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Process and Outcomes of the SAA “Professional Archaeologists, Avocational Archaeologists, and Responsible Artifact Collectors Relationships Task Force” (2015–2018)

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Society for American Archaeology

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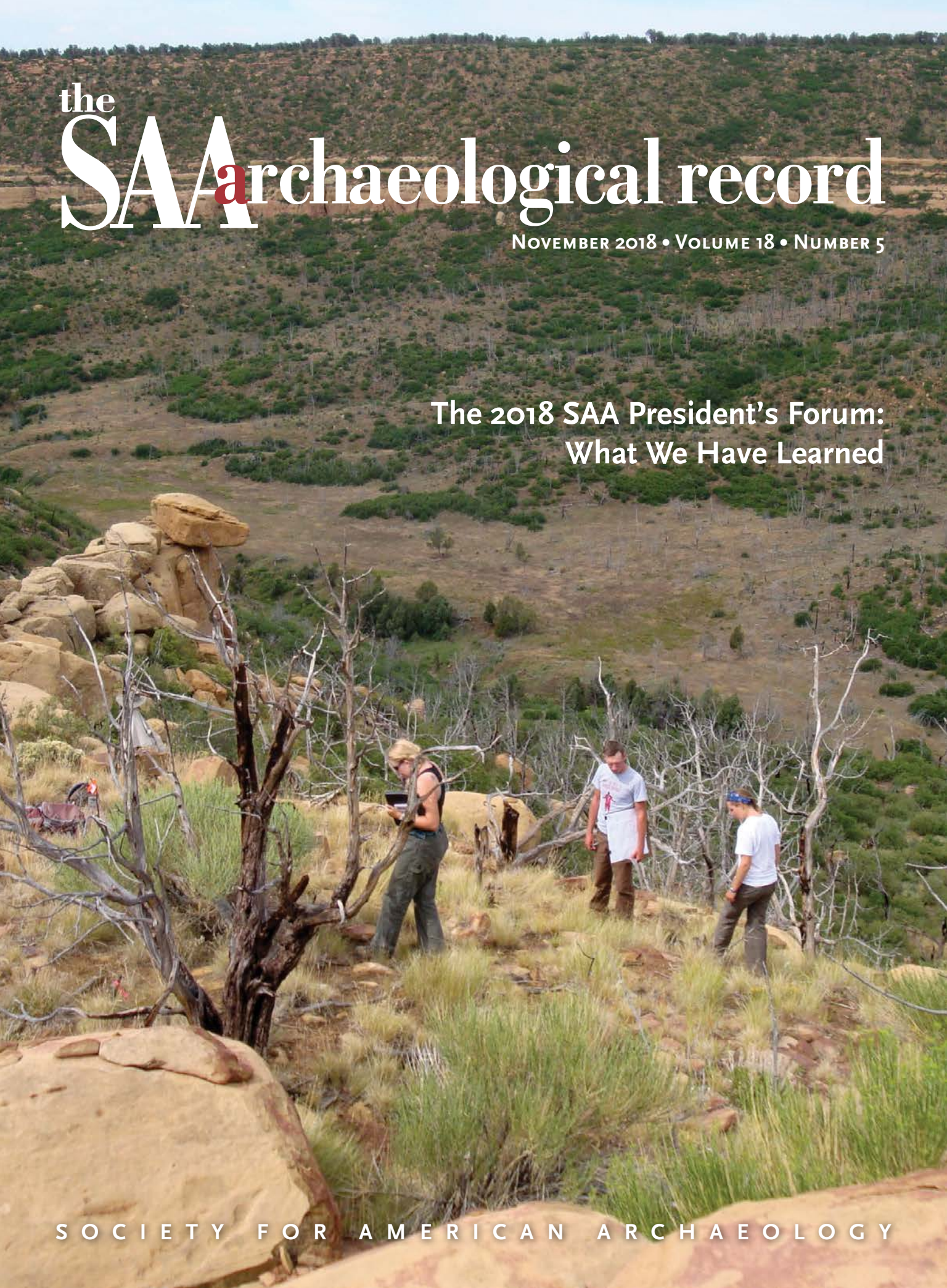
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the SAA archaeological record

November 2018 • Volume 18 • Number 5

The 2018 SAA President's Forum: What We Have Learned



SOCIETY FOR AMERICAN ARCHAEOLOGY

SAA's 84th Annual Meeting
April 10 - 14, 2019
Albuquerque Convention Center*
Albuquerque, NM


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- **Preliminary Program Available & Registration Open in mid-December**
- **Advance Registration Closes March 12, 2019**
- **Reserve a room in one of the designated hotels by January 24, 2019, and be entered to win a free, 1 year membership in SAA**

Learn More at
www.saa.org/AnnualMeeting

***Some related meetings may be held in the headquarters hotels, but all sessions, posters, and exhibits will be in the Albuquerque Convention Center.**

the SAA archaeological record

The Magazine of the Society for American Archaeology
Volume 18, No. 5
November 2018

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VEP crew members mapping a small site on Battleship Rock, Mesa Verde National Park, 2011. Photograph by Kay Barnett.

the SAA Archaeological record

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EDITOR'S CORNER

Anna Marie Prentiss

Anna Marie Prentiss is a professor in the Department of Anthropology at the University of Montana.

I am somewhat biased, but I think this is a really interesting and provocative issue of *The SAA Archaeological Record*. It is interesting not only in the diversity of content but also in the remarkable degree of disciplinary introspection reflected in the individual contributions. While the submitted articles and the contents of our special section appear together as a consequence of propinquity, their combined message challenges us to think about how and what we do in a variety of new ways. I hope this issue sparks new discussions spanning college classrooms to SAA board rooms and that such dialogue promotes even more substantive considerations and outcomes in the near future.

Our lead-off contributed article by Dale Croes and colleagues proposes nothing less than a new paradigm for collaborative partnerships between indigenous groups and archaeologists. This is followed by Bonnie Pitblado and colleagues' review of the outcomes of intensive discussions held by the SAA Task Force on Professional Archaeologists, Avocational Archaeologists, and Responsible Artifact Collectors Relationships. Finally, Katherine Chiou and Dana Bardolph make the case for ethics-centered education in archaeology and simultaneously promote the next Ethics Bowl to be held at the 2019 SAA Annual Meeting in Albuquerque.

Our special section is titled "The 2018 SAA President's Forum: What We Have Learned" and reflects a diverse array of thoughts about the nature of archaeology, what we have learned, and—projecting into the near future—what we might learn. SAA President Susan Chandler provides an introduction as well as summaries of contributions by Sonya Atalay, Lynne Goldstein, Jeremy Sabloff, and Sander van der Leeuw, who participated in the President's Forum held in Washington, DC but did not offer a written contribution to this issue. Junko Habu considers the archaeology of sustainability particularly in reference to food, and in doing so, also introduces The Small-Scale Economies Project based in the Research Institute for Humanity and Nature in Kyoto, Japan. Susan Alcock reflects on many archaeological findings spanning resilience, achievement, change, and impermanence, concluding that we as archaeologists have responsibilities to learn from the past and to convey our knowledge of the human condition with humility. Thomas McGovern takes us to the urgent world of climate change-related research. This permits him to review the contributions and future possibilities for archaeology as historical ecology. Timothy Kohler encourages us to do field archaeology but to simultaneously employ rigorous and innovative approaches to thinking about the past (for example, with computer simulations) and analyzing our data. He notes that when we do that we can gain insights that can be far-reaching for not just our understanding of the past but for our ability to anticipate current and future trends. Ian Hodder closes the special section with thoughts that both reify and challenge some current directions (e.g., big data and the grand challenges). In the end he exhorts us to build a uniquely archaeological theory of material cultural change that invokes the complex interactions between humans and their material things.

This issue also includes our regular columns: a Volunteer Profile from Teresita Majewski, Susan Chandler's From the President, and Oona Schmid's first In Brief. Finally, Matt Schmader provides another fascinating introduction to the cultural heritage (and associated excursions) in the area of Albuquerque, New Mexico, site of our 2019 Annual Meeting.

FROM THE PRESIDENT

Susan M. Chandler, RPA

2018 President's Forum

Please be sure to check out the papers from the President's Forum at this year's Annual Meeting, "What We Have Learned," in this issue. Tim Kohler, Chair of SAA's Valuing Archaeology Task Force, and I would welcome hearing your thoughts on how archaeologists can communicate the value of archaeology beyond our profession.



National Museum Fire in Brazil

The Society for American Archaeology was saddened to learn of the fire that destroyed the Museu Nacional in Rio de Janeiro in early September. The museum, itself a nineteenth-century palace, housed extensive collections of human remains and cultural items from around the world and irreplaceable recordings of now-extinct indigenous languages. It is estimated that over 90% of the museum's collections, including its archives, was destroyed. Following the conflagration, protesters blamed budget cuts and lack of maintenance as well as corruption that siphoned off money intended for the museum for the extensive damage.

Lack of funding for museums and neglect of collections are not limited to Brazil, however. The *Los Angeles Times* recently published an article, "Think the museum fire in Brazil can't happen here? Think again." The article cites a 2012 study by the American Association of Museums showing that a serious decline of public funding for US museums is leading to similar problems here, such as insufficient digitization of records and pests that threaten collections. The Trump administration has also recently proposed eliminating funding for the Institute of Museum and Library Services, which is a significant source of federal funding for museums.

Discovering the Archaeologists of the Americas

SAA recently launched a pilot project, "Discovering the Archaeologists of the Americas" (DAA). The study is patterned after the "Discovering the Archaeologists of Europe" project, which investigated the nature of the archaeological workforce on that continent (*http://www.discovering-archaeologists.eu/final-reports.html*). SAA's pilot survey of archaeologists in the state of New Mexico and the Republic of Chile was developed by SAA as a first step in profiling the demographics of the archaeological profession in the Americas. The target populations for the survey in the selected geographic areas were all those who earn a living from archaeological practice, including organizations/entities employing archaeologists and all self-employed archaeologists. Landward LLC (a subsidiary of Landward Research Ltd), which is accredited and regulated by the Market Research Society, is conducting the study on behalf of SAA. Information gleaned from the survey will be used to tackle a wide range of issues facing the archaeological profession, ranging from financial and economic to cultural and political. The results will begin to formulate a sense of the job market for archaeologists as well as the potential growth impact of the CRM sector. Preliminary results will be made available at SAA's 84th Annual Meeting in Albuquerque, NM.

Publications

SAA is proud of our robust publications program, including *American Antiquity, Latin American Antiquity, Advances in Archaeological Practice*, and *The SAA Archaeological Record*. The SAA Press also publishes book-length manuscripts in both print and Kindle editions. We urge you to submit your research for publication by visiting saa.org and clicking on Publications.

Charles Stanish SAA Annual Meeting Travel Award

Thanks to a generous donation from SAA member Dr. Charles Stanish, SAA is able to provide up to $4,000 to support participation in each Annual Meeting for one early career archaeologist from Bolivia or Peru. SAA is pleased to announce that Diana Carhuanina Gonzales has been awarded the first Charles Stanish SAA Annual Meeting Travel Award for the SAA's 84th Annual Meeting in Albuquerque, NM. Applications for participation

in the 85th Annual Meeting in Austin, TX, in 2020 will open in the spring of 2019.

Annual Fundraising Appeal

The Trump administration's reduction of the Bears Ears and Grand Staircase-Escalante national monuments this year truly sent a strong message that archaeology and historic preservation in the United States are more than just imperiled—protections are actively being dismantled. SAA needs your help to fund our efforts to ensure that cultural heritage is protected and preserved. The **Unrestricted Gift Fund** allows SAA to serve our members by addressing the most urgent needs facing the Society.

SAA believes strongly that everyone's history matters. We are dedicated to making our membership more inclusive and diverse through our scholarship programs. The **Native American Scholarships Fund** is an endowment that supports undergraduate and graduate education of Native peoples from anywhere in the Americas, Alaska Natives, Native Hawaiians, and Indigenous Pacific Islanders. The **Historically Underrepresented Groups Scholarship Fund (HUGS Fund)** supports minority students, helping them enhance their education and successfully prepare for careers in archaeology and heritage management.

Contributions to SAA's funds can be made via **www.saa.org/Donate**. Please join me in donating.

Committee Service

I hope that you will consider responding to the annual Open Call for volunteers for committee service. Appointments are normally three-year commitments and will commence at the close of the Annual Business Meeting in Albuquerque, NM. Members currently serving on a committee who wish to be reappointed for a second term on the same committee must also reapply. Please note that most committees must have at least two student members. If you are a student, committee membership gives you the chance to gain experience in how SAA works early in your career. Please contact SAA Headquarters if you have any questions about applying via the online form.

Thank You for Being an SAA Member

As an SAA member, you join over 7,200 committed and enthusiastic members of the archaeological community from around the world. Together, we provide the Society's pool of expertise and volunteer effort. Our dues and contributions foster both member services and efforts to advance archaeology. Thank you for being a part of our professional organization.

New from The SAA Press

Food Production in Native North America: An Archaeological Perspective
by Kristen J. Gremillion

SAA
Society for American Archaeology
THE SAA PRESS

In this new release from The SAA Press, Gremillion provides a highly selective survey of Native North American food production systems from an archaeological perspective. The main foci are the domestication and intensification of indigenous seed crops in the East; the introduction and spread of maize-based farming systems that incorporated crops of Mesoamerican origin, including maize; the persistence of diverse low-intensity forms of food production in societies that evade the classic forager-farmer dichotomy; and the impact of introduced crops after AD 1492. These topics are flanked by an introduction to the ecological and cultural variability of North America across space and time, and a concluding discussion of causal explanations that have been proposed for the development of food-producing socioeconomic systems in the region.

Photo courtesy of Robert H. Mohlenbrock, hosted by the USDA-NRCS PLANTS Database/USDA SCS

IN BRIEF

Oona Schmid

Oona Schmid is the executive director of the Society for American Archaeology.

Dear members of SAA,

I write to introduce myself as the new Executive Director of SAA. It is my honor and pleasure to serve you and your field, and to continue the essential work of advancing the archaeology of the Americas.

I elect to begin my column addressing a question that I sense is shared by many members: How can anyone replace Tobi Brimsek? On the one hand, she is irreplaceable, as a special dedicated leader who generously gave so much to SAA. While her personality has departed SAA, her knowledge has not disappeared. She painstakingly documented 1,500 pages to create a compendium of all things SAA. She patiently answered my questions about that massive tome for two weeks and she transitioned projects like the website redesign and the 2019 and 2020 Annual Meetings to me. Working hard alongside Tobi have always been the dedicated staff of the organization. I am fortunate to inherit this knowledgeable and professional cadre of talent. For those who prefer digital archaeology, Tobi turned her e-mail over to me, consisting of electronic missives going back to 2013!

Finally, I emphasize another—critically important—source of institutional memory. You! SAA relies on members to volunteer and govern the Society. We are truly fortunate to have had so many involved and enthusiastic participants. Each volunteer member holds institutional memory, and I hope you will not mind if I reach out to you in order to help me better understand a situation or a project. Regardless whether I connect to you first or not, I warmly invite you to get to know me. I will enthusiastically welcome any contributions to SAA's past and future.

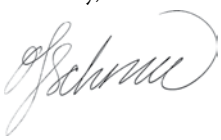
And speaking of what comes next: In November the organization makes its "open call for committee service." Your Society needs you. We could not be what we are and where we are without our members and your knowledge about the needs and issues facing archaeologists. I encourage you to join a committee and embrace this collective known as SAA.

Also in November, I will launch the e-Communities pilot in the interest of testing what guidelines and knowledge will best help SAA facilitate communications and collaborations, such as within an interest group or on a committee. Over the next couple of years, I will assess which new programs and services the Society might roll out, and I will evaluate ways the organization might communicate more effectively with current and prospective members about the important work of archaeologists and the ways we can all stand together to protect this vital work. I arrive well-acquainted with the work of associations with more than a decade of service to nonprofits and a long professional career coaching committees and groups to make the best decisions possible. In my free time, I love playing tennis and endeavoring to exhaust my nine-year-old son (a futile but enjoyable goal).



If you will attend SHA's meeting, please drop by our booth. My email is: oona_schmid@saa.org and I hope to hear from you whether or not you will be in St. Charles, MO, in January.

Sincerely,



Oona Schmid

VOLUNTEER PROFILE

Teresita Majewski

Statistical Research, Inc.

I am a vice president at Statistical Research, Inc. (SRI), a cultural resource management (CRM) firm with offices throughout the West and projects all over the country and even internationally. I am also an adjunct associate professor in the School of Anthropology at the University of Arizona (UA). SRI has been my very fulfilling "day job" for nearly 25 years, and teaching and working with UA students is something I do on my own time. Having my feet in both camps (CRM and academia) has been beneficial for me professionally and personally, and volunteer activities have been a large part of my long career. The people you meet and the relationships that develop while volunteering can lead in unexpected and exciting directions.

When I was a graduate student at the University of Missouri, my mentors, particularly W. Raymond Wood, modeled what volunteer service should look like. Sometimes it follows naturally from particular interests that we have as students and professionals, and sometimes we have opportunities to serve the discipline in leadership capacities for the professional organizations we belong to. I have been fortunate to serve as an officer, board member, and/or committee and task force member/chair for the Society for Historical Archaeology (SHA), the American Anthropological Association (AAA), the Archaeology Division of the AAA, the American Cultural Resources Association (ACRA), and the Society for American Archaeology (SAA). I became Secretary-elect of the SAA in April 2018, and I am honored to be able to serve the Society in this capacity. My involvement on the various task forces related to the SAA's Discovering the Archaeologists of the Americas Pilot Project is coming to a close in early 2019, but it has been exciting and simultaneously daunting to work on this project of great importance to our discipline.

I worked for many years as a professional editor, so I could bring that expertise to the SAA's Publications Committee when I recently served as chair. I also serve on the Archaeological Collections Consortium, a group composed of representatives from the SAA, SHA, ACRA, and government entities that works collectively on curation and collections management issues that affect archaeological practice. My interest in working with and thinking about these topics stems from a graduate seminar where my fellow students and I analyzed and wrote up materials from a site excavated in the Middle Missouri region during the River Basin Survey days (for many of us our first publication).



Recently, I've begun to collaborate with colleagues from cultural anthropology, archaeology, and architecture on research related to heritage and tourism. This started when I was co-chair of the AAA Task Force on Cultural Heritage. During our task force discussions, anthropologists from different subfields came to realize how much our different perspectives could inform a more holistic approach to studying heritage, and some really productive collaborations were launched.

I'm also active in professional service activities in Arizona. One example is the Tucson-Pima County Historical Commission, where preservation professionals and interested members of the public work together to advise city and county elected officials regarding historic preservation issues in the community. My service on the commission has helped me to see beyond our more comfortable disciplinary boundaries and to learn to communicate preservation values to a wider audience, often within challenging political contexts.

I also volunteer in areas completely unrelated to archaeology. You look for opportunities and opportunities look for you at different stages of your life. Volunteering allows you to "pay forward" in so many ways, and from experience I can tell you that I receive back more than I give. This "return" can come in the form of new relationships, expanded perspectives, and a fuller appreciation of the human condition.

2019 SAA Annual Meeting Excursions Showcase New Mexico's Cultural Roots

Matthew F. Schmader

Matt Schmader is adjunct Associate Professor at the Department of Anthropology, University of New Mexico, and was formerly Albuquerque City Archaeologist.

