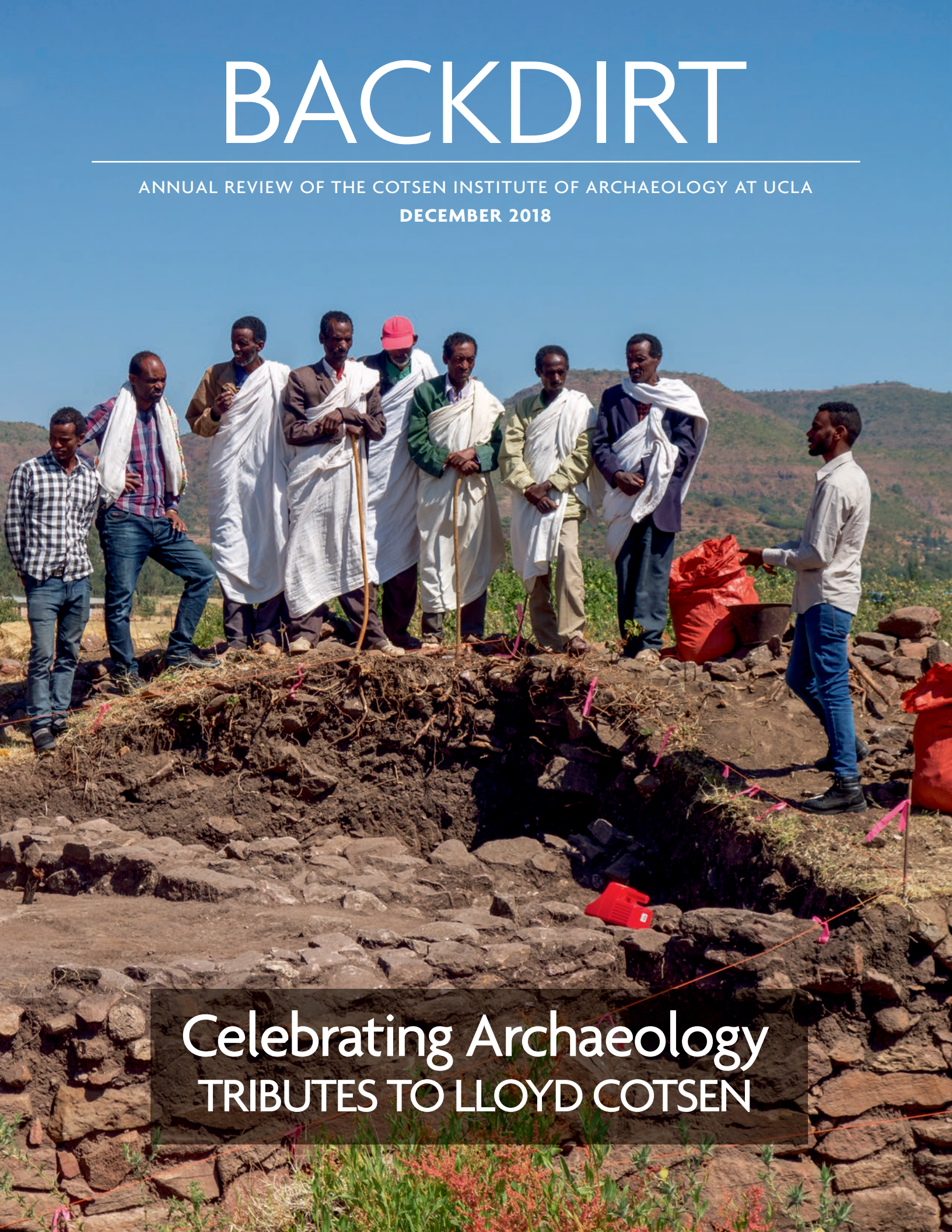
BACKDIRT

ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA
DECEMBER 2018



Celebrating Archaeology
TRIBUTES TO LLOYD COTSEN



BACKDIRT

ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

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FRONT COVER: Ethiopian archaeologist Goitom Weldehaweriat (right) explains the site of Mai Adrasha, near Indaselassie (Shire) in northern Ethiopia, to a group of mourners returning from a funeral.

BACK COVER: Northern Arizona University graduate student Whitney Yarbrough studies an ancient Egyptian wooden animal coffin in the collection of Museo Egizio, Turin, during the field school in museology and Egyptian material culture organized by the Cotsen Institute, the Institute for Field Research, and Museo Egizio.

ABOVE: Beverly Godwin, longtime member of the Friends of Archaeology, greets visitors during the open house on May 12, 2018.

To request a copy or for information on submissions, please contact the Cotsen Institute of Archaeology Press via email at: nomads@ucla.edu

Read *Backdirt* online at: http://ioa.ss.ucla.edu/content/backdirt @2018 UC Regents

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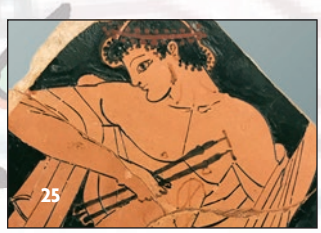
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Message from the Director



Cotsen Institute Director Willeke Wendrich

UCLA IS A PUBLIC UNIVERSITY, and those of us who work here have a responsibility to be part of the public debate. Archaeology is a discipline that allows us to see both the *longue durée* and short-term events. Our work has the power to show the particularities of day-to-day experiences in the past. It also enables us to analyze what happens in the present within a deep historical perspective. Studying the materiality of everyday life urges us to ask ourselves how our time will be perceived in the future: What will be the material reflection of the America we live in today? Will future archaeologists see a dramatic widening of the wealth gap and an increase in social stratification, characterized by palaces surrounded by green grassy parks with small holes in them? Will future bioarchaeologists conclude that a decline in age-at-death can be linked to a sharp deterioration of the health of large groups of the population? How will future anthropologists characterize the twenty-first-century nation-state?

This age, which we already identify as the Anthropocene, shows a sharp degeneration of the diversity of species, contrasted by an increase in the diversity within the human species on the American continent. Related to that, I have been wondering how our present lived experience influences the way we interpret the past, and I cannot help but conclude that there is a considerable shift. As an archaeologist trained in post-processual archaeology, I have always been careful when using the term *objective* and certainly the term *truth*. I used to shudder when colleagues used these words freely and, in my opinion, naively. Yet two years ago, I landed in a philosophical crisis, and in spite of my well-founded reservations, I now feel that there actually is an objective, or at least an intersubjective, truth based on facts. Evidence can be debated, but it should never be disregarded, warped, or denied. Civilized human society is founded on an informed and tolerant discussion. It is rooted in the weighing of information that can be checked independently. Throwing out all rules of debate in exchange for personal or political gain is unethical and potentially dangerous. *Believing* scientific results when they suit and *not believing* them when they do not is an abuse of science, its methods, and its philosophical and ontological basis. Rendering intellectual, fact-based criticism as suspicious, and those who wield it as enemies, is the pursuit of tyrants. We need to bring the grand narratives of oppression, inequality, and injustice, and even just the stories of inattentiveness and lack of empathy, to the attention of those who have forgotten the past, or consider it inconsequential. History does not repeat itself, but historical events allow us to analyze where human behavior has serious negative consequences. We do not have to agree, as long as we keep listening.

The academic year 2018–2019 sees the Cotsen Institute of Archaeology and its forays in past and

Message from the Director

CONTINUED

present society as lively and active as ever. We are celebrating the arrival of six incoming students: Alba Menedez Pereda will work with Stella Nair; Maryan Ragheb is advised by Willeke Wendrich and Kara Cooney; Kellie Roddie is a student of Richard Lesure; Baisakhi Sengupta has Monica Smith as adviser; Rachel Wood will work with John Papadopoulos and Sarah Morris, while Zichan Wang is a student of Lothar von Falkenhausen and Min Li.

We also welcome Sarah Beckman (professor in Roman material culture in the Department of Classics) and Jason de León (professor of anthropology), and the Archaeology IDP is joined by two additional faculty members: Sharon Gerstel and Meredith Cohen, both based in the Art History Department. In the past year, Elizabeth Carter and Jeanne Arnold retired, and we are looking forward to a seminar on Near Eastern archaeology to celebrate Liz's career and accomplishments.

Space upgrades continue steadily: the former Channel Island Laboratory (Fowler A340) is the new research and finds processing home for Jason de León. The Experimental Laboratory (Fowler A419) and the Ancient Architecture Laboratory (Fowler A332) are in the process of receiving modest face-lifts as well. Kristine Olshansky (PhD 2018) has been named director of the Armenian Archaeology Laboratory, with a postdoctoral fellowship; and Sonali Gupta-Agarwal will be starting a postdoctoral position, through a generous gift from Mr. Phil Shugar. We also congratulate our postdoctoral researcher Alan Farahani with his tenure-track position at the University of Nevada in Las Vegas.

In June 2018 alumni of the UCLA/Getty Conservation Program celebrated their first reunion, together with the current students in the program. They gave brief presentations on current projects and discussed plans for a publication to share the research presented.

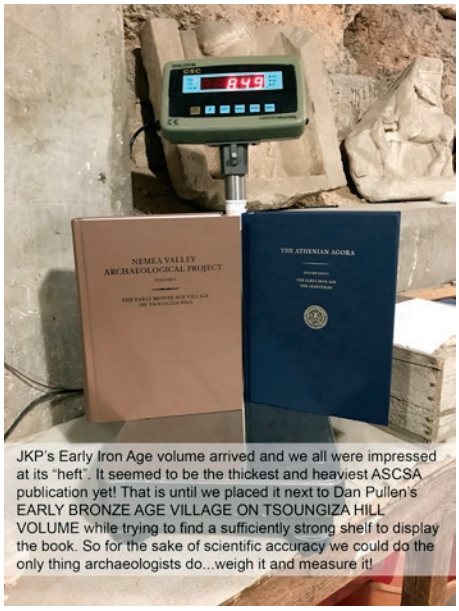
At the end of this message I would like to congratulate Jill Silton with receiving The Trowel, after the Cotsen Prize the highest honor bestowed by the Cotsen Institute. Jill was handed the trowel on June 14, 2018, for her continuous support of our institute, her invaluable efforts as a member and later president of the Friends of Archaeology, and her independent research into the contemporary cultures of the Tibetan highlands.

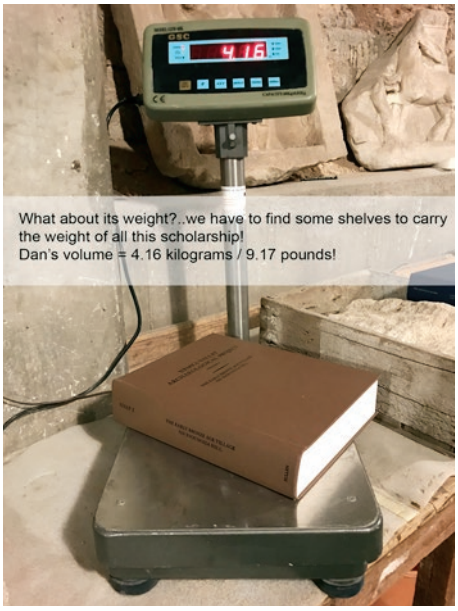


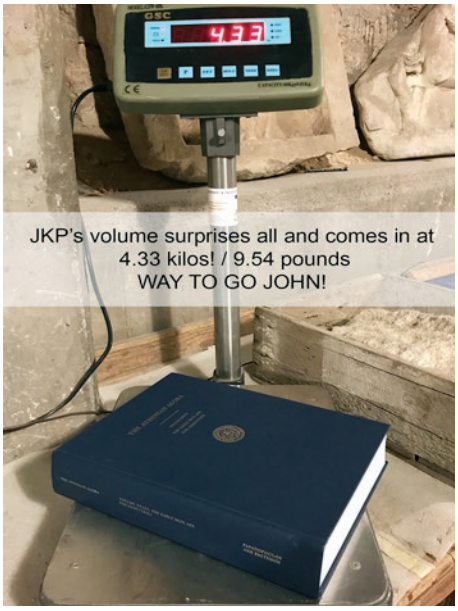
Willeke Wendrich

Director, Cotsen Institute of Archaeology

THE INSTITUTE IN THE NEWS







Weighty Scholarship: Publication of *The Athenian Agora: The Early Iron Age: The Cemeteries* by John K. Papadopoulos and Evelyn Lord Smithson

Late in 2017, John Papadopoulos's magnum opus finally appeared. *The Early Iron Age: The Cemeteries* is volume XXXVI of *The Athenian Agora* series, published by the American School of Classical Studies at Athens. John began research on this volume in the early 1990s, soon after the untimely death of Evelyn Lord Smithson, who passed away in 1992 and who had begun working on this material soon after World War II. What began as a labor of love turned out to be a 1,109-page monograph, with contributions by Maria A. Liston, Deborah Ruscillo, Sara Strack, and Eirini Dimitriadou. As Chip Stanish—at the time director of the Cotsen Institute—once said about another monograph by Papadopoulos: "Some books one cannot put down; others one cannot pick up!" *Agora* XXXVI is one of the latter. Suspected to be one of the weightiest volumes published by the American School of Classical Studies at Athens, the volume was put to the test by Craig Mauzy, manager and photographer of the Athenian Agora Excavations. He compared John's volume with Daniel J. Pullen's *The Early Bronze Age Village on Tsoungiza Hill* (American School of Classical Studies at Athens 2011). The results, captured in a series of photographs by Craig, speak for themselves.



Figure 1. The wall in Notsè, Togo, located on the outside of a ditch, before excavation.



Figure 2. Agbenyega Adedze, associate professor of history at Illinois State University–Normal, who was a member of the research team in 1981, poses behind a plaque commemorating pioneering work done in Notsè by Merrick Posnansky, former director of the Cotsen Institute.

THE INSTITUTE IN THE NEWS

Former Director Merrick Posnansky Honored in Notsè, Togo

In 1981 Merrick Posnansky (from 1984 to 1987 the director of the Cotsen Institute) organized an archaeological field school and excavation project near Notsè, a major town about 100 km (60 miles) north of Lomé, the capital of Togo in West Africa. Notsè was founded around 1600 by the Ewe people. Participants in the research project included students from Benin, Togo, and Ghana, and UCLA. One of these was Agbenyega Adedze from Togo, at the time an archaeology student at UCLA. He later switched to study history, also at UCLA, and is now an associate professor of history at Illinois State University–Normal. One of the major achievements of the project was the mapping of the great wall at Notsè and targeted excavations to get a better idea of its date. Nigeria has several towns with impressive earthen urban walls, but the wall at Notsè, which is more than 3 km (2 miles) long, is the only major one west of Nigeria. The site has become a tourist destination; people visit both the wall and the ancient town. Recently, the government of Togo has put up a plaque to commemorate the work done by Merrick and his team and to recognize the importance of heritage studies and international cooperation in archaeology.



