember 1997; Keeley 1996; LeBlanc 1999). Stimulated by key archaeological research focusing on primitive warfare in the southwest (LeBlanc 1999) as well as other areas throughout the world (Ferguson 1997; Keeley 1997; Martin 1997; Maschner 1997), North American archaeologists have made the causes and indicators of violence a growing area of research (Gilchrist 2003; Keeley 1996; LeBlanc 1999). Much of this work has focused on evidence for prehistoric violence, such as ethnographic evidence (Ember and Ember 1997), skeletal evidence (Ferguson 1997; Martin 1997), settlement patterning (Keeley 1996; LeBlanc 1999), and evidence for weapons, defensive architecture and burning of structures (Keeley 1996, 1997; LeBlanc 1999; Maschner 1997).

The lack of archaeological research on the impact of this violence has meant that it remains poorly understood. Additionally, archaeology should be open to examining data from sites that span the spectrum of human history without a preconceived notion that historic-period sites have nothing to tell us about human behavior in the past. Some recent archaeological examinations of subsistence patterns as relat-



ed to chronic violence have shown promise in developing theories of socioeconomic responses to violence (LeBlanc 1999; Maschner 1997), and it is certain that additional archaeological studies in this area will add to the multiple lines of evidence already being studied to give us a broader understanding of warfare, violence, and its archaeological correlates (Ferguson 1997; Gilchrist 2003).

With that in mind, archaeological research is being conducted on sites in Bates County, Missouri, an area affected by devastating violence during the mid-nineteenth century. The Missouri-Kansas Border War of 1854 to 1865 was like no other in American history (Fellman 1989; Gilmore 2006; Goodrich 1995; Monaghan 1984). No other American conflict has involved so many elements of "total war," in which the clashing social, economic, and racial sentiments of a young nation erupted into merciless partisan fighting, and where efforts to destroy the basic war-making capabilities of whole communities and regions obliterated meaningful distinctions between civilians and military combatants (Joes 1996). Even the enormous destruction of clashing Union and Confederate armies east of the Mississippi River did not rival the fratricidal bitterness and sheer societal destructiveness of the Border War (Atkeson 1918; Fellman 1989; Gilmore 2006; Goodrich 1995).

Perhaps the most devastating event that occurred during the Border War period was Brigadier General Thomas Ewing's issuance of General Order No. 11, which demanded the depopulation of the entire Border District, a four-county area along the western border of Missouri. All inhabitants of the border region not living within one mile of a Union encampment were required to vacate their property within 15 days. While the other counties in the Border District had a few exempted areas where people were allowed to stay, Bates County alone was entirely depopulated. As a follow-up to the exodus, Union troops burned almost every structure in the county as a way to further deny guerrillas aid and comfort (Atkeson 1918; Gilmore 2006; Goodrich 1995; Neely 2000, 2007). Bates County emerges as an ideal context for evaluating theories of the socioeconomic effects of warfare.

This study of conflict in nineteenth-century Missouri uses archaeology to strengthen a broader predictive framework about types of warfare and socioeconomic change, and the often undocumented devastation brought about by the economic deprivation that can be caused by periods of chronic violence. While this warfare took place within the context of a state society, its form and execution could be compared to the warfare more commonly seen in non-state societies. While most state societies have historically only engaged in warfare once in a generation (Keeley 1996), 65 percent of non-state societies have been documented as being at war continuously (Keeley 1996). Additionally, while state societies typically engage in formal, organized battles, non-state societies typically engage in a variety of tactics, including

total war, ambushes and raids, and massacres (Keeley 1996). The situation along the border of Missouri and Kansas, culminating in the total destruction wrought by General Order No. 11, displays this type of warfare. All of these characteristics provide a unique opportunity to study the responses and consequences of this type of warfare within a historically documented state-level context.

War creates pressures where economic deprivation is a weapon. Violence, or even the threat of violence, can have an impact on day-to-day and economic activity, as well as settlement patterning (Joes 1996; LeBlanc 1999). Provisioning strategies, trade patterns, levels of consumption, and access to goods are all potentially affected by living in an environment where conflict is a constant reality, and these are things that can be detected by examining the archaeological record. Bates County provides a relatively intact archaeological record of rural life extending from the early- to mid-nineteenth century, a period of pervasive and chronic warfare, through the overall period of agricultural boom and eventual rural decline seen in the majority of the rural United States in the early twentieth century. This allows a robust comparison of socioeconomic patterns in the material record, in a way that has not yet been done. Due to the widespread devastation and overall destruction of infrastructure in the county, it is hypothesized that the socioeconomic base changed and contracted to such an extent that it never recovered after the war. The pressures of a decade of chronic warfare can be seen in the archaeological record, in the way that household economies and trade networks restructure themselves in response to conflict.

For many decades, the civilian victims of warfare and its consequences have been relatively invisible in archaeology. As stated earlier, and as evidenced by the other works in this volume, archaeologists have begun to reevaluate the study of warfare (Demarest 2006; Gilchrist 2003; LeBlanc 1999). Archaeological work in Bates County, Missouri can significantly contribute to that re-evaluation, emphasizing the importance of identifying effects of warfare that cross-cut time and cultural geography. This school of thought argues that warfare has significant, identifiable effects on culture change; indeed, this approach hypothesizes that war frequently is an important cause of culture change, whether on a prehistoric or historic time level.

A key approach to understanding the cross-cultural correlates of warfare is Keeley's 1996 volume *War Before Civilization*. Keeley seeks to dismiss the idea that fundamental differences exist between so-called "primitive" and "modern" war, emphasizing instead a commonality of warfare strategies and effects of war across societies at many levels of socioeconomic complexity. Among the latter, it is particularly important that Keeley identifies warfare as a potent source of culture change in the behavior of the base population of

societies at war, whether hunter-gatherers or states. For example, chronic war or even the credible threat of violence often causes the contraction of trade networks, disruption of provisioning systems, reorganization of communities for defensive purposes, allocation of productive resources to acquisition of weapons and war materiel and reorganization of household economies under conditions of imposed scarcity. Indeed, in these studies, changes in morbidity and economy at the household level under threat of war are linked to declining health, altered settlement patterns and collapse of existing socio-political hierarchies.

What about historic societies? Can the effects of warfare in inducing significant culture change at the household and community level be detected in comparatively recent Euro-American societies? The nineteenth-century Border War on the Missouri-Kansas frontier should be seen as a valuable case study in this regard. By assessing the impact on the socioeconomic status of those caught up in this environment of pervasive warfare, it can enable regional and temporal comparisons of the effects of various types of violence across not only North America, but other regions as well. It can also contribute to the broader theoretical debates about the effects of chronic violence on peoples from all cultures, societies, and time periods, including areas that are currently affected by systemic violence and warfare. In situating the study of nineteenth-century guerrilla warfare on the Missouri/Kansas border in the context of the socioeconomic impacts of chronic violence and conflict, this project can help to forge links between archaeology and other key disciplines—such as cultural anthropology, history, economics and sociology—that are currently investigating not only the past, but the present impacts of pervasive violence and warfare.

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# COMMUNITY CENTERED PRAXIS IN CONFLICT ARCHAEOLOGY

## CREATING AN ARCHAEOLOGY OF REDRESS WITH THE 1923 RACE RIOT IN ROSEWOOD, FLORIDA

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**W**hat can an archaeology of race riots contribute to our understanding of the past? How can this project contribute to the modern world in meaningful ways? The legacy of slavery, Reconstruction, and Jim Crow continues to disenfranchise large segments of the U.S. population through unfair hiring practices, unequal access to housing and education, and a general whitewashing of history rendering many of the most egregious instances of racially charged collective violence invisible. Archaeologists have an unrealized, unique role to play in documenting and interpreting these sites as part of the redress movement. This article outlines the ongoing work with the historic site of Rosewood, its related community of descendants and advocates, and the broader public.