SAA's 84th Annual Meeting returns to the American Southwest in 2019, with Albuquerque as the host city. As those who seek to value, protect, study, and respect cultures, attendees will greatly appreciate the historical and cultural depth that Albuquerque and its surrounding areas offer. Accordingly, the SAA Committee on Native American Relations (CNAR) has provided an optional statement for meeting attendees to read in recognition of the local tribes and pueblos of Albuquerque. The CNAR provides the statement so that SAA members and meeting attendees who would like to make a statement may do so, without concern or uncertainty about what words to choose:

> *I would like to take a moment to respectfully acknowledge that this meeting is being held on the ancestral homelands of 34 pueblos and tribes, as well as other traditional and indigenous communities currently lacking federal recognition. I would like to recognize these communities and their continued and sincere relationship with the landscape.*

The continuity between past and present, and the vibrancy of local culture, are showcased in the SAA's choice of four guided excursions to places in and near Albuquerque: Acoma Pueblo, Bandelier National Monument, Pecos National Monument, and Petroglyph National Monument.

The phrase "dramatic setting" can perhaps be too easily overused, but when it comes to Acoma Pueblo, there is no other way to describe it. Acoma is regarded as the longest continually occupied settlement in the nation, dating back to at least AD 1100. A visit to the soaring mesa-top setting is an unforgettable experience of pueblo life and continuity of culture, as well as a journey back in time. After a 65-mile drive, tours begin at the beautifully designed and built Haakú Museum, where artifacts and film provide an orientation. Upon arrival by shuttle up the steep 357-foot climb to the mesa, stone architecture and narrow lanes provide glimpses of timeless traditions. Acoma's famous pottery is often on display by vendors selling in front of their homes. Native guides eloquently describe the history and ways of the Acoma people on a walking tour. The tour begins at the towering adobe edifice of San Estevan del Rey, a mission church built from 1629 to 1642, which dominates the southern end of the pueblo. The adobe walls of San Estevan are up to 7 feet thick and the ceiling is 35 feet high. A *campo santo*, which faces to the south overlooking the valley floor, invokes the deep respect for elders and the patriotism with which many Acoma have served. The tour winds though the plaza and pueblo streets, past ages-old cisterns cut into the bedrock. This excursion is scheduled for Thursday, April 11, 2019, from 8:00 a.m. to 1:00 p.m.



Cave rooms carved into soft tuff cliffs, Bandelier National Monument (Photo: Matt Schmader)

Bandelier National Monument is 105 miles north of Albuquerque, reached by winding mountain roads that showcase some of the most breathtaking scenery in central New Mexico. Sheer cliffs of welded tuff, tinged pink and tan, tower over canyons and river bottomlands. The route goes near the Valles Caldera, once one of the largest volcanoes on earth before it erupted some 1.1 million years ago, and past parts of Los Alamos National Laboratory, which produced the prototype for the atom bomb detonated over 70 years ago. The steep climb down to Frijoles Canyon ends at the 1930s-era Civilian Conservation Corps (CCC) building complex, which houses Bandelier's visitor center and 30 nearby CCC buildings. An easily walked self-guided trail offer visitors ladders to peer inside cave rooms carved into the soft tuff as early as 900 years



Handprints, some of the thousands of Ancestral Pueblo images at Petroglyph National Monument (Photo: Matt Schmader)

ago. Smoke-blackened ceilings and portholes, petroglyphs and grinding stones, all provide insights into daily life in the canyon. Cliff-base masonry pueblos built later in the AD 1300s and 1400s attest to population growth and social changes. The physical setting and pockmarked bluffs add to the scenic qualities of this treasured landscape. This is a longer tour scheduled for Saturday, April 13, 2019, from 10:30 a.m. to 4:30 p.m.

Pecos National Monument is some 80 miles northeast of Albuquerque, reached after driving past Santa Fe. Because it is situated in the foothills of the Sangre de Cristo Mountains and on the far western extreme of the Great Plains, Pecos has witnessed a wide variety of events in the past 1,000 years: Pecos was truly a gateway between the Rio Grande and its pueblos to the west, and bison-hunting tribes of the Plains to the east. The site was visited by the first major expedition in the history of the American West, Francisco Vázquez de Coronado's 1540–1542 search for settled lands north of Mexico. Since then, every major exploration and colonizing effort in New Mexico has made contact with or passed through Pecos. The pueblo eventually reached hundreds of rooms in size and had a population of several thousand. After the first New Mexico colonial efforts, an adobe mission church was started at Pecos in 1621. It was later supplanted by a larger stone mission, remains of which can still be seen today. In the early 1900s, Pecos was the site of groundbreaking scientific work by Alfred V. Kidder, who developed the use of stratigraphy and modern scientific techniques for archaeology. This included chronological sequences and the training of an entire younger generation of Southwestern archaeologists. These many layers of history are readily apparent at Pecos, where the tour is offered on Friday, April 12, 2019, from 7:00 a.m. to 1:00 p.m.

The western horizon of Albuquerque is dominated by a series of small volcanic cones that last erupted about 140,000 years ago. The lava flows and basalt bluffs combine to make an expansive cultural landscape still significant to all of the region's pueblos and tribes. Etched into the dark basalt along a 17-mile long escarpment are an estimated 25,000 sacred pre-European rock images, or petroglyphs. Most are done in the Rio Grande style, a detailed and pictorial convention used by Ancestral Pueblo groups of the area from about AD 1300 to 1600. The link between large adobe villages along the Rio Grande and these related places of power is testament to the endurance of the pueblo people. As development and impacts reached the volcanic bluffs in the late 1980s, preservation efforts succeeded in creating Petroglyph National Monument—the first unit of the National Park system dedicated to the preservation and interpretation of sacred rock imagery. Visits to the petroglyph sites are easy from Albuquerque, and many locales do not require much walking. By taking a guided tour minutes from downtown, visitors will be shown the highlights of several areas and experience firsthand the sacred world of pueblo peoples who thrive along the Rio Grande. This excursion is being offered on Saturday, April 13, 2019, from 8:00 a.m. to 12:30 p.m.

These sponsored excursions were selected to give a full flavor of the deep cultural continuity and historical richness of New Mexico. We hope that you will consider one or more of them, but also note that there is much more to do and see in the area, a topic that will be more fully explored in the January 2019 issue of the *Archaeological Record*.

Generationally-Linked Archaeology

By Dale R. Croes, Ed Carriere, and Darby C. Stapp

*Dale R. Croes (*dcroes444@gmail.com*) is an Adjunct Professor in the Department of Anthropology, Washington State University, Pullman, Washington.*
Ed Carriere is a Suquamish Elder and Master Basketmaker and Canoe Carver, Indianola, Washington.
*Darby C. Stapp (*dspapp@pocketinet.com*) is Co-Editor, Journal of Northwest Anthropology, Northwest Anthropology LLC, Richland, Washington.*

On the inner Salish Sea of the Northwest Coast of North America, basketry artifacts have been recovered in low-oxygen waterlogged/wet sites dating back to the Charles (4,500 BP), Locarno Beach (3,000 BP), Marpole (2,000 BP), and Late Phases (1,000 BP+). Two of the authors have worked with this ancient basketry from opposite directions: one using statistics to link basketry techniques and types from deep time upward, and the other as a Coast Salish Master Basketmaker to experimentally replicate these techniques going backward in time, with both coming together scientifically and culturally from different directions. Their research traces the evolution of traditional and ancient basketmaking by applying scientific techniques and cultural transmission observations from thousands of years ago to contemporary times and vice versa.

The research involved the efforts of a wet archaeological site specialist (Dale Croes) and a Master Basketmaker and Elder from the Suquamish Tribe (Ed Carriere), who joined together to replicate and scientifically analyze the 2,000-year-old basketry collection from the Biderbost wet site, Snoqualmie Tribal Territory, housed at the University of Washington (UW) Burke Museum Archaeology Program (Figure 1). Working on this analysis and replication project over the past four years, we concluded that it was not enough to call this a case of *Experimental Archaeology*; we describe our work as a new approach termed *Generationally-Linked Archaeology*, an approach that chronologically connects from both directions, linking contemporary cultural specialists with ancient and ancestral basketmakers through the science of archaeology. We present our approach here after publically presenting our efforts to both indigenous and scientific archaeological audiences, including Native peoples at the Northwest Native American Basketweavers Association, Indigenous Ainu of northern Japan, and at a National Maori Weavers conference in New Zealand, and to archaeological scientists at two annual SAA conferences, the Wetland Archaeological Research Project (WARP) 30th Anniversary Conference in Bradford, England, and a Wetland Archaeology Conference in central France.



Figure 1. Ed Carriere and Dale Croes in front of replicated Biderbost and other baskets that they made and now use to explain a new approach that involves both ongoing cultural transmission and archaeological analysis: Generationally-Linked Archaeology. Photo courtesy of authors.



Figure 2. Examples of the two types of 2,000-year-old Biderbost basket pack basket fragments from the site (above) and replicas of the two Biderbost type pack baskets: Dale's BI-B1 type checker plaited example (below, left); and Ed's BI-B2 type large fine open-twined example (below, right). Photo courtesy of authors.

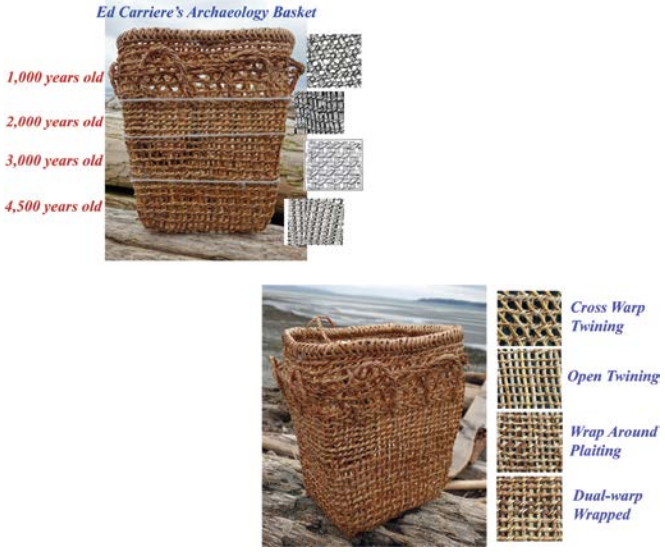


Figure 3. Ed Carriere's Archaeology Basket with the main pack basket weaves used by his ancestors over a 4,500-year-period. In Northwest Coast archaeological phase sequence, this basket "layering" represents the Charles (4,500 BP), Locarno Beach (3,000 BP), Marpole (2,000 BP), and Late (1,000 BP) Phases. Photo courtesy of authors.

To share the new concept of *Generationally-Linked Archaeology* with the readers of *The SAA Archaeological Record* for feedback, the authors discuss its conceptualization below:

Development of the Scientist/Tribal Elder Collaboration

Dale Croes: In late 2014, I came up with the idea to take another look at the 2,000-year-old wet site Biderbost basketry collection housed at the UW Burke Museum, which I had first examined in 1973 for my PhD dissertation (Croes 1977). As I was thinking about Biderbost, a site just east of Seattle and currently owned by The Archaeology Conservancy, I thought back on my decade of work with Suquamish Elder (age 84) and Master Basketmaker, Ed Carriere, and wondered if he would be interested in attempting to replicate these ancient Salish baskets—a form of *Experimental Archaeology* (Figure 1). I called him with the suggestion, which he welcomed with open arms. Our effort represents a bringing together of our personal work into a united front that truly opened the doors to both cultural and scientific explorations that neither of us ever imagined. To Ed, this was working like his ancestors had 100 generations back. For me, as a wet site archaeologist, I realized this would provide an actual example of how my 40 years of statistical testing of ancient Salish Sea basketry from 3,000 years ago to 400 years ago might link to the present and its cultural transmission to Master Basketmaker Ed Carriere. Ed learned old style cedar limb and root basketry through his great-grandmother, Julia Jacobs, who raised him from infancy, and her parents Chief Wa-hal-chu and Wes-i-dult, and their ancestors they learned from. Chief Wa-hal-chu took over Suquamish leadership after the passing of Chief Seattle/Sealth.

Over the past four years, Ed and I, guided by Ed, successfully replicated the two major types of 2,000-year-old Biderbost cedar root pack baskets, using cellular ID to identify the almost exclusive use of ancient split cedar roots; Ed made four large open-twined pack baskets and four small open-twined baskets, and I made two checker-plaited pack baskets and one miniature example (Figure 2).

After mastering replicating these ancient Biderbost examples, we visited even earlier wet site basketry collections at the University of British Columbia (UBC) Museum of Anthropology, dating from 3,000 and 4,500 years ago and recovered from Fraser River Delta wet sites. Ed needed to make slight shifts in weave to master and make samples of the 3,000- and 4,500-year-old pack basket weaves. After mastering these earlier techniques, Ed began working on what he called an "ar-

chaeology" basket, which was composed of five to six sequential rows, or "layers," of the techniques from the four different time periods (Figure 3). By including each technique in one basket, he could potentially show the evolution of techniques used to make pack baskets by his Salish ancestors for over 4,500 years (that is, over 200 generations of his "grandparents," in one basket; Figure 3; Carriere and Croes 2018:210–218).

From my archaeological and deep-time perspective and my ongoing average linkage cluster analyses statistical tests, I set up hypotheses proposing style continuity in three different regions of the Pacific Northwest, and particularly tight continuity in the inside Salish Sea region where Ed lives. I essentially tested these hypotheses with new wet site work and additional ancient basketry data about every 20 years (in 1977, 1995, and 2013); the ongoing results have increasingly strengthened these proposed regional continuity models and hypotheses (Carriere and Croes 2018:117–123, 133–136; Croes 1977, 1995, 2010:215, 2013, 2015). A different statistical approach, cladistic analysis was conducted with my explicitly defined basketry attribute and types data to see if these tests compliment the earlier degrees of similarity statistical results; these tests fully correlated with the earlier ones, further supporting the three region continuity hypotheses proposed (Carriere and Croes 2018:133–136; Croes 2013; Croes et al. 2005; see one cladistics test result, Figure 4). These testable scientific results have shown a direct linkage from at least these 3,000-year-old collections to 2,000- and 1,000-year-old collections and ultimately with Ed Carriere's Coast Salish cultural training in the inside Salish Sea (Figure 4).

Ed Carriere: I must say that the answer to why I am doing this project is to learn from my ancestors and in the process reconnect with them through the millennium. This project would not be possible if archaeologists had not recovered these perishables from the Salish Sea wet sites, especially baskets and other important wood and fiber artifacts from my deep past. Having these artifacts to hold and study has opened the door to deep-rooted cultural transmission, teachings through the generations, and showing how many of our Coast Salish Traditions have continued to the present. By taking what we have learned and sharing it with our community, these traditions will continue into our future, providing cultural wealth to all traditions in our Salish Sea territory. If we all do our work, both archaeologically and culturally, we show how our cultural transmission is strong in all directions—past, present, and future. Statistically ancient basketry provides a direct link to our ancestors for up to 4,500 years—which provides a deep-rooted, tangible, and direct cultural connection to our ancestors.

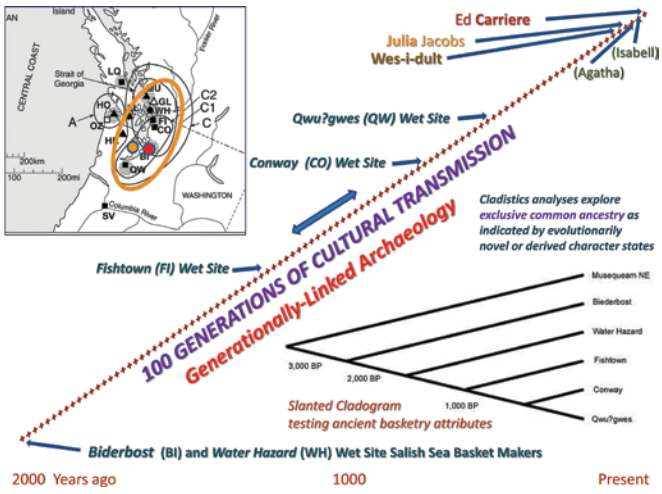


Figure 4. Chart illustrating Generationally-Linked Archaeology, where + signs represent the generations from Ed back through his teacher and great-grandmother Julia Jacobs (his mother Isabell and grandmother Agatha showed no interest in basketry); Julia's mom, Wes-i-dult; and with other generations before her and statistically back through data from wet sites in the inner Salish Sea, eventually leading to the Biderbost and Water Hazard 2,000-year-old archaeological wet sites evidence. Ed works from the present back through these 100+ generations. Dale works from the deep past upward with wet site basketry data, statistically showing stylistic continuity through 3,000 years of generations, as shown by the results of his slanted cladogram using cladistics tests (below right) and his generated map of regional basketry areas (above left). The red dot is Biderbost (BI) and the orange dot is where Ed lives today in the inside Salish Sea—his traditional territory. Figure created by Dale R. Croes.

Emergence of the *Generationally-Linked Archaeology* Concept

Darby Stapp: The UBC experience really crystallized Ed and Dale's belief that this cultural artisan/scientific archaeology collaboration was important. Their approach was something different, more than *Experimental Archaeology*, more than *Ethnoarchaeology*. Moreover, it was something that needed to be shared; shared with both the anthropological and archaeological community, and Native communities of the Northwest.

Dale Croes: As a scientist, I began pondering what kind of archaeological approach this actually represented in our field; nothing exactly fit. From the beginning I called our work *Experimental Archaeology*. Experimentation is a method that clearly sits within the realm of science—probably more in the scientific approach area of verification with experiments.

I have frequently conducted experimental archaeology in my wet site archaeological work (Croes 1995).

However, we should ponder what exactly *Experimental Archaeology* means. Dr. John Coles, a major international leader in wet site/wetland archaeology from England, and my long-time mentor, published the first books on this kind of archaeology: *Archaeology by Experiment* (1973) and *Experimental Archaeology* (1979). John stated that the aim of *Experimental Archaeology* is to "reproduce former conditions and circumstances" (1979:1). In a sense, especially with Ed's stitch-by-stitch recording of his replication work, he is reproducing the former conditions both he and the original basketmaker experienced in making these baskets (Carriere and Croes 2018:199–206). Ed and the 2,000-year-old basketmaker are certainly in different circumstances; however, there has to be a link through those 2,000 years in cultural transmission of ideas involved in making these two pack basket types, from gathering and processing the cedar roots, through construction; and some uses they both may have seen as the outcome—though the uses are completely different—one for everyday cultural life and one for current scientific and cultural research.

Another archaeological approach that has some relevance here is *Ethnoarchaeology*, often considered a blending of cultural anthropology and archaeology; however, I do not believe it exactly fits either. Ethnoarchaeology is considered "a research technique that involves using information from living cultures—in the form of ethnology, ethnography, ethnohistory and experimental archaeology—to understand patterns found at an archaeological site" (Hirst 2017). Although Ed does provide abundant ethnographic and experimental data, we seem to be doing more than making analogies about his current culture to better explain and understand the Biderbost basketry and ancient site.

A third approach promoted in the 1920s/1930s in the United States, called the *Direct Historical Approach*, has some similarity to our approach; at that time archaeologists argued that knowledge relating to historical periods could be extended back into earlier times, and reflected in archaeological sites from the recent past back. We are certainly doing this from Ed's knowledge; however, unlike the direct historical approach, we are also coming from the other direction, with statistical links from the deep past, using ancient basketry data, through time to the traditional cultural training Ed has from his past generations (Figure 4).