Jill Silton receives The Trowel from Willeke Wendrich, director of the Cotsen Institute.

Jill Silton Awarded The Trowel

On June 14, 2018, Jill Silton was handed The Trowel, after the Cotsen Prize the highest honor bestowed by the Cotsen Institute, by Willeke Wendrich, director of the institute. Jill received the trowel for her continuous support of the institute, her invaluable efforts as a member and later president of the Friends of Archaeology, and her independent research into the contemporary cultures of the Tibetan highlands.

The Andrew W. Mellon Foundation Opportunity Grant for Diversity in Conservation

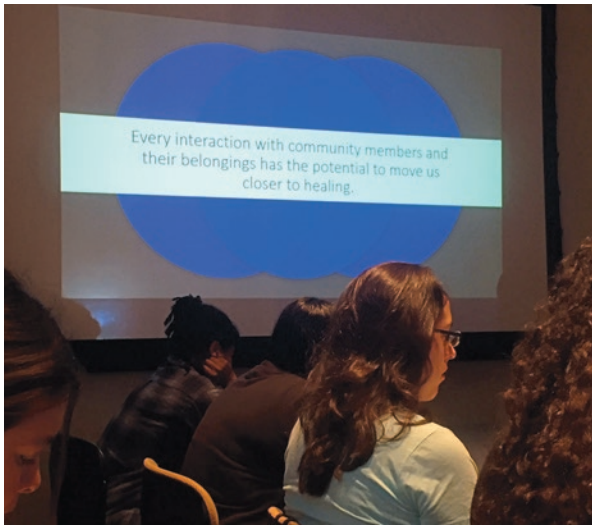


Figure 1. Lecture on cultural responsibilities by Jaclyn Roessel and Kelly McHugh during the 2018 Mellon Opportunity Workshop at the Getty Villa. (Photograph by Ellen Pearlstein.)

There is a distinct lack of diversity in the professional field of conservation, with non-Latinx whites dominating leadership positions in museums, private practice, and education. At the same time there is an interest in increasing diversity in libraries, archives, and museums that celebrate diverse cultures, languages, and races, including a growing number of museum collections with either a Native American or a Latin American focus. Ellen Pearlstein, faculty member of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials, recently designed a program to initiate an educational pipeline into the field of conservation. This is now more pressing than ever considering how cultural diversity benefits the research and interpretation of collections and institutions.

In 2017 the program received a grant from the Andrew W. Mellon Foundation to increase diversity in the study and practice of conservation of cultural heritage, a field dominated by professionals who identify as non-Hispanic whites (Schonfeld and Westermann



Figure 2. Evaluating the cleaning of old and new Native American and European silver during the 2018 Mellon Opportunity Workshop in the Getty Villa. (Photograph by Ellen Pearlstein.)



Figure 3. Participants in the 2018 Mellon Opportunity Workshop in the Getty Villa. (Photograph by Laleña Arenas Vellanoweth.)

2015). The grant supports a four-year pilot program designed to provide greater access to and information about the often unfamiliar field of conservation via outreach materials about the field, outreach programs in schools and organizations in underrepresented communities, workshops for interested students, and internships for participants who can legally work in the United States.

Beginning in the fall of 2017, outreach sessions were held by program manager Laleña Arenas Vellanoweth and principal investigator Pearlstein at more than a dozen colleges in four western states. Students had an opportunity to apply for a six-day workshop, with space for 15 participants, held July 9–14, 2018, at the UCLA/Getty laboratories in the Getty Villa. There were 109 applications for the 15 spots, and the program advisory board assisted in selection of a strong and diverse final cohort. The workshop included a combination of theoretical discussions, scientific inquiry, and practical exercises, as well as visits to museums and conservation laboratories in the greater Los Angeles area. The workshop also included a reception at the Fowler Museum at UCLA, with welcoming remarks by Darnell Hunt, dean of social sciences, and the support of senior staff from the Getty Trust and the Getty Conservation Institute.

Out of the 15 students, we are able to award six fully funded preprogram internships—a prerequisite for graduate study—to those who have demonstrated a commitment to graduate conservation education. Workshop participants had to submit applications for internships by October 1, 2018. Pearlstein, Arenas Vellanoweth, and members of the advisory board are mentoring all 15 workshop participants, along with other applicants, helping them find their way among the many options available in collections-based work. The entire program, including the workshop and six supported internships, will be repeated in 2019 and 2020.

— *Ellen Pearlstein and*
Laleña Arenas Vellanoweth

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Getty Conservation Institute Art on the Rocks participants; staff and interns from the Shumla Archaeological Research and Education Center; and representatives from the Texas Parks and Wildlife Department, the Amistad National Recreation Area, and the Witte Museum of San Antonio (landowners of the White Shaman Preserve) enjoy the White Shaman mural overlooking the Pecos River.

The 2018 Art on the Rocks Colloquium

The UCLA Rock Art Archive was again invited to participate in the international Art on the Rocks colloquium, led by Neville Agnew of the Getty Conservation Institute and held this year on June 24 to July 2. During the colloquium, the third in a series, two dozen participants visited rock art sites in the Southern California desert and the Rio Grande area of Texas. The public was invited to view selected presentations that highlighted aspects of public engagement in rock art conservation.

In Southern California, the colloquium included tours of Little Lake Ranch, guided by Jo Anne Van Tilburg with John C. Bretney and Wendy All, who shared research published by the Cotsen Institute of Archaeology Press (Van Tilburg et al. 2012), as well as the Painted Rock pictographs at Carrizo Plain National Monument. In Texas we toured Fate Bell Shelter in Seminole Canyon State Park, the stunning White Shaman mural overlooking the Pecos River, and other sites. Carolyn Boyd, founder of the Shumla Archaeological Research and Education Center, enhanced our experience with a riveting lecture about her research into the symbolism and story of the White Shaman panel.

The first Art on the Rocks colloquium was held in Kakadu National Park in Australia in 2015. It produced a foundational document that sets out the four pillars agreed upon to effectively inspire rock art site conservation (Agnew et al. 2015). The result is the Rock Art Network, a unique collaboration of participants and institutions with diverse backgrounds. It allows examination of rock art conservation issues from a variety of points of view, including those of conservationists, archaeologists, indigenous people, volunteer groups, and filmmakers, thus promoting rock art to the public and ultimately engendering increased rock art research and more lasting site protection. The second colloquium was held in 2017 in Namibia, where participants viewed conservation methods at the White Lady of Brandberg and Twyfelfontein sites (see *Backdirt* 2017). Participation in these and future events is one of the great pleasures of being a volunteer at the Rock Art Archive.

— *Wendy All*

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THE INSTITUTE IN THE NEWS

Amr Shahat Honored for His Work on the Paleoethnobotany of Ancient Egypt

Amr Shahat is a PhD student focusing on paleoethnobotany and regional variation in plant ecology and food cultures in ancient Egypt. His research includes a combination of Egyptian archaeology, paleoethnobotany, and stable isotope analysis. Presentations of his preliminary results have been recognized by two awards: one for the Egyptological content, given during the sixty-ninth annual meeting of the American Research Center in Egypt (held in Tucson, Arizona, April 20-22, 2018), and a second from the paleoethnobotanical side in the form of the Ahmad Fahmy African Archaeobotany Award, received during the ninth International Workshop for African Archaeobotany in Gran Canaria, Spain, June 25-29, 2018). Pursuing further training in stable isotope analysis, Shahat graduated from IsoCamp 2018 in Utah, where he conducted experiments on food sourcing—how to differentiate between exotic plants and plants grown locally—and tracking human migrations through diet. The experiments were performed under the supervision of prominent scholars in the field, including Thure Cerling, Jim Ehleringer, Todd Dawson, John Roden, and Kate Freeman. Following IsoCamp, Shahat spent the remainder of 2018 at UC Berkeley, where he studied the Egyptian botanical collection from the settlement at Deir al-Ballas kept by the Hearst Museum. This project was conducted in collaboration with Victoria Jensen, a graduate student at UC Berkeley, under the direction of Peter Lacovara. It revealed early reliably identified evidence of pomegranate (*Punica granatum*) and domesticated watermelon (*Citrullus lanatus*) in a non-elite burial context in Egypt.



Figure 1. J. J. Shirley (left) and Jane Zimmerman of the American Research Center in Egypt present an award for graduate student research to Amr Shahat.



Figure 2. Amr examines the impact of dams across rivers on the oxygen isotope ratios of river water, and the water in plants irrigated by this water, during IsoCamp 2018 in Utah.

GEDENKSCHRIFT
LLOYD COTSEN

On February 25, 2018, the life of Lloyd Cotsen was celebrated with a Gedenkschrift symposium on celebrations associated with life events and rites de passage. Speakers were invited to explore facets of the human experience, including birth, parenthood, name giving, childhood, adolescence, feasting, death, and mourning as seen through the archaeological lens. The 2018 issue of Backdirt follows suit, and what follows are a number of articles touching upon these subjects.

Lloyd Cotsen at the Palace of Nestor at Pylos

Jack L. Davis

Lloyd Cotsen's archaeological career spanned nearly five decades. After completing a BA in history and doing graduate work at the School of Architecture at Princeton, he came to the American School of Classical Studies at Athens (ASCSA) as a student in 1955 – 1956 and became a member of the Lerna excavation team. There he formed a lifelong partnership with archaeologists from the University of Cincinnati, notably Jack Caskey, who then was the director of ASCSA.

Lloyd's modesty and characteristic sense of humor were already in evidence. He announced in his end-of-the-year report to Caskey that "Greek lessons were taken each week but little penetrated." His gregarious nature and comprehension of the benefits of cultural plurality can be appreciated from the gentle criticisms he offered the administration of ASCSA. He was concerned about "the insular aspect of the school and the students. Outside of the trips there is very little effort expended on getting out and seeing Greece on one's own. I think there is little effort on the school's part in that it treats the students somewhat on the continuation-of-college basis, in a word, sheltered." His gift of the Cotsen Auditorium (Figure 1), many years later, turned that insularity on its head and has in no small measure contributed to making ASCSA

Lloyd's modesty and characteristic sense of humor were already in evidence.



Figure 1. The Cotsen Auditorium of the American School of Classical Studies at Athens.

not only an archaeological power but also a cultural force in Greece.

At Lerna (Figure 2), Lloyd served Caskey as architect in all but the first seasons, and his colleagues from those days remember him fondly. Martha Wiencke, who would succeed Caskey as director of Lerna after his death, wrote:

> [Lloyd] was a welcome sight, impervious to the sun in his shorts while the rest of us were muffled in our trousers and long-sleeved shirts; and he was good humored in all circumstances, coming round whenever we summoned him, to draw our boasted scraps of walls . . . taking daily measurements of levels as we progressed, always on hand to help. He could always be depended on for good company, on the site, at meals (to which we all did more than justice), on Saturday jaunts to Nauplia when we wandered round the shops, watched the sunset over the bay, sat round the table at the old Ficus restaurant. Those were cheerful days and Lloyd was a prime factor in that good cheer.



Figure 2. Lloyd Cotsen (right) onsite at Lerna. (Photograph courtesy of William Donovan.)

One must look more closely, however, to find evidence of Lloyd at Pylos. In reporting the results of his 1957 Pylos season, Carl Blegen, director of the excavations, wrote: "We are indebted to Dr. J. L. Caskey, Director of the American School, for making available the services of Mr. Cotsen, his architect, and other courtesies." Blegen's field notebooks flesh out the picture a little more. The excerpts I include here demonstrate Lloyd's diligence and dedication to archaeology, even when confronted with demands that were unreasonable within available time constraints.

> July 25: Lloyd Cotsen arrived in school station wagon at 7:30 pm while I was photographing. After finishing I showed him around and showed him what we want put on the plan.
>
> July 28: Lloyd Cotsen went early to the palace, came back to Chora for lunch, then again to palace. Expected to get all walls of new wing drawn. . . . Cotsen and Bill [Donovan] went to Yialova for a swim in late afternoon. . . . His paper had shrunk and his trig points failed to check.
>
> July 29: Lloyd Cotsen came down to the palace for some more measuring in the morning.
>
> July 30: Lloyd . . . worked a good part of the night with inadequate light. Not yet finished at breakfast time. Thinks it will take two or three hours yet.
>
> July 31: Lloyd Cotsen came down from Chora for lunch. Reports that he has finished the plan and left it on the drafting table. At 12:50 he left in station wagon for Lerna.

It is clear that Lloyd worked like a maniac to complete the task Blegen had set for him. We can only guess his mood when his paper shrunk and time was running out. His Lerna friend Betty Banks mentioned "the dark cloud which enveloped [Lloyd] when work didn't go well on the excavation which even led to his missing meals!—we knew to stay clear and let him work it out."

His swimming companion, Bill Donovan, described how chaotic things were in the summer of 1957: "[Blegen] had never informed me that I was to return to Pylos that summer and, as a result, I had received invitations from Homer T[hompson] to join the Agora staff and from Caskey to come to Lerna. . . it was not until June 11, 1957 that I was told to report to Pylos once again, now on June 14! . . . Caskey simply laughed when I asked him what I should do." I suspect that Lloyd had been similarly summoned. But what was he summoned for?

Marion Rawson, Blegen's most trusted assistant at Pylos, had uncovered the last significant building to be found on the Pylos acropolis, the Northeast Building,

> Those were cheerful days and Lloyd was a prime factor in that good cheer.

a complex that may have served as a registration post for goods entering the palace from throughout the kingdom. Rawson found Linear B tablets and seals there, as well as a painted altar. A terra-cotta horse seemed to refer to the goddess Potnia Hippia (Figure 3). Lloyd drew it all while at Pylos—all except a peculiar construction in the corner of Room 97. Rawson described this room in her end-of-the-season report for 1957:

> In one place in particular . . . the fill went much deeper. Investigation showed that there had been an earlier shaft of boxlike construction here which was filled with a rather soft loose black deposit so that, after the fire, when the walls of the room collapsed and the debris fell, it sank deeper in this place than elsewhere in the room. Beneath the black stratum [on the floor of the room] lay rather soft sandy hardpanlike earth [that] contained earlier sherds, some fragments of boars' tusks, pieces of flint and a piece of carved ivory or bone inlay. . . with a spiral pattern resembling an ionic capital.