### The 1923 Rosewood Race Riot

Rosewood was settled in the mid-nineteenth century by a diverse group of people. Rosewood and its neighboring town of Sumner experienced rapid economic growth following the Civil War, followed by negative population and economic growth during the 1890s. By the early twentieth century, Rosewood was majority black and Sumner was a company town with a mix of black and white workers. Then, on New Year's Day 1923, a white woman in Sumner fabricated a black assailant to hide her extramarital affair with a white man. A white mob quickly formed and headed for Rosewood where it encountered the home of Sam Carter, a long-time black resident of the town, first. Initially, they interrogated him by hanging him from a tree by the neck; then, when it seemed the mob might release him, a man leveled his gun at Carter's face, and New Year's Day ended with the sound of a shotgun blast.

At first, it seemed that the violence might end with Carter's murder. However, a little over a day later, whites in Sumner heard that the black assailant had returned to Rosewood with a local resident, Sylvester Carrier. Carrier's distrust of whites was well-known and before the night was out, at least two whites lay dead on his doorstep after attempting to set his

house on fire, with his family still inside. Rumor and hatred spread quickly through rural Florida, eventually reaching the Ku Klux Klan in Gainesville, only 40 miles away. Residents of Rosewood knew the response for killing whites would be swift and violent; black men armed themselves and headed into the woods, women and children hid with one of Rosewood's only white residents, John Wright, to wait out the violence. However, by the sixth of January three other blacks had been brutally murdered and the white mob, now numbering in the hundreds, began the systematic burning of Rosewood. During this time a train was brought through town at four in the morning to pick up women and children, who had moved to the swamps and spent the previous few nights hiding after John Wright was unable to guarantee their safety. The train took dozens of families to towns like Otter Creek, Archer, and Gainesville's black district where descendants live to this day.

Residents of Rosewood, those who survived long enough, would have to wait for more than seven decades to receive any trace of justice. While a grand jury convened in January 1923, no convictions were made and the jury's records have been lost. Rosewood lingered at the edges of collective memory for decades. Then, in a 1994 landmark decision, the State of Florida decided to pay compensation to survivors and descendants. The story of Rosewood speaks to a range of larger issues and has much to offer concerning questions about extralegal violence, communal trauma, and America's (un)willingness to discuss the darker aspects of our collective past.

### The American Continuum of Violence: Race Riots, Political Participation, and Labor

Race riots offer a direct view into past and present race relations in the United States. These events underscore the social construction of race and racism in our country as well as illuminating race and class relations in terms of which groups possess power at the expense of others (Ortiz 2008:435). Historic race riots were powerful ways of silenc-

ing black political participation, economic advancement, and social progress in the nineteenth and twentieth centuries. Some of the worst took place between 1917 and 1923. This included the Red Summer of 1919 when 78 people were lynched, 11 African American men were burned alive at the stake, and 25 race riots broke out across the nation. Riots during these years were the result of numerous social, political, and economic stresses. White supremacy was flourishing after D. W. Griffith's 1915 film *The Birth of a Nation*; uniting and igniting the worst of white fears and portraying African Americans as hypersexual, deceitful, and inherently inferior. Also, economic stresses motivated labor groups to agitate for rights and sometimes target minorities. Indeed, some race riots doubled as labor riots between races, often orchestrated by industrialists through the introduction of minority strike breakers. Race riots also underscore the struggle for political rights by African Americans as whites violently obstructed black political participation (Ortiz 2005). Additionally, racially charged violence was often used to seize land from successful blacks. There were hundreds of examples of this practice in the eighteenth and twentieth centuries, called "White Capping" for the white caps often worn by whites as they ran blacks off their land (Winbush 2001).

However, the 1919–1923 period is just one moment in a long history of racial violence that can be traced back to tidewater Virginia in the early seventeenth century between white settlers and Native Americans; a struggle reaching its nadir with the massacre at Wounded Knee in 1890 (Brown 1979:34) and continuing through a variety of structural inequalities today. White on black violence develops in the context of ruthless suppression of slave uprisings in the eighteenth and nineteenth centuries in New York City (1712 and 1741), South Carolina (1741 and 1822), Virginia (1800), Louisiana (1811), and Nat Turner's Rebellion in 1831 (Brown 1979:34–38). Other minority groups including the Irish, Chinese, East Indians, and Japanese were also targeted (Schwantes 1982). While such events were short lived, there remain locations across the U.S. situated to comment on all of these intersections. A particularly illuminating project could be formed in the southwest corner of Missouri among one of the largest clusters of collective violence. It includes two race riots resulting from labor concerns in Monett (1894) and Pierce City (1901), as well as two episodes resulting from white supremacist violence directed at black political participation in Joplin (1903) and Springfield (1906). While important archaeological work on other forms of collective violence continues (Saitta 2007), little has been produced in regards to race riots.

### Creating an Archaeology of Redress

Barbara Little (2007) as commented on how sites like the African Burial Ground can participate in the truth-telling aspects common to many Truth and Reconciliation Com-

missions (TRC). While most TRCs form as part of national democratic transition processes, they have also formed locally. One example is the Greensboro Truth and Reconciliation Commission created to seek justice for the 1979 murders of five civil rights and labor activists by local Klu Klux Klan and Nazi organizations (Bermanzohn 2007). TRCs have become typified by the South African case where amnesty was granted to state actors in the interest of producing an accurate accounting of apartheid. While the granting of amnesty has received serious critique, it should be noted that South Africa's TRC also recommended monetary reparations to victims of apartheid as a way to combat structural inequalities (Castillejo-Cuéllar 2007).

Knowledge that the capitalist nature of American society results in structural inequalities has become a prominent focus among reparations activists (Munford 2007). While many acknowledge that current racial inequalities for African Americans derive from slavery, increasing numbers are fighting for Jim Crow reparations. This secondary position has developed because the arguments for slavery reparations remain difficult to justify in public and two successful cases for Jim Crow redress exist. Rosewood, as the first example typifies, this secondary position and the architects of the 1994 Rosewood Compensation Bill framed it as a personal claims suit against the state, distancing themselves from the terminology of reparations (D'Orso 1996). This bill paid significant sums to survivors, variable amounts to descendants, and set up a minority scholarship. The 2004 decision granting compensation to victims of the 1921 Tulsa riot has had to downplay the idea of slavery reparations, even though some of the most vocal advocates see the connection as paramount (Oglethorpe 2007). These two examples drew on the 1980 Supreme Court order to pay \$122 million to Sioux tribes for a treaty violation in 1877 and the 1988 \$1.25 billion compensation to Japanese Americans for unlawful internment.

At present, activists are urging the federal government to develop a redress commission to investigate the legacy of structural inequality in America (Martin and Yaquinto 2007:21). A variety of tactics are being explored, and recently the need to educate the US public about redress is motivating groups like the National Coalition of Blacks for Reparations in America (N'COBRA), Black Radical Congress (BRC), and the TransAfrica Forum to step up education efforts. Archaeologists can participate in this aspect of the redress movement as we seek to politically engage the modern world. Of course, the continuum of what constitutes engaged archaeology varies. It includes working closely with communities as a form of applied archaeology (Shackel 2004), raising awareness of social injustices (Davidson 2004), interrogating the historical development of dominant ideologies in modern America (McGuire 2008), and challenging historical representations that disadvantage entire continents (Schmidt 2006). Recently, a growing movement



among archaeologists mirroring a movement in applied anthropology framed as “community centered praxis” (Singer et al. 1992) which attempts to, by de-privileging us as experts, situate community concerns as central to archaeological projects (Mullins 2003). Participating in the redress movement allows archaeologists to engage anywhere along this continuum (which should not be taken as hierarchical or exclusionary).

### Virtual Rosewood

At present, a combination of new information technologies, historical research, and community engagement highlight our approach to investigating Rosewood. It remains difficult to conduct traditional archaeological work at the site and new information technologies are being drawn upon to digitally reconstruct the community (Davidson and González-Tennant 2008). We are drawing on an established tradition of counter-mapping, defined as the use of cartography by a group “or ethnic minority to assemble data, generate maps and other graphic representations, and disseminate these materials for the purpose of better understanding” a wide variety of topics expressed spatially (Maantay and Ziegler 2006:275). This includes creating interpretive maps for tours of Rosewood today.