After pondering our actual scientific approach here, I decided we needed a new concept and definition to make a better fit, calling this *Generationally-Linked Archaeology*: linking the current cultural artisans back through the generations and with the archaeological evidence through a process of cultural/ideational transmission. In our case the cultural artisan is Ed Carriere, who strove to work back through generations of training following the guidance of his great-grandmother Julia Jacobs, who learned through past generations of her parents, Wes-i-dult and Chief Wa-hal-chu, and those who taught them (Figure 4). The Northwest Coast of North America wet site evidence we have so far recovered, representing a solid 3,000 years in the inner Salish Sea, statistically links from 3,000-year-old basketry, through 2,000-year-old examples (for one, Biderbost), and then through 1,000- to 400-year-old sites and styles that link in tradition to Ed's generational teachers and styles (Figure 4; Carriere and Croes 2018:117–123, 133–136; Croes 2015).

I believe *Generationally-Linked Archaeology* best represents our scientific, and for that matter, cultural approach to understanding ancient basketry collections and for facilitating the transmission of traditional basketry to current and future generations. I believe this kind of approach can be applied elsewhere, and to other types of archaeological artifacts and features; however, it requires that archaeologists recover and share the archaeological evidence found with potentially generationally-linked cultural descendants. Nonperishable artifacts with similar potential that come to mind include pottery in many sites around the world and outside the Northwest Coast (for example Southwest mesa-top Master Potters and the archaeological examples of their ancient traditions), as well as stone, bone, and wooden spindle whorl art in our Pacific Northwest region for over a millennium (see Croes 2014).

To be clear, it is the archaeologist's professional obligation to both recover and share this ancient material culture so that current cultural artisans have the opportunity to demonstrate that this transmitted cultural knowledge exists and can be linked and reconstructed from the deep past in their traditional territories when evidence of cultural transmission and style continuity is scientifically demonstrated. In a sense, one of archaeology's best scientific virtues is revealing how shared ideas, i.e., culture has been transmitted through vast periods of time using databases of artifacts from archaeological sites.

The Benefits of *Generationally-Linked Archaeology* to Descendant Communities

Ed Carriere: From my personal and cultural perspective, I had throughout my life strove to generationally link back to the old traditions of basketry, especially through my Kia'h Julia, and baskets she got from her parents, Chief Wa-hal-chu and Wes-i-dult, which I had proudly inherited. Of course I worked with other Master Basketmakers in my Salish cultural communities and elsewhere (a good place, for this is the annual Northwest Native American Basketweavers Association [NNABA] where

up to 1,000 mostly Native weavers meet), and I never hesitated and often ask to visit old basketry collections in museums. However, I never dreamed I would be able to generationally link back and learn from 100+ generations of my ancestors through the wet site archaeology evidence in our region, and thank all archaeologists who have contributed to the recovery of this rich cultural heritage in the Salish Sea and beyond. When Dale asked me to help with the 2,000-year-old Biderbost collection, I definitely was excited to try and take on this complicated challenge, and really did not know what to expect. I always strove to work through my ancestors' work, but the possibility of extending this back 100+ generations never crossed my mind. Fortunately the archaeologists from the Washington Archaeological Society (WAS) took on the task of rescuing and preserving these ancient baskets that were washing out of the banks of the Snoqualmie River in the late 1950s and early 1960s, or we would not have these available for attempting this linkage. Also it took an archaeologist specializing in ancient basketry from these wet sites, Dale Croes, to recognize that I might be an artisan from my Salish cultural community that could connect to these 100+ generations of ancestors through my teachers and life's work in Coast Salish styles of basketry. Now I can share what I have learned with others and keep the ancient traditions alive.

Defining the Concept

Darby Stapp: As this study came together, we confronted one final challenge—defining the concept of *Generationally-Linked Archaeology*. If we wanted our archaeological colleagues to join us in the pursuit of a method and theory of this concept, we needed to lay out the core components and a process from which others could apply the concept in their worlds. We came up with the following:

- Identify a material culture/artifact class that can be tied historically, ethnographically, or contemporarily to a group.
- Consult with the contemporary descendant community to determine their interest in a collaboration and their parameters/requirements.
- Develop a collaborative program among the archaeologists with knowledge about the material culture/artifact class and the cultural specialist(s) to advance connections and knowledge.
- Share the knowledge gained with the descendant community for its use and cultural perpetuation benefit, certainly a central goal of this current work. Where appropriate, information and knowledge using this archaeological method and theory should be shared with the archaeological discipline through presentations at conferences and scholarly publications.

Our experiences have shown that, at least in the Pacific Northwest, the time is right for *Generationally-Linked Archaeology*. Tribal communities are working hard to strengthen their communities, and many cultural perpetuation efforts are underway across the region (e.g., the annual coast-wide Canoe Journeys). *Generationally-Linked Archaeology,* using statistical tests to present hypotheses of regional cultural continuity, provides one way in which the archaeological record can assist with these efforts. As we gain more experience applying this concept in communities across the world, the advances in method and theory will allow it to reach its full potential.

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Process and Outcomes of the SAA "Professional Archaeologists, Avocational Archaeologists, and Responsible Artifact Collectors Relationships Task Force" (2015–2018)

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Abstract

In November 2015, the SAA Board of Directors established a Task Force to (1) define appropriate relationships among professional archaeologists, avocational archaeologists, and artifact collectors; (2) develop a position statement on the subject for dissemination by SAA; and (3) suggest concrete actions to promote the statement's message. After a three-year process of study and exchange of ideas between the Task Force and the Board, in summer 2018, the Board ratified and published on the SAA website the "Society for American Archaeology Statement on Collaboration with Responsible and Responsive Stewards of the Past." This paper summarizes the process of developing the statement, relates the results of a 249-stakeholder review of an initial statement draft, and shares the finalized statement and associated SAA-recommended actions to further the statement's principles.

Introduction

In the November 2015 issue of *The SAA Archaeological Record*, Bonnie Pitblado and Michael Shott guest-edited a special section called "Pros and Cons of Consulting Collectors" (http://www.saa.org/Portals/0/SAA_Record_Nov2015.pdf). The section features contributions by archaeologists, a museum professional, and an artifact collector, each explaining his or her position as to whether collaboration among those multiple stakeholders should be nurtured or discouraged. Pitblado and Shott's essential premise, expressed in their co-authored introduction and conclusion to the issue (2015), is that archaeologists, in the past 40 to 50 years, have strayed far from the principle of collaboration between professional archaeologists and avocationals—including those who legally collect artifacts—upon which the Society was founded (McKern et al. 1935; McKern 1937). This, they further argue, is harmful to the archaeological record, which is under- and inadequately reported when the parties who interact with it do not interact with one another.

The papers in that issue of *The Record* struck a chord with readers, and SAA staff members noted that the open-access online edition received more "clicks" than had any previous issue. The SAA Board of Directors took note of the response as well, and later that month passed Motion 136–54.4, establishing the "Professional Archaeologists, Avocational Archaeologists, and Responsible Artifact Collectors Relationships Task Force."

The Board Motion asked that the Task Force (TF) produce the following:

1. A draft position statement for SAA defining appropriate relationships among professional archaeologists, avocational

archaeologists, and responsible artifact collectors, taking into account SAA's Principles of Archaeological Ethics and legal statutes

2. Action steps derived from the position statement to further its premises

In January 2016, the Board asked Bonnie Pitblado to serve as the TF Chair, and Pitblado in turn asked Michael Shott to serve as an informal Co-Chair and TF member. Pitblado and Shott then recruited 11 other archaeologists and collectors to create a TF diverse in stakeholder-type, focal geographic region, gender, and ethnicity; but all with extensive experience collaborating across stakeholder boundaries. One recruit did not actively participate in the TF; the other 12 members comprise the co-authors of this piece.

Task Force Study Methods

To ensure that TF members had a shared foundation of knowledge to undergird our discussions, we worked together to identify two-dozen core readings expressing varying views on collaborations among archaeologists and artifact collectors in settings around the word. In addition, we developed a 20-paper list of related readings that TF members could review if they wished. We allowed six weeks for TF members to complete their required and optional homework.

Task Force members then engaged for four months in lively and often very difficult discussions via e-mail, all logged for future reference and totaling 140 single-spaced pages of commentary. We identified and talked through issues that have for the past half-century or so undermined relationships between some professional archaeologists and many artifact collectors. These issues include but are not limited to defining stakeholders (what makes someone a professional archaeologist, artifact collector, or looter?); ascertaining when buying or selling artifacts renders a prospective collaborator "off-limits;" determining whether we could develop a statement appropriate for *all* SAA members, including those residing in nations with radically different antiquities laws than those of the United States; and evaluating to what degree SAA's Principles of Archaeological Ethics *require* members to collaborate with all publics, including those who have collected artifacts legally (or illegally, for that matter).

Once we felt we had exhausted pertinent subjects, the TF developed a draft statement that consisted of four parts: (1) foundational premises for appropriate, ethical collaboration among archaeologists and artifact collectors; (2) characteristics of artifact collectors essential for appropriate and ethical collaboration with professional archaeologists; (3) keys to successful collaborations among multiple stakeholders; and (4) recommended actions to repair and reestablish positive relationships among professional archaeologists, avocational archaeologists, and artifact collectors.

Aware that if 12 of us had struggled as mightily as we did to work through myriad ethical and practical issues related to collaboration, we took it as a given that a broader array of stakeholders would articulate positions and introduce issues that had not occurred to us. We therefore decided to circulate the draft statement for peer review. To broadly disseminate the draft and a call for feedback, we enlisted the help of leaders of SAA, the American Institute of Archaeology, the Register of Professional Archaeologists, the National Associations of Tribal Historic Preservation Officers and State Archaeologists, the Canadian Archaeological Association, the European Association of Archaeologists Committee of Illicit Trade in Antiquities, associations of artifact collectors, and many others. For those interested, that original TF draft circulated for stakeholder evaluation can still be viewed at https://taskforcearchaeologistsandcollectors.wordpress.com/.

Results

Not surprisingly, given the response to the November 2015 issue of *The SAA Archaeological Record* that mobilized this entire undertaking, people across all stakeholder groups weighed in with input to improve (or simply to comment upon) the draft statement. Two-hundred forty-nine individuals responded, nearly 70% of them men, but otherwise representing relatively evenly stakeholder groups that included academic archaeologists, CRM archaeologists, agency archaeologists, avocational archaeologists, and artifact collectors (n = 38–47 for each group). Other stakeholder groups—museum archaeologists, archaeologists working in nonprofit sectors, and graduate students—weighed in with sample sizes of 10 to 13 per group.

In the request for feedback, the TF had asked respondents to indicate their level of support for the statement, and then to offer open-ended ideas for improving it. All but 4 of the 249 respondents supported the statement fully (n = 132), with minor modifications to wording (n = 46), or with one or two substantive changes (n = 56). Three people had mixed feelings about the statement that the TF ultimately characterized as being as supportive as they could be of such a statement, but reflecting uncertainty that such a statement was a good idea in the first place.

The most common themes that emerged in the qualitative suggestions and comments we received include the following, in order of how frequently they were mentioned:

- Archaeologists must stop being rude, elitist, and dismissive of artifact collectors.
- The statement should deal more fully with the issue of "commercialization" of the archaeological record (a subject with which the TF had itself grappled at length).

- The statement should more explicitly recognize descendant communities as stakeholders within the context of artifact collecting.
- We should emphasize even more than the draft statement already did the importance of public education and outreach (with educational targets including not only artifact collectors, but the aforementioned rude and elitist archaeologists).
- Clearly define terms such as "professional archaeologist" and "artifact collector" or simplify them to better reflect stakeholder identities (another issue the TF had discussed at length).
- Encourage if not require archaeologists to share the results of their research with the public that funds it, and to do so accessibly.

The Task Force incorporated the above ideas and others not listed here for lack of space into a final version of the statement, which included the same four basic components as the draft version. A particularly critical element of both the first and second drafts of the statement involved explicitly downplaying labels, and distinguishing among just three stakeholder groups: formally trained archaeologists, responsible and responsive stewards of the past (RRS), and those whose practices violate archaeological ethics, cultural resource laws, or both. Both versions of the statement also emphasized that by virtue of their memberships in SAA, the Canadian Archaeological Society, and many other archaeological societies, archaeologists have accepted ethical *obligations* to actively engage with RRS, who are by definition stakeholders in the archaeological enterprise.

In October 2016, the SAA Board of Directors accepted the report that the TF submitted to them, complete with all the elements the Board had requested (Motion 138–54.6). The meeting minutes reflect the Board's suggestion that the TF share its findings in a future issue of *The SAA Archaeological Record* and their decision to establish a sub-committee to prioritize recommended action items for implementation. The following April (2017), the Board again convened, this time voting to approve the formation of the "Archaeologist-Collector Collaboration Interest Group" (ACCIG), which had been among the TF's suggestions for furthering statement goals. The Board also elected to further study the statement itself, because a number of new Board members had rotated into service and sought time to understand and evaluate the many issues covered. In November 2017, the Board crafted a new version of the statement and requested TF input into their draft. After some give-and-take between the TF and the SAA Board, in summer 2018, the Board ratified a final version of the position statement that can be freely accessed online (http://saa.org/AbouttheSociety/EducationandOutreach/tabid/128/Default.aspx). The statement and associated recommendations for action read as follows, and readers will note that we ultimately settled the issue of applicability across the nations SAA serves by focusing for now on the United States.

SOCIETY FOR AMERICAN ARCHAEOLOGY STATEMENT ON COLLABORATION WITH RESPONSIBLE AND RESPONSIVE STEWARDS OF THE PAST

In the United States there are many people with an enthusiastic interest in archaeology who are not professionally trained archaeologists. These include people who collect artifacts legally (for example, from private land with permission of the landowner) or who own legacy collections that have been inherited from family members. These and other examples of legal artifact collectors and collection owners, referred to here as "responsible and responsive stewards," are generally knowledgeable and eager to learn more about artifacts and archaeology and to willingly share their knowledge with archaeologists.

With this document, the SAA encourages collaboration between archaeologists and "responsible and responsive stewards" (RRS) in ways that do not conflict with the professional ethical principles and codes that archaeologists have pledged to uphold. This position statement gives five recommendations for promoting collaboration between archaeologists and RRS of the past. What RRS have in common—with each other and with archaeologists—is their interest in archaeology and history and their recognition of artifacts as physical manifestations of their shared humanity with past people.

The SAA's "Principles of Archaeological Ethics" state that archaeologists have a responsibility to promote public understanding and support for the long-term preservation of the archaeological record. Recognizing that RRS are a large and diverse group of people with an interest in archaeology, archaeologists should develop positive relationships that promote understanding and support for the preservation of the archaeological record. To achieve a positive relationship between archaeologists and RRS, both communities need to approach prospective collaboration with a mutual sense of respect and genuine interest in learning from each other. Archaeologists have much to gain by working with indigenous communities, avocational archaeologists, and RRS in preserving, protecting, and documenting archaeological sites and collections.

Premises to the Recommendations

1. Nothing in this document or the recommendations that follow suggests that archaeologists should breach the principles and codes of ethics that they have pledged to uphold through SAA, Register of Professional Archaeologists, or other professional organizations.
2. The Society for American Archaeology does not encourage anyone to begin or continue collecting artifacts from archaeological sites. At the same time, the SAA recognizes that, in the United States, many individuals have legally collected or possess artifacts

and are willing to share these with interested professionals, and that archaeologists have much to learn when this occurs.

3. The SAA does not condone the excavation of any archaeological site that is not conducted in accordance with all applicable laws, under the supervision of a qualified archaeologist, and in compliance with the SAA Principles of Archaeological Ethics and other applicable codes of conduct and standards of research performance.
4. The SAA eschews the collection or disturbance of any objects or remains associated with a human grave or burial that is not legally permitted and conducted under the direct supervision of a qualified archaeologist in compliance with the SAA and other applicable codes of conduct and standards of research performance.

Recommendations

The Society for American Archaeology promotes the following practices in the United States:

1. Provide education for archaeologists and archaeology students regarding the importance of privately held collections as potential sources of information about sites and the irreplaceable loss of this information when responsible and responsive stewards are ignored or treated disrespectfully.
2. Where possible, encourage responsible and responsive stewards to work with a professional or avocational archaeologist to record and document sites and collections and to enter that information into the state archaeologist's or State Historic Preservation Office files.
3. To capture archaeological data that may otherwise be permanently lost, encourage the development of national databases of documented and analyzed privately held and legally acquired collections, akin to those developed in England and Wales through their Portable Antiquities schemes.
4. Encourage responsible and responsive stewards to donate their documented collections to an appropriate museum or public curation facility. If donation is not feasible, teach responsible and responsive stewards best curation practices so that they can provide maximum protection for collections.
5. Encourage responsible and responsive stewards to join organizations and programs that provide training to increase their archaeological knowledge and skills and make it easier for them to share their knowledge with archaeologists.

Conclusions

Members of the TF are pleased with the final SAA position statement encouraging the collaboration among professional archaeologists, avocational archaeologists, and artifact collectors (more properly, we now think, "RRS") that SAA's founders espoused. Some components of the TF's final statement draft are not included in the ratified version, just as some components of the Board's draft did not make the final cut. All in all, however, members of the TF believe that SAA has taken a strong and much-needed stance on the advisability and ethical responsibility archaeologists have to build bridges to RRS who share their motivations for studying the past. If promoted through the above and other actions, these collaborative principles will lead to a more complete understanding of the archaeological record and a much more satisfying relationship among people who share a passion for the past, regardless of the letters that do or do not appear after their names.

We end by inviting readers interested in the issues raised in this piece to attend any or all of three events at the upcoming April 2019 SAA Annual Meeting in Albuquerque. The President's Forum on Wednesday night will focus on the past, present, and future of the SAA Principles of Archaeological Ethics and will include discussion of archaeologist-collector relationships. The Archaeologist-Collector Collaboration Interest Group (ACCIG) will meet on Friday evening from 7:00 to 8:00 p.m. to launch short- and long-term undertakings to further SAA statement goals. Finally, ACCIG—which if you have not already joined, you can join when you renew your SAA membership (or through the SAA website)—will sponsor a forum called "Establishing Best-Practices Guidelines for Archaeologists and Artifact-Collector Collaborators." The forum will record ideas from panelists and audience members to be compiled later in a handbook for collectors and archaeologists who strive to be excellent stewards of the archaeological record and excellent partners to one another.

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Making a Case for Ethics-Centered Education in Archaeology

Katherine L. Chiou and Dana N. Bardolph

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Alice Nogales is a recent PhD and an archaeologist embedded with troops in Iraq. She was hired by the US military to develop strategies to minimize the looting of archaeological sites and museums. Upon realizing that the military's actions—such as the interrogation of suspected looters—are turning people against coalition troops, Alice begins to feel disenchanted with the mission. If she leaves, however, things will likely get worse for locals. What should Alice do?

This case from the 2008 Society for American Archaeology Ethics Bowl competition was assigned in one of our recent lower-level undergraduate courses on archaeological ethics. Two teams worked on researching and developing case arguments that would showcase ethical reasoning skills and advocate for what they considered to be best practice.

On the day of the mock Ethics Bowl debate, a student opened his case argument on behalf of his team by saying, "The archaeologist is, of course, obligated to aid in the investigation of suspected looters. The SAA's first principle of stewardship states that '[i]t is the responsibility of all archaeologists to work for the long-term conservation and protection of the archaeological record.' We must put the archaeological record above all else."