It was clear to Rawson that this construction was much older than the thirteenth century BCE. She and Blegen wondered if they might have found a shaft

Perhaps Lloyd might have beaten us to the grave of the Griffin Warrior.

grave. But in 1957 Lloyd was not asked to draw the grave, and the remains were forgotten until 1962. Further investigation verified that Marion had indeed found a shaft grave, a looted one, but very much like the intact Griffin Warrior grave that Sharon Stocker and I found in 2015. The finds that had escaped looting were indicative of the wealth the grave had once held: carnelian, amber, and amethyst beads, along with a tiny gold head wearing a helmet virtually identical to that of a figure on the famous steatite Boxer Rhyton from the Minoan villa at Ayia Triada in Crete (Figure 4).

Lloyd had an eye for things. He had already drawn two shaft graves at Lerna. I like to think that had he stayed at Pylos a bit longer, he would have confirmed Marion's find as a shaft grave. That realization would have precipitated a search for similar graves in the vicinity of the acropolis of the Palace of Nestor, and Blegen's team, and perhaps Lloyd too, might have beaten us to the grave of the Griffin Warrior.

As it happened, the saga of the Griffin Warrior did not begin until six decades later. How I wish Lloyd, Marion, and Carl could have been there when we found it in 2015, entirely undisturbed. For further reading, see www.griffinwarrior.org.



Figure 3. Terra-cotta horse from the Northeast Building at Pylos.



Figure 4. Gold-helmeted head (CM2518) from the shaft grave beneath the Northeast Building at Pylos.

Lloyd Cotsen and Collecting Art in the Twenty-First Century

Lyssa C. Stapleton and Charles Stanish

When we decided to present research on a Paracas textile in the Cotsen Textile Traces Study Collection for the February 2018 Gedenkschrift symposium for Lloyd Cotsen, we expected to discuss something that would span several topics, including funerary ritual, iconography, and weaving techniques. Instead, we discovered an interesting forgery created from looted raw material, made with methods and in a style borrowed from the Paracas, Nasca, and perhaps other pre-Columbian cultures. This forged object highlights both Cotsen's evolving role as an art collector and current ethical issues in archaeology.

Cotsen had an amazing depth of knowledge on a wide range of topics, including soap making, wine, weaving, architecture, the Torah, American poetry, Japanese gardens, English furniture, printmaking, and of course archaeology. He was a talented architect and draftsman, a dedicated foodie (before anyone knew what that was), and the marketing genius behind the Neutrogena Corporation. As an art collector, Cotsen was in many ways a member of an old guard made up of educated connoisseurs and scholars with a deep appreciation and knowledge of the items they collected. They saw themselves as stewards of these objects and believed that collecting was a way of protecting and preserving precious cultural material. Evolving ethical viewpoints and the establishment of a causal link between looting and the art market have revised attitudes toward the acquisition of antiquities and in so doing have redefined the role of private collectors. And while the awareness of the trade in looted antiquities and the prosecution of smuggling cases have increased, sites are still looted and collectors are still acquiring illicit antiquities. For archaeologists, the threat to archaeological sites continues unabated. Our efforts to keep abreast of looters, the market, and legislative efforts to develop new or erode existing protections requires the gathering of data and monitoring the situation on various fronts. Given the original topic of our research, in this essay we will touch here on only two, rather diverse, themes: looted materials and looted sites, and discouraging the purchase of antiquities by educating collectors.

The threat to archaeological sites continues unabated.

LOOTED MATERIALS AND LOOTED SITES

As part of the effort to protect unexcavated cultural heritage, scholars in the late 1960s began to quantify the link between looting and the art market (Chippendale and Gill 2000; Coe 1993; Coggins 1969; Gutchen 1983; Heath 1973; Vitelli 1984). This scholarship has provided the basis for the development of stronger national and international protections against the smuggling and trade of looted archaeological material. Methods for interpreting data are still being developed and refined. In the twenty-first century, several new



Figure 1. Looted tombs in the Chincha Valley, Peru, 2012.

facets of the trade in antiquities have been revealed and are being documented and published. Most important among them are the role of organized crime (Bowman 2008; Mackenzie 2007), the involvement of terrorist groups (Bren 2016; Danti 2015; Smith et al. 2015), the use of archives recovered during raids and investigations (Moynihan 2016; Tsirogiannis 2013), and, most recently, the use of looted raw material in forged antiquities, which emphasizes the importance of studying looted sites (Brodie 2015; Fay 2011; Lozada et al. 2013; Stanish 2009). As Barnard (2012:149) aptly stated, "at the beginning of the twenty-first century archaeology is no longer about finding things, but rather about finding things out." This observation is especially relevant when we consider the effects of terrorism, warfare, and poverty on the archaeological record, and the increasing necessity for rigorous examination of looted sites.

Looted tombs in the Chincha Valley investigated by the second author in 2012 speak to the importance of investigating areas seemingly destroyed by looting (Figures 1 and 2).

What was looted, as well as what was left behind raised questions about the use of ancient raw materials in manufacturing forged artifacts for sale on the antiquities market. Looted sites can also tell us about historical trends; about factors that influence looters, including market dynamics; the motivations and movements of looters; and the effectiveness of policing and regulation of site access (Contreras and Brodie 2010; Lozada et al. 2013; Matsuda 1998). In some cases, the source of looted antiquities can be discovered (Bell 2002; Gage 1973). Methods for monitoring looting, such as aerial photography, LiDAR technology, and satellite imagery, can help in determining the geographic extent of looting, especially in remote locations, and the increase or decrease of looting over time (Chase et al. 2010; Contreras and Brodie 2010). Our own research relating to the use of looted materials in contemporary forgeries reveals yet another motivation for looting, one that is intertwined with the art market and collecting, and particularly with Cotsen as a collector.

EDUCATING COLLECTORS

Since the mid-twentieth century, the interpretation of the material culture of indigenous people by anthropologists, archaeologists, and museums has been parallel to the development of human rights, at least in the Western world. Scholarship has moved away from a connoisseurial appreciation for individual objects and from presenting individual objects as a metonymy for an entire culture. Yet we struggle against a Western, market-driven attitude toward



Figure 2. Detail of a looted tomb in the Chincha Valley, Peru, 2012.

artifacts as commodities and a well-established system of behavior between art dealers and collectors that is dependent on this commodification. During the last two decades, however, a number of high-profile cases against museums, private collectors, and dealers have triggered a slow metamorphosis in the antiquities market that includes stricter ethics and acquisition policies for curators and museums (Table 1) and, in the United States, the increasingly frequent seizure of illicit antiquities and regular demands from countries of origin for returns of cultural property (Briggs 2007; Davis 2011; J. Paul Getty Trust 2006; Moss and Baden 2017; Panko 2017).

Museums, collectors, and dealers are participating in a rapidly changing system; one in which the traditional role of respected expert, steward, and connoisseur is transitioning into that of international smuggler and supporter of terrorist activity (Mackenzie 2005:261–62). Mackenzie (2011:136) argues that art dealers drive the market for illicit antiquities and it is they who exploit indigenous looters, gullible buyers, and loopholes in the legal system. These institutions and individuals do not intend to engage in criminal activity, but the nature of trading in cultural heritage material is such that it is nearly inevitable that they will (Mackenzie 2005:262). In the twenty-first century, the risks associated with acquiring illicit antiquities range from legal prosecution to the possibility of not being able to donate objects to museums due to strict acquisition policies, not to mention the possibility of purchasing a forged object.

> As the cost of forgeries goes down, the incentive for looting should also go down.

Some collectors are becoming more knowledgeable about the potential pitfalls of antiquities collecting. In her dissertation, the first author demonstrated the impact of authenticity on sales of Chinese antiquities. She established a link between provenance, as a representation of authenticity, and higher sale prices, making it clear that buyers are aware of the presence of high-quality forgeries on the market and are taking steps to avoid mistakenly acquiring them. The same data also showed higher prices paid for objects with positive scientific analyses, such as thermolumines-

Table 1. Resources for Due Diligence.

INSTITUTION	TITLE	PURPOSE	WEBSITE	CROSS-REFERENCES
International Council of Museums (ICOM)	Red Lists Database	Classification of the endangered categories of archaeological objects or works of art. Based on data submitted by source nations.	http://icom.museum/resources/red-lists-database	UNESCO, Object ID, U.S. Department of State
J. Paul Getty Trust/ International Council of Museums/ UNESCO	Object ID	International documentation standard for the identification of cultural objects	http://www.getty.edu/publications/virtuallibrary/0892365722.html	UNESCO, ICOM, Interpol, J. Paul Getty Trust
J. Paul Getty Trust	Getty Provenance Index®	Provides access to a number of international auction house and art dealer catalogs and lists works of art in public collections all over the world.	http://www.getty.edu/research/tools/provenance/search.html	
Interpol	Stolen Art Database	A database of stolen works of art that combines descriptions and pictures of artworks that have been reported stolen.	https://www.interpol.int/Crime-areas/Works-of-art/Database	Red Lists, Object ID
Association of Art Museum Directors (AAMD)	Object Registry	Shares information on unprovenanced acquisitions so that source nations can identify and make claims.	https://aamd.org/object-registry	
International Foundation for Art Research (IFAR)	Art Law and Cultural Property Website	Database of international cultural heritage legislation, with other resources for collectors.	https://www.ifar.org/art_law.php	Getty Provenance Index, Object Registry
Art Loss Register	The Art Loss Register	Database of stolen art.	http://www.artloss.com/en	

cence dating. In 2009 the second author claimed that the increase in antiquities forgeries on the market would depress prices for authentic objects and therefore create disincentives for looting (Stanish 2009). The link between increasingly higher-quality forgeries and their effect on the art market is fairly clear from an economic perspective. As the cost of producing high-quality forgeries goes down, the incentive for looting the real thing should also go down. Over time, this should in theory depress the antiquities art market. Prices for low- and mid-price antiquities are currently weak, and the number of fakes on the market is huge. Whether this has reduced looting is difficult to say. One factor we never anticipated is that forgers would loot not just for antiquities but for the raw materials to create even better forgeries. The objects from the Cotsen Collection that we refer to here may in fact represent a new wave of looting and forging.

It can be demonstrated that antiquities with provenance or scientific or art historical analyses supporting their authenticity fetch a higher price at auction. In turn, this reflects the importance of both authenticity and provenance to collectors, both institutional and private, and must result in greater efforts on the part of the forgers in the creation of better documentation, or fakes that are so sophisticated that they circumvent current methods of scientific analysis, as was initially the case with the pseudo-Paracas/Nazca textile in the Cotsen Collection. Private collectors are being indirectly educated about the hazards of collecting antiquities through the popular press, and nearly every curator in the United States can share a story about disappointing an important benefactor by refusing to accept a donation of an unprovenanced work of art. However, there is an additional, important support system that collectors can and should exploit: due diligence resources for both private collectors and museums exist, and the acquisition of looted and stolen antiquities can be avoided by taking advantage of them. The most useful and accessible of these are shown in Table 2. While these systems need to be more concise and interconnected, as well as more

Table 2. Current Ethics Guidelines for Archaeologists, Anthropologists, and Museum Professionals.

ORGANIZATION	DATE	LINK
Society for American Archaeology	April 10, 1996	http://www.saa.org/AbouttheSociety/PrinciplesofArchaeologicalEthics/tabid/203/Default.aspx
American Anthropological Association	November 1, 2012	http://ethics.americananthro.org/category/statement/
Archaeological Institute of America	January 8, 2016	https://www.archaeological.org/about/policies
Association of Art Museum Directors	January 29, 2013	https://www.aamd.org/sites/default/files/document/AAMD%20Guidelines%202013.pdf
American Alliance of Museums - Museums	July 2008	https://www.aam-us.org/programs/ethics-standards-and-professional-practices/archaeological-material-and-ancient-art/
American Alliance of Museums - Curators	2009	https://www.aam-us.org/wp-content/uploads/2018/01/curcomethics.pdf
American Schools of Oriental Research	April 18, 2015	http://www.asor.org/about-asor/policies/policy-on-professional-conduct/
American School of Classical Studies	—	http://www.ascsa.edu.gr/index.php/publications/author-Ethics-Policy
World Archaeology Congress	1990	http://worldarch.org/code-of-ethics/
UNESCO Archaeological Ethics Database	—	http://archaeologicalethics.org/keyword/unesco/
Register of Professional Archaeologists	—	https://rpanet.org/page/CodesandStandards

accessible to the inexperienced user, their existence means that collectors and especially museums can no longer rely on claims of ignorance about provenance.

The looting of archaeological sites is still an all-too-frequent occurrence, but in the United States at least, it appears that attitudes about and awareness of illicit antiquities are changing. However, to slow, and eventually halt, the looting and trade of cultural material, we must first discourage the market. The role of organized crime and terrorists in the antiquities trade, the existence of archives documenting huge caches of stolen art, and the huge quantities of fake objects on the market should act as a disincentive to collectors, but it is not enough. Today, nearly every professional organization for archaeologists and anthropologists, as well as those for curators, museum directors, and historians, has guidelines for ethical practices (Table 2). These guidelines are intended to prevent the commodification of looted material through publication or authentication, among other things, and to illustrate the antithetical relationship between collecting and ethical stewardship.

Students are taught these ethical viewpoints, thus creating a professional workforce with a focused awareness and desire to protect the world's cultural heritage. But art dealers, looters, and many art collectors stand outside academia, and we must consider new ways to change attitudes outside the academy. Perhaps by establishing new connections with collectors to encourage ethical collecting we can engage these individuals to become invested in the preservation, rather than the destruction, of archaeological sites. Like Lloyd Cotsen, many of these collectors are deeply interested in the past. Cotsen would not be disappointed to find that several textiles in his collection were forgeries. He would be fascinated. He viewed himself as a steward of his collections; a role that was often temporary but that required open and unrestricted access and support for scholarly research. He donated many of his collections so they would serve to educate and enrich as many people as possible. In the case of the repatriation of his collection of Chinese bronze mirrors to China in 2012, he made that gift as an acknowledgment of the right of China to curate its own cultural heritage (Stapleton 2011). Lloyd Cotsen was unique in many ways, but he may also be representative of other collectors with the desire to enthusiastically embrace twenty-first-century stewardship.