We are also re-creating the vanished social landscape of Rosewood and its neighboring communities. The setting is being re-created by using geographic information systems (GIS) to map property boundaries from historic metes and bounds descriptions. Re-constructing properties in this way produces new understandings of the intersections between ownership and kinship. The combination of plat maps, tax records, and census data from 1920 allows us to include both property owners and their renters on the landscape, and begin understanding the class relations in these communities. You can follow this aspect of the project online at [www.virtualrosewood.com](http://www.virtualrosewood.com). Re-creating historic property boundaries presents a unique and verifiable method for determining the true extents of White Capping. This use of historic property data to argue for official redress represents a clear, achievable, and important contribution in seeking justice for historic wrongs.

Additionally, oral history complicates simplistic, dichotomous stereotypes of historic North Florida communities as Black and/or White; and allows researchers to challenge dualisms still dominant in American/Western society. Rosewood and its surrounding communities were a heterogeneous mix of White, African, and Native American as well as various non-White European minorities such as the Irish, Greek, and Jewish communities who had not yet become white. Oral histories flesh out the ethnicity of two “white” heroes who helped women and children escape the burning of Rosewood. These Jewish brothers risked their lives to take

a train through Rosewood in the middle of the night and rescue survivors.

We are constructing a number of outputs for the Virtual Rosewood project. The aforementioned website will ultimately host an interactive version of the re-created landscape allowing visitors to guide themselves through the lost community. We are partnering with 3D specialists at the University of Florida’s Digital Worlds Institute (<http://digital-worlds.ufl.edu>) to create large-format, digital documentaries using the 3D reconstruction of Rosewood. The specific goal is to use such environments to take audiences through an architecturally reconstructed landscape of the area prior to the 1923 race riot. As the documentary moves from one place to another in this digital environment the voices of survivors, descendants, and kin will replace the narrator and discuss their connections to specific sites, structures, and homes encountered in the 3D documentary. This is aimed at producing a truly collaborative and literally multivocal interpretation of Rosewood. These digital documentaries will be used to generate dialogue among local groups connecting the catalysts for a 1920s race riot to modern-day race relations.

In terms of an engaged archaeology we are outlining a variety of community-centered strategies. The website, public talks, and immersive experiences are forms of truth-telling. We are partnering with redress groups at the University of Florida to raise awareness of ongoing social inequalities (including other violent, ongoing chapters of Florida’s White Supremacist history). We are changing aspects of the project to address concerns from a heterogeneous group of survivors, descendants, and interested parties. Descendants and their advocates have embraced the potentials offered by new media and are helping us design new applications. My hope is that this project will provide a suite of techniques transplantable to other contexts and will aid reparations activists with new forms of persuasive data for their social justice work.

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# CONFLICT IN THE PREHISTORIC AMERICAN SOUTHWEST

## USING ARCHAEOLOGICAL EVIDENCE AND ETHNOGRAPHIC INSIGHTS TO RECONSTRUCT THE CONDUCT AND CONSEQUENCES OF WAR

Julie P. Solometo

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Archaeologists confronted with evidence of conflict in prehistory face a major challenge: using indicators of violence like burned sites, fortifications, and skeletal remains to reconstruct the defensive and offensive strategies employed by past competitors. This challenge seems to be particularly difficult in the case of small-scale or “tribal” societies, primarily due to a frequent lack of consensus on the instrumental goals and organizational capabilities of warring groups. Disagreement about the conduct of tribal conflict is readily apparent in the American Southwest where the same archaeological evidence indicates to some scholars that pre-Columbian conflict was waged by large war parties drawn from multiple villages and intent on annihilating their enemies, but to others that violence took the form of occasional, small-scale raids intended to steal resources or women.

Unsurprisingly, these differences of opinion produce very different interpretations of the consequences of Southwestern war (a term whose applicability is itself subject to debate). Is armed conflict responsible for the episodes of aggregation, abandonment, and migration Southwestern archaeologists have long studied, or did it merely result in the inconveniences of greater vigilance and occasional violent death? The divergence in these opinions has produced a widening divide in models of pre-Columbian culture change, a divide that will only be counterproductive if its source—differing interpretations of the mounting evidence for conflict—is not directly addressed. In order to better interpret the archaeological evidence, I have used ethnographic data from small-scale societies to identify several key attributes, or dimensions, of conflict and their relation to the consequences of war. As will be shown below, archaeological evidence can be used to determine the states of these dimensions and thus can be used to examine the nature of war and predict its probable consequences.

### **Conflict among Small-Scale Societies: Dimensions and Consequences**

A survey of the literature on conflict in small-scale societies

in the Southwest and the rest of the world reveals that war among these groups varies widely, and can include both the tactics of “total war” and more restrained strategies. Often, multiple, distinct kinds of conflict can be found in the same society, and in these instances the perceived social distance between combatants—that is, the number and strength of relationships, including marriages, trade partnerships, shared religious traditions, and so on—significantly influences other dimensions of conflict, including the size of participating social groups (*social scale*), the *tactics* employed, the *frequency*, *duration*, and *predictability* of engagements, and the instrumental *goals* of war. For example, among many noncentralized societies, different kinds of conflict are distinguished by participants on the basis of the degree of relatedness or social distance between opposing groups (Boehm 1984; Meggitt 1977; Otterbein 1968; Turton 1979). The Jívaro, for instance, recognize two different types of armed conflict: *ayambruamáktinyu*, or lengthy blood feuds waged against other Jívaro, and *meséta*, “wars of extermination” between neighboring tribes “that speak differently” (Harner 1972:183; Karsten 1923:16). Jívaro feuds are undertaken by small war parties who attempt to kill only one person per engagement; thus deaths are limited and intended only to “settle the score” between combatants. In contrast, Jívaro intertribal wars are designed to maximize casualties and involve large parties of up to 500 Jívaro who surround and attack enemy settlements at dawn, killing and beheading men, women, and children. Unpredictable engagements like these, facilitated by the lack of contact between the attackers and attacked, results in astonishingly high mortality rates.

When tacit rules of engagement are violated among socially close foes, those relationships are negatively affected. Such rule-breaking may be the result of an impulsive mistake made in the heat of battle, but it may also be a “deliberate political act” (Heider 1997:112) to create and express social distance between former allies. For instance, the Grand Valley Dani, well-known for their large-scale, rule-bound battles with few casualties as depicted in the film *Dead Birds* (Hei-

der 1997), also periodically engaged in far more deadly, coordinated attacks on their allies, resulting in the dissolution of decades-long partnerships; one such attack, precipitated by a struggle for leadership of the alliance, occurred in 1966 and resulted in the deaths of 125 men, women, and children in under an hour. A Southwestern parallel may be found in the employment of brutal tactics by Hopi warriors in A.D. 1700 against the Hopi villagers of Awatovi, accused of witchcraft, among other crimes (Courlander 1982; Fewkes 1893; Rushforth and Upham 1992). These actions would have been unthinkable except against people whose behavior was so decidedly un-Hopi.

As can be readily imagined, different forms of warfare have radically different consequences. For instance, wars between socially distant foes are much more likely to have dramatic demographic consequences, because they are more difficult to stop—given the large number of people that become involved and the difficulty of finding common ground on which to base a truce—and because tactical choices more often include the destruction of homes, food stores, and the deaths of women and children.

Weissner and Tumu (1998) provide an informative comparison of the effects of wars between the Kaluli and the Etoro of the Papuan Plateau of New Guinea with those of the Mae Enga further north in the highlands. Kaluli attacks on the Etoro involved surprise attacks on work parties and long-houses containing men, women, and children, resulting in the decline of the Etoro population by as much as 50 percent in the 40 years preceding 1975. In contrast, the famously warlike Mae Enga of highland New Guinea suffered a high rate of male combat deaths (some 25 percent of the male population), but nonetheless experienced a population increase of 1.25 percent per year because women and children were infrequently targeted (Kelly 2000). Few women die in Mae Enga warfare at least in part because they most often engaged with socially close neighbors, resulting in relatively predictable attacks that afforded sufficient warning and time for women, children, and livestock to temporarily relocate. Separate female residences and dispersed houses also reduced female casualties and the number of people displaced, indicating that residence patterns can have a profound effect on the viability of a population participating in endemic warfare.