After hearing the rest of the argument and the other team's response, a guest judge looked down as she contemplated a question. Lifting her head back up, she asked the original team, "What if you knew that by providing information on local looters to the government, you were condemning them to a long prison sentence? That the residents of the impoverished village you were working in would rise up in anger and run you out of town? That not only would you never be able to work there again, you would have to face the guilt of having destroyed a person's life, a person who was just trying to feed his family?"

The student hunkered down. He adamantly maintained that the ethical solution would be the same. The imprisoned man is simply the cost of protecting our collective global heritage.



The victorious Cornell University team at the 2018 SAA Ethics Bowl in Washington, DC [L-R: Dana Bardolph (team mentor); Danielle Vander Horst, Elizabeth Proctor, Lindsay Petry, and Elizabeth Bews]. Winning teams earn the honor of displaying the Ethics Bowl trophy in their home department before returning it to the SAA for the following year's competition.

The judge responded, "You know, this happened to me. I thought I was doing the right thing too."

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What are the ethical issues that archaeologists face in their day-to-day lives?

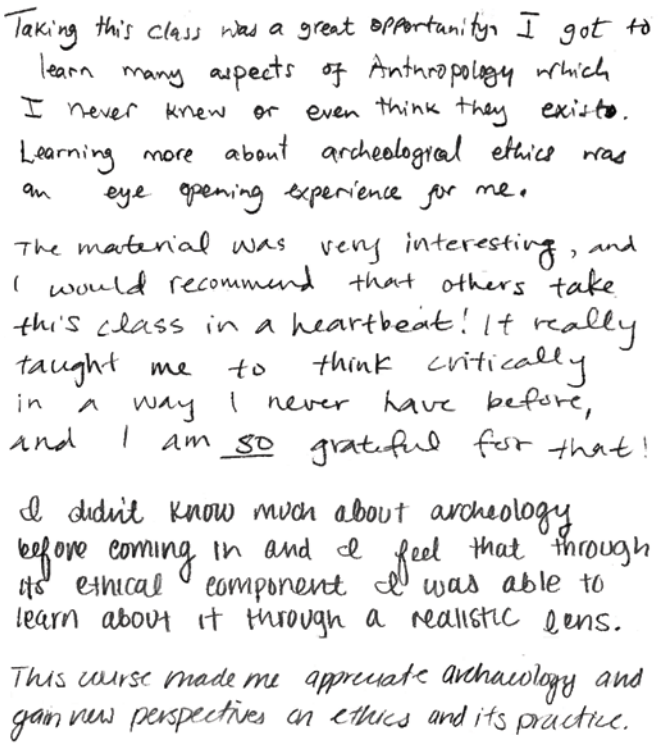
When most archaeologists think about ethics in our field, several topics immediately spring forth: looting, collecting, and the illicit trafficking of antiquities. The preservation and protection of cultural heritage. Federal legislation such as NAGPRA and our responsibilities to descendant groups and community partners. Given the recent surge of the #MeToo movement and the passing of SAA Principle #9 on Safe Educational and Workplace En-

vironments, perhaps sexual harassment and gender equity come to mind.

But what about issues related to occupational health and safety? The potential harm of the "cowboys of science" narrative? The use of satellite imagery in locating sites? Cloud-based curation? Ancient DNA work? Plagiarism in grant proposals? Authorship sequence on publications? The advisor-advisee relationship? The lack of diversity and the barriers preventing entry into the profession? All these facets of our professional lives (and more) are fraught with the potential for ethical misconduct.

Most of us likely were introduced to archaeological ethics in a lecture given at the tail end of an Introduction to Archaeology course. That is, after all, where a section on ethics generally appears in introductory texts. Some of us may have encountered discussions on ethical issues in undergraduate and graduate seminars on the politics of the past or the history of archaeological thought, or have read from a series of edited volumes on the topic (e.g., Hamilakis and Duke 2007; Scarre and Scarre 2006; Vitelli and Colwell-Chanthaphonh 2006; Zimmerman et al. 2003). Few university programs, however, offer regular coursework on archaeological ethics and fewer still require it as part of their undergraduate or graduate curricula, despite repeated calls for mandatory ethics training in higher education (Colwell-Chanthaphonh et al. 2008:18–21).

Here we make a case for centering ethics in archaeology education. We reflect on our experiences (1) teaching ethics in the classroom and (2) participating in the SAA Ethics Bowl competition, from our time as graduate students to being on the other side as organizers, moderators, judges, and team mentors. Ethics filter through every aspect of the archaeological profession from our normal encounters with students, colleagues, and the public to actions that effect change on a global level. Consequently, ethics should not be an afterthought or an occasional special topics seminar. **Rather, ethics should be at the forefront of all archaeological education**, from introductory general education classes to graduate-level topical seminars and courses on methods, theory, and research design.


Taking this class was a great opportunity. I got to learn many aspects of Anthropology which I never knew or even think they existed. Learning more about archeological ethics was an eye opening experience for me.

The material was very interesting, and I would recommend that others take this class in a heartbeat! It really taught me to think critically in a way I never have before, and I am SO grateful for that!

I didn't know much about archeology before coming in and I feel that through its ethical component I was able to learn about it through a realistic lens.

This course made me appreciate archaeology and gain new perspectives on ethics and its practice.

The course was amazing. Coming from highschool, I learned about a complex network of issues regarding a topic that has been reimaged to be glamorous to me through media.

Sample comments from student evaluations in a lower-division undergraduate course on archaeological ethics. The vast majority of students (97%) were non-anthropology majors who had limited prior exposure to archaeology.

Ethics in Archaeology: Applying Philosophical Concepts to the Real World

Ethics, broadly defined, is the branch of philosophy that revolves around systematizing, defending, and recommending concepts of right and wrong conduct. While grounded in moral conduct, ethics are not universal moralities, nor do they necessarily equate to law (Wylie 2003). Although the two are frequently connected and conflated, the law is distinct because it is codified and enforceable. In other words, not everything that is ethical is legal—and conversely, not everything that is legal is ethical. Indeed, laws tend to reflect the "floors" of acceptable conduct as opposed to the ethical "ceilings" we should strive for (Wylie 1996).

As professional archaeologists, we concern ourselves primarily with normative ethics or ethics in action, with an emphasis on enacted principles rather than abstract theories. What these ethical rules are and who decides them, however, is a source of ongoing discussion and debate. To further complicate matters, when ethical principles conflict with one another (as they so often do), generating ethical decisions can be a challenging task, especially without prior training.

As Colwell-Chanthaphonh and colleagues (2008:29–31) argue, archaeologists should learn how to think through ethics, using our "ethical imagination" to consider the consequences of our research and the values and input of different stakeholders. Think-



The Cornell University and Indiana University of Pennsylvania teams preparing responses to a question posed by moderator Margaret Conkey in the semifinal round of the 2018 SAA Ethics Bowl in Washington, DC.

ing through ethics involves a problem-solving process that leads to an ethical course of action on a situational basis. Practitioners of ethical decision-making follow a procedure that involves identifying the ethical tensions and dilemmas in a case, laying out the facts of the case, compiling the relevant laws, researching the history of the issues involved and the affected stakeholders, bringing in ethical codes for guidance, generating multiple solutions, considering practical constraints, thinking about the broader ramifications of one's actions as well as alternative solutions to the problem, and finally—arriving at a concrete solution.

This type of ethical thinking is not something one can or should learn on the job. Instead, we need to equip students with the ability to use ethical reasoning to construct best-practice approaches before they first set foot in the field. If we don't, the consequences can be severe and even financially disastrous; for example, Stapp and Longenecker (2009) outline two high-profile cases where the combined costs of simple mistakes tied to unethical decisions exceeded $85 million. Moreover, relationships with affected communities were irreparably damaged. These archaeological disasters, and many more, often are completely avoidable.

Notes from the Classroom: Teaching Ethics in Undergraduate and Graduate Coursework

Educators are constantly thinking about how to motivate students within the fixed amount of time that they have in the classroom, arriving to class with a set of knowledge that they wish to impart and hoping that students can, at the very least, regurgitate it back on their various forms of assessment, if not demonstrate the ability to synthesize and evaluate the material. When students show indifference, we may get frustrated and attribute their lack of attention span to generational gaps, desensitization via social media and technology, and an inadequate K–12 education, among other culprits. However, most students have the potential to care deeply about any subject as long as educators can effectively demonstrate why it matters.

Students generally are drawn to archaeology by the supposed glamour of the search for buried treasure, the romantic narrative of adventure and discovery, and the deeply misguided belief that we study dinosaurs. These tropes that exist in the popular imagination provide compelling reasons for students to take courses in our field, but the reality, as we all know, is far different. However, archaeology does not have to be taught as something tedious or devoid of relevance. Archaeological work has great value and deep meaning for anyone invested in the past, within the archaeological discipline and beyond. By learning archaeology through an ethical framework, its importance becomes abundantly clear. In our experience, when we incorporate ethical components into our teaching, we find that not only do students look forward to learning—**they actually learn better.**

Between the two of us, we have collectively taught a range of undergraduate and graduate courses, from introductory archaeology to North American, Mesoamerican, and South American archaeology to methods-focused courses to topical seminars on archaeological ethics. Many of our students have been non-anthropology majors. Some of the students we get in our classes from outside fields like business or engineering sign up due to a passing fancy in archaeology, but many have been honest in revealing more practical motivations such as the need to check off a requirement or the fact that no other class was available in the time slot. Nevertheless, we believe that non-major students are just as important to reach as those who intend to pursue a career in archaeology. By incorporating ethics into our classes, we have witnessed many students' transitions from apathetic observers to animated participants. Even if these students never take an archaeology or anthropology course again, they leave as enthusiastic proponents of the field, increasing the overall value of archaeology in the greater public sphere.

In classes we have taught that deal exclusively with archaeological ethics, feedback from undergraduate and graduate students has been overwhelmingly positive. Many students note that ethics training should be mandatory in archaeology, suggesting that they found the subject material essential to their educational development. Visiting lecturers and guest judges who partake in class activities comment on the unusually high level of student engagement and energy. Students write well thought-out and reasoned arguments in their research papers and exhibit evidence of higher-order learning. By being asked to participate in formal debate, they improve their oral communication skills and learn how to be more effective presenters. Most importantly, students walk away knowing how to think better, do better, and be better, with applications to all of their fields. After our ethics courses have concluded, many students stay in contact, sharing articles

on ethical issues or asking for input on the ethical dilemmas they encounter in their own lives.

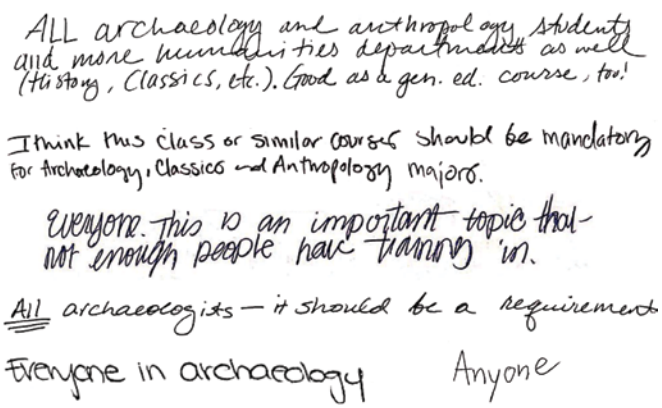
The SAA Ethics Bowl Competition as an Active Learning Exercise

Since 2004, the SAA's Committee on Ethics has organized an Ethics Bowl competition at the Annual Meeting, where teams of graduate and undergraduate students showcase their ethical problem-solving skills by debating a series of case studies before a panel of judges composed of professional archaeologists and leading scholars in archaeological ethics.

The case studies contain complex ethical dilemmas that require competitors to conduct background research, interview experts, and think critically about their proposed courses of action. The back-and-forth nature of the timed debates introduces unpredictability and encourages students to consider new information and improvise on their feet. The success of each team's performance is measured by the intelligibility, depth, focus, and judgment of their responses. While debates feature a tremendous range of interpretation and disagreement, commonalities in ethical thinking emerge. Furthermore, due to the controlled environment, teams are able to have conversations about sensitive issues that might otherwise be difficult to discuss in the real world.

As past competitors and champions, we consider our participation in the Ethics Bowl as fundamental to our development in graduate school, shaping the ways in which we approach our teaching and scholarship and providing us with a sense of purpose and direction. As a result of this transformative experience, we now volunteer time to organizing, judging, moderating, coaching, and writing cases for the event. Although we encourage undergraduate and graduate students to register teams for the event, we maintain that students do not necessarily have to participate in the official competition to reap its many benefits.

In fact, the Ethics Bowl debate format can be easily adapted into an active-learning exercise for any university classroom. We consider the Ethics Bowl model to be one of the most effective tools in ethics education precisely because it assigns students the difficult task of applying general ethical principles to complex, situational contexts. Students who participate in the activity end up engaging with a wide range of learning objectives at multiple cognitive levels (knowledge, comprehension, application, analysis, synthesis, and evaluation). All of the official cases from past competitions, rules and procedures, and scoring rubrics are available for use as teaching tools online on the SAA Ethics Bowl website (see announcement for link). Feedback from students regarding the debate is extremely positive, and students often cite it in evaluations as their favorite activity.



Sample responses from student evaluations to the question "To whom would you recommend this course?" written by undergraduate and graduate students in an upper-division/graduate archaeological ethics seminar. Fifty percent of students were non-anthropology majors or pursuing MAs in non-anthropology/archaeology fields.

To maximize its learning potential, we suggest spreading the activity out over the span of several meetings and including in-class group work. Students should be allotted time to familiarize themselves with various ethical codes, do research, converse with teammates about their approach to problem-solving, and develop specific case arguments. In the meantime, instructors can lecture and/or offer advice about research strategies, oral communication skills and optics, and strategies for presenting a convincing argument. We also recommend inviting local archaeologists and faculty to serve as guest judges, raising the stakes for students by factoring unknown variables into the equation. At the end of the debate, we suggest setting any remaining time aside to allow judges to offer feedback on the teams' performances and to allow the class as a whole to reflect on the lessons learned.

If time is limited, cases also can be employed in a single class session. Instructors can contextualize the issues the students will be examining by lecturing on the ethical tensions surrounding certain themes. Relevant cases can then be distributed to students, who should be given time to consult with each other in small groups before regrouping to either briefly debate the case or partake in instructor-led discussion. This exercise can be undertaken regardless of course topic; for example, in a course on Landscape Archaeology, instructors and students could discuss or debate a range of issues from resolution improvements of satellite imagery to the navigation of territory claims from multiple indigenous stakeholders. Last, but not least, cases tied to the Ethics Bowl also serve as great material for writing assignments of varying length and intensity, such as reading response papers, op-eds, and case analyses, including for large lecture courses that preclude small group discussion.

Building an Ethical Future, One Student at a Time

Archaeologists attending the SAA Ethics Bowl events sometimes express incredulity at the seemingly implausible scenarios posed in the case studies. More often than not, however, the cases are based on real-world scenarios gleaned from current events or are submitted by contributors willing to share personal ethical dilemmas (some of whom choose to remain anonymous).

At a time when the relevance of our discipline is being increasingly questioned, understanding archaeology through an ethical lens provides clarity on why archaeology matters and its worth to the multiple publics we serve. Because ethical issues surround everything we do, we promote teaching classes in ways that encourage students to think through ethics, centering ethics in a range of foundational and advanced courses. Furthermore, we advocate required coursework in ethics for graduate students (if not undergraduate majors as well) and propose that archaeology programs view ethical training as being of equal import to a knowledge of theory and method.

In this day and age, we simply cannot afford to let those we are responsible for training learn by the seat of their pants. If we fail to equip students with the skills necessary to make ethical decisions, then we open up the potential for them to cause significant damage to their colleagues, future students, community partners, clients, and beyond—regardless of intentionality or what career sector they enter. Returning to the case above, had the students advocating for a hardline approach to the suspected looters executed their original plan, they may have unintentionally caused more harm than good. While we can point to inexperience and naiveté as major factors in decision-making, the literature is rife with examples of professional archaeologists sparking widespread controversy through their chosen course of action.

By going through the motions of researching and debating Alice Nogales' case, students walked away learning several important lessons: (1) that war and conflict present great threats to the archaeological record, (2) that archaeologists are not the only group that can lay claim to the past, and (3) that the practice of archaeology concerns not only the material remains of past lives but also the people whose livelihoods are impacted by the decisions archaeologists make. Though many harbored no intentions of ever becoming archaeologists, they all left as nuanced thinkers invested in the issues important to archaeologists, in the health and future of the field, and in being better global citizens. Such is the power of thinking through ethics.

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Participate in the 2019 SAA Ethics Bowl in Albuquerque, New Mexico!

Each year, teams of 3–5 graduate and undergraduate students mentored by a faculty coach engage in debate about solutions to real-world ethical dilemmas faced by archaeologists in academia, museums, and cultural resource management. Responses to these dilemmas are judged based on knowledge and application of ethical principles, personal experiences, and legal precedents/laws. Sponsored by the Society for American Archaeology, the Register for Professional Archaeologists, and the Archaeological Institute of America, the benefits of competing include ethical training, debate training, problem-solving, and trophy/prizes. ***Submit a team by January 31, 2019*** *by e-mailing* ***saaethicsbowl@gmail.com****.*

More information and previous cases can be found by visiting http://www.saa.org/AbouttheSociety/AnnualMeeting/EthicsBowl/tabid/193/Default.aspx.

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Introduction to the 2018 SAA President's Forum "What We Have Learned"

Susan M. Chandler, SAA President

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Considering the current political and economic landscape, in particular the increasing number of leaders who repudiate science, it is critical that archaeologists share what we have learned from studying the past with policy makers, educators, and our communities. Archaeology offers historical perspectives on a variety of contemporary problems. As archaeologists, we have a strong sense of archaeology's value in that regard. We are very good at talking among ourselves about what we have learned—all you have to do is look at this year's program with its 3,400 submissions and 337 different sessions to see that is the case. But how can we communicate the value of our work beyond our own professional network? (see also Minnis et al. 2017).

I challenged SAA members at the 2017 Annual Meeting to share their passion for archaeology with people outside of their work environment by telling stories about the past in ways that nonprofessionals could enjoy. We want the public who funds our research to appreciate and understand our nation's cultural heritage and the importance of the work that archaeologists do. Shortly thereafter, Tim Kohler approached me with a proposal for the 2018 SAA President's Forum "What We Have Learned."

The participants he gathered for the President's Forum were asked to address two questions: "What have we learned through the lens of the archaeological record that is really useful for society today?" and "Why do we continue to do archaeology, and why is it important?"

In the order they spoke following my opening remarks, the forum participants were:

- Sonya Atalay, Associate Professor, Anthropology, University of Massachusetts-Amherst
- Junko Habu, Professor, Anthropology, University of California, Berkeley
- Sue Alcock, Professor, Archaeology and Classics, University of Michigan
- Thomas McGovern, Professor, Anthropology, Hunter College, and the CUNY Graduate Center
- Tim Kohler, Regents Professor, Archaeology and Evolutionary Anthropology, Washington State University
- Lynne Goldstein, Professor and Director of Campus Archaeology, Michigan State University
- Ian Hodder, Dunlevie Family Professor, Anthropology, Stanford University
- Jeremy Sabloff, External Professor and Past President, Santa Fe Institute
- Sander van der Leeuw, Foundation Professor, School of Human Evolution and Social Change, and Distinguished Sustainability Scientist, Arizona State University.