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Lloyd Cotsen's Gifts to the Getty

Claire Lyons

As a trustee and founding member of the Villa Council, Lloyd Cotsen made many contributions to the Getty Trust. Unbeknownst to most, however, are several gifts of classical art that, with typical modesty, he donated anonymously to the J. Paul Getty Museum. Each object was a gift in antiquity, and each alludes to the tests and rituals that marked an adolescent's path to maturity. It was a pleasure to present these objects for the first time on February 25, 2018, during Celebrations of Life, a *Gedenkschrift* symposium in memory of Lloyd Cotsen.

A GREEK MYTH IN THE WEST

At first glance, three pottery sherds that Lloyd donated in 1979 appear to be modest pieces, but they belonged to a rare shape: an Etruscan three-handled water jar known as a Caeretan *hydria*. Scholars identified the sherds as originating from a vase in the British Museum showing an Arimasp fleeing from a griffin. How and when the Cotsen fragments were separated from the vase remains a mystery. The vase had been in the museum since 1923 and was first published in 1838. The fragments, with the forelegs of a galloping horse and vivid floral friezes, were subsequently donated by the J. Paul Getty Museum to the British Museum. The restored vessel is now on display in London (Figure 1).

How and when the Cotsen fragments were separated is a mystery.

Griffins were said to guard the gold of Apollo on the northern Scythian steppe, and the mythical tribe of Arimasps persistently tried to steal it. The Arimasp depicted on the vase escapes in a chariot with a nugget hidden in his *kibisis*, the bag strapped over his shoulder. With his windblown hair tied back in a *krobylos*, he resembles charioteers on the painted sarcophagi produced in the Greek cultural milieu of western Anatolia at the site of Clazomenai. One such sarcophagus, which is in the Princeton University Art Museum and coincidentally was conserved thanks to Lloyd's generosity, is ornamented with a similar racing chariot motif (Papalexandrou 2010:6).

The London *hydria* represents the first instance of the battle between the Arimasps and griffins in Greek or Etruscan art. Based on the style of the figures and the geographical orientation of several myths and iconographic elements, the two painters of these unusual vases are thought to have been immigrant artisans from Ionia in northwest Asia Minor, who established a ceramic workshop in Etruria shortly after the mid–sixth century BCE. Only about 40 such *hydriae* survive, and they are found exclusively in

the cemeteries surrounding Cerveteri (ancient Caere). Fully a third bear scenes of a young hero or Herakles facing menacing creatures and perilous ordeals. Imagery of the Arimasp's exploits symbolizes the dangerous challenges that an ephebe had to confront beyond the margins of his community. Aside from their practical use as containers of water for mixing with wine or their funerary function as grave furnishings, Caeretan *hydriae* may also have played a role in initiation ceremonies marking a life passage (Bonaudo 2004:187–90, 241–45). In the nearby Sant'Antonio Sanctuary, temples enclosing an elaborate cistern and fountain complex were dedicated to several gods, including Hercle, the Etruscan Herakles, who was worshipped as a healing deity. The monumentalizing of the shrine coincides with the aristocratic patronage that stimulated production of this exceptional class of painted vases.

COMING OF AGE IN ATHENS

Lloyd's second donation was a fragment of a *kylix* with a scene of a musician holding double pipes (Figure 2). Around the edge of the tondo appears the Greek inscription "PAI[S] : KALO[S]" ("the boy is beautiful"). This delicate stemmed cup was decorated by the Ambrosios Painter, who specialized in vessels used in the *symposion*, an occasion for drinking, cosmopolitan conversation, and musical and sexual entertainment. The find-spot of the Cotsen fragment is unknown, but a majority of the painter's works come from Etruscan cemeteries in Cerveteri, Vulci, and several other western sites. Athenian vases were shipped to consumers in Italy in great numbers, most of them destined to equip tombs with suitably fine banqueting services.

However, two *kylikes* excavated in the Athenian Agora in Well J2:4 tell a more particular narrative from the perspective of the producing culture. One shows a man holding a wine cup, while on the other a servant hastens to a party carrying cuts of red meat. Based on their close resemblance to the Cotsen fragment, Kathleen Lynch attributed both cups to the Ambrosios Painter (Lynch 2011, numbers 89 and 90). Handsome youths are named on several of his vases. They include Ambrosios himself, who is identified on an inscribed *kylix* in Orvieto and on a *psykter* for chilling wine in the Getty's collection. Preserving a sealed context, the well held household pottery that was dumped in the cleanup after the Persian destruction of Athens in 480 BCE. This deposit quantifies the number of vessels needed for drinking parties and



Figure 1. Caeretan *hydria* by the Eagle Painter. Terra-cotta, 520–500 BCE. Height: 45 cm (17.5 inches). British Museum inventory number 1923,0419.1. (© The Trustees of the British Museum. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International [CC BY-NC-SA 4.0] license.)



Figure 2. Attic red-figure *kylix* tondo fragment, attributed to the Ambrosios Painter. Terra-cotta, around 500 BCE. Width: 8 cm (3.1 inches). J. Paul Getty Museum, Villa Collection, Malibu, California, inventory number 79.AE.107.

regular dining, the shapes deemed appropriate for different social occasions, and the personal taste of the host. Beyond marking a young man's coming of age and entry into adult society, the scenes of athletes training, hunting, armed combat, and drinking that are typical on *symposion* vessels reflect the intensification of male homosocial bonding in the new democratic politics of Athens.

MORTAL OR DIVINE: A FEMALE OFFERING BEARER

Lloyd's gift in 1980 of a marble statuette takes us into the feminine sphere of religious ritual (Figure 3). A smaller-than-life-size female figure wears a peplos, a venerable garment associated with goddesses and women acting in a cult context (Lee 2015:100–106; Ridgway 1984). Her extended right arm, possibly holding a phiale for pouring libations or a torch, reinforces her sacral role. In the absence of the head and defining attributes, the identity of the young woman remains open to question. Visible on the back is the end of her loose ponytail, which is conventional for unmarried girls and virginal deities such as Athena and Artemis. Both her garment and coiffeur allude to a famous sculptural type of the fifth century BCE, embodied in the Caryatids of the Erechtheion Porch on the Athenian Acropolis, who wear ample peploi and long braided tresses gathered at the back.

The peplos of our kore is double-belted, once at the waist and again below the breasts. On Classical *peplophoroi,* the dress generally hides the straight leg while exposing the trailing leg. Rather than gracefully poised, our kore strides forward decisively. Her dynamic movement exaggerates the transparency of the skirt, which presses against her legs, but barely registers in the stiff vertical pleats at the sides and back. Although the statuette was originally dated to the fourth century BCE, the somewhat artificial treatment of the folds suggests that it is a classicizing work made two centuries later. Conservative, archaizing dress was appropriate for cult personnel and initiates (Brøns 2017:278). Studies of ancient footwear,

Lloyd's gift of a marble statuette takes us into the feminine sphere of religious ritual.

moreover, show that her sandals, which are notched between the first two toes, are a Hellenistic fashion (Morrow 1985:90-92).

High-belted peploi feature on votive sculptures of young girls dedicated at sanctuaries connected with the female life cycle and the protection of children. Statuettes of devotees at the Sanctuary of Artemis in Brauron, as well as priestesses in images found at the Oikos of Artemis within the Asklepios Sanctuary at Messene, don this garment. They date from the second century BCE to the Roman imperial period. Mainland workshops also began to produce mythological statuettes based on early classical prototypes in the second century. Adhering drapery often signals a figure in motion, such as Selene and Nike, the goddesses of the moon and victory. The hunting goddess Artemis, who oversaw childbirth and women's transitions, and Hekate, a protective household divinity who brought prosperity to the family, are shown in a similar dress and pose. Both goddesses sometimes hold torches in their aspect as *phosphoros,* "bearer of light." The sculptural type continued to be popular, as in the case of a second-century BCE sculpture of a girl who hastens forward in a high-belted peplos with a ruffled over-fold and virtually transparent fabric below the waist. The figure was one of several Greek or Greek-inspired works that decorated the private villas in Rome, and is now in the Musei Capitolini (inventory number Scu 949).

The history of the kore before 1980 is uncertain. According to a former Getty curator, it once belonged to Erwin Bielefeld (1907–1975), a professor of classical archaeology in Munich in the 1950s. On file is a statement, possibly communicated by Lloyd himself, that the statuette came from western Crete. Reported provenances should be taken with a grain of salt, but the locality is unusual and warrants a second look. Hellenistic votive sculptures in Crete reflect mainland types, yet with the exception of Gortyna, the material tends to be understudied. A group of four votive statuettes wearing peploi in the Archaeological Museum

in Kassel (inventory numbers ALg 210-213) is linked with the sanctuary at Lissos dedicated to Asklepios, the patron god of health and healing. Similar figures from that site, all dated to the late second century BCE, are on display in Chania.

Whether our diminutive figure was a votive offering in a sacred precinct or a domestic shrine, it draws on an emblematic classical type that was adopted for protective divinities and adolescent maidens devoted to their service. As Lloyd's donations show, the layered meanings inherent in such objects make them stimulating subjects of study, and his gifts to the Getty are sincerely appreciated.

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Figure 3. Statuette of a kore. Marble, second century BCE (35.6 x 14.6 x 14 cm or 14 x 5.7 x 5.5 inches). Anonymous gift in memory of Noah Cotsen and Christopher Doeringer. J. Paul Getty Museum, Villa Collection, Malibu, California, inventory number 80.AA.123.

A Celebration of Messiness

Willeke Wendrich

We celebrate the life of Lloyd Cotsen, archaeologist, businessman, visionary, and philanthropist, who passed away on May 8, 2017. Lloyd participated in fieldwork and certainly got his hands dirty doing so. Archaeologists in the field can be caked in dirt but are generally not messy. On the contrary, much of what we do in the field and in the laboratory has to do with bringing order to chaos. We try our best to categorize, classify, compare, sort, organize, and store our observations, finds, and thoughts. This concern with ordering observations serves the important goal of making sense of an often confusing and meaningless mass of information. My argument here is that this is an important step in understanding human society, but it also draws a veil over what is an essential human trait: messiness. With the help of computers, we now have the great opportunity not to get over-organized but to take into account the full messiness of life in the past.

Archaeologists in the field can be caked in dirt but are generally not messy.

SPACE

One way we organize excavations is by dividing archaeological sites into grids and then excavating, preferably square, trenches or units. This helps us keep track of where things are. It allows us, for instance, to relate corners of a building excavated in different trenches. We can map the distribution of hearths, the street plan of a settlement, or the layout of a cemetery by giving everything coordinates within a grid. To know where these interconnected squares are in the world, we can relate our plans and our grid to the world at large, by linking it to map coordinates. Archaeologists tend to be traditionalists and like to continue well-established methods, but think about it: in 2018 there is no need to stick to a grid. With a differential global positioning system (GPS), we can determine where each feature is on the planet. Flattening the globe to depict excavations in two dimensions on a map is by definition a messy procedure; think of the political and conceptual consequences of using the Mercator projection instead of, for instance, the Gall-Peterson projection, which has less distortion of land mass. Nevertheless, the use of the universal transverse Mercator projection allows us to do metric measurements in the field and relate these to a worldwide standard. Technology allows us to be free of grids that not only organize but also limit observations. Robotic total stations allow us to measure the density of surface remains by providing the provenience of many single objects; measuring the x, y, and z coordinates of single artifacts and other features, as we did in the Fayum desert (Wendrich et al. 2012).

While the total station and GPS have freed us from grids, a geographic information system (GIS)

	ROUND			SQUARE		
	LARGE	MEDIUM	SMALL	LARGE	MEDIUM	SMALL
Red	0	0	0	235	0	3
Green	43	0	0	21	54	8
Blue	120	0	0	0	0	0
Yellow	0	113	0	0	0	6

Table 1. A typology with 24 classes based on two shapes (round and square), three sizes (large, medium, and small), and four colors (red, green, blue, and yellow). Fifteen of the classes are empty.

allows us to record the amount of messiness and chaos that presents itself on a larger scale. Rather than having to depend on maps, with GIS we can record a layering of information that can be switched on or off and can be interrogated in multiple ways, depending on our research concerns. We need to be able to simplify reality to make sense of it, but once we have done so, it behooves us to enhance our understanding by bringing back the complicated mess of multiple factors.

MATERIAL CULTURE

Archaeology has been especially successful in organizing material culture. Flinders Petrie's sequence dating, based mostly on ceramic seriation, was a brilliant way of explaining changes over time (Petrie 1901, 1920). It firmly established the importance of typology, classification, and seriation and allowed archaeologists to study ceramics and assign relative dates to sites.

There is a certain degree of confusion as to what the different organizing terms relate to, but I use them as follows.

Classification is a definition of classes based on criteria that are mutually exclusive and jointly exhaustive. A classification predefines groups, independent of the assemblage, and therefore a classification can have

> We need to be able to simplify reality in order to make sense of it.

empty classes (Table 1). *Typology* is a definition of types based on a variety of criteria, often at different levels of properties, while *seriation* is a chronological ordering of a typology. *Taxonomy* is a definition of hierarchical relations (parent/child) of artifacts: A is a type of X (A is a child of X), and X has types A, B, C, and D (X is the parent of A, B, C, and D). Such a hierarchy can be made following the rules of classification (where the hierarchy is consistent throughout; Figure 1) or the rules of typology (where the hierarchy has different criteria at the same level; Figure 2).