The effects of warfare include more than just deaths in combat. Societies that experience regular attacks typically adopt a range of defensive measures—including the construction of fortifications and defensive settlement strategies such as clustering and aggregation—that alter the distribution of people on the landscape and may pose potential economic difficulties, such as local environmental degradation, increased travel time to resources, and reduced opportuni-

ties for trade. Lengthy conflicts may result in the accumulation of economic hardships and in increased sedentism, which does little to alleviate pressure on resources. Labor invested in defense comes at the cost of other activities and affects the allocation of tasks within the community.

## Implications for the Archaeology of Conflict

These insights from the ethnographic record of warring societies provide archaeologists with the means to predict the nature and impact of ancient conflict. By simply identifying the state of the dimensions of war for a given archaeological case and by considering the effect of defensive strategies and population loss, inferences about the consequences of past conflict on human groups can be made and tested with additional evidence.

For any given episode of prehistoric conflict, a variety of classes of archaeological evidence can be used to identify the dimensions of war. For instance, based on a cross-cultural study (Solometo 2004), the presence of ancient fortifications indicates that warfare occurred frequently, on at least an annual basis. Estimates of the length of use of fortifications provide a measure of the duration of hostilities. The social scale of conflict can be determined by estimating the size of groups occupying defensive sites and by looking for either intervisible fortifications or site clustering, suggesting the cooperation of allies.

Offensive and defensive tactics can be identified with a number of classes of evidence. If the weapons of war themselves are not found, they can be determined based on skeletal evidence, architectural evidence (for instance, the presence of bastions), or possibly in artistic representations. The extent and nature of site destruction indicates the intent of attackers (Were habitations destroyed? Were ritual structures destroyed? Were stored foods destroyed?) and likewise skeletal evidence can do much to identify the tactics employed by aggressors (Were women and children targeted? Were bodies mutilated or trophies taken?). If the social distance between combatants is not readily apparent from the archaeological evidence, then we can use the states of the other variables and the interrelationships of war's dimensions evident in the ethnographic record to predict social distance. Clearly a pattern of minimal fortifications and the violent death of only males indicates an entirely different form of warfare (with entirely different consequences) than conflict resulting in the aggregation of population, long-term investment in defensive construction, and the deaths of non-combatants.

## Dimensions of Southwestern Warfare

When the available archaeological evidence is considered in light of the dimensions of war, it is apparent that conflict in the prehistoric Southwest was at times quite severe, involving the cooperation of multiple villages in offense and

defense and the destruction of homes and ritual buildings. In a surprising number of times and places, the result of these conflicts appears to have been high mortality rates for both males and females and significant demographic and economic disruption as populations rearranged themselves on the landscape to better their chances of survival. While some Southwestern warfare may be characterized as “just raiding,” the bulk of archaeological evidence described in the last decade—including site clustering, aggregation of population, adoption of defensive site layouts, and collections of human remains indicating successful attacks on entire sites (see, for instance, Billman et al. 2000; Kuckelman 2002; LeBlanc 1999; Rice and LeBlanc 2001; Solometo 2004)—suggests violence between socially distant foes, involving brutal tactics that would have devastated defeated communities. Piecing together the cumulative impact of these events on larger-scale developments, like the abandonment of the Four Corners and the spread of religious beliefs, has yet to be attempted, but will not be possible without the application of insights from ethnography.

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### Member Alert!

#### *The America's Great Outdoors Initiative*

President Obama has launched a national dialogue about conservation in America to learn about some of the smart, creative ways communities are working to reconnect all Americans with nature—including the role played by cultural and historical resources. *The America's Great Outdoors Initiative* seeks examples of local programs and projects that successfully educate and engage communities in history and culture. Read more about the Initiative and join the conversation by submitting your examples and ideas online at <http://www.doi.gov/americasgreatoutdoors/>

# CALL FOR AWARDS NOMINATIONS

The Society for American Archaeology calls for nominations for its awards to be presented at the 2011 Annual Meeting in Sacramento, California. SAA's awards are presented for important contributions in many areas of archaeology. If you wish to nominate someone for one of the awards, please send a letter of nomination to the contact person for the award. The letter of nomination should describe in detail the contributions of the nominee. In some cases, a curriculum vita of the nominee or copies of the nominee's work also are required. Please check the descriptions, requirements, and deadlines for nomination for individual awards. Award winners will receive a certificate. An award citation will be read by the SAA president during the annual business meeting, and an announcement will be published in *The SAA Archaeological Record*.

## Award for Excellence in Archaeological Analysis

This award recognizes the excellence of an archaeologist whose innovative and enduring research has made a significant impact on the discipline. Nominees are evaluated on their demonstrated ability to successfully create an interpretive bridge between good ideas, empirical evidence, research, and analysis. This award now subsumes within it three themes presented on a cyclical basis: (1) an Unrestricted or General category (first awarded in 2001); (2) Lithic Analysis; and (3) Ceramic Analysis. The 2011 award will be presented for *Excellence in Lithic Analysis*.

### Special requirements:

- Letter of nomination describing in detail the nature, scope, and significance of the nominee's research and analytic contributions.
- Curriculum vitae.
- Any other relevant documents, including letters of support.

**Deadline for nomination:** January 4, 2011

**Contact:** Deborah Olszewski; University Of Pennsylvania, Dept. of Anthropology, Penn Museum, 3260 South Street, Philadelphia, PA 19104-6324; tel: (215) 573-4777; fax: (215) 898-7462; e-mail: [deboraho@sas.upenn.edu](mailto:deboraho@sas.upenn.edu)

## Book Award

The Society for American Archaeology annually awards two prizes to honor recently published books. One prize is for a book that has had, or is expected to have, a major impact on the direction and character of archaeological research. The other prize is for a book that is written for the general public and presents the results of archaeological research to a broader audience. The Book Award committee solicits your nominations for these prizes, which will be awarded at the 2011 Annual Meeting of the SAA. Books published in 2008 or more recently are eligible. Nominators must arrange to have one copy of the nominated book sent to each member of the committee. Please contact the chair of the committee, Brad Lepper, for an updated list of the committee members.

**Deadline for nomination:** December 3, 2010

**Contact:** Bradley T. Lepper; Ohio Historical Society, 1982 Velma Ave.; Columbus, OH 43211-2453; tel: (614) 298-2064; fax: (614) 297-2546; e-mail: [blepper@ohiohistory.org](mailto:blepper@ohiohistory.org)

## Crabtree Award

Presented to an outstanding avocational archaeologist in remembrance of signal contributions of Don Crabtree. Nominees should have made significant lifetime contributions to advance understandings of local, regional, or national archaeologies through excavation, research, publication, site preservation, and/or public outreach.

### Special requirements:

- Curriculum vitae.
- Letter of nomination.
- Letters of support.

**Deadline for nomination:** January 4, 2011

**Contact:** Pat Gilman, Department of Anthropology, 5<sup>th</sup> Floor, DHT, University of Oklahoma, Norman, OK 73019; ph: (405) 325-2490; e-mail: [pgilman@ou.edu](mailto:pgilman@ou.edu)

## Award for Excellence in Cultural Resource Management

This award will be presented to an individual or a group to recognize lifetime contributions and special achievements in the categories of program administration/management, site preservation, and research in cultural resource management. It is intended that at least one award will be made each year and the category will rotate annually. The 2011 award will recognize important contributions to program administration/management. The candidates may include individuals employed by federal, state, or local government agencies. This category is intended to recognize long-term, sustained research efforts and may encompass more than one site.

### Special requirements:

- Curriculum vitae.
- Any relevant supporting documents.
- All nomination materials are to be submitted electronically.

**Deadline for nomination:** January 10, 2011



**Contact:** William G. Reed, USDA Forest Service Intermountain Region, 324 25<sup>th</sup> St., Ogden, UT, 84401 Tel: (801) 625-5786; email: wgreed@fs.fed.us

## Dissertation Award

Members (other than student members) of SAA may nominate a recent graduate whose dissertation they consider to be original, well written, and outstanding. A three-year membership in SAA is given to the recipient.