Atalay, Goldstein, Sabloff, and van der Leeuw decided not to contribute a paper to this special section, because of time constraints or because they had recently published their thoughts elsewhere. Brief summaries of their main points appear below.

I was surprised but gratified at the diversity of things that forum participants identified as "what we have learned," which highlight the many good reasons to practice our discipline. Several authors (not surprisingly) emphasize things they have learned about human societies from their engagement with archaeology from which they draw lessons relevant to contemporary society. Some authors find archaeology's greatest values to lie in its power to heal relations with communities who have been damaged in the past. Others emphasize having learned how critical it is to engage voters through involving as many communities as possible in our research, whether via social media or other nontraditional forms of outreach and publication. A fairly constant theme is finding relevance

in our research for the modern world, though a diversity of means for accomplishing this are proposed.

Most of the presenters inevitably offer thoughts about how we might improve our discipline in the future—whether by choice of topic, choice of methods, the embracing of "big data," or pursuing *un*-disciplined approaches. This might even include, according to at least two presenters, changes in our attitudes.

I hope you'll enjoy reading the following smorgasbord of ideas, drawing your own conclusions and making your own adjustments!

Sonya Atalay

Let us begin by acknowledging that we are standing on ancestral lands of the Piscataway peoples, observing that when archaeology is done in partnership with indigenous communities it has the power to contribute to healing from historical trauma and unresolved grief. One source of this trauma was identified by Maria Yellow Horse Brave Heart (2011:283) as "the prohibition and interruption of indigenous burial practices and ceremonies." A view of archaeology as therapy is also consonant with approaches reported by Schaepe and colleagues (2017) that developed out of community-based archaeological practice among the Coast Salish of southwestern British Columbia and northwestern Washington.

Archaeology has been practicing public engagement, including approaches to co-produce knowledge with various communities, much longer than most other disciplines due to the fact we study other peoples' heritage. Archaeologists are skilled at bringing together multiple lines of evidence to create "braided knowledge," and this gives us an opportunity to take a leadership role in helping move academic, state, and federal institutions toward more progressive, twenty-first-century models of research and teaching involving co-production of knowledge.

As archaeologists we know the power of our work to excite and inspire public audiences, adults and children alike. We need to harness this to engage people with science—including indigenous science—in a deeply meaningful way. This includes traditional ecological knowledge and other forms of traditional knowledge. This is recognized in the Indigenous Science Statement for the March for Science (http://www.esf.edu/indigenous-science-letter/) signed by over 2,000 scientists and scholars.

Finally, we must recognize that our traditional forms of publishing are not always the best for public engagement! In the co-production of knowledge, we need to conceptualize not just "making" of knowledge but also *moving* of knowledge. The format of these knowledge flows matters—knowledge mobilization means co-creation of things such as comics (Figure 1), animation, virtual reality, narratives containing gendered people, with emotions, and the sounds and lighted spaces that people can envision and relate to.



Figure 1. Image from Journeys to Complete the Work (Atalay, Shannon, and Swogger 2017); https://blogs.umass.edu/satalay/repatriation-comic/

Lynne Goldstein

With Terry Klein and a group of other archaeologists, I recently published an article called "The Future of American

Archaeology: Engage the Voting Public or Kiss Your Research Goodbye!" (Klein et al. 2018). Our impetus was the growing attacks on publicly funded and mandated archaeology in the United States in the past several years. At the state level, governors and legislatures tried to defund or outright eliminate archaeological programs and institutions. At the federal level, we have seen archaeology showcased as a waste of public tax dollars; attempts to defund archaeological research; legislation to move federal projects forward without consideration of impacts on archaeological resources; and changes in the designation of national monuments, many of which protect large numbers of archaeological sites.

Our goal should be to engage the public and descendant communities in order to build a strong constituency that supports publicly funded and mandated archaeology, as well as museums and institutions holding archaeological collections. It is especially important to engage *voters*, as these are the individuals that our political decision makers listen to.

Of the key activities and actions we have found to be successful, one is particularly important: Promoting a shared sense of place with members of the public. All of the project examples described in our article have grassroots local origins. They capitalize on people's curiosity about the history of places they know. In turn, interest in and appreciation for the experience of people of the past and with different cultural backgrounds may grow. Stewardship of the past represented in the archaeological records may emerge from this shared sense of place.

I know from my own experience and research that the public may not care about the bigger questions that archaeology can pose—they almost always have specific and *local* questions that matter to them. This does not mean that we should not explore those larger questions, but instead we must also address those questions that are of concern to stakeholders. That gives us credibility. The two may eventually converge.

Social media must play a significant role here, because they make everything more immediate. These media shape the Michigan State University Campus Archaeology Program that I created and direct (see Klein et al. 2018:Figures 1 and 2). While social media serve as primary tools in engagement and transparency, they also help maintain consistency within the program by maintaining a record of activity and articulating a strong cultural identity.

Another wonderful example of creating and encouraging citizen science is MicroPasts (https://crowdsourced.micropasts.org). You can assist existing research projects with tasks that need human intelligence, such as the accurate location of artifact findspots or photographed scenes, identification of subject matter in historic archives, masking of photos meant for 3-D modeling, or transcription of letters and catalogues. Other tasks might require on-location contributions by members of the public, such as submitting your own photographs of particular archaeological sites or objects. MicroPasts has created citizen scientists, but has also provided institutions with data that they could not have processed without assistance.

Such expanded views of public engagement do not diminish our expertise, but add to it. My experiences resulted in improved data organization and design, forced a collaboration and interaction with others of different views in a direct and immediate synchronous fashion, and allowed us to level the playing field (at least a bit) between academics and the general public, who have important knowledge but are often treated as though they have much less credibility. They have positively influenced my archaeological knowledge.

Jeremy Sabloff

Early in my career, I came to firmly believe that archaeology was relevant to the modern world and not an arcane pursuit. Archaeological perspectives have the potential to help us to better understand issues such as sustainability, resilience and adaptation, warfare, inequality, urbanism, and community development in today's rapidly changing ecological and demographic circumstances. We can achieve such relevance in a wide variety of ways. One lesson that I have learned, which I wish to emphasize, is the crucial importance of archaeological methodology.

I could emphasize, for example, the methodology of settlement pattern studies, whose holistic views of societies have enabled colleagues to better understand how elites have controlled the bulk of populations through time and space—the origins if you will of the 99%–1% issues that we see today (see Sabloff 2008). But instead let me briefly talk about the use of archaeological approaches for the study of aspects of today's material world: an approach that was pioneered by Mike Schiffer, the late Bill Rathje, and Jeff Reid, among others, some years ago (see, for example, Reid, Schiffer, and Rathje 1975). One could cite many examples of such important research. Three key areas of research that I highlight in this symposium are garbage studies; immigration and border crossing; and the archaeology of the homeless. I have learned that such work is truly important!

Sander van der Leeuw

Archaeology has unrecognizably changed over the past 50 years, from an amateur-driven adventurous field of study close to the history of art, with very primitive methods (stylistic

analysis, typo-chronology, approximate dating, etc.) to a highly scientific, systematic discipline that integrates elements from many aspects of the natural and life sciences, and has become a major, costly, activity in many countries.

One major achievement has been the integration of lots of information technology, from the use of barcodes to in-the-field data collection and electronic distance measurement, but also including ground-penetrating radar, use of satellite images, lidar, etc. The crowning achievement, at least for the moment, is the long-term modeling of the evolution of societies (e.g., Kohler et al. 2018). But before long the explosive growth of information and communication technology (ICT), including "big data," machine learning, and artificial intelligence, is going to open up completely new techniques and approaches.

Some elements of what I consider to be essential actions for the future development of archaeology are as follows:

- To use the position of archaeology as the only discipline that spans timeframes of millennia and more—and collects data concerning the physico-chemical and the living environment as well as society—to get at the second-order dynamics of the socio-environmental dynamics we are studying, the change of change. How are the shorter-term dynamics actually changing over the longer term?
- To develop approaches for extending the current field of archaeology, the study between past and present, to the future: learning *from* the past, *about* the present, *for* the future.
- To develop an *un*-disciplined perspective beyond multi-, inter- and transdisciplinarity, in which fusion between domains of research and understanding leads to a holistic approach to the past.
- To move from the current paradigm that looks at the origins of the present to an approach that looks at the emergence of novelty throughout the past. In practice this means moving from a perspective that goes against the arrow of time to one that studies things with the arrow of time. This is important because our societies now change so fast that they have to plan for the future, instead of simply "letting the future happen."

The above changes are best achieved by promoting the complex (adaptive) systems approach that acknowledges the complexity of history and tries to grasp elements of it, ideally without simplification. Archaeology has generally, as has much of our Western culture, assumed stability and expended its efforts at explaining change. I would argue that we (also) need to do the reverse: assume change and explain stability. In effect, both stability and change are regulated by the same complex dynamics. In essence, this means moving from an Aristotelian perspective to a Heraclitan one. In nature everything changes all the time, and humans strive to attain (temporary) stability. Our focus needs to be how society and its dynamics affect the environment, rather than vice versa (as is nowadays often the case, for example, in sustainability studies).

Beyond these points, in closing, archaeology, and science in general, should show more humility towards the wider public and citizenry. They should be permanently and acutely aware of their wider societal and scientific contexts.

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Jomon Food Diversity, Climate Change, and Long-Term Sustainability:

What I Have Learned by Doing Archaeological and Ethnographic Studies in Japan

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International, interdisciplinary, and transdisciplinary research in the fields of anthropology, including archaeology and ethnography, and related disciplines can make important contributions to the debates on the resilience of food systems and long-term sustainability of human society. Japanese archaeology, in particular, with its rich excavation data and its long tradition of community engagement and public outreach, is in an excellent position to contribute to these important contemporary debates. Because Japanese archaeology emphasizes archaeology as history, it pays special attention to the local and historical contexts of archaeological data and their interpretation. In addition, ethnographic and ethnohistoric studies in Japan demonstrate the importance of local and traditional ecological knowledge in assessing the resilience of socioeconomic systems at multiple temporal scales. Combined with archaeological studies, these can enhance our understanding of continuity and change in landscape use from the prehistoric period to the present.

As an archaeologist working on the issues of sedentism, subsistence intensification, and the development of social complexity among prehistoric hunter-gatherers in Japan, I am interested in the causes, conditions, and consequences of long-term culture change. My earlier work on the subsistence-settlement systems and intersite variability among Early Jomon sites in central Japan focused on the relationships between subsistence strategies, residential mobility, and climate change. Results of this earlier work indicate that Early Jomon hunter-gatherers in this region changed their subsistence strategies and residential mobility in relation to changing climatic conditions and that these changes were not necessarily directional ones from simple to complex. Examining Early and Middle Jomon data at the Sannai Maruyama site and its vicinity in northern Japan, I began to explore the advantages and disadvantages of subsistence intensification among early sedentary populations (Habu 2004).

At different moments in its history, archaeology as a discipline has entertained competing theories about the causes and conditions of the development of complex societies. During the first half of the twentieth century, many scholars assumed that technological innovation, including the adoption of agriculture, was the key factor in societal development. The idea of the Neolithic Revolution proposed by V. Gordon Childe (1951) was particularly influential in understanding the shift from hunting-gathering to agriculture. Implicit in this perspective was an assumption that agriculturalists were more "advanced" than hunter-gatherers.

In the 1960s, scholars began to propose that the shift from hunting-gathering to food production was caused instead by population pressure. This new perspective was strongly influenced by economist Ester Boserup's (1965) work on agricultural development. As Bruce Trigger (2006: 411) stated, Boserup's thesis "was construed as evidence that developments which previous generations of archaeologists had interpreted as desirable results of humanity's ability to solve problems and make life easier and more fulfilling were in fact responses to forces beyond human control." Comparative examination of contemporary subsistence systems demonstrated that hunting-gathering is generally more efficient than food production in terms of cost-benefit returns, even if food production can support a larger population. Both population- and efficiency-centered approaches were later severely criticized as functionalist, however, and many archaeologists began to focus more on the role of particular social phenomena, such as competition between aspiring elites, and social resistance, in relation to different paths of societal change. Even as different studies adopted quite distinct theoretical orientations, almost all accepted an implicit assumption that specialization and centralization are inevitable in the course of human history, and that further agricultural specialization and centralization would continue in the future.

Are specialization and centralization themselves so essential to societal development? More importantly, are specialized subsistence systems sustainable for the long-term, for periods of several hundreds to several thousands of years? Can they be assumed in contemporary discussions of agricultural sustainability? Large-scale, homogenized intensive production-consumption systems today allow production of a large amount of food and goods, but they also tend to inhibit diversity and damage the environment. Large-scale, homogenized economies are also quite vulnerable to changes such as global warming, natural disasters, and radical shifts in political and social structure. The Great East Japan Earthquake of March 11, 2011, for example, severely damaged food distribution networks and left many people in the Tokyo metropolitan area without access to food for several days, exposing the vulnerability of large-scale and long-distance food systems. Are such vulnerabilities of subsistence specialization and centralization only recent phenomena, or can we find analogues for them in the past? Might it even be possible to find evidence of the problem of overspecialization among prehistoric hunter-gatherers? Could case studies from the Jomon period, with its long time span and rich data, contribute towards these goals? If so, how could we pursue this question without dismissing the importance of historically unique local contexts and the roles of individuals (cf. Trigger 2006:407)?

The Small-Scale Economies Project

With these questions in mind, from 2014 to 2017, I conducted a three-year transdisciplinary research project at the Research Institute for Humanity and Nature in Kyoto, Japan (http://www.chikyu.ac.jp/fooddiversity/en/index.html). This project examined the importance of place-based, small-scale, and diversified economies, particularly the importance of small-scale food production, for the long-term sustainability of human societies. For the purposes of this project, a "small-scale economy" was defined not solely on the basis of the absolute size of the economic unit, but rather in terms of the relative scale of food production within a given socioeconomic context. Our definition of small-scale economy addressed the range of local or regional networks that enable production, circulation, and consumption without precluding links to the outside economy. Long-term sustainability can be defined as "the capacity of humans to create, test out, and maintain abilities to adapt to environments" over a span of *several hundred to several thousand years*.

The theoretical genesis of this project was the approach of historical ecology (Balée 2006), which examines long- and short-term cultural change while emphasizing the impact of human activities on the environment. Our working hypothesis was as follows:

> Highly specialized subsistence (i.e., food production) strategies can support a larger community for a short period, but a decrease in subsistence and food diversity makes the production system and its associated community more vulnerable in the long-run.

Archaeological, historical, and paleoenvironmental studies were used to test this hypothesis or to examine the long-term impacts of the loss of subsistence and food diversity in relation to other environmental and cultural factors (Research Group I: *Longue Durée* Group). To link these studies with the current discussion of the scale and methods of alternative food systems, ethnographic and ecological studies of contemporary small-scale food systems and communities were conducted (Research Group II: Contemporary Society Group). In combination, studies of the past and present were used to point to the future, as the research process also involved collaborative design of ecologically sound and equitable food systems (Research Group III: Implementation, Outreach, and Policy Proposal Group).

By integrating past and present case studies on food diversity, the mobility of people, goods, and information, and the initiatives of local stakeholders in relation to the scale and resilience of societies and economies, this project aimed to advance theories on the interrelationship between culture and environment, including climate change. Other cultural factors, such as technological developments, sociopolitical structure, and rituals/religion, were also taken into consideration. Results of this three-year project generally indicate that high levels of diversity, networking, and local autonomy, all of which are strongly correlated with the scale of the system, are the keys to long-term sustainability of socioeconomic systems.

While the project consisted of more than 50 sub-projects on both sides of the North Pacific rim, northern Japan, with its solid archaeological record and continuing importance to contemporary food production in Japan, was a core area of field research. In the space that remains here, I will briefly discuss preliminary results of our archaeological and ethnographic case studies there.

Lessons from the Jomon Period: Food Diversity and Climate Change

The Jomon period (ca. 16,000–2500 cal BP) of the Japanese archipelago offers a unique opportunity to examine both short- and long-term changes in complex hunter-gatherer societies. According to Koyama (1978) and others, in northeastern Japan, the human population increased from the Initial to the Middle Jomon period, reached its maximum during the latter half of the Middle Jomon, and then declined through the Late and Final Jomon.

Scholars have discussed the growth in the number and size of Jomon settlements from the Early Jomon to the Middle Jomon

periods. Central to this discussion is an abundance of plant food collecting and processing tools recovered from Middle Jomon sites. Many scholars agree that the Middle Jomon period was characterized by a heavy reliance on plant food, and some have suggested the possibilities of "Jomon agriculture" or tending of chestnut trees during the Middle Jomon period. As for the decrease in the number and size of settlements at the end of the Middle Jomon period, climate cooling approximately 4200 cal BP, the so-called "Bond 3 event" inferred from sedimentary deposits in the North Atlantic Ocean, has often been suggested as the major cause.

The Small-Scale Economies Project investigated the possibility that planetary cycles of climate change were not the only cause of Jomon population rise and decline. In particular, the project focused on the question of whether subsistence specialization, with an overdependence on a particular type or types of plant food, may have weakened the resilience of subsistence-settlement systems in the region, ultimately leading to a population decrease.

Building on my previous quantitative analyses of historical change in stone tool diversity, ritual objects, and site size at the Sannai Maruyama site (Habu 2008; Habu and Hall 2013), the project team conducted the following analyses (for details, see Habu 2016):

1. AMS (Accelerator Mass Spectrometry) ^{14}C dating of nut and plant seed remains retrieved from columnar soil samples
2. Summed probability distribution analysis of Jomon population dynamics in Eastern Japan using calibrated ^{14}C dates (Crema et al. 2016)
3. Pollen analysis and alkenone sea surface temperature analysis using samples from marine cores
4. Quantitative analyses of macro- and microfaunal/floral remains from Jomon sites
5. Molecular and isotopic analyses of pottery and charred food remains (Heron et al. 2016)
6. Carbon and nitrogen stable isotope analysis and physical anthropological analysis of human skeletal remains excavated from Initial to Final Jomon sites
7. GIS analysis of Jomon settlement data in northeastern Japan

Final reports of many of these analyses are yet to be published, but so far the results of our analyses are consistent with our initial hypothesis that a loss of food and subsistence diversity may have weakened system resilience. Newly obtained AMS ^{14}C dates confirmed that, at the Sannai Maruyama site, a decrease in food and subsistence diversity indicated in lithic assemblage characteristics began at around 5600 cal BP and culminated at 5200–5000 cal BP, followed by an abrupt decrease in the number of pit-dwellings at around 4900 cal BP. At the same time, the total number of pit-dwellings in the vicinity of this site also began to decrease. This was 700 years before major cooling occurred in the area (ca. 4200 cal BP), suggesting that Jomon population decline was not only caused by long-term climate change.

Ethnographic Research in Rural Communities in Northern Japan

Members of the Small-Scale Economies Project also conducted ethnographic research in rural Japan to address questions regarding the positive role of small-scale and diversified production systems in relation to environment and environmental change through time, and whether social networks associated with small-scale and diversified production increase the resilience of local communities, especially in times of disaster. Three areas in northern Japan were chosen as main field sites: the Hei River Area (Miyako City), the Joboji Area (Ninohe City), and Fukushima City and its vicinity. Our interviews in the Hei River Area indicated that subsistence diversity supported by traditional ecological knowledge (TEK) has played a critical role in the resilience of food systems and communities. TEK and local networks have proven to be especially important in cases of floods, typhoons, and earthquakes. At Joboji, our interviews of lacquer sap collectors and co-owners of a small-scale farmers' market indicate that, historically, multiple backup plans supported by wide subsistence diversity and TEK are at the core of local strategies for survival. At Fukushima City and its vicinity, where environmental damage caused by the 2011 Fukushima Nuclear Plant Accident is serious, we found that TEK and local networks are critical for maintaining farmers' and residents' identity and pride (Habu et al. 2018).