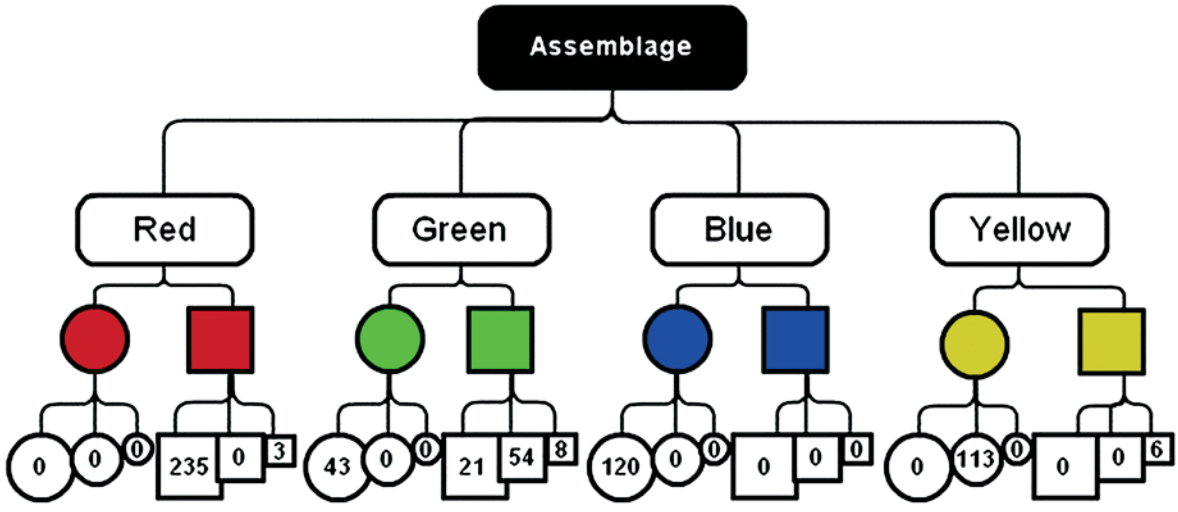


Figure 1. A taxonomy (hierarchical representation) of the classification in Table 1, with filled and empty classes.

The ten types indicated in Figure 2 are not defined according to consistent criteria:

R1 = large red square (size, color, shape)
G1 = green circle (color, shape)
G4 = small green square (size, color, shape)
B = blue (color)
Y2 = yellow decorated circle (color, new criterion [decorated], shape)
Y3 = yellow square (color, shape)

The fact that we have small green and yellow squares is unclear in this presentation, while we have no comparative information on the blue items. Most importantly, the empty classes are eliminated. At first sight this seems to be unimportant, but we may well get the most dramatic insights if we ask ourselves why there are no blue squares, nor blue medium or small circles. Nevertheless, this is the method used widely in pottery typologies. It seems efficient, but in fact it is no more than a convenient abbreviation of tacit and uneven criteria. It is easier to say LRA-1 than to repeat what the characteristics of the Late Roman amphora Type 1 actually are. However, the variability of LRA-1 in the landscape of Roman amphorae remains hidden. Here too technology can potentially restore the messiness that holds an enormous volume of information. In a relational database, we can quickly sort and organize very complex information according to criteria that are relevant for our particular research question. Be this fabric, form, width of mouth, decoration, color, place of origin, find-spot, or whatever else we deem relevant, we can easily search on combinations of aspects. This can include traditional types, but in an explicit way, by outlining why something is called LRA-1 and not only why it is different from LRA-2 but also, explicitly, in what aspects the two types are the same.

We can use computer power to go a step further and use ontologies. An ontology is an explicit definition of the relationship between entities: for instance, "Harold" and "a car" with the relationship "owns." Thus we can add to our database not only measurements (amphora—has height—x) but also much more complex relationships (amphora—has content—y; amphora—was produced at—z). Access to the complexity of ontologies can be provided via the semantic web, making use of a resource description framework. This enables us to reintroduce messiness in the most organized manner.

I realized that the *chaîne opératoire* was a very artificial ordering of something.

HUMAN ACTIVITIES

While studying ancient Egyptian basketry, I spent many days with present-day basket makers to understand the craft, the use of raw material, the production sequences, the division of labor, and many other aspects of the production and use of material culture. My observations were organized using Leroi-Gourhan's (1964) *chaîne opératoire.* In brief, this entails considering an archaeological or museum object not as objet d'art, to be admired for its beauty, but as the result of human activity, a process of making in which material, movement, thought, and timing all come together. The typical categories of describing such a sequence of production are:

1. collection of raw materials
2. preparation of raw materials
3. preparation of half products
4. start of production of object
5. production of object
6. decoration of object
7. finishing off of object

Not all of these stages happen and not all of them are done in this particular order, but it is a well-established way to describe a production process and is helpful, for instance, for timing how long it takes to create a pot. While working with basket makers, I realized that the *chaîne opératoire* was a very artificial ordering of something that never actually happened. In reality the process was much messier and involved all kinds of activities that had nothing to do with producing an object: Children needed to be fed. Visitors passed by for tea. Halfway through the production process the supply of palm leaf ran out and the basket maker walked out, climbed a tree, and got some more. Food needed to be cooked. A client came by. The street needed watering. A tool needed sharpening.

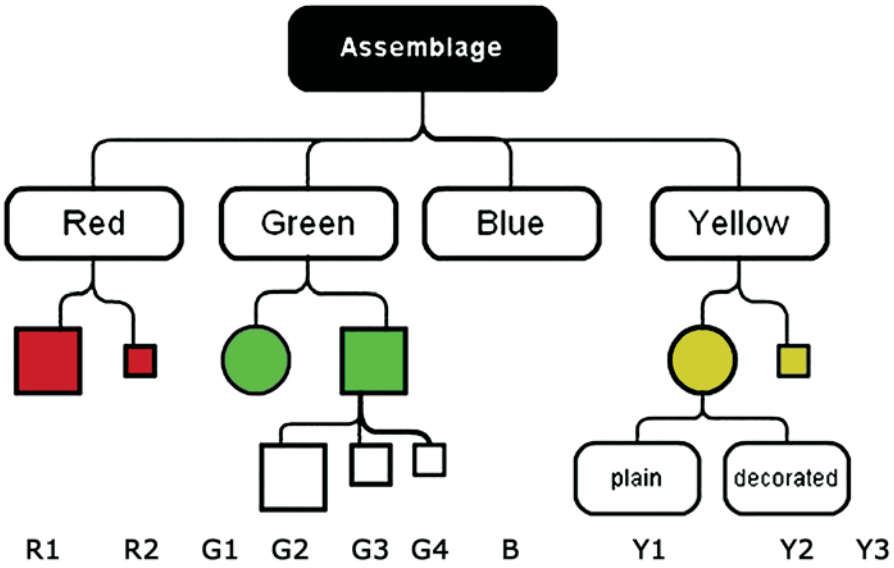


Figure 2. A taxonomy (hierarchical representation) of the data in Table 1, presented as a typology, with different criteria at the same level. Only the types that actually occur appear in the graph

In short, to explain the fullness and complexity of a production process, the *chaîne opératoire* was only minimally useful. Instead the use of video allowed us to record all the different aspects that made up the process. The low costs enabled the recording of long sequences rather than switching the camera off when the craftsperson was "doing something else," which provided surprising new insights and enabled a better way of timing the actual complexity of activities.

Organization over messiness? No, interpretation thanks to messiness.

My last example is the world of three-dimensional visualization. Photogrammetry or laser scanning records a trench, building, or entire site in all its messiness. What do we learn from that, and should we celebrate it above a cleaned-up three-dimensional rendering or reconstruction of an ancient building? The Digital Karnak Project at UCLA comprises a three-dimensional virtual-reality model of a temple complex that grew, expanded, and changed during at least 3,000 years.[1] In the model, the temple looks clean, while the remains as they stand today are a confusing maze of stone blocks in which one can hardly recognize doorways, hallways, or courts. The model does not aim to convey what the complex was like but presents our state of knowledge, including a number of speculative suggestions about where some of the buildings originally stood. Colleagues who have worked in Karnak for many years exclaimed in surprise that after working with the model for a while, they understood for the first time how the standing remains of the temple related to one another. Organization over messiness? No, interpretation thanks to messiness.

I want to celebrate messiness because our organization and simplification of human lives and ancient remains are more reflective of ourselves than of the ancient past. Our frantic attempts to organize and control are important to get some kind of start, but by using the organizing power of computers, we can bring in the messiness bit by bit. With it grows a deeper understanding, appreciation, and a way to humanize the past, messy warts and all.

1. http://wayback.archive-it.org/7877/20160919152116/http://dlib.etc.ucla.edu/projects/Karnak/.

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A Children's Hermeneutics

Giorgio Buccellati

The site of ancient Urkesh has been sealed off by the war in Syria for seven years now. But Marilyn and I have never been away from the site. Through a unique program that has seen us work as one with the people of the region, the site has become a firm point of reference for the local communities. And we have made a major effort to include children in this program: we have put in touch a middle school in a city near the site with a counterpart in Italy, and the children have reflected on what the history of their territory means to them, in particular (for those near Urkesh) what *archaeology* means to them. The deliberate attacks on the Syrian cultural heritage have heightened sensitivity to this question, and we wanted the children to articulate their feelings to each other, through email and Skype conference calls. I will describe briefly the impressive results of this unique program.

I use this as a case study to illustrate a more general principle: approaching children poses a special challenge within the broader issue that characterizes "community" or "public archaeology." How can we help children in their effort to appropriate values when it comes to broken traditions; traditions from a remote past that have no immediate resonance with recent concerns, especially in time of war? It is a unique form of hermeneutics, one that has wide-ranging implications about some of the central issues we are considering in archaeology today, such as cultural heritage and the notion of loyalty to a territory. It opens, in other words, an unexpected window onto some central theoretical considerations that, it turns out, have a much wider application.

> We made a monthlong trip, among tents, sheep, and donkeys.

CHILDREN IN THE STEPPE

This is a topic that Lloyd Cotsen would hold close to his heart. His many projects and initiatives addressing children had, as a common thread, not only a pedagogical intent but also the desire to understand more closely the basics that underlie the process through which meaning can be appropriated. I would like here to share, as an introduction to my main argument, some memories of a momentous trip that Lloyd and I took together through the Syrian steppe in 1995.

In the late 1960s, Lloyd was president of the local chapter of the American Institute of Archaeology (AIA). Marilyn and I had just arrived at UCLA, and the first lecture we gave for the AIA was on a reconnaissance trip she and I had taken, in the summer of 1966, in the Palmyrene and the Jebel Bishri in central Syria. The title was "In the Footsteps of the Amorites." For the lecture, I prepared a map on a large canvas using oil paint. (This was well before digital imaging, but the goals were the same.) Lloyd was particularly impressed by that feat, and I used it as a starting point when, some 30 years later (in 1995), I invited him to join me on a winter trip through the Syrian steppe. A trip that aimed to study the lifestyle of the mod-



Figure 1. Children in the Syrian steppe near Jebel Bishri in 1995. (Photograph by Lloyd Cotsen.)

ern "pastoralists" outside the warmer season, when we would normally encounter them in the region of Terqa first and then, to a lesser extent, in the region of Mozan. I told him it was an offer he could not refuse. We would retrace the trails I had first followed with Marilyn in 1966, but this time in the winter, and Lloyd would be in charge of color photography. (My son Federico was in charge of black-and-white photography; again, this was before digital cameras.) And so we made a monthlong trip, among tents, sheep, and donkeys. Personal memories blend inextricably with the goals of a scholarly enterprise that, still today, contributes meaningfully to ongoing research about the Amorites.

In his photography, Lloyd had a special eye for children. I reproduce here three of the many images that he carefully composed with his camera. Instead of a picture *of* Lloyd, we can see the world here *through* Lloyd, the way he looked at it. Of course, we had innumerable chats with the people we encountered, including the children, and an important element that surfaced in these encounters has a direct bearing on my topic. Early in the morning, the children would leave the tents and walk to school. Where in the steppe would they find a school? That was our obvious question. It turned out that a camper/trailer followed the groups of tents, and this trailer served as a grammar school, so that the children would not lag behind in the winter months, before returning in spring to the settled areas where they hailed from and where they could finish their schooling. It was a recent program, they told us, and it was remarkable to see how the children could in fact read and write Arabic when their seniors often could not. That experience made a strong impression on us: education in the steppe, imagine! Think of it. What is the frame of reference for a child living in a tent, in a barren landscape? How would schooling in a trailer contribute to the formation of this frame of reference?

THE STEPPE AS A METAPHOR

But then, what is the frame of reference of a child anywhere? In a sense, each child has a steppe of his or her own. Children seek to go beyond this steppe and construct the world as they discover it. Some of these "steppes" are emptier than others. There is now, in Syria, the steppe of war, that empty moral space that war creates, an emptiness all the more devastating for the little ones. Yet it is precisely here that we



Figure 2. Children in the Syrian steppe near Jebel Bishri in 1995. (Photograph by Lloyd Cotsen.)

see the immense resilience and creativity with which children in general, and Syrian children in particular, face this other empty steppe in their lives. I will use this metaphor to explain, before coming to our Urkesh case study, my title. "A children's hermeneutics" refers to their ability to invent the world around them, their coming out of the various "steppes" in which they live. Therefore this is not hermeneutics for children (how we should explain things to them) but *from* children (how can they explain things to us). In other words: What do they teach us?

The core of the answer, when it comes to archaeology, is the profound impact of the territory. No matter how barren, how "steppe-like," a territory might be, there develops in children a profound sense of psychological dependence upon it. They do not need to be able to describe it in its subtle richness. They *know* it in all its faces: the landscape, the climate, the animals, the human presence. Fragile as it is, there is here a built environment as well, from the tents to the stone desert kites, from rock markings and graffiti to caves used for storage. There are also reminders of the past: tells and cemeteries. What do all these evoke? In a way, the very contrast with the wide-open spaces of the surroundings makes these fragments of human presence all the more imbued with meaning, all the more effective in their impact on the construction of the children's human world. It is thus that they shape their own bearings.

What comes from this dependence is, in turn, an abiding sense of loyalty. It is a loyalty that manifests itself in the consonance with details that are absorbed "natively," precisely, by individuals who are born in the territory and grow up in it. I use the term *loyalty* to refer to the symmetry in the relationship: if the territory leaves an imprint on the children, the children turn to it for their part with a sense of belonging. They create their own worldview, their own vision of the environment that conditions their lives. We can draw two lessons from this with regard to the notion of "community archaeology." In the first place, the relationship of the inhabitants to their own territory is what justifies new concerns that the discipline is developing. The self-understanding of the local community is conditioned by the territory in ways that are analogous to those of the ancients. It is especially the native dimension of this belonging to the territory that needs stressing. We can certainly introduce an extrinsic standard of measure by categorizing all possible variables. But the response to the substance that brings together all these variables cannot be measured or categorized. It is rather appropriated through the very fact of being born in it and growing up in it.