### Special requirements:

- Nominations must be made by non-student SAA members and must be in the form of a nomination letter that makes a case for the dissertation. Self-nominations cannot be accepted.
- Nomination letters should include a description of the special contributions of the dissertation and the nominee's current address. Nominees must have defended their dissertations and received their Ph.D. degree within three years prior to September 1, 2010.
- Nominees are informed at the time of nomination by the nominator and are asked to submit FOUR COPIES of the dissertation IN PDF FORMAT ON CD-ROM to the committee by October 15, 2010 (to be mailed to the committee chair, Marc Bermann). IF THIS FORMAT IS NOT POSSIBLE, PLEASE CONTACT THE CHAIR.
- Nominees do not have to be members of SAA.

**Deadline for nomination:** October 15, 2010

**Contact:** Marc Bermann, Dept. of Anthropology; 3302 WWPH; Univ. of Pittsburgh; Pittsburgh, PA 15260; ph: (412) 648-7515; fax: (412) 648-7535; e-mail: bermarc@pitt.edu

## Fryxell Award for 2012

The Fryxell Award is presented in recognition for interdisciplinary excellence of a scientist who need not be an archaeologist, but whose research has contributed significantly to American archaeology. The award is made possible through the generosity of the family of the late Roald Fryxell, a geologist whose career exemplified the crucial role of multidisciplinary cooperation in archaeology. Nominees are evaluated on the breadth and depth of their research and its impact on American archaeology, the nominee's role in increasing awareness of interdisciplinary studies in archaeology, and the nominee's public and professional service to the community. The award cycles through zoological sciences, botanical sciences, earth sciences, physical sciences, and general interdisciplinary studies. The 2012 Fryxell Award will be in the area of botanical sciences. The award will be given at the SAA's 77th Annual Meeting, 2012, in Memphis, Tennessee. The award consists of an engraved medal, a certificate, an award citation read by the SAA president during the annual business meeting, and a half-day symposium at the Annual Meeting held in honor of the awardee.

### Special requirements:

- Describe the nature, scope, and significance of the nominee's contributions to American archaeology.

- Curriculum vitae.
- Support letters from other scholars are helpful. Four to six are suggested.

**Deadline for all nomination materials:** February 4, 2011

**Contact:** C. Margaret Scarry, Research Labs of Archaeology, CB 3120, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3120, p: (919) 962-3841, fax: (919) 962-1613, email: scarry@email.unc.edu

## The Dienje Kenyon Fellowship

A fellowship in honor of the late Dienje M. E. Kenyon is offered to support the research of women archaeologists in the early stages of their graduate training. An award of \$500 will be made to a student pursuing research in zooarchaeology, which was Kenyon's specialty. To qualify for the award, applicants must be enrolled in a graduate degree program focusing on archaeology with the intention of receiving either the M.A. or Ph.D. (either within the first two years of starting a Master's program or within the first two years in a non-MA, Ph.D. track program) on a topic related to zooarchaeology, and must be in the first two years of graduate studies. Strong preference will be given to students working with faculty members with zooarchaeological expertise.

### Special requirements:

- A statement of proposed research related to zooarchaeology, toward the conduct of which the award would be applied, of no more than 1500 words, including a brief statement indicating how the award would be spent in support of that research.
- A curriculum vita.
- Two letters of support from individuals familiar with the applicant's work and research potential. One of these letters must be from the student's primary advisor, and must indicate the year in which the applicant began graduate studies.

**Deadline:** The statement and curriculum vitae should be sent as an email attachment in Microsoft Word. Letters of support should be e-mailed separately by the people providing them. Applications are due no later than December 15, 2010.

**Contact:** Renee B. Walker; SUNY College at Oneonta; 312 Fetzelle Hall; SUNY College At Oneonta; Oneonta, NY 13820; ph: 607-436-3346; fax: 607-436-2653; e-mail: walkerr@oneonta.edu

## Lifetime Achievement Award

The Lifetime Achievement Award is presented annually to an archaeologist for specific accomplishments that are truly extraordinary, widely recognized as such, and of positive and lasting quality. Recognition can be granted to an archaeologist of any nationality for activities within any theoretical framework, for work in any part of the world, and for a wide range of areas relating to archaeology, including but not limited to research or service. Given as the Distinguished Serv-

ice Award between 1975 and 2000, it became the Lifetime Achievement Award and was awarded as such for the first time in 2001.

**Special requirements:**

- Curriculum vitae.
- Letter of nomination, outlining nominee's lifetime accomplishments.
- Additional letters of support are not required, but nominators are encouraged to include them as well.

**Deadline for all nomination materials:** January 4, 2011

**Contact:** Miriam T. Stark; Dept. of Anthropology, University of Hawai'i; 2424 Maile Way, Saunders 346; Honolulu, HI 96822-2229; ph: (808) 956-7552; fax: (808) 956-9541; e-mail: miriams@hawaii.edu

## Fred Plog Fellowship

An award of \$1,000 is presented in memory of the late Fred Plog to support the research of an ABD who is writing a dissertation on the North American Southwest or northern Mexico or on a topic, such as culture change or regional interactions, on which Fred Plog did research.

**Special requirements:**

- ABD by the time the award is made at the 2011 Annual Meeting of the SAA.
- Research proposal no more than three pages long that describes the research and its potential contributions to American archaeology.
- Curriculum vitae.
- Two letters of support, including one from the dissertation chair that indicates the expected date of completion of the dissertation.

**Deadline for nomination:** December 10, 2010

**Contact:** Wesley Bernardini, University of Redlands, Dept. of Sociology and Anthropology, 1200 E. Colton Ave., Redlands, CA 92373

## Student Poster Award

This award acknowledges the best student presentation of archaeological research in poster sessions. Student posters will be evaluated as electronic submissions made directly to the Student Poster Award committee. Please note that the deadline for on-line poster submission is January 11, 2011.

**Special Requirements:**

- A student must be the primary author of the poster.
- The poster must be submitted to the Poster Award Committee as an electronic entry. Please contact committee chair for details.

**Deadline for Submission:** January 11, 2011

**Contact:** M. Kathryn Brown, University of Texas at San Antonio, Department of Anthropology, please contact via email: kathryn.brown@utsa.edu

## Award for Excellence in Public Education

This award acknowledges excellence in the sharing of archaeological information with the public. The award is conferred on a rotating, 3-year cycle of categories. The category for 2011 is Media and Information Technology Category. Eligible *products* are those that assist in presenting information to the public about archaeology. Examples include, but are not limited to, Electronic, Print, Exhibit, & Multimedia formats involving products such as web pages, exhibits and interpretive signage, documentary film, television programming, printed workbooks, publication series, CD-ROMs, games, and videos.

Nominations are reviewed by members of the SAA Excellence in Public Education Award Committee who select a recipient based on the following criteria: public impact, creativity in programming, leadership, and promotion of archaeological ethics.

**Special Requirements**

Nominators will work with the Chair to assemble a nomination file that will include:

- The nomination form.
- A formal letter of nomination that identifies the nominee and summarizes their accomplishments. These accomplishments should be contextualized by addressing the following types of questions:
  - How does it fit within the practice of public education and archaeology?
  - What is the impact on relevant publics beyond the discipline of archaeology (general public, special interest groups, pre-collegiate or non-traditional students, others)?
- A copy (or samples) of the specific achievement.
- Supporting materials that document results. This material should clearly demonstrate the case being in the nomination letter. For example, supporting evidence might document the impact of a specific program in terms of the numbers of the public involved, personnel qualifications and deployment, the frequency or longevity of programs offered, formal evaluation results, and/or feedback from the audience.
- Endorsement from secondary nominators are welcomed (please, no more than 3).
- Prior nomination does not exclude consideration of a nominee in subsequent years.
- Designers of programs or products may nominate their own work.

**Electronic submissions are encouraged.** If a nomination package is mailed, **six (6) copies** of the nomination package (including supporting materials) must be submitted.