Concluding Remarks

The scientific literature of sustainability typically focuses on "greening" conventional agriculture. Our case studies in Japan suggest that archaeological and ethnographic studies can make substantive and much more nuanced contributions to contemporary discussions of sustainability, resilience, vulnerability, and the long-term significance of food and subsistence diversity. While the Small-Scale Economies Project began with an emphasis on food diversity, long-term system sustainability, and the scale of economy/community, the results of our archaeological and ethnographic studies also indicate the importance of social networks, local autonomy, and traditional ecological knowledge in local and regional food systems. Our ethnographic studies also demonstrated that these latter aspects are typically embedded in rituals and religions, local and individual identities, patterns of human action reflected in material culture, and human impacts on biodiversity. Understanding changes and continuity in landscape use from the prehistoric

period to the present may be a key to developing future proposals for place-based food production and consumption systems.

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SAA

SOCIETY FOR AMERICAN ARCHAEOLOGY

Election

January 2 - 31, 2019

The 2019 Election will be administered by a new GDPR compliant company, Intelliscan, Inc. Two weeks prior to the start of the election, SAA voting members will receive an e-mail from election@intelliscaninc.net announcing the upcoming election. When the election opens, a second e-mail will be sent from Intelliscan containing the link to the online ballot. Those without valid e-mail addresses will receive a postcard in the mail. As a reminder, only votes from eligible members who have renewed for 2019 will be counted.

Why We Fight, with Humility

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Regarding the question of why we continue to do archaeology, and why is it important—I've come to the conclusion that archaeology, at its best, possesses, and can teach, a fundamental humility, an almost entrenched humility. I would argue that this is a desirable and powerful quality to bring to whatever audiences we can reach, perhaps particularly in this day and age; moreover, it is one that we are perhaps peculiarly well suited to offer.

But let's start with some clarity of definition here. The term "humility" usually conjures up the shy, the demure, the self-effacing, the meek, the weak . . . those lacking in drive, or in ego. It would be a bold person indeed who could think on many of our colleagues (if not on ourselves) and declare that these are the chief characteristics and ruling behaviors of most members of the Society for American Archaeology. Instead, humility, in this context, owns a more vibrant set of associations. Here I'll speak to resilience. Openness. And a kind of what I'll call, awkwardly, "un-spinnableness." I would like to take these in turn.

First, I would argue that archaeology, at its best, is humble in the way it reflects resilience in the face of unpredictability and required adjustments. Second, in the way it evinces openness, a willingness to share its joys and to work to build alliances. And third, archaeology is humble in the way it offers a clear-eyed recognition and sharing of difficult topics, and difficult truths.

Now to a degree archaeology has humility (rather like greatness) thrust upon it. It is hard to be omniscient, to be perfect, in the face of the serendipitous; we must acknowledge the lack of control we possess over the datasets we seek, recover, and then must explain. We can ask whatever questions we will, as we will, but we cannot predict or dictate our results. It would be a rare archaeologist indeed who has never been annoyed back to the drawing board of explanation and interpretation by the apparent vagaries of the findings. A certain hardiness is required.

Archaeologists are, of course, by no means alone in facing the ambiguities and vicissitudes of discovery (the research process is everywhere complicated). But these uncertainties are, I would argue, compounded for us by numerous circumstances: not least the frequently "one shot only," nonreplicability of our studies (in which we destroy or alter our subjects, as we advance—and we know this, but proceed anyway).

A kind of tough-minded buoyancy is essential here, and it brings us a rather ironic reward. One of the chief, if painful, glories of archaeology is the ever-expanding body of information we collectively acquire, the shock of the new and the newly discovered. These elements can undercut, turn over, and rewrite the narratives and theories we so painfully construct and promulgate. Archaeological writings can age, I would say, with greater celerity and arguably fewer nostalgic backward glances than many other fields. But if we are resilient and (as we are somewhat compelled to be) humble, we would not have this any other way.

Second, archaeological humility is something marked by a quality of openness and sharing. Having served in higher administration—with its somewhat bird's-eye view of the academy—I am struck again and again at how unusual archaeology remains in its innately interdisciplinary scope, indeed its interdisciplinary need. Archaeology is not frivolously described as a team sport, nor lightly hailed for its gregarious welcoming of an ever-increasing range of collaborators. This may be in part expedience. It is also a humble acceptance that we can't, responsibly, go it alone.

This willingness to partner and to cooperate is also being increasingly sought in other directions. Particularly vital is the developing and shifting landscape of public engagement at work in our field (as other colleagues have here discussed). Ever since I taught a MOOC (massive open online course), "Archaeology's Dirty Little Secrets," I have been convinced of the potential body of active, invested, and either informed (or willing to be informed) individuals, a global citizenry who want to help. Help in a meaningful and proactive sense, who want urgently to be deployed. To optimize these possibilities

we, on the academic side, will need to reconcile the doing of normatively perceived "high" research with too oft-perceived "low" activities, such as public outreach and public advocacy ("humility," of course, comes from the Latin word for "low").

Such developments will require even more openness, greater accessibility, than we have consistently displayed in the past, demanding a willingness to partner in new and even unprecedented ways. This can be not only across the divide of avocational and professional archaeologists, but perhaps across the academic and nonacademic archaeological divides; across the SAA and AIA divides, across the "Great Divide," and so on down the list. Given the heritage battles in which we are now engaged (just think of places such as Bears Ears National Monument or the site of Palmyra in Syria, to name only two from a long and sad list), pride and exclusivity will serve no one's interests at this particular juncture.

Resilience. Openness. And third and finally, we can turn to what I termed a kind of un-spinnableness, a clear-eyed recognition and sharing of difficult topics, and difficult truths. Let me conclude by talking about impossibility, mortality, and oblivion.

If you think about it, what we as archaeologists try to do is impossible. The imperfections and partialities of our work are manifest: we deal in samples of samples of bits and pieces of samples of parts, and yet we try to sketch and to comprehend the full complexities of life across the globe, through time, across cultures. This is an impossible task, a humbling task. But we try nonetheless, and many find the attempt attractive and exciting—archaeology's innate appeal to people's curiosity is one of our greatest, if sometimes underutilized, strengths. We can reach, and teach, in a manner that many fields cannot.

The stories we tell, however partially, are often of successes, of mind-boggling past achievements: garnering those "How the hell did they do that"/"That's so cool" student and public reactions that we all know well. Sheer wonder at what "others" have done can in turn evoke impulses of humble admiration, a liberality welcome in an age that tends not to put a premium upon such pluralistic generosity.

Archaeology also deals, however, in failure and termination. We inevitably teach of change, of ends, of losses and transitions. We teach impermanence. We teach mortality. These humbling lessons, I would argue, are inevitably part and parcel of the human condition, and archaeologists above all cannot wish or magic them away (not least because, to a great extent, our field would disappear in turn). These topics are un-spinnable, and as a result they are shunned by many dominant actors and many dominant narratives in our society. Observing and reflecting on such themes is not something always encouraged, or indeed even always allowed. But they are bred in the bone of archaeology, and as long as we keep doing what we do, these hard and elemental lessons will be taught.

That's both an important and particular role for us (one of many reasons why I think archaeology should be an educational requirement). As is our near constant demonstration of just how frangible memory can be, and how easily oblivion is achieved (if we don't look and find, it is gone; if it is gets bulldozed first, it is gone; if we don't publish it, it is gone). Archaeologists are, among many other things, potential givers of voice to the voiceless, both in the past and in the present. There is nothing like silence to encourage and empower hubris, that ultimate flip side of humility. The memorial responsibility of archaeology is, if one really thinks about it, rather terrifying, and certainly chastening.

To be clear, to a degree these thoughts are, of course, aspirational. I am not saying archaeologists always do humility, by any definition, particularly well. Many might find these remarks over-optimistic and self-forgiving of a field that can be viewed as perverse, even pernicious in its origins and outcomes. But on the question of why we continue to do archaeology—why we fight —there are worse characteristics to display in the world today than resilience in the face of challenge, than openness to the dialogue of others, than facing the fact that some things are, simply, un-spinnable. Archaeologists have the capacity and the responsibility to enact, teach, and share such qualities. And in this, I believe we are privileged.

What Is It All For? Archaeology and Global Change Research

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There are a great many good reasons to do archaeology, ranging from simple curiosity about the unknown past to the equally simple basic pleasure of finding cool old stuff while camping out with friends. However, this century has seen many of us engaging with the big questions and grand challenges of using archaeology to collaborate with a growing range of people, institutions, disciplines, and nationalities in the acronym-rich world of Global Change research.

Grand Challenges and Broader Significance

Our initial challenge in the last century has been to get anyone outside of archaeology to listen to us, but an oncoming challenge in this century will be to deliver on our claims as we work with real-world practitioners responsible for human and nonhuman lives and the health of ecosystems. Many in the SAA have made major contributions to getting archaeology into the sustainability debates through years of hard work, and many of the excellent early career scholars now active are passionate about using our discipline to make a real difference in combining sustainability with human progress in a rapidly changing planet.

Beginning in 2011, a diverse and distinguished group of archaeologists held a series of workshops and conducted a broad crowd-sourcing polling exercise aimed at identifying "problems of broad scientific and social interest that could drive cutting edge research in archaeology for the next decade and beyond" (Kintigh et al. 2014). Many of the grand challenges (*A. Emergence, communities, and complexity; B. Resilience, persistence, transformation, and collapse; C. Movement, mobility, and migration; D. Cognition, behavior, and identity; E. Human-environment interactions)* reflect engagement with Historical Ecology, the Integrated History and Future of People on Earth (IHOPE, http://ihopenet.org/) and the Resilience Alliance (https://www.resalliance.org/), as well as the experience of participating in NSF programs like Biocomplexity, Coupled Natural and Human Systems, and the Arctic Social Sciences Program. Archaeology has done well in these new competitions, which often play to our long-term strengths in interdisciplinary collaboration and coordination of teams of multidisciplinary investigators.

A similar multistaged, crowdsourced review process begun in 2014 and led by early career researchers active in the Historical Ecology movement flags 50 questions for new and ongoing research projects in this century (Armstrong et al. 2017). These questions also center around issues of human-environment interactions and the need to build structures for coproduction of knowledge with other academic disciplines, heritage and land management practitioners, and local and indigenous communities. This essay is not intended to provide any comprehensive review of all this hard work and solid scholarship but is a personal perspective on lessons learned in nearly four decades of attempting interdisciplinary archaeology among the big science acronyms active in the North Atlantic quadrant of the circumpolar north.

North Atlantic & Human Ecodynamics

Working in the North Atlantic, with a doctoral dissertation (McGovern 1979) on the zooarchaeology of Norse Greenland, issues of climatic determinism, human impact on island ecosystems, proto-world system effects, and a now classic (if still controversial) case of complete societal "collapse," I found it hard to avoid a research focus on what much later became known as coupled human and natural systems, SESs, or long-term human ecodynamics. The islands of the North Atlantic were not the scene of human origins, Neolithic transitions, or the rise of pristine states, but they were among the "last settled places on earth" and like other offshore islands have been characterized as "laboratories of culture change" and scale models for island earth. It is not an accident that island archaeologists have been often at the forefront of the effort to get long-term human ecodynamics on the radar of other disciplines and (critically) of funding agencies (Fitzhugh et al. 2018).

In the 1970s a wide range of researchers from multiple nations and archaeological traditions ventured into the lovely if damp islands of the North Atlantic, armed with a host of new tools and techniques and fired up by the then New Archaeology that promised simple and easy-to- understand universal rules for human-environment interactions. By 1992 a critical mass of researchers and new findings prompted the formation of the North Atlantic Biocultural Organisation (NABO, www.nabohome.org) with help from the US National Science Foundation's new Arctic Social Sciences Program (then led by Noel Broadbent). NABO has since operated as an informal international and multidisciplinary research and education cooperative, pooling resources (Land Rovers, boats, transits, and now drones and sub-meter GPS) and long-running field schools (Iceland, Faroes, Shetland, and currently Orkney and Greenland). We have together produced masses of new data, forged multigenerational collaborative projects that include local communities, and learned a great deal we did not anticipate about those simple and easy-to-understand universal rules (compare, for example, McGovern 1981 with Dugmore et al. 2013 or McGovern et al. 1988 with Hartman et al. 2017).

Three interlocking research foci have helped to pull together NABO researchers and have had resonance with modern global change and sustainability concerns that may be useful elsewhere:

- **Human Impacts on Environment:** These include the creation of cultural landscapes, planned and unanticipated outcomes of introductions and local extinctions, development (sustainable and catastrophic) of natural capital resources, and creation of intergenerational landscape heritages.
- **Climate Impacts on Humans and Landscapes:** As climatologists and modelers deliver paleoclimate data on the temporal human scale of years and seasons and the geographic scale of hectares, we have been given powerful tools for understanding conjunctures between human economic strategies and changing resource productivity. Fortunately, we are increasingly getting past deterministic simplicity ("it got cold and they died") to make sophisticated use of human-scale environmental datasets to investigate conjunctures between human intentions and climate fluctuation.
- **Humans' Impact on Each Other:** Culture contact, migration, warfare, changing degrees of social and economic stratification and hierarchy, local impacts of early globalization, and imperialism all are part of the ecodynamics mix and have profound influence on adaptive capacities and pathway dependence in the North Atlantic and beyond.

Historical Ecology as Theory and Tool Kit

The School of American Research Advanced Seminar in Santa Fe held in 1990 that produced the initial edited volume *Historical Ecology: Cultural Knowledge and Changing Landscapes* (Crumley 1994) included a short "Santa Fe Statement" that reads as a manifesto for archaeological engagement with global change issues. Historical Ecology is now a mature and flourishing research program involving environmental humanities, local and traditional knowledge, archaeology, history, paleoecology, and modern resource managers. It forms a key element of the IGBP/Future Earth core program IHOPE, based in Uppsala, Sweden, and still led by Carole Crumley. A blog post by Crumley (2014) provides a useful summary of the Historical Ecology program:

> Historical ecology is a practical framework of concepts and methods for studying the past and future of the relationship between people and their environment. While historical ecology may be applied to spatial and temporal frames at any resolution, it finds particularly rich sources of data at the "landscape" scale, where human activity and cognition interact with biophysical systems, and where archaeological, historical, ethnographic, environmental, and other records are plentiful. . . . It is not a new discipline so much as a cluster of mutually compatible questions, concepts, methods, and values that are germane to diverse challenges. It is a rich environment within which to find common cause with other initiatives. Such communities are taking shape and broadening their inclusivity.

Historical Ecology (HE) is thus a tool kit for successful interdisciplinary research more than an ideologically driven theoretical paradigm. In practice, HE archaeology integrates both core processual and post-processual perspectives and bridges the science/humanities divide by connecting human intentionality, stores of traditional knowledge, politics, and bounded rationality with environmental science in place-based research with the fundamental realization that landscapes are products of humans, climate, geology, and time. HE has served to effectively connect the perspectives of the French Historical *Annales* school (*Longue durée*, conjunctures, cross-scale interactions, human landscape creation) with the influential formulations of the Resilience Alliance (panarchy, fast and slow variables, cross-scale and cross-temporal interactions, resilience, vulnerability, robustness, trade-offs, pathway dependence). Significantly, Historical Ecology is now a bridge to practitioners in adaptive landscape management projects, fisheries and marine mammal management, and several strains of Environmental History and Environmental Humanities (see http://oceanspast.org/; https://hfe-observatories.org/).

Engaging with Global Environmental Change (GEC) Research: Some Take-Away Suggestions

While there is no "one size fits all" approach to engaging with the broader global change community (which includes many "big science" acronyms, governmental and intergovernmental agencies, science reporters and the green media, and local and traditional knowledge holders) a few principles may be worth emphasizing:

- **Finding Allies**
  - Connect widely with other academic disciplines on the full spectrum of hard science-social science-humanities-arts. Environmental History, Environmental Humanities, Ecocriticism, and Arts for Environment are all growing fields that want to engage with human-scale climate and natural sciences. We are the natural bridging discipline.
  - Continue to engage with hard science (climatology, oceanography, biosciences) and give papers at their meetings. These acronymic groups have long-term experience in organizing large projects and getting funding we can only dream about, and we have data and resources they find valuable (see Future Earth, http://www.futureearth.org/).
  - Build connections with Cultural Heritage groups and local and indigenous communities. The SAA Committee on Climate Change Strategies and Archaeological Resources has discovered the power of a combination of concern with loss of scientific data and the loss of local and global heritage in engaging widely on issues of climate change threats. The integration of science, heritage, and community concern is a key to advancing our common agendas and making clear that archaeology is hugely relevant to present and future (see Scottish Coastal Archaeology and the Problem of Erosion [SCAPE], http://www.scapetrust.org/index.html).
- **Digital Skills**
  - Data Management and Discoverability: We want our datasets used, but they can't use it if they can't find it. We all have much work to do with digirati to enhance access and discoverability of our data (e.g., https://www.data-arc.org/). We also need to employ digital tools to engage with nonacademic knowledge holders and experts to aid genuine coproduction of knowledge (see Exchange for Local Observations and Knowledge of the Arctic [ELOKA], https://eloka-arctic.org/).
  - Models as the third leg of the archaeology school (thanks to Tim Kohler): Modeling provides many benefits, not least in fostering focused conversations with natural scientists and resource managers.
  - Professionalizing visualization and outreach: We need to use the skills of professionals in developing media that can be used for education, dissemination, and broadening public awareness of our work. Working with environmental arts teams is highly worthwhile (see BIFROST, https://bifrostonline.org/).
- **Three-Level Engagement:** Offer both broad theoretical AND immediate and practical support to the objectives of GEC researchers by engaging on three levels of professional competence:
  - Completed long-term human ecodynamics experiments of the past (cases of sustainability and collapse) need full and nuanced presentation. We can do better than Jared Diamond, and there is great need for new large-scale syntheses that make full use of our data stores and professional interests.
  - Specific "lessons learned" on what works and what doesn't in human resource management over the *longue durée*—how to manage ducks sustainably for 1,000 years or garden with clams (see Einarsson et al. 2015; Hicks et al. 2016; Jackley et al. 2016)?
  - Datasets we have that they need. Archaeological sites are effectively "distributed observing networks of the past" (DONOP) that hold stores of information about past ecosystems and human exploitation that are not available from any other source—especially as new isotopic and aDNA research expands our capacities to look at food webs and genetic change through time (Hambrecht et al. 2018).

We have lots to do together as archaeologists to use the past to change the world for the better. If we go on doing what we do well (creating and sustaining interdisciplinary networks) and explore what we should be doing anyway (enhancing digital resources and capacities, engaging more effectively with stakeholders and the wider public), we have some grand challenges ahead that are worth meeting.

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Our Unfinished Agenda (What I Have Learned)

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Legislation enacted in the United States and many other nations in the last half of the twentieth century greatly expanded the contexts in which funding for archaeology was available. These state and federal laws and their regulations envisioned aesthetic and economic benefits from archaeology to society that included preservation, research, heritage, and education (Lipe and Sebastian 2009). Today it is likely that most of the sites in the US that are known were recorded, and often investigated, by CRM archaeology. The charge from President Chandler to consider what we are learning from archaeology that is really useful for society today is an invitation to concentrate on the research and educational benefits of our activities. Of course these are interdependent; what we learn from research becomes curriculum.