This is not hermeneutics for children but from children.

The second point to be made relates more directly to our metaphor. We speak of "heritage." But what does the "heritage" of a Hurrian city, no matter how important for being one of the very first cities in history, mean to these children? What do they really inherit? Or, for that matter, what do the villagers—young and adult as well, living around ancient Urkesh—inherit from it? The heritage of the Hurrians

is a broken tradition, and a broken tradition is like a steppe of time. Their culture has no direct connection with anything the local people experience today. Nothing except the territory; which takes us to the case study I now wish to illustrate briefly.

A CASE STUDY: THE URKESH SCHOOL PROGRAM

Marilyn and I were in Beirut in November 2017 for the opening of an exhibit we organized about our site during six and a half years of war. On that occasion, we organized a roundtable in which seven of our Syrian colleagues participated; four of them were from the region of our site. One of the concerns we addressed was the need to develop the underpinning of an eco-archaeological park that we had been planning before the war. It being impossible, under the present conditions, to attend to the formal realization of the park, we sought, with our Syrian colleagues, to identify other ways to create a sensitivity among the local people to the substance of our goals, even if we could not set in place any proper structure to administer them. Among other things, we came up with the idea of a project that would involve the children of the area. In the first half of 2018, we set this in motion. The results were little short of extraordinary.

The program paired middle school children (11 to 13 years of age) in Qamishli, the Syrian city closest to our site, with their counterparts in Domodossola, a small city in northern Italy, aiming to develop a dialogue in which they would become more and more the protagonists. The program was articulated in three components: the writing of essays that would make them reflect on the past of the area in which they lived, a live dialogue via Skype, and musical exchanges. The program was only possible because of the commitment of Amer Ahmad in Qamishli, Yasmine Mahmoud in Damascus, and Enzo Sartori in Domodossola, to whom goes my heartfelt gratitude. All three components of the program proved to be extremely successful and were the centerpiece of an exhibit held in Rimini in August 2018, which then went to Damascus for the reopening of the National Museum in October 2018. Here I can only report briefly on the first component, the writing of essays. To break the ice, Enzo Sartori suggested a first question: What makes you feel at home? The answers came in by the dozens (in Arabic and Italian at first, and then progressively in English), and they were extremely enlightening.



Figure 3. Children in the Syrian steppe near Jebel Bishri in 1995. (Photograph by Lloyd Cotsen.)

Here is a selection of recurrent themes from the essays written by the Syrian youngsters:

TRADITIONS AND GRANDPARENTS

- My grandpa always talks about the old traditions so we learn about it and preserve it.
- It is through my family that I learned about our history and our traditions which we hold onto, despite gaining new habits and traditions. In the old days, people used to visit each other, but now no one cares anymore.
- My grandmother always tells us about life in the old days. Whenever I wanted to know more about our history, I would ask my father and grandfather. And even though this was helpful, it was not enough. I needed to read history books to learn about the archaeological sites in my country.
- My family kept only the traditions that are positive and that strengthen the social bonds and respect. We also hold onto our traditional outfits on special occasions. As for the negative ones, we forgot them.

VILLAGES

- I go to the village on the weekend to get away from the polluted city and to see the sun that is always blocked by buildings.
- In the village, people still make traditional food like cooking the wheat (Danouk) and bourghul and semolina, and make dried meat. And my grandmother tells us about the traditional handmade items that she used to make like carpets, and making

I love being from a place so rich in archaeological sites.

food in the traditional way like making yogurt, ghee, and cheese. I like going back to making these foods and help my grandmother in making them.
- I prefer to live in the village because life there is quiet and beautiful. There we can detach ourselves from the chaos of the city and enjoy the splendid views and landscapes.
- Although I live in the city, I like living in the village, where it is clean and quiet. It is the perfect atmosphere to innovate and to write.

ARCHAEOLOGICAL SITES

- In my area, there are many archaeological sites like the Roman bridge, Ain Diwar, and Tell Arbid, which I visited because my mom is from there.
- My father said that there are archaeological tells in almost every village, which is a sign of a great civilization that thrived in the area thousands of years ago.
- Some of the most important sites in al Jazirah are in my region, like Tell Mozan and Tell Arbid.
- I love being from a place so rich in archaeological sites, but I never visited these sites.
- In our area, there are many archaeological sites like Tell Beidar, Tell Mozan, and Tell Arbid, which makes me very proud. I would love to visit these sites because I never did before.
- There are many archaeological sites in my area, like Tell Halaf, Tell Mozan, and Tell Beydar, and I have always wanted to visit because I love archaeology. I went to Jaabar citadel.
- I consider my area a beautiful one, full of archaeological monuments. And my village is very close to these sites.
- Every archaeological site in my country has a special place in my heart.

IDENTITY

- I think it is very important to preserve the traditions that express our authenticity and our identity.
- In my town, Qamishli, Kurds, Arab, Assyrians, and Armenians all live together. I get along with everyone, and I feel proud of being friends with everyone, and I can't imagine being away from my friends or my country.
- My country does not mean just a geographical space. It is a place where people live in equality.
- I was excited to see these monuments: the people who lived there were Syrians!

Here is a similar selection from their Italian counterparts:

VILLAGES

- Something very dear to me is my little mountain village: Sasseglio. I was not born there, but when I am there I feel at home.
- What makes me feel at home . . . are the mountain villages. The particularity of these villages is that, since there are many valleys, each one is different from the other because of the different building styles.

ARCHITECTURAL DETAILS

- A special place which I adore is the old mill near my home, where I was going to play as a little child because inside there was my special little space.
- A small eating place where my dad would bring me to drink a soda—now it is closed, unfortunately, but there is still a water fountain, hidden away.
- The villages are structured as follows: a central square, usually with a fountain, one or more churches, houses built of stone, all connected by stone paved paths.
- I miss a lot my mountain lodge when I am not able to go there—for instance in the winter, because there is too much snow.
- I also love the structure of the mountain lodge, all wood on the inside and stone on the outside.

MOUNTAINS AND LANDSCAPE

- The cold and the snow are two things that make me feel at ease: "at home!"— even though in the end I don't like them that much.
- And then the mountains, which give me a sense of security.
- What makes me feel at home is the snow: I love to ski, and when it starts snowing I feel more free.
- To enjoy these imposing mountains gives me a sense of security.
- But the most beautiful thing is the silence. One can only hear the birds singing and the water running in the streams. I could not be away for very long.



Figure 4. Two essays from the Italian students.

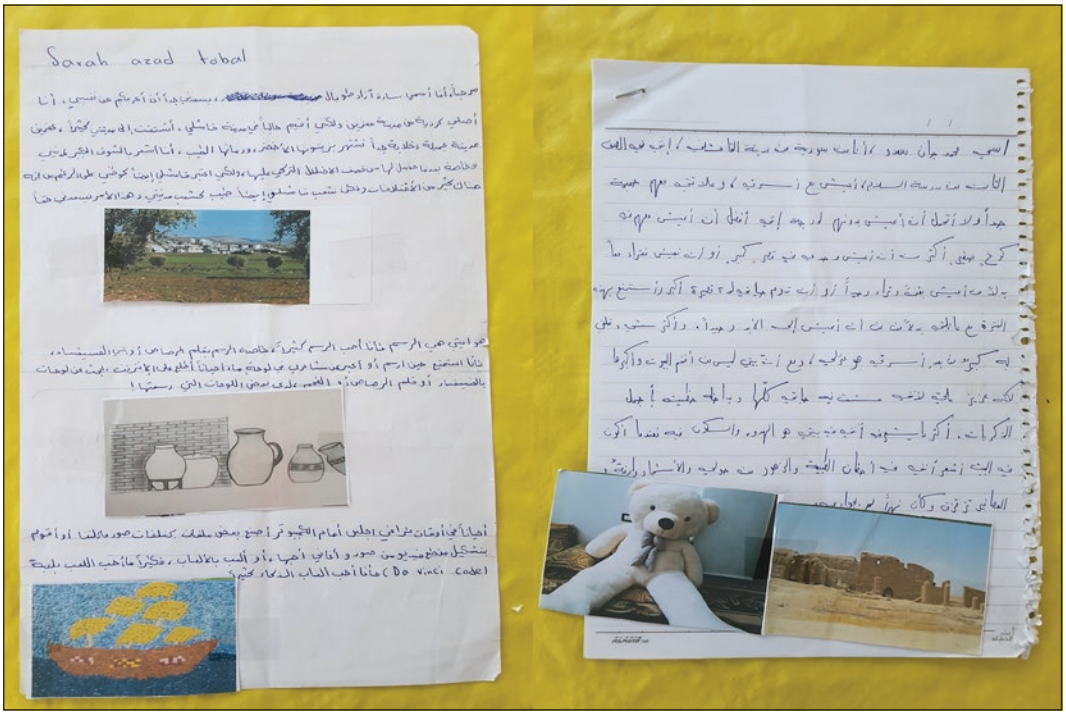


Figure 5. Two essays from the Syrian students.

It would be interesting to undertake a full exegesis of these essays, comparing them with each other and also studying the impact they had on the two respective groups; an impact that was indeed extremely remarkable, unexpected, and moving. But even this short selection is sufficient to help us see how the world vision of these youngsters is taking shape, and how the question of the past and of the territory is looming large in their imagination. It is by reaching out to this sensitivity that we can on the one hand learn from their responses and on the other help them discover those values that we, too, have discovered through archaeology and more deeply appropriated as our own.

It is, I think, a celebration that Lloyd would enjoy and of which he would be proud. A celebration of the future.

Lithic Studies: The Point of It All

Ernestine S. Elster

In February 2018 the Cotsen Institute of Archaeology held a symposium to celebrate the life of Lloyd Cotsen, its esteemed benefactor. It was a full day of presentations from UCLA archaeologists and an honored guest, Jack Davis, who had excavated with Lloyd in Greece years ago. I spoke on the lithics recovered in considerable quantity from Neolithic villages in Greece and the Balkans. They surely filled a necessary role in the daily life of these agriculturalists and offer one strand of inquiry mobilized to explain Neolithic life. Their study is "the point of it awl," as Lloyd would have it, and the discussion continues below, somewhat changed and expanded.

The term "Old Europe" was introduced by the late Marija Gimbutas, professor of European archaeology at UCLA, inspired by the results of her two excavations in the former Republic of Yugoslavia (Gimbutas 1976a, 1976b) and two in Greece (Gimbutas et al. 1989; Renfrew et al. 1986). Scholars have now accepted "Old Europe" as a valid archaeological description and identification for place, time, and form (Anthony 2010). Excavation reports of several settlements (Figure 1) have been published by the Cotsen Institute Press in the series Monumenta Archaeologica. Among these, I reported on the lithic assemblages at three: Anzabegovo in the newly named North Macedonia (Elster 1976:257-78), Achilleion in Thessaly (Elster 1989:273–301), and Grotta Scaloria in Italy (Elster 2016:297-316). With the exception of four outlying late Upper Paleolithic dates for Grotta Scaloria (Robb 2016:46), the calibrated determinations are comparable: Early to Middle or Late Neolithic (Figure 2). The Anzabegovo and Achilleion villagers were farmers engaged in planting, harvesting, and herding. Their subsistence base consisted of plant and animal domesticates augmented by gathering and hunting. Occupational debris formed mounds that upon excavation exposed tools made of bone, antler, and flaked, ground, or polished stones, as well as pottery, figurines, spindle whorls, animal bones (sometimes including human skeletal remains), and pollen. Together these artifacts represent the activities and natural environment of the villagers.

Grotta Scaloria, however, presents another picture of Neolithic life, although the subsistence base was similar for the cavers who used it for day-to-day living. The difference is in the remarkable evidence for ritual in both chambers of the cave, undoubtedly representing celebrations for the dead; mourning or other

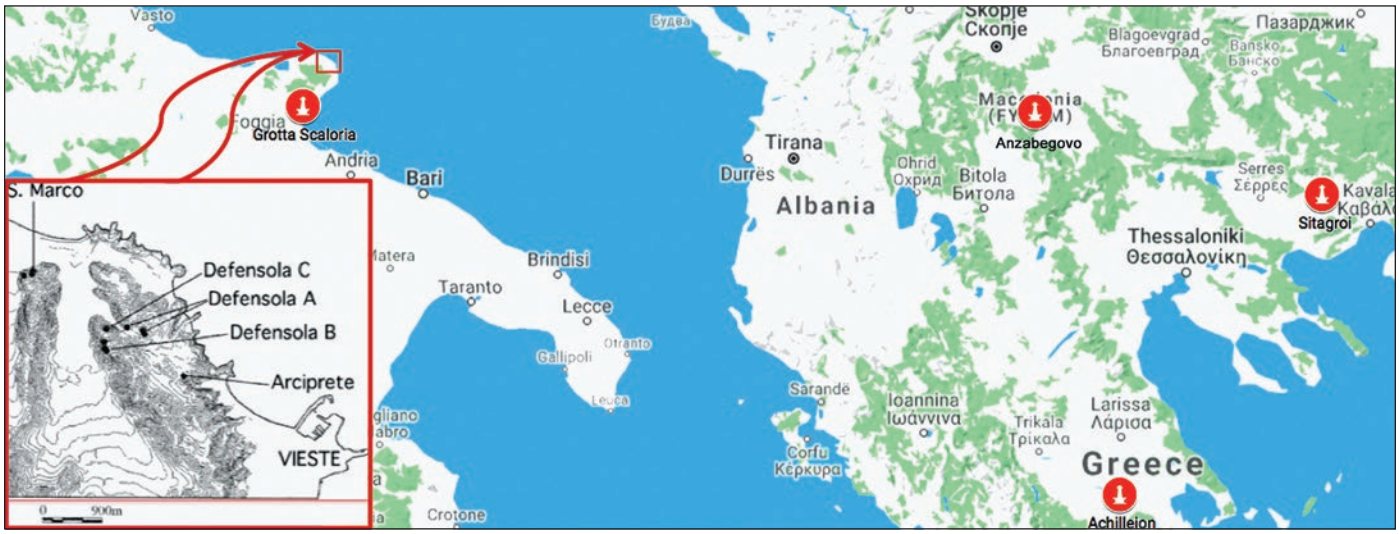


Figure 1. Location of the sites of Achilleion, Anzabegovo, Grotta Scaloria, and Sitagroi. The inset indicates the location of individual Gargano flint mines.

funerary ritual in the upper chamber and mysterious cult practices involving water in the hard-to-reach lower chamber. In the upper chamber, thousands of disarticulated human bones were found scattered in disarray on the floor. Strontium isotope analysis indicated that the human bones represented both a

> Thousands of human bones were found on the floor.

cogent group and a small number of nonlocal persons from different parts of the Tavoliere Plain (Tafuri et al. 2016:142). The products of knapping from these sites include blanks, flakes, blades, cores, and variously used pieces (Figure 3), which I consider part and parcel of a prehistoric tool kit, and they represent much more in a social context. Underscoring these inferences are their ubiquity, variety, and quantity. They form the database herein.