**Deadline for Nomination:** January 4, 2011. The Chair of the committee will work with nominators to ensure a complete nomination. Nominators are encouraged to contact the Chair by November 1, 2010 to begin this process. Additional award nomination information is available on the award web page at [http://www.saa.org/public/news/award\\_excellence.html](http://www.saa.org/public/news/award_excellence.html)

**Contact:** Kirsti Uunila; Historic Preservation Planner; Calvert County Planning & Zoning; 150 Main Street; Prince Frederick MD 20678; tel: (410) 535-1600 x2504; e-mail: uunilak@co.cal.md.us

## Gene S. Stuart Award

An award of \$2000 is made to honor outstanding efforts to enhance public understanding of archaeology, in memory of Gene S. Stuart (1930-1993), a writer and managing editor of National Geographic Society books. The award is given to the most interesting and responsible original story or series about any archaeological topic published in a newspaper or magazine.

### Requirements:

Nominators will work with the Chair to assemble a nomination file that will include:

- The nominated article should have been published within the calendar year of 2010.
- An author/newspaper may submit no more than five stories or five articles from a series.
- Nomination packets may be submitted as PDFs via email to Renata B. Wolyneć at wolyneć@edinboro.edu. If submitting hard copies, six copies of each entry must be submitted by the author or an editor of the newspaper. All submissions must be received by Wolyneć by 11:59 pm of the deadline date.

**Deadline for nomination:** January 10, 2011

**Contact:** Renata B. Wolyneć, Department of History and Anthropology, Hendricks Hall 143, 235 Scotland Road, Edinboro University of Pennsylvania, Edinboro, PA 16444, (814) 732-2570, wolyneć@edinboro.edu

## 2011 Student Paper Award

This award recognizes an outstanding student conference paper based on original research. All student members of SAA in good standing are eligible to participate. Committee members evaluate papers anonymously, scoring them on the (1) quality of arguments presented; (2) quality of supporting data; (3) contribution to broader methodological or theoretical issues in archaeology; (4) contribution to understanding a specific region or topic; (5) quality of writing, paper structure, and length; and (6) quality, appropriateness, and number of graphics for a 15-minute oral presentation. The award winner receives acknowledgement from the SAA president and more than \$1000 worth of books and/or journals.

### Special Requirements:

- The paper abstract must be accepted by SAA for the upcoming annual meeting.
- A student must be the primary author of the paper and be the presenter at the meeting.
- The paper must be double-spaced, with 1-inch margins and 12-pt font. Please do not submit raw data unless they are to be presented as part of the paper itself. An average 15-minute paper is approximately 8 pages long (double-spaced, not including references cited). Any paper longer

than this will be docked points.

- The student must submit electronic copies of (1) a separate title page with name and full contact information; (2) the conference paper containing slide call-outs and references; and (3) pdfs of all PowerPoint slides, with numbered captions, to be used in the oral presentation. Please DO NOT put your name anywhere besides the cover sheet so that your paper may be reviewed anonymously by the committee.
- The student must have a faculty or supervisory sponsor review the paper before the student submits it to the Student Paper Award Committee.
- The faculty/supervisory sponsor must send an email to the submission address at the time of paper submission saying that he/she has read and approved the paper being submitted.
- Please send submissions to rebecca\_schwendler@nthp.org.
- Visit <http://www.saa.org/AbouttheSociety/Awards/StudentPaperAward/tabid/185/Default.aspx> for more information.

**Deadline for Paper Submission:** January 12, 2011

**Contact:** Rebecca H. Schwendler, Chair, SAA Student Paper Award Committee; National Trust for Historic Preservation; 535 16<sup>th</sup> St., Suite 750; Denver, CO 80202; e-mail: rebecca\_schwendler@nthp.org

## Douglas C. Kellogg Fund for Geoarchaeological Research

The Douglas C. Kellogg Award provides support for thesis or dissertation research, with emphasis on the field and/or laboratory aspects of this research, for graduate students in the earth sciences and archaeology. Recipients of the Kellogg Award will be students who have an interest in (1) achieving the M.S., M.A. or Ph.D. degree in earth sciences or archaeology; (2) applying earth science methods to archaeological research; and (3) pursuing a career in geoarchaeology.

Under the auspices of the SAA's Geoarchaeology Interest Group, family, friends, and close associates of Douglas C. Kellogg formed a memorial in his honor. The interest from money donated to the Douglas C. Kellogg fund is used for the annual award. Initially the amount to be awarded on an annual basis was \$500. The amount of the award given to the recipient will increase as the fund grows and the amount of the annual interest increases.

### Special requirements:

- A one-page letter that briefly explains the individual's interest and how she or he qualifies for the award.
- A curriculum vita.
- Five (5) copies of a 3-4 page, double spaced description of the thesis or dissertation research that clearly documents the geoarchaeological orientation and significance of the research. One illustration may be included with the proposal.
- A letter of recommendation from the thesis or disserta-

tion supervisor that emphasizes the student's ability and potential as a geoarchaeologist.

- PDF versions of the application will also be accepted via email.

**Deadline for submission:** November 29, 2010

**Contact:** Tristram R. Kidder, Washington University in St. Louis; Dept. of Anthropology, Washington Univ.–St. Louis, CB1114; St. Louis, MO 63130; ph: 314-935-5242; fax: (314) 935-8535; e-mail: [trkidder@wustl.edu](mailto:trkidder@wustl.edu).

### **Award for Excellence in Latin American and Caribbean Archaeology**

The SAA is pleased to announce a new annual award premiering at the 2011 meeting in Sacramento, California. The Award for Excellence in Latin American and Caribbean Archaeology will be presented annually to an archaeologist who has made a lasting and significant contribution to the practice of archaeology and/or to the construction of archaeological knowledge in Latin America or the Caribbean.

#### **Special Requirements:**

- Curriculum Vitae
- Letter of Nomination, outlining nominee's accomplishments in Latin America or the Caribbean
- Additional letters of support are not required, but nominators are encouraged to include them as well

**Deadline for all Nomination Materials:** January 7, 2011.

Please send All nominations to Tobi Brimsek, Executive Director, Society for American Archaeology, 900 2nd St. NE #12, Washington, DC 20002-3560 USA; email [tobi\\_brimsek@saa.org](mailto:tobi_brimsek@saa.org); phone 1-202-789-8200; fax 1-202-789-0284. The nominations will be reviewed by a committee comprised of representatives from the major research regions of Latin America and the Caribbean.



## **NEWS & NOTES**

### **USE OF PLANT EXUDATES BY HUMANS: REQUEST FOR SAMPLES**

*Jorge A. Santiago-Blay, Department of Paleobiology, MRC-121, National Museum of Natural History, Smithsonian Institution,  
P. O. Box 37012, Washington, D.C. 20013-7012 USA, E-mail: [blayj@si.edu](mailto:blayj@si.edu),  
Web Page: <http://paleobiology.si.edu/staff/individuals/santiagoblay.html>*

*Joseph B. Lambert, Department of Chemistry, Northwestern University,  
2145 Sheridan Road, Evanston, IL 60208-3113 USA, E-mail:  
[jlambert@northwestern.edu](mailto:jlambert@northwestern.edu), Web Page: <http://www.chem.northwestern.edu/faculty/details?assetID=1461>*

*Jaime R. Pagán-Jiménez, Faculty of Archeology, Universiteit Leiden, 2311 BE Leiden, The Netherlands, E-mail: [j.r.pagan.jimenez@umail.leidenuniv.nl](mailto:j.r.pagan.jimenez@umail.leidenuniv.nl),  
Web Page: <http://archaeology.leiden.edu/organisation/staff/pagan-jimenez-.html>*

For the past 12 years, authors JBL and JASB have been exploring the world of plant exudates (e.g. gums, resins, gums-resins, kinos, amber and others) in an effort to create a comprehensive topology and an NMR chemical library of these materials. In their partially fossilized form resins are known as “copal,” and in their fully fossilized form resins are known as “amber,” both of which are found in archaeological sites. Whether relatively recent or ancient, exudates have been used by humans as part of religious rituals and sports, as part of tools, as glue or ingredients in medicines, foods, and beverages, etc. (Lambert et al. 2008; Pagán-Jiménez, 2007; Pagán-Jiménez and Oliver, 2008; Santiago-Blay and Lambert 2007).