I will argue that our research best justifies public expenditures on archaeology when it draws most fully on the results of that funding. Sometimes this means engaging communities in the process of research and then reporting the results back effectively, as Lynne Goldstein argues in her paper (see also Klein et al. 2018). I believe in this model. We have always done well by providing a sense of place, the locale: What ancient activities and people enrich the places we now occupy? What were their stories, their biographies? Moreover, experiential learning is a natural for archaeology.

Here though I wish to emphasize another, newer path that I think also needs to be pursued: *scaling up*. The virtues of scaling up are a little more abstract. What do the increasing reach and precision of archaeological research reveal about how we arrived in conditions that often vex: a very densely occupied planet whose inhabitants, ever more polarized by differences in wealth, ethnicity, and standpoint, likely push on critical planetary thresholds that if crossed may seriously disrupt ecosystems, societies, and economies (Steffen et al. 2018)?

I want to show how archaeologists are starting to use our rapidly accumulating data to ask interesting *scaled-up* questions. This frequently means using computational tools on datasets that are larger and more cross-cultural than those we usually grapple with (thus, "Big Data" from the perspective of archaeology); it may also mean paying attention to phenomena of interest or concern in contemporary society. By so doing we find unanticipated features in these big-scale patterns with the capacity to surprise, delight, or terrify. What we are now learning suggests that the glory days of archaeology lie not with the Schliemanns of the nineteenth century and the gold of Troy, but right now and in the near future, as we begin to mine the riches in our rapidly accumulating data, turning them into knowledge.

Explaining Regional Macrohistories

My first example is a study by Kyle Bocinsky and colleagues (2016) that represents an early product of SKOPE (Synthesizing Knowledge of Past Environments, https://www.openskope.org). With help from the Laboratory of Tree-Ring Research at the University of Arizona and others, we compiled all the available tree-ring dates for a large portion of the Four Corners states. As Michael Berry (1982) pointed out, using a smaller sample, these dates have clear modal frequencies in the last half of each of the four Pecos periods from Basketmaker III—Pueblo III. This is true whether we look at the dates themselves or whether we just look at the cells on the landscape with dates, thereby counting sites with many dates only once.

Berry suggested that each mode represented a particularly favorable period for maize agriculture. But reconstructing the annual extent of the direct-precipitation maize niche using estimates of growing-degree days and net water-year precipitation derived from tree-ring sequences all over the Southwest suggests otherwise. We show that these four periods with lots of tree cutting and construction were not *on average* better for dry farming than the troughs between the modes. However, each of these construction booms did *terminate* with unfavorable maize-growing conditions, when we pay attention to those specific places on the landscape where people were demonstrably living according to the lo-

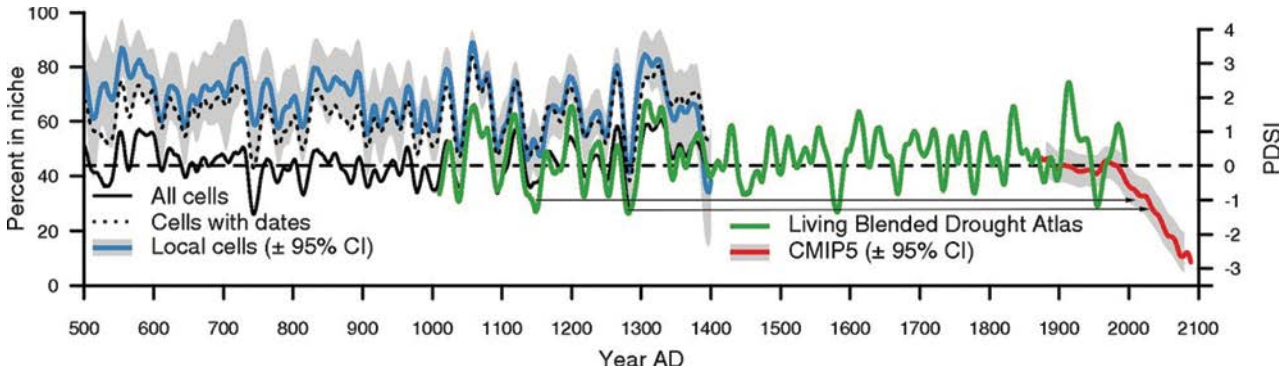


Figure 1. Maize dry-farming niche and PDSI reconstructions in the US Southwest. The solid black line is the percentage of all 30-arc second cells in the maize dry-farming niche; the dotted black line is the percentage of cells that contain any tree-ring date within this period; and the blue line with gray shaded area is the percentage of cells that have a tree-ring date in the plotted year or in any of the previous three years with 95% confidence interval (after Bocinsky et al. 2016: Figure 2C). The green line is the PDSI moisture balance reconstruction from the North American Drought Atlas (NADA; Cook et al. 2010). The red line and gray shaded 95% confidence interval are the multimodel PDSI means averaged across 17 CMIP5 models (after Cook et al. 2015: Figure 1). All series smoothed using a 21-year center-aligned Gaussian filter with a 5-year sd. Thin black arrows indicate the approximately equivalent soil-moisture balances between the mid-AD 1100s, when Chaco collapsed in the San Juan Basin, and the late-AD 1200s, when the entire northern Southwest was depopulated, and CMIP-projected futures (redrawn from d'Alpoim Guedes et al. 2016: Figure 4.)

cations of the tree-ring dates (Bocinsky et al. 2016: Figure 2, Panel C).

So all this is interesting for archaeologists—we can begin to discern the causes for the macrohistorical patterns first noted by the researchers convening in Pecos nearly a century ago (Kidder 1927). The larger payoff for contemporary relevance, though, comes from joining this annual maize-niche reconstruction to comparable data from other research. First, a tree-ring-based reconstruction by Ed Cook and colleagues (2010), the Living Blended (or North American) Drought Atlas that uses a soil-moisture metric called the Palmer Drought Severity Index (PDSI), is practically indistinguishable from the "all cell" reconstruction of Bocinsky and colleagues (2016), and takes us up to the present (Figure 1). That in turn can be joined with a climate projection for soil moisture in the Southwest averaged from an ensemble of global climate models under a "business-as-usual" scenario (Cook et al. 2015).

It is clear that if this scenario comes to pass, soil moisture in the Southwest will soon become more limited than either those conditions that helped precipitate the demise of Chaco in the San Juan Basin in the mid-AD 1100s, or that accompanied the depopulation of the entire northern Southwest in the mid–late AD 1200s. Thus archaeology may help us calibrate possible future *human* experiences in these depersonalized climate projections. What happened in the past when conditions were like they may soon be?

Discovering Large-Scale Commonalities in Cultural-Evolutionary Trends

My second example comes from a recent analysis of a large historical and archaeological dataset called "Seshat: Global History Databank" (http://seshatdatabank.info) amassed and analyzed for 30 regions of the world spanning the last 10,000 years by Peter Turchin and numerous colleagues (2018). These researchers coded data on 51 variables for each of these regions (selected to be relatively independent of each other) by 100-year time slices. They consider these variables to fall within nine large clusters that they call "complexity characteristics."

Using principal components analysis, Turchin and colleagues found that about 77% of the total variance among these nine composite variables could be explained by just one component. They interpret this component as measuring degree of social complexity, or more precisely, as a composite measure of the various roles, institutions, and technologies that enable the coordination of large numbers of people in a politically unified manner.

To me, that high degree of common variance seems astounding. But perhaps even more interesting is that the variable "polity population" is the most strongly linked to all the other variables in this first component, as can be seen from its tendency to be joined to other clusters by thick, dark lines (Figure 2A). This implies the commonality of a historical

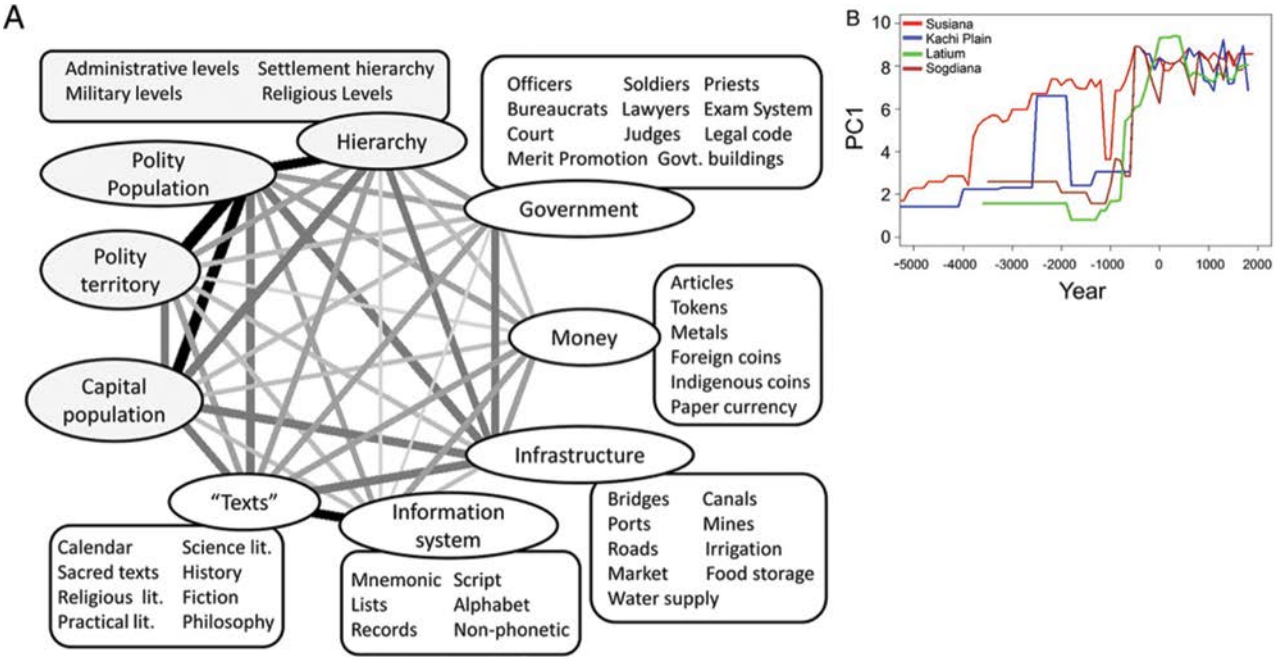


Figure 2. (A) Nine "complexity characteristics" (ovals) aggregating 51 variables. Line width and shading are proportional to the correlation coefficients between CCs (darker and thicker lines indicate stronger correlations). After Turchin et al. 2018:Figure 2A. ©2018 by National Academy of Sciences.

(B) Trajectories of social complexity in Southwest Asia, south Asia, Europe, and central Asia quantified by Principal Component 1. PC1 has been rescaled to fall between 0 (low complexity) and 10 (high complexity) to aid interpretation. Flat horizontal lines indicate periods when there is no evidence of change from the polity data. After Turchin et al. 2018:Figure 3B. ©2018 by National Academy of Sciences.

scenario in which population growth results in competition between groups, especially in the form of warfare, in which the common outcome is the survival and spread of the larger group; this in turn provides selective advantages to development of the other "complexity characteristics" included in this analysis.

Of course there is considerable regional variability in the pace at which similar processes took place. Figure 2B charts the scores on this component through time for four regions. The trends shown there are not unidirectionally upward (i.e., in the direction of more complexity); there are long periods of stasis as well as some reversals. The collapse of the Roman Empire is clearly visible in the trajectory for Latium (Figure 2B).

The big achievement of such work is simply to expose these commonalities; those of us sitting on the sidelines now get the fun of trying to explain them! My own suspicion is that in such big histories, any agency that contributes to effective competition among polities becomes preferentially realized in structure. From this perspective, the strongly shared structures of these histories are therefore the result of highly constrained and heavily sorted (selected) agency.

Unexpected Differences in History of Wealth Differentiation between the Old and New Worlds

My final example also emphasizes differences amid commonalities discovered by scaling up our regions and periods of focus, and reports a pilot study by 18 researchers (assembling data originally developed by many, many more than that) aiming to estimate household wealth differences through time in a number of societies in Eurasia as well as in North America and Mesoamerica. Wealth differentials were estimated using Gini coefficients computed from house-size distributions in 62 sites and regions over the last 10,000 years (Kohler et al. 2017).

Given limited space, I'll cut immediately to this study's most surprising conclusion. Granted that our sample in this pilot study is small and ignores some important world regions such as most of Africa, south Asia, and South America, still, there is tentative

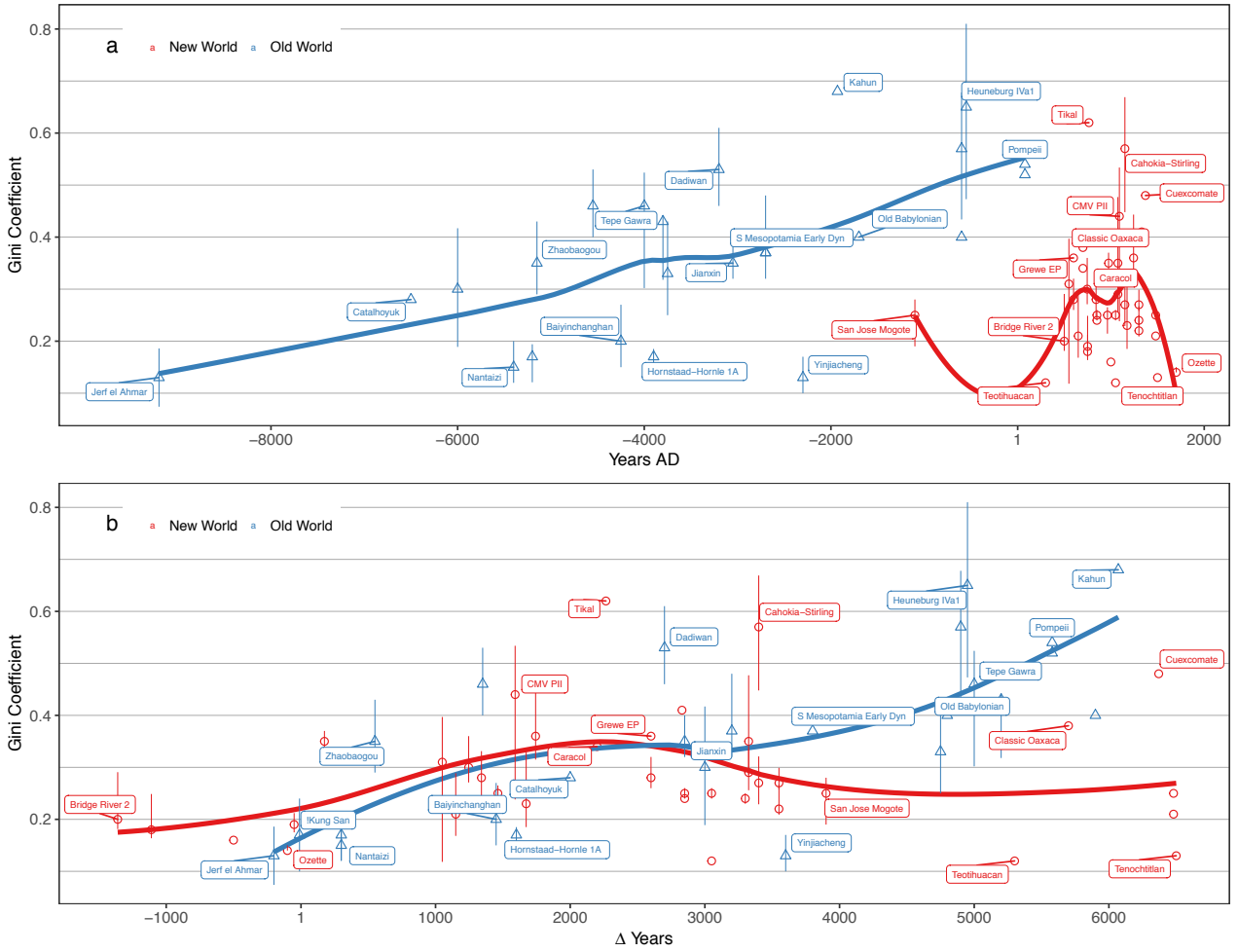


Figure 3. Robust regression (using locally weighted scatterplot smoothing) of Gini coefficients on sample dates.
(a) Coefficients by absolute date of sample (calibrated BC/AD ^{14}C, tree-ring date or calendar date); n = 62; !Kung San excluded.
(b) Coefficients by Δ years (date of sample—date of the local appearance of domesticated plants); n = 63. S Mesopotamia Early Dyn., Southern Mesopotamia Early Dynastic; CMV PII, Central Mesa Verde region Pueblo II. From Kohler et al. 2017.

evidence for a pattern that has until now gone unnoticed: greater wealth disparities developed through time in the Old World than in the New. In Figure 3, the top graph shows the Old World Gini coefficients (in blue), which we interpret as a measure of household wealth differences, rising by sometime around 4000 BC to levels higher than were ever common in the New World.

The lower graph shows the same data but now plotted by "Δ Years," the difference between the calendar date for each provenience and the date at which domesticated plants arrived or were developed in that location. Household wealth differences increased in each sequence at very similar rates for the first 2,500 years or so of their respective Neolithics, but after that time began to diverge, with Old World wealth distinctions eventually becoming much greater than was typical for the New World.

What causes this divergence by hemisphere? Obviously, we can't worry about this until someone points out this pattern in the first place. We proposed that the initial divergence was caused by the presence of large domesticated traction animals, especially oxen, that allowed a strategy of productive agricultural extensification in the Old World not available in the New. We are now trying to expand our sample and examine this

hypothesis more rigorously, as well as to build a more comprehensive model that also accounts for the later great acceleration of Old World Ginis relative to those in the New World.

This study had the good luck to get published just as debate was raging over a tax proposal that will likely increase the already very large wealth disparities in the United States. One of Washington State University's science reporters calculated that the press coverage on this story reached a potential audience of 491 million, making it WSU's biggest-impact faculty publication in 2017. Archaeology can do well by scaling up.

None of these three examples imposes on prehistory a "metanarrative" built from conveniently sampled ethnographies or political agendas concealed by half-baked models. Instead each is a story of the discovery of historical structure built from the bottom up using the increasingly abundant fruits of archaeological and historical research. This is our unfinished agenda! The demonstration of commonalities in diverse sequences increases the utility of archaeological research for understanding our contemporary world, since it speaks to the presence of some regularities, correlations, and even directions that endow archaeology with some predictive value for the future, even if the strength of any future predictions is probably weak. Although such big histories could be used to "mask social difference and power differentials" (Hodder, this issue), we see in the third example how they may equally be used for precisely the opposite purpose.

It is true, however, that interesting and largely unresolved challenges accompany scaling up. How do we tell a humanly engaging story about large-scale patterns? How do such patterns get generated from everyday human interactions in society in the first place? How do we combine consideration of big patterns with an explanatory narrative that includes lived experiences and builds on traditional archaeological strengths in revealing the local, the material, and the immediate (Ion 2017)?

These are challenges worth addressing. If we can't show that the masses of data we are collecting form an intelligible whole that is greater than the sum of its parts—if we can't effectively make use of our new data riches by turning them into knowledge about the past—then what is our excuse for collecting them in the first place? We still have much to learn from the archaeological record when it is looked at in the right way. An interested public awaits. Go forth and excavate! And then as appropriate scale up, compute, and compare, thoughtfully.