METHODOLOGY

Lithic study requires a quantitative sample that, hopefully, fully represents the tools in form and use. Various methodologies are available, but especially worth examining are two fairly recent volumes honoring scholars whose European careers focused on lithics, mining, technology, and use-wear (Voytek 2018a, 2018b). The *chaîne opératoire* (Sellet 2016:106-12) offers a road map for lithic analysis that links geography (source of raw materials) to technology (reduction sequence from nucleus, core, flake, and so forth) to morphology (form, typology) to use-wear analysis

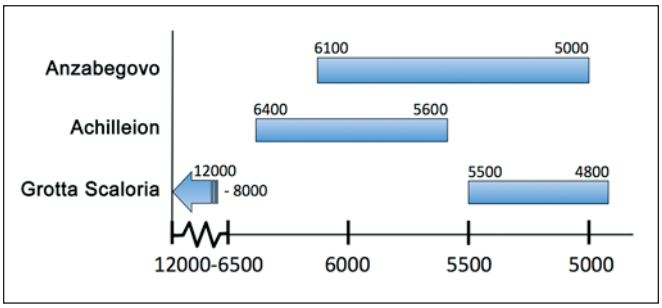


Figure 2. Range of calibrated radiocarbon determinations for Anzabegovo, Achilleion, and Grotta Scaloria.

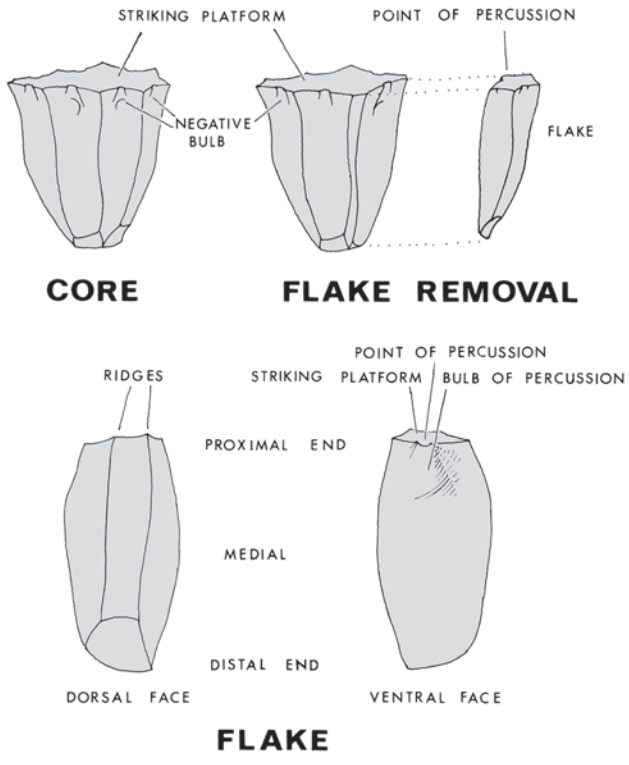


Figure 3. Terminology and examples of chipped stone. (Adapted from Elster 1977:fig. 152.)

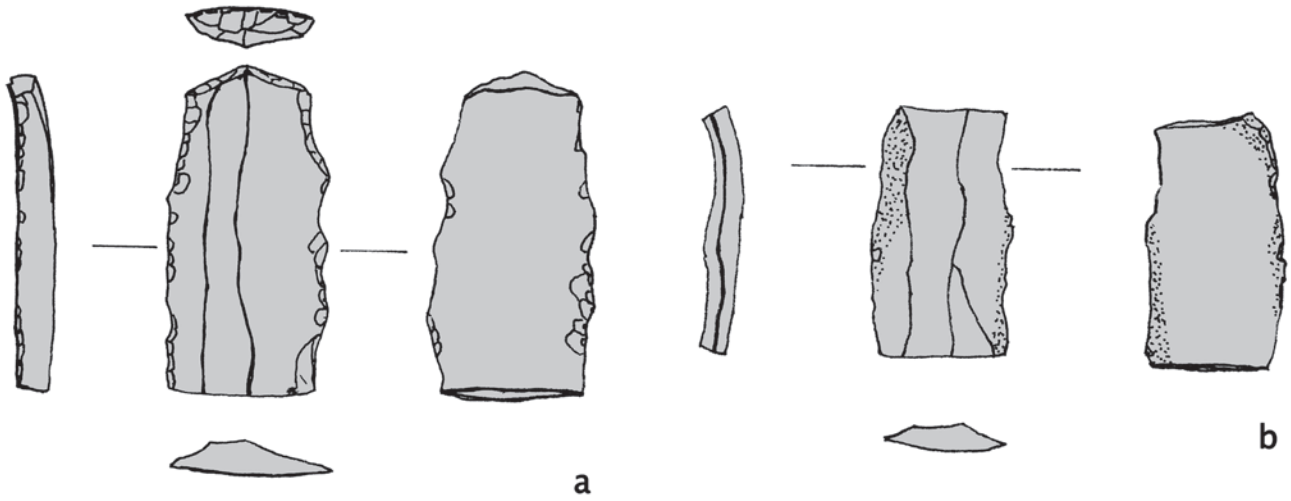


Figure 4. Used blade with retouch at distal end (a). Silica gloss (stippled) on edges of blade (b). (Adapted from Elster 1977:fig. F-a, fig. F-d.)

(microscopic examination of the margins of tools) to refitting (evaluation of work stations, *débitage*) to replication. The latter is undertaken to evaluate the validity of microscopic observations and conclusions concerning the human action that caused the use-wear. Each point in this operation, when followed, can further define the assemblage. An attribute system (including discrete variables and values) systematizes the *chaîne opératoire*, allowing for the use of simple statistics to help isolate patterns in the data. A full discussion of these methodologies is given by Sackett (1999:199-228) in his archaeological report on the excavations at Solvieux, France. This is a stand-alone instruction for and introduction to attribute systems, typology, and analysis. Semenov (1964), Tringham (2003:81), Tringham et al. (1974:171), and Voytek (2018b:247) discuss microscopic examination of edge-wear traces, identification of scarring, and replication. Keeley (1974:323) is worth checking for the use of higher magnification and scanning electron microscopy, as is Cahen et al. (1979) for refitting and the evaluation of debitage and technology.

Magnification under the microscope exposes edges that were never used, used minimally, or recycled and reused, with retouching on the margins or ends (Figure 4a) or reversal to utilize an opposite edge. Replication studies undertaken for many years and reported upon in the journal *Lithic Technology* show that a knapper uses significant energy and thought to retouch an edge. This in itself indicates intent and behavioral choice, perhaps tied to a rare or highly valued raw material. The margins of a flake or blade reflect different forms of edge wear and scarring from use against different materials. Imagine the difference in the pressure applied to cut (soft) meat versus (hard) antler (Voytek 2018b:249). A clear example of edge wear is the appearance of silica gloss on the margin of a blade or flake, evidence of sickle use in harvesting (Figure 4b).

The prehistoric sickle is a composite tool with blades fitted into a prepared groove in an antler beam, tine, or similarly curved branch (Figure 5). Wielding the sickle, the harvester cuts down the crop, and as the blades come in contact with the plants, friction causes the silica in the plants to fuse to the blade (Voytek 2018b:248; Witthoft 1967). The gloss builds up, dulling the edge, and eventually the blade may be reversed in the sleeve, or the margin retouched and the piece recycled for another use. Composite sickles were eventually eclipsed by metal sickles and scythes. But illustrated for a task related to the harvest, in practice in the nineteenth and early twentieth centuries, are wooden threshing sleds or sledges with flint flakes on their working surfaces (Figures 6-8).

CASE STUDIES

Grotta Scaloria was excavated in 1978-1979, followed by a study season in 1980. Of the three case studies, Grotta Scaloria most clearly exhibits evidence of ritual. Exploration of this double-chambered cave was a joint project of principal investigators Marija Gimbutas from UCLA and Santo Tiné of the University of Genoa. Sadly, both passed away before publication (Elster et al. 2016). The cave is located in eastern Italy, where the Tavoliere Plain of Apulia, with its many Neolithic villages, rises to meet the

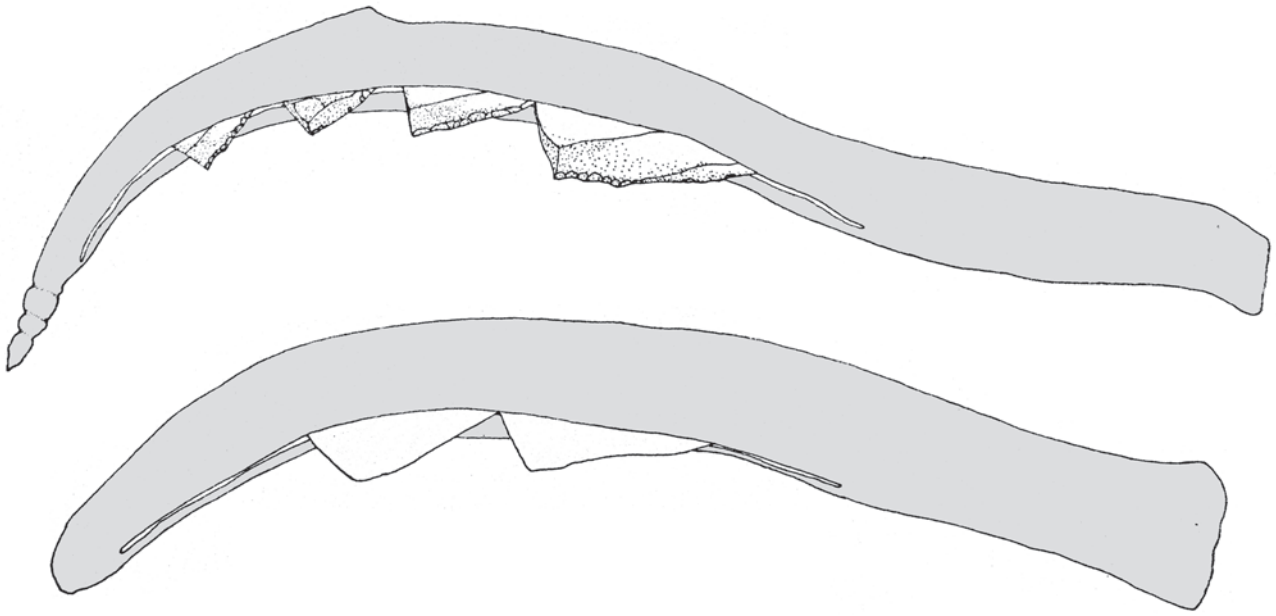


Figure 5. Top: composite sickle from a Neolithic site in Romania. Bottom: antler sleeve with blades inserted at an angle. Silica gloss is indicated by stippling. (Adapted from Elster 1977:fig. 121.)

Gargano Massif (Figure 1). The upper chamber of Grotta Scaloria was used as a living space as well as for ritual, and the lower chamber only for ritual. The 32 calibrated radiocarbon dates for the cave indicate human presence as early as the later Upper Paleolithic (11,000–9,000 BCE), but the majority of samples are Neolithic and fall in the sixth millennium BCE, with a cluster dates covering 300 years between 5500 and 5200 BCE (Robb 2016:47). Exploration of the upper chamber brought to light a ritual unknown elsewhere in the Italian Neolithic or in Europe: the collective deposition of defleshed human bones. The bones looked to have been casually deposited, mixed with animal bone, pottery, stone tools, and other items. The careless deposition in the cave might have been a ritual decommissioning and a ceremony in itself, the bones no longer representing human beings and tossed into the cave at the conclusion of a cycle of mourning. The defleshing ritual may have completed the transformation of the individual from the living to the dead.

The lower chamber offers a unique example of undisturbed cult practice in all of Neolithic Italy or Europe. A long, windy, and narrow passage from the upper chamber leads into a large chamber filled with stalactites and stalagmites. Around 40 Neolithic pottery vessels had been placed all about and to catch the dripping stillicide waters. The chamber was

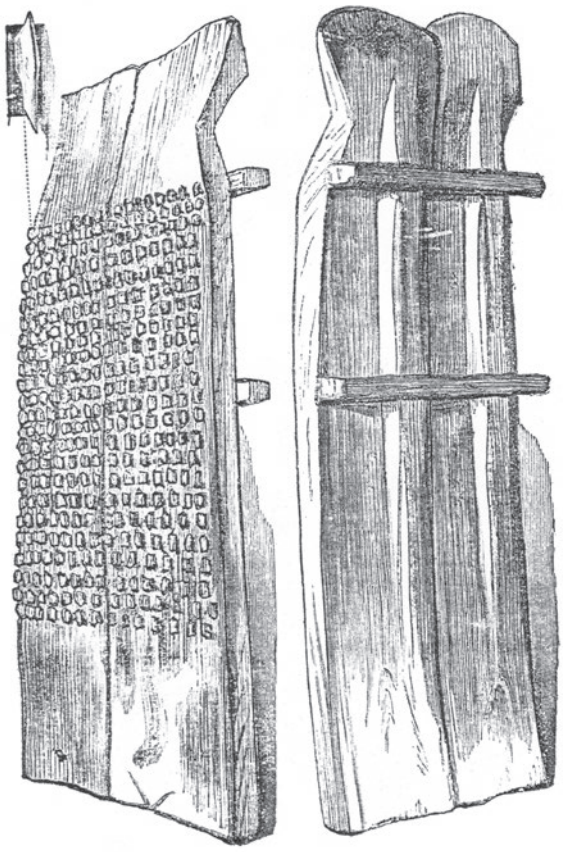


Figure 6. A threshing sled (*tribulum*) with flint inserts (teeth) from the Near East, around 1870. (Adapted from Evans 1872:fig. 194.)



Figure 7. Detail and overview of a Greek threshing sled that has lost many of its flint inserts (teeth) as well as the back boards. Note the pattern of cuts in the wood to receive the teeth inserted in the active side of the sled.

The defleshing may have completed the transformation of the individual.

mysterious, quiet, and separated from outside and above; a multisensorial place and setting, with pottery around a pool of water, ostensibly cut out of the rock when the chamber was in use. Tiné (1975) inferred cult practice and ritual use involving stillicide waters, pottery, and stalactites. No samples for radiocarbon analysis were taken from the lower chamber, but the pottery supported use contemporaneous with the upper chamber. Robb et al. (2016:380) proposed that because of the resemblance between finger-size stalactites and bones, the rituals of both chambers were linked. Even the archaeologists sometimes confused bones and stalactites, both long and thin objects, whitish or coated with mud, on the littered floor of the cave. Strewing the bones in the upper chamber linked them to the mysterious chamber below, where the stalactites grew mysteriously, some of them equivalent to the human bone.

Within the lithic assemblage are a few blades of obsidian, which may also have had a role in the decommissioning of the human bones. The 1968 assemblage comprised one residual obsidian core (Conati Barbaro 2016:280). Nine pieces were reported in the 1979 catalog; seven of them were illustrated (Elster 2016:301, 309). The bone assemblage consists of more than 4,000 fragments, fully disarticulated; two-thirds are identifiable as to element (Knüsel et al. 2016:164). All were examined for cut-marks, the evidence of defleshing (5.5 percent preserved cut-marks). Most of these human bones came from an area around one specific trench, but this was not a burial. Rather, the remains were strewn about in total disarray. The cut-marks indicated the use of small sharp blades, and it is possible that the few obsidian blades from Grotta Scaloria were so used (Elster 2016:301, fig. 6.2.3:1-7). They were rare, they were efficient, and this was a ritual act. The sources of obsidian were in Palmarola and Lipari, and the obsidian from Lipari, although a more distant source, is more prevalent at sites of the middle Adriatic region (Elster 2016:309).

With two volunteer lithic specialists and a microscope, I joined Marija Gimbutas and the team in 1980 to study the 1979 assemblage at the Castello in the city of Manfredonia on the coast of Apulia, where the finds were stored (Elster 2016:297-312). The 1968 assemblage, numbering a total of 2,189 finds, was



Figure 8. Threshing sleds with strong ropes attached and yoked to pairs of bullocks. Drivers seated on chairs set upon the sleds lead the animals round and round the threshing floor. (Photograph taken by John Lindros for the 1929 Swedish Cyprus Excavation. Courtesy of Birgitta Lindros Wohl.)

stored in Genoa and reported on in a separate publication (Conati Barbaro 2016). The 1979 assemblage of 2,066 pieces included Gargano flint, including cores, a raw material much prized by the Tavoliere villagers and reported from sites as much as 100 km (60 miles) from its source (Elster 2016:309). The flint mines are located on the Adriatic coast of the Gargano region in Italy (Figure 1). They are among the oldest exploited in Europe, and the extractive processes were identified well before the UCLA–University of Genoa excavation of 1978–1979 (DiLerna 1995). Cutting grain was not an activity supported by the recovery of sickle blades, although the few that were illustrated were of Gargano flint (Conati Barbaro 2016:fig. 6.1.2:a, b, fig. 6.1.1:k, q).

Multiple working hypotheses were developed to answer how the cavers and the Tavoliere villagers acquired the flint and what was traded or exchanged for it. Research indicated that in classical times, Tavoliere shepherds followed a system of transhumance, bringing their flocks to the Gargano Massif (Elster 2016:309). Furthermore, an ancient trail leading into and around the south coast of the Gargano region has been reported (Elster 2016:309). This may have already been in use during Neolithic times, when lower average sea levels exposed a wider coastal plain (Caldara et al. 2002). Shepherds and their flocks could thus get relatively close to the miners. Furthermore, Gargano flint has been identified on the island of Hvar, close to the Dalmatian coast. Thus, before and during the use of Grotta Scaloria, seamen used the Adriatic as a watery bridge connecting Italy and the Balkans. Shepherds, sailors, and miners might have been linked, and raw materials moved around by boat, at least in the summer or autumn, when the sea was calmer. The route would lead around the Gargano peninsula, hugging its coast, to land on the coastal plain, near the location of the modern city of Manfredonia. With Gargano flint, a social, economic, and perhaps seasonal network of trade and exchange

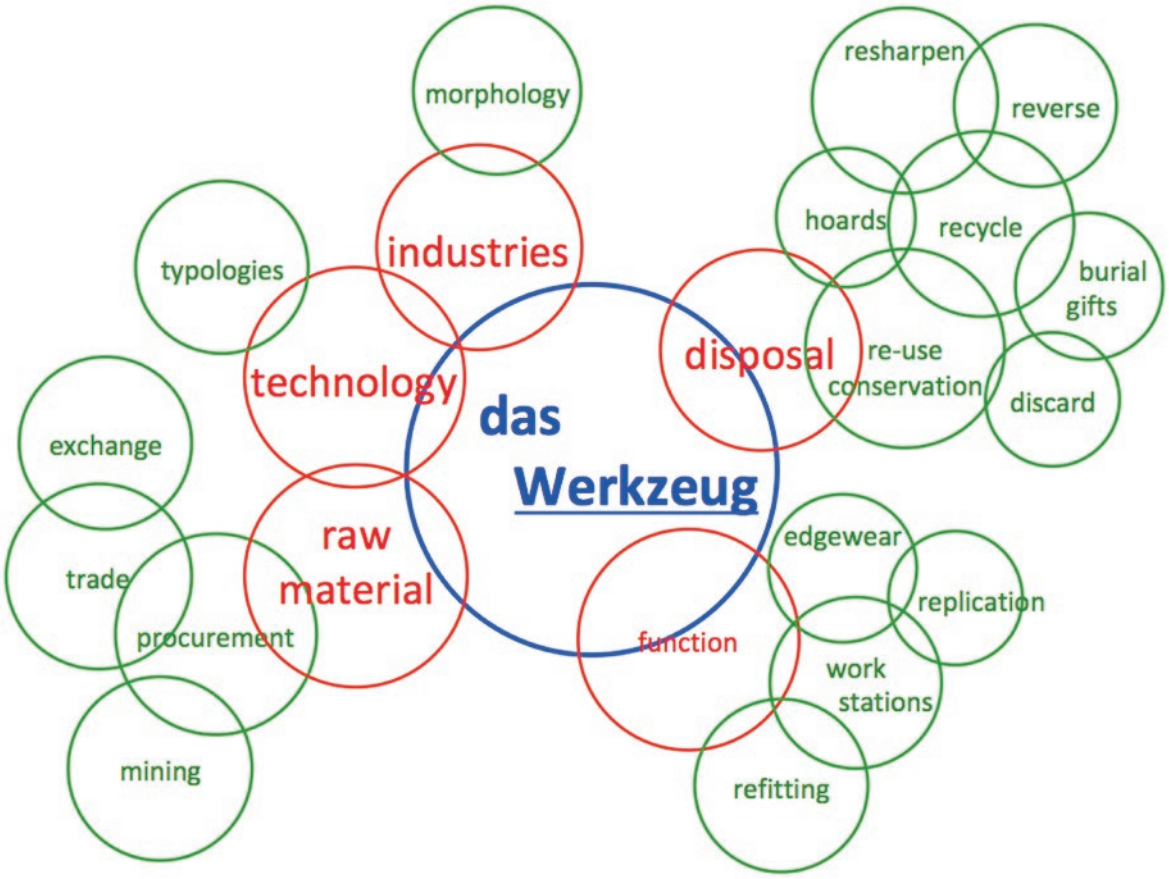


Figure 9. *Das werkzeug* (the tool) and its interlocking research circles.

can be inferred. This economic and social enterprise could have been conducted by agents from the mines or even by the miners themselves, with seamen or shepherds in contact with the villagers of the Tavoliere, via or including Grotta Scaloria. The cave and its rituals were perhaps also a way or trading station during the several hundred years of its intense use. Firm evidence for such activities would be large quantities of raw materials around the cave, compared to the amount found at the Tavoliere village sites. So far, such is not the case. As for the items exchanged or traded for obsidian as well as Gargano flint, these may have included animals or smoked parts thereof, boar tusks, antlers, skins, and, from the Tavoliere villagers, feathers, nuts, fats, or ocher (Robb 2007). Indeed, a traded, prized option, controlled by the cavers, might well have been access to mysterious chambers of Grotta Scaloria and the rituals conducted therein.

The site of Anzabegovo, near the town of Stip, south of Skopje, capital of the newly named Republic of North Macedonia, was excavated in 1969-1971. Principal investigators were Marija Gimbutas of UCLA and Milutin Garasanin of Belgrade University. The 25 calibrated radiocarbon dates ranged from 6100 to 5000 BCE (Gimbutas 1976:33), and the stratigraphy was divided into three chronological time periods: Early, Middle, and Late Neolithic. The system I designed for the study of the Anzabegovo lithics included 14 attributes, plus variables for each attribute, to record stratigraphy, petrology (raw materials), and morphology (form). Raw material variables included jasper (red or brown) and chalcedony, and forms included blades and flakes (with their sizes as values). All attributes and variables were discrete, with no overlapping data. I used Microsoft Excel for simple statistical analysis and turned to the Statistical Package for the Social Sciences (SPSS) to evaluate the associations of various attributes. For example, if a raw material appears associated with a form, the question arises if this represents a random or a purposeful selection of petrology and morphology. To gain confidence in the result, I used the SPSS χ-square test to evaluate the covariation of such variables. The positive results confirmed, with an acceptable degree of freedom, that in a particular chronological period, red jasper was purposely chosen for blades. This allowed for a clear inferential interpretation of past human activity. The source of this red jasper was about 25 km (15 miles) from Anzabegovo in a region

of Tertiary volcanic activity (Weide 1976:279). All Anzabegovo artifacts were kept in a storehouse in Stip. I examined the assemblage under the microscope and tested the attribute system. With cooperation from the authorities, the unexamined lithics were sent to UCLA, where the attribute system and edge wear was introduced to students and volunteers, including Helen Benjamin, Nancy Bernard, and Elizabeth Foster. The sieving of all excavation units had resulted in a large recovery: 5,293 pieces. The edge-wear study was confined to a sample of 3,900 pieces; excluded were lithics from mixed contexts, such as test pits and the surface. Stratigraphy and chronology were included as attributes. All the data were eventually digitized at UCLA. Overall, red jasper appeared to be the most selected raw material (.55), followed by dark volcanically derived stones (.30) and miscellaneous stones. Silica gloss, indicating an active harvesting routine, was observed on 128 pieces, with an average size of 3.0 cm; 38 blades indicated reverse use, and 24 were recycled via retouch. The used-to-unused waste ratio of the sample was 2:1, and the overall retouch rate was 3.5 percent.

Achilleion was a low mound in the Thessalian Plain of Greece, excavated by Marija Gimbutas and Dimitrios Theochares, director of the Larisa Ephorate and professor of prehistoric archaeology at the University of Thessaloniki. The project took place during two periods in the summers of 1973 and 1974, both truncated when all foreign excavations were closed due to political turmoil. The site was extremely rich in material remains, including pottery, figurines, tools, house architecture, spindle whorls, and paleobotanical and zooarchaeological remains. It produced 42 calibrated radiocarbon dates ranging between 6400 and 5600 BCE (Gimbutas et al. 1989:23-31). The chronology represented the well-known Greek Sesklo culture, changing gradually from Early to Middle Neolithic, with no distinct breaks in occupation but supported by three distinctive habitation horizons and changes in ceramics. I examined a small assemblage of worked stone at the site in 1973 and returned to Larisa in 1974 with a microscope to study the remainder. Liljiana Duricic, an archaeology student from Yugoslavia, joined me to learn and practice the use of magnification for edge-wear study. Only some of the excavated units had been sieved. Coupled with the truncated excavation seasons, this resulted in a relatively small assemblage: only 1,085 pieces. Among the raw materials, the preference was for a specific form of red jasper (.40), which was locally available and increasingly used over time. Obsidian (.25) occurred almost always as small blades. It could be identified as originating on Melos representing an aspect of down-the-line trade that increased over time. Overall, 7.2 percent of the assemblage was retouched and about 65 percent was used. The Achilleion villagers displayed a fairly conservative behavior.

These sites in Old Europe differ in environmental factors, cultural interaction, and change. Yet in terms of this microstudy of knapping activity and its ramifications, they share "a set of material relationships" (Robb 2014:2), as expressed in the artifacts and inferring human choice and action:

1. in the selection of nonlocal raw materials, indicating trade, exchange, and networking
2. in the nonrandom association of tool form and raw material, indicating preferences, knowledge of technology, and specific usage
3. in the recycling and reuse of tools, indicating conservative behavior or its opposite, relating to the assemblage overall or association of specific petrology and morphology or usage
4. in the stone procurement plans, whether with long-distance exchange networks or regionally available material and strategies integrated with other communal practices
5. in the use of nonlocal raw materials, such as obsidian from Lipari or Palmarola at Grotta Scaloria and from Melos at Achilleion These represent clear examples of human choice and social preference for a raw material, the acquisition of which required the organization of and involvement in a complicated network of long-distance or down-the-line trade or exchange.

CODA

Earlier I wrote that these small pieces, the knapper's flakes and blades, are products, but they are also tools belonging to him or her or someone else. Often quoted, Heidegger (1962:97) wrote that "a tool . . . is essentially something 'in-order-to' . . . always is in terms of its belonging to other tools . . . or tasks." I came to regard chipped stone tools in just that sense. Examined alone, they present form. But adding "in terms of," a series of interlocking relationships can be explored, a circular *chaîne opératoire* (Figure 9).

Stone tools have pride of place in current research on the prehistory of the mind (Renfrew 2007:120-1), and the process of chipping flakes from a core (knapping) demonstrates "the evolution of human skill, society, or technology" (Malafouris 2013:161). I have been inferring thought, behavior, and choice from the study of 6,000-year-old flaked-stone assemblages, and perhaps the point of it all is in material engagement theory (MET), "the inseparability of thoughts, actions, and material things" (Malafouris 2013:43; Renfrew 2013:ix). Yes, these assemblages form