Herein, we request readers to contact us if they wish to make any of these materials available for study. This study will not only allow us to continue expanding our chemical library of plant exudates but it will also allow us to test hypotheses concerning the identification of specific botanical sources of those materials and the different contexts in which these materials have been used by humans through time.

#### **Literature Cited**

- Lambert, J. B., J. A. Santiago-Blay, and K. B. Anderson.  
2008 Chemical signatures of fossilized resins and recent plant exudates. Mini Review. *Angewandte Chemie* (International Edition) 47:9608–9616. Also published in German, with the following bibliographic information: Chemischer Fingerabdruck

↪ NEWS & NOTES, continued on page 27



## KAREN M. DOHM

1952–2010

Karen Dohm died June 5, 2010 in Newtown Square, Pennsylvania, after eight years of living with cancer. She was born March 25, 1952 to Peter and Athenia Barth Dohm in Pittsburgh, Pennsylvania. The family moved to the Miami area when she was a child, and she graduated from the University of Florida in Gainesville in 1975 with a B.A. *magna cum laude* in Anthropology and another B.A. in Education. Karen worked on several archaeological field projects during and after college, and then entered the graduate program at Washington State University, initially planning to focus on the Northwest. She soon became more interested in Southwestern archaeology and undertook for her MA thesis an analysis of spatial data from Basketmaker II period habitation sites previously mapped on surveys directed by William Lipe and R.G. Matson in southeastern Utah.

Karen loved archaeological fieldwork and was good at it. In 1979, she joined the Dolores Archaeological Project in southwestern Colorado and was an excavation crew chief for several seasons. In 1982, under the general supervision of W.D. Lipe and Tim Kohler, she directed a WSU field school conducted as part of the Dolores Project; the students excavated Kin Tl 'iish, a complex Pueblo I and II period site. Her excavation report appeared in the Dolores Project monograph series, and she also authored portions large Grass Mesa site report. Several of her field school students went on to careers as professional archaeologists. While at WSU, she also worked on projects in the Northwest.

For her dissertation (1988), Karen compared Basketmaker II and III period household organization, based on results of her own fieldwork on Cedar Mesa, southeastern Utah, as well as existing data. This led to a post-doctoral fellowship at the National Museum of Natural History, followed by several years as a Museum Specialist there. During this period, she

published an article on the relationships of settlement size and density to house floor area in the Southwest (*Journal of Anthropological Archaeology* 9(3):201-239); this interest also resulted in later articles on historic Pueblo uses of interior and exterior living space. Additional Southwestern fieldwork in 1991 led to a volume on Anasazi origins (co-edited with R.G. Matson and published in 1994 as *Kiva* 60[2]) that included her paper on Basketmaker II period settlement aggregation.

In the mid-1990s, Karen moved to the Philadelphia area with her husband, Frank Michaels, a WSU Ph.D. in microbiology

who had been a post-doc at N.I.H. She took an administrative position with Thomas Jefferson University and in 1997 became Coordinator of Master's Programs in the Basic Sciences at the university's College of Graduate Studies. Her cancer forced her to retire from this position in 2006. Tragically, Frank Michaels also contracted cancer in early 2002 and died in 2003. Despite her illness, Karen remained active until the last few weeks of her life, serving as Sec-

retary of the Haverford Township League of Women Voters and traveling to the Northwest in the fall of 2009 to visit in-laws, friends, and colleagues.

Throughout her life, Karen had an unquenchable enthusiasm for learning. She was a true anthropologist, always interested in other people and how they lived and worked together. Her archaeological work reflected this, through her studies of household organization and social use of space. Her open joy in learning about people both past and present was contagious. She will be missed and remembered by all who knew and worked with her.

—William D. Lipe, with assistance from Diana Ames and R.G. Matson





## POSITIONS OPEN

**POSITION: ASSISTANT/ASSOCIATE PROFESSOR**

**LOCATION: PORTLAND, OREGON**

Portland State University, Department of Anthropology, invites applications for a tenure-track assistant/associate professor in Archaeology, to begin September 2011. Area specialization in western North America (excluding the Southwest) required. Applicants should demonstrate a strong record of problem-oriented research and publication that incorporates quantitative methods and expertise in geoarchaeology, GIS, or analysis of material remains (e.g., lithics), a proven ability to secure external funding, and experience in teaching and community engagement. Courses taught will include specialty and required courses. Course load is 2-2-2 with a reduction in the first two years (Portland State University is on the quarter system). Ph.D. required at time of hiring (ABDs considered but successful applicant must provide proof of completion before contract can be offered). The position starts September 13, 2011. Salary dependent on qualifications. For full announcement and application instructions visit [www.pdx.edu/hr](http://www.pdx.edu/hr) under "Faculty & Administrative Openings." Review of applications will begin immediately. All application material must be received by the close of business, Oct 31st, 2010. Informational interviews will be conducted at the AAA meetings, Nov. 17th -21st 2010. For additional information, please contact Dr. Virginia Butler: [butlerv@pdx.edu](mailto:butlerv@pdx.edu). Portland State University is an AA/EO institution and welcomes applications from diverse candidates and candidates who support diversity.

**POSITION: ASSISTANT PROFESSOR**

**LOCATION: HAMILTON, ONTARIO**

The Department of Anthropology at McMaster University invites applications for a tenure-stream faculty position in Archaeology at the Assistant Professor level, commencing July 1, 2011. We are seeking an archaeologist who is

actively engaged in theoretically informed topical research that includes the study of ceramic technology or related materials analysis. Experience with analytical techniques, including petrographic and elemental composition analysis, is an asset for the successful candidate. Regional specialization is open, but a willingness and capacity to undertake or to supervise research in northeastern North America is an additional asset. The successful candidate will be a researcher who can collaborate with faculty in other fields within the Anthropology Department, and can also develop research links and collaborations beyond the department. The candidate hired will be joining a department with graduate programs in cultural anthropology, archaeology, biological anthropology, and the anthropology of health, and with a strong tradition of collegiality and collaboration. The candidate selected for this position will be expected to teach undergraduate lecture and seminar courses in archaeology, contribute to MA and Ph.D. teaching and supervision, carry out an active research program leading to peer-reviewed publications, and take on administrative responsibilities. A Ph.D. in anthropological archaeology at the time of hire and evidence of effective university-level teaching are required. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be considered first for this position. McMaster is strongly committed to employment equity within its community and to recruiting a diverse faculty and staff. The University encourages applications from all qualified candidates, including women, members of visible minorities, Aboriginal persons, members of sexual minorities, and persons with disabilities. Applications should include a curriculum vita, the names and addresses (including email) of three referees, a statement of research interests and plans, and a statement of teaching philosophy and should be sent in electronic

format, though an additional hard copy may be sent by regular mail. Letters of application should address how candidates are prepared to engage in the supervision of graduate students. Submit applications to: Aubrey Cannon, Chair, Department of Anthropology, McMaster University, 1280 Main Street West, Hamilton, ON, Canada, L8S 4L9, Tel: (905) 525-9140, ext. 23920, Fax: (905) 522-5993. E-mail: [cannona@mcmaster.ca](mailto:cannona@mcmaster.ca). CLOSING DATE: October 1, 2010

**POSITION: FULL-TIME FACULTY**

**LOCATION: PROVO, UTAH**

The Department of Anthropology, Brigham Young University seeks applications for a full-time continuing faculty status track position in socio-cultural anthropology or archaeology to begin September 1, 2011 pending administrative approval and budget funding. All ranks and geographical/theoretical areas of specialization will be considered. Qualifications include a completed or nearly completed Ph.D., a well-defined research agenda, professional publications, and a strong interest in undergraduate education. BYU, an equal opportunity employer, requires all faculty to observe the university's honor code and dress and grooming standards. Preference is given to qualified candidates who are members in good standing of the affiliated church, The Church of Jesus Christ of Latter-day Saints. Applicants must apply on-line <https://yjobs.byu.edu> and attach online a letter of application and current curriculum vitae. In addition, please send three letters of recommendation and samples of scholarly work to: Chair, Department of Anthropology, 800 SWKT, Brigham Young University, Provo, UT 84602. Review of applicants will begin November 1, 2010.

**POSITION: ASSISTANT PROFESSOR**

**LOCATION: NORTHRIDGE, CALIFORNIA**

The Department of Anthropology seeks an anthropologist (sub-field and geographic area open) with background in



## CALENDAR

POSITIONS OPEN, from page 59 

geography or landscape approaches and ability to teach in one or more of the following areas: sustainable tourism and/or heritage management; conservation policy/practice and sustainable development; human landscape formation and modification; and/or political ecology. The successful candidate will complement or enhance the existing strengths of the program, support the three-field emphases of our B.A. and M.A. programs, and be able to teach a variety of introductory, specialized, theory, and/or methods classes in Anthropology, supervise student research, and teach 1-2 courses per year in the Department of Geography. Priority will be given to candidates with applied experience and a demonstrated record of funding whose research can involve undergraduate and graduate students. The candidate must demonstrate a strong commitment to teaching a diverse student population. Evidence of Ph.D. in Anthropology or related discipline required at time of appointment. Screening of applications will begin 15 October 2010. For a complete description of the position, qualifications, and application process, please visit our website at <http://www.csun.edu/csbs/departments/anthropology/pdf/faculty-position-opening.pdf>.

### 2010

#### NOVEMBER 6–7

The University of Texas at San Antonio will host the First Annual South-Central Conference on Mesoamerica on November 6 and 7, 2010, at UTSA's Downtown Campus. The conference will bring together scholars, students, and the interested public to share ideas, information, and interpretations drawn from anthropology, art history, ethnohistory, and other disciplines. There is no registration fee. For more information and a call for papers, see [www.southcentralmeso.org](http://www.southcentralmeso.org). Address any questions to Jason Yaeger ([jason.yaeger@utsa.edu](mailto:jason.yaeger@utsa.edu)) or M. Kathryn Brown ([kathryn.brown@utsa.edu](mailto:kathryn.brown@utsa.edu)).

#### NOVEMBER 17-21

109th Annual Meeting of the American Anthropological Association. Sheraton New Orleans and New Orleans Marriott Hotels, New Orleans, Louisiana [www.aaanet.org/meetings](http://www.aaanet.org/meetings).

### 2011

#### MARCH 23–27

The Mesoamerica Center of the University of Texas at Austin is very excited to announce the 2011 Maya Meetings. Workshops will be held March 23-25, and the Symposium on March 26-27. Registration for the Symposium and Workshops Begins October 1, 2010. Information about the Maya Meetings ss Available at [www.utmaya.org](http://www.utmaya.org).

#### MARCH 25–26

The 53rd Caddo Conference will be held on 25 and 26 March 2011 in Fort Smith,

Arkansas. Co-sponsors for the Conference are the Arkansas Archeological Survey and University of Arkansas-Fort Smith. Program Chairman is Arkansas Archeological Survey archeologist Dr. Mary Beth Trubitt who can be reached at [trubitm@hsu.edu](mailto:trubitm@hsu.edu), and PO Box H-7841-HSU, Arkadelphia, AR 71999-0001. Arrangements Coordinator is Dr. Ann M. Early, who can be reached at [amearly@uark.edu](mailto:amearly@uark.edu), and 2475 North Hatch Ave, Fayetteville, AR 72704. More information about local arrangements and activities will be posted in Fall, 2010.

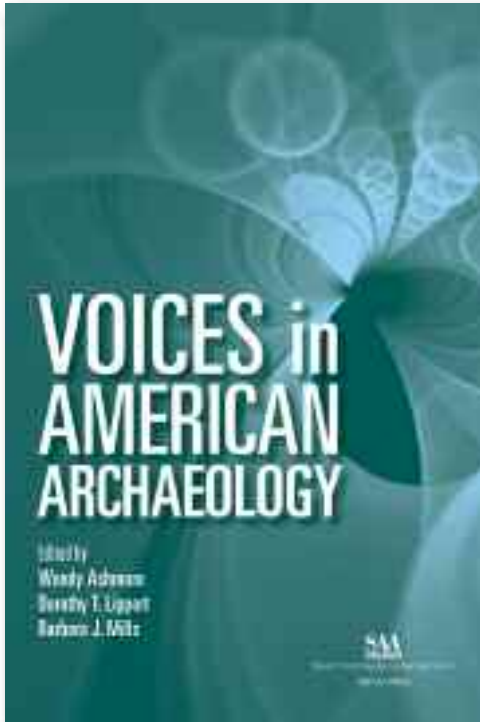
#### MARCH 30–APRIL 3

The 76th Annual Meeting of the Society for American Archaeology. Sacramento, California. [www.saa.org](http://www.saa.org).

#### Needs Assessment Survey

Surveys will be distributed to all SAA members on October 13, 2010 through a secure link sent to you by this email ([saasurvey@associationresearch.com](mailto:saasurvey@associationresearch.com)). A postcard containing the link will be mailed out to those members without a current email address on file with SAA.

## NEW FROM THE SAA PRESS



### **Voices in American Archaeology**

**Edited by Wendy Ashmore,  
Dorothy Lippert, and  
Barbara J. Mills**

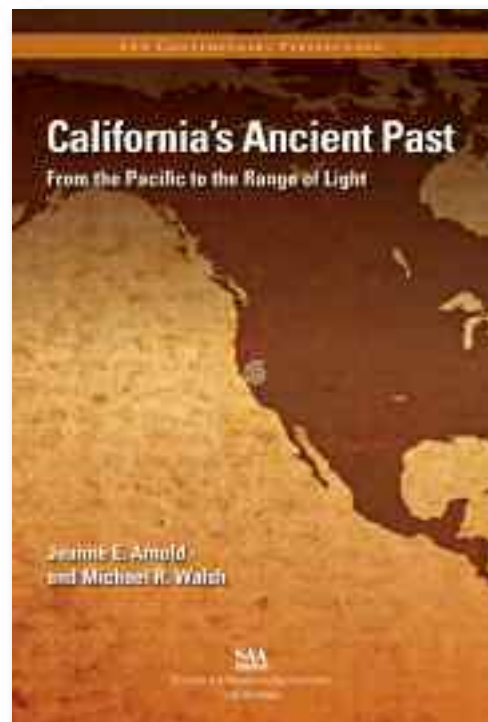
342 pages. ISBN 978-0-932839-39-8. Regular price:  
\$34.75; SAA Member Discount Price: \$27.75

### **California's Ancient Past: From the Pacific to the Range of Light**

**By Jeanne E. Arnold and  
Michael R. Walsh**

**SAA Contemporary Perspectives Series**

188 pages. ISBN 978-0-932839-40-4.  
Regular Price \$24.95,  
SAA Member Discount Price: \$19.95





## WE WANT YOU! VOLUNTEERS NEEDED FOR THE ANNUAL MEETING!

For the 76th annual meeting in Sacramento, California, SAA is seeking enthusiastic volunteers who are not only interested in archaeology but also looking to save money and have fun.

In order for volunteers to have more meeting flexibility, SAA will now only require 8 hours of volunteers' time—instead of the usual 12! The complimentary meeting registration is the exclusive benefit for your time.

Training for the March 30-April 3, 2011 event will be provided from detailed manuals sent to you electronically prior to the meeting as well as on-the-job training. As always, SAA staff will be on hand to assist you with any questions or problems that may arise.

For additional information and a volunteer application, please go to SAAweb ([www.saa.org](http://www.saa.org)) or contact Eliza van Beuren at SAA: 900 Second St. NE #12, Washington, DC, 20002-3560, Phone (202) 789-8200, Fax (202) 789-0284, or e-mail [eliza\\_vanbeuren@saa.org](mailto:eliza_vanbeuren@saa.org).

Applications will be accepted on a first-come, first-served basis. The deadline for applications is February 1, 2010, so contact us as soon as possible to take advantage of this wonderful opportunity!

See you in Sacramento!