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Big History and a Post-Truth Archaeology?

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In my view, after a lifetime of both theoretical and field archaeology, by far the most important public value and function of archaeology globally is its role in place- and history-making. Excavation may start on an apparently empty piece of land. After excavation there for 10, 25, 50 years, you may have a UNESCO World Heritage site. Something has been created that people have to work around, manage, build roads to, collaborate over, create links to. At even the smallest excavation, a place has been created, a history has been made. People use these history places to make their identities, to assert rights, or to restrict access or deny affiliation. This is the world of cultural heritage, heritage ethics, collaborative participant practice, the conservation and destruction of sites, the use of memorials in conflict and post-conflict, in diaspora and reconciliation. This is the world in which regions and nation states vie with each other to show their modernist credentials, their international muscle, through their management of the past. This is the major public role in archaeology that globally justifies and attracts the largest funding. It is this type of concern that underpins the much larger funding devoted to archaeology in Europe where there is a preoccupation with understanding the roots of Europe, the migrations of its people, and building community. It is here that the major advances in aDNA were made, as well as in many other recent scientific developments such as Bayesian dating. In this primary concern, the focus is on singularities that are claimed to have a universality. By that I mean that individual artifacts, sites, cultures are seen as having a relevance beyond themselves in terms of identity, outstanding cultural achievement, or universal rights.

On the other hand, there is the impulse in archaeology to discover universals that are singular in their unique law-like characteristics. Archaeologists have always wanted to be comparative and to seek general trends. The universality here is less about the social impact of the artifacts and sites themselves on communities of stakeholders, and more about the construction of an abstract historical and anthropological knowledge from which all can benefit. Important as this generalizing process is, it has proved prone to influence by contemporary concerns. That's a nice way of putting it. A less nice way is that much of archaeology uses the past to play out the contemporary preoccupations of dominant groups and to regurgitate the present in their interests. I have worked long enough in archaeology to see the cycles and returns—for example, in my youth we critiqued Childe's account of the spread of Beaker pottery by migration; now migration is back again partly because of our contemporary concern with migration in Europe. As another example, it is no accident that we have rediscovered social networks in the past at a time when new ways of forming social networks have become a preoccupation in the world around us today. A similar phenomenon is the way archaeology takes current theories from other disciplines and applies them—systems theory, catastrophe theory, complexity theory, agency theory, feminist theory, and more recently materiality and posthumanism.

There is of course value in this mirroring function. It allows us in the present to mull over current concerns, to objectify perspectives that may not have been adequately worked through or critiqued. But too often the result is a confirmation of our perspectives rather than a challenge to them. Seeing this happen over and over again, I have become tired of archaeologists just mirroring present concerns and theories—theories such as resilience for some, or posthumanism for others. It leads me to ask, Why should people pay us to do this? I have worked in archaeology long enough to see the cycles as people endlessly reinterpret the same data with new lenses. I have been guilty of this myself, applying spatial analysis from geography or applying the linguistic and material turns from the social sciences and humanities.

The trend towards generality and grand narrative has resurfaced recently with calls for archaeologists to answer grand challenges, and use big data to write big histories. Again much of this reflects current concerns with, for example, migration of populations, the resilience of communities in the face of climate change, or social inequality. One might draw attention to a parallel with current uses of the Internet. We seek confirmation in the Internet for our beliefs (for confirmation

bias in this context, see Duffy 2018); similarly we seek it in the distant past. This has always been the case—in the nineteenth century, archaeology was used to confirm a bias that European societies had progressed to a more advanced level, and in the twentieth century to underpin racism.

But today there are new pressures that promote the writing of big histories and the making of grand claims. I think in particular of the pressures from funding sources (for example, Templeton Foundation, Gates Foundation, and see British Academy 2017) to answer big questions using big data. As a result headlines are made by claims that early societies were more violent than today (Pinker 2011), that Eurasian societies were more unequal than Mesoamerican and northern American societies based on a universal Gini index (Kohler et al. 2017), that universal notions of scalar stress rule out egalitarian societies in large early villages (Bernardini and Schachner 2018), that human strategies can be resilient to climate change (Redman 2005).

I have been part of this in arguing recently for a long-term evolutionary perspective in archaeology that answers the big question "Where are we heading?" (Hodder 2018). There is a lot to be said for using archaeology to answer big questions and grand challenges. And this can be done by remaining sensitive to context and the singular as demonstrated by Robb and Pauketat (2013). But there are two main dangers that I see. The first is that the focus becomes on the message and the big story that captures the headlines rather than on the contextual data. This is what I mean by a post-truth archaeology or fake history. Recently I have been struck by the way in which big stories are produced by riding roughshod over data in the most cavalier of fashions, with journals of supposed repute publishing papers that make large claims based on poor data. It often seems as if having poor data is acceptable as long as there is lots of it. Ferguson (2013) has discussed the gross inaccuracies about ancient violence in "Pinker's List," and there are many examples of bad science and poor scholarship that nevertheless seem to be supported and published, perhaps because the message of public impact has come to override truth.

It seems acceptable nowadays to build arguments by heaping proxies on proxies on proxies, so that in the end the claims are so divorced from data that we enter a world of fantasy. Whether it is using numbers of radiocarbon dates to measure population, or using the size of the largest city to measure organizational complexity or urbanism, the heaping of assumptions on assumptions allows a free rein. The Gini coefficient (another example of a return in the cycle of theories, as this is very reminiscent of the rank-size relationships that were trendy in the 1960s and 1970s and subject to many of the same problems) is at times applied in archaeology by using variation in house size (proxy 1) as a measure of differences in wealth (proxy 2), which is used as a measure of inequality (proxy 3). I have become particularly sensitive to the dangers of this construction of long strings of proxies as the excavator of Çatalhöyük. This site is very often used as a case study, or as an element in the testing of large-scale trends, with troubling results (see, for example, Bernardini and Schachner 2018; Fochesato et al. 2018; and Kuijt 2018).

The second danger of the big question, big data approach is that the big histories mask social difference and power differentials. This is a similar critique to that offered by Trigger in 1984 against the law-making of processual archaeology that subsumed the Native American voice in favor of generalization. The big histories almost by definition pay scant attention to marginal groups, and alternative strategies of power. For example, Bauer and Bhan (2018) critique the definition of the Anthropocene as a universal temporal unit because it masks the fact that not all humans suffer equally from or are equally responsible for climate change and its effects. They argue forcefully for the urgent need "to redirect debates on conservation and the causes or consequences of global warming toward a historically informed and socially differentiated understanding of environmental change and production" (Bauer and Bhan 2018:111). Grand narratives too easily impose a western understanding that silences alternative voices. They too readily downplay or marginalize alternative trajectories and values. There is also the ethical danger that by referring causality to generalized and abstract processes, responsibility is deferred away from specific agents and intersections.

I have been haunted throughout my life by the fear that perhaps, after all, archaeology is just a technique, and that perhaps I had devoted my career to what I thought was a fully-fledged independent discipline when in fact it was just a technique. This is the category that Walter Taylor and so many others put it in, subservient to history and anthropology. My only regret about moving to teach in the United States was to become subsumed within anthropology. Surely archaeology could stand tall alongside cultural anthropology or history? And yet in a world of coprostanols, dung spherulites, laser ablation, the reservoir effect, and Bayesian statistics, it is difficult to see how archaeology can flourish in quite a few anthropology departments in the US.

The existence of archaeology as an independent discipline depends on its ability to absorb scientific techniques and develop its own methods (which it has done along with middle-range theories) and generate its own high-level theory (which it has done less successfully). At the theoretical level in archaeology there is no general theory like Marxism or Braudel in history

or Darwinian evolution in biology or quantum theory in physics. Archaeology often seems like just a handmaiden to history or to anthropology or to Classics: an amusing diversion for bored physicists and retired biologists, and nowadays a source for data-hungry palaeogeneticists, evolutionary psychologists, economists, and Big Historians. There have been very few who have tried to build an archaeological theory of how material culture changes, how the long-term works, how humans and material things intersect.

As a result, archaeological interpretation is easily influenced by current tastes, dominated by confirmation bias or surprising *amuse-bouches*. Archaeological interpretation today, concerned above all with big histories and big impact, has too easily become uncritical of its sources and of the traditions that bind it (Agamben 2009). I emphasize that my critique is not of the comparative method in general. We undoubtedly have a duty to draw out general trends and patterns and to link them to the present. It is of course important for a discipline to respond to contemporary concerns, but not by abrogating responsibility to its own data and to the communities within which it is produced. I would be the first to emphasize the importance of public engagement, but not populist capitulation. One contemporary trend that we should surely not follow is that towards post-truth and fake stories that do well only in capturing headlines.

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JANET ELIZABETH RAFFERTY

Janet Elizabeth Rafferty passed away on August 24, 2018, after a long, typically valiant struggle with illness. Janet grew up on a small farm on Camano Island, Washington. She was high school valedictorian as well as a magna cum laude graduate and Phi Beta Kappa at the University of Washington, where she received a bachelor's degree and a doctoral degree in anthropology, the latter obtained in 1974 under her major advisor, Robert C. Dunnell. Janet's academic career spanned the University of Washington, where she was Acting Assistant Professor from 1974 to 1976; Southern Illinois University-Carbondale, where she was Assistant Professor from 1976 to 1977; and Mississippi State University (MSU), where she began work as an Assistant Professor in 1977 and whence she retired in 2014, when she was named Professor Emerita with the Department of Anthropology & Middle Eastern Cultures, a department she helped to found.



FRED FAULK, MISSISSIPPI STATE UNIVERSITY

Janet was a dedicated scholar, teacher, and member of the professional community. She led fieldwork in Washington, Illinois, and most especially via a number of field schools in north Mississippi. Her work focused primarily on prehistoric Native American settlement patterns, on how and why they changed over time, and especially on how settled life evolved. The theoretical basis for this work was developed in a landmark paper on sedentariness published in the series *Advances in Archaeological Method and Theory*, which was followed by a monumental case study based on years of problem-oriented pedestrian survey in north Mississippi. Her work continually exemplified the power of forging formal links between theory and method, whether it involved studying the evolution of settlement patterns, artifact function, artifact sourcing, formation processes, or archaeological practice. This intellectual rigor led her to a number of important insights, including being one of the first scholars to recognize (and demonstrate) that sedentary settlement patterns were common among hunter-gatherer groups in the past, in some cases thousands of years before agriculture. She also was one of the first to demonstrate the occurrence of Middle Woodland-period platform mounds via her work at the Ingomar Mounds site in Union County, Mississippi. Janet was dedicated to providing explanations, not interpretations, of human behavior, one example being her work on understanding the evolution of mound construction through the lens of costly signaling and bet-hedging theory.

In addition to her many published works, Janet also was author of a large number of technical reports on surveys and excavations in Washington and Mississippi. Her technical reports were anything but purely descriptive; she unfailingly took the opportunity to realize the value of CRM projects to tackle interesting and important research questions, even if that meant bucking the system where traditional typologies and other ideational constructs were concerned. And in every case, she was right out there with the field crew, leading by example in excavations and survey in what often were appalling conditions.

Never content with the status quo, Janet pushed herself and her students to challenge traditional forms of knowledge. She was a very demanding teacher with a true flair for recognizing potential in students from all walks of life. Her undergraduate class in Archaeological Method and Theory, which she later transformed into a graduate seminar class in Archaeological Theory, was a capstone course that inspired students to try to improve upon traditional archaeological practice. She was very generous to students and colleagues with her time and attention. In addition to her field schools in Mississippi, she was instrumental in establishing a very successful master's degree program in Applied Anthropology at MSU.

Janet served as the Mississippi representative on the Society for American Archaeology's Committee on Public Archaeology, was President of the Mississippi Archaeological Association and the Mississippi Association of Professional Archaeologists, was Chair of the Nominations Committee for the Southeastern Archaeological Conference, and served on the editorial boards of *Mississippi Archaeology* and *American Archaeology*. She continued to serve on thesis committees and to pursue research until the end of her life. Her last published work, on understanding the discard of stone projectile points, appeared shortly before her death.

Well-wishers can contribute to the Rafferty Fund, which supports students taking the archaeological survey field school at MSU. Checks made out to Anthropology & Middle Eastern Cultures, Rafferty Fund, can be sent care of Debbie Vickers to PO Box AR, Mississippi State University, MS 39762.

Janet Rafferty's bibliography can be found at the SAA website: http://www.saa.org/AbouttheSociety/Publications/TheSAAArchaeologicalRecord/tabid/64/Default.aspx

Society for American Archaeology

Statements of Financial Position
December 31, 2017 and 2016

Assets

	2017	2016
Current assets		
Cash and cash equivalents	$ 1,909,392	$ 2,554,415
Accounts receivable, net	8,777	14,937
Accrued interest receivable	252	2,065
Prepaid expenses, current portion	82,981	270,872
Total current assets	2,001,402	2,842,289
Prepaid expenses, net of current portion	8,002	12,961
Investments	6,773,379	5,210,517
Property and equipment, net	118,115	144,399
Deposits	11,031	11,031
	$ 8,911,929	$ 8,221,197

Liabilities and Net Assets

Current liabilities		
Accounts payable and accrued expenses	$ 84,779	$ 68,102
Lease liability, current portion	10,999	7,315
Deferred revenue		
Membership dues, current portion	527,182	565,696
Subscriptions	107,054	76,410
Meetings and other	582,742	577,995
Total deferred revenue	1,216,978	1,220,101
Total current liabilities	1,312,756	1,295,518
Other liabilities		
Deferred lease liability, net of current portion	43,721	54,720
Deferred membership dues, net of current portion	15,721	18,000
Total liabilities	1,372,198	1,368,238
Net assets		
Unrestricted		
Undesignated	3,603,495	3,162,058
Board-designated	557,786	697,051
	4,161,281	3,859,109
Temporarily restricted	869,700	512,140
Permanently restricted	2,508,750	2,481,710
Total net assets	7,539,731	6,852,959
	$ 8,911,929	$ 8,221,197

Society for American Archaeology

Statements of Activities and Change in Net Assets
Years Ended December 31, 2017 and 2016

	2017				2016			
	Unrestricted	Temporarily restricted	Permanently restricted	Total	Unrestricted	Temporarily restricted	Permanently restricted	Total
Revenue and support								
Membership dues	$ 909,646	$ -	$ -	$ 909,646	$ 841,619	$ -	$ -	$ 841,619
Annual meeting	837,002	-	-	837,002	628,106	-	-	628,106
Publications	104,557	-	-	104,557	260,700	-	-	260,700
Public programs and services	33,960	-	-	33,960	33,148	-	-	33,148
Organization and administration	444,819	436,153	27,040	908,012	263,452	252,421	26,501	542,374
Member programs and services	943	-	-	943	3,083	-	-	3,083
Awards	34,057	-	-	34,057	8,889	-	-	8,889
Net assets released from restriction -								
Public programs and services	78,593	(78,593)	-	-	86,114	(86,114)	-	-
Total revenue and support	2,443,577	357,560	27,040	2,828,177	2,125,111	166,307	26,501	2,317,919
Expenses								
Program services								
Membership	43,126	-	-	43,126	58,805	-	-	58,805
Annual meeting	553,760	-	-	553,760	429,131	-	-	429,131
Publications	158,115	-	-	158,115	292,079	-	-	292,079
Public programs and services	269,962	-	-	269,962	357,758	-	-	357,758
Member programs and services	65,489	-	-	65,489	63,154	-	-	63,154
Awards	36,982	-	-	36,982	8,439	-	-	8,439
	1,127,434	-	-	1,127,434	1,209,366	-	-	1,209,366
Supporting services								
Management and general	993,659	-	-	993,659	801,618	-	-	801,618
Membership development	20,312	-	-	20,312	26,617	-	-	26,617
	1,013,971	-	-	1,013,971	828,235	-	-	828,235
Total expenses	2,141,405	-	-	2,141,405	2,037,601	-	-	2,037,601
Change in net assets	302,172	357,560	27,040	686,772	87,510	166,307	26,501	280,318
Reclassification of net assets	-	-	-	-	-	(15,572)	15,572	-
Net assets, beginning of year	3,859,109	512,140	2,481,710	6,852,959	3,771,599	361,405	2,439,637	6,572,641
Net assets, end of year	$ 4,161,281	$ 869,700	$ 2,508,750	$ 7,539,731	$ 3,859,109	$ 512,140	$ 2,481,710	$ 6,852,959

NEWS & NOTES

The Alliance for Weedon Island Archaeological Research and Education, Inc. (AWIARE) is accepting applications for research at Weedon Island Preserve in Pinellas County, Florida. The 3,200-acre preserve is home to the Weedon Island archaeological site (8PI1), listed on the National Register of Historic Places, as well other sites related to the Manasota, Weedon Island, and Safety Harbor cultures. Use of the AWIARE Research Station is open to qualified researchers and graduate students who wish to conduct archaeological research related to Weedon Island and related topics. Multidisciplinary projects that address questions of human-environment interactions (e.g., sea-level change, climate change, human ecology) are encouraged. Applicants must complete an application form that describes their research, explains how it conforms to the mission and objectives of AWIARE, and indicates the source of funding for the project. AWIARE does not provide funding, scholarships, or fellowships at this time. Use of the Research Station for research and living accommodations is provided free of charge. Applicants must be legal residents of the United States and be associated with an educational organization or institution. Independent researchers or those pursuing advanced degrees also may apply. Research may include fieldwork, laboratory analysis, or archival research. For more information, contact Dr. John Arthur, AWIARE, 1500 Weedon Dr. NE, St. Petersburg, FL 33702 or by e-mail awiare1@gmail.com.

CALENDAR

November 28, 2018
Online Seminar: Integrating Drones into Archaeological Fieldwork
(12:00 p.m.–2:00 p.m. EST)

December 6, 2018
Online Seminar: Newer Developments in Technologies for the Measurement of Form and Space in Archaeology: Part II
(2:00 p.m.–3:00 p.m. EST)
FREE and for SAA Members Only.

December 11, 2018
Online Seminar: Forensic Archaeology: Theory and Practice
(2:00 p.m.–4:00 p.m. EST)

January 2, 2019
2019 SAA Election Ballot Opens

January 30, 2019
SAA Annual Meeting: SAA 2018 Member Participant Renewal Deadline

January 31, 2019
2019 SAA Election Ballot Closes.
Must be a paid 2019 Member for your vote to count.

April 10–14, 2019
SAA's 84th Annual Meeting in Albuquerque, NM

May 1, 2019
Submissions for SAA's 85th Annual Meeting in Austin, TX Opens

To learn more about the Online Seminars and to register, visit www.saa.org/OnlineSeminars/.

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15th Annual SAA ETHICS BOWL

CALL FOR TEAMS!

April 11, 2019
At the 84th Annual Meeting of
the Society for American Archaeology
Albuquerque, NM

As members of the SAA, archaeologists agree to uphold the Principles of Archaeological Ethics, but what do stewardship, accountability, and preservation look like in the real world?

Each year, teams of 3-5 graduate and undergraduate students engage in debate about solutions to real world ethical dilemmas faced by archaeologists, academics, and curators. Responses to these dilemmas are judged on their knowledge and application of ethical principles, personal experience, and legal precedents/laws.

ARE YOU UP FOR THE CHALLENGE?

Register a team by **January 31, 2019** at
saaethicsbowl@gmail.com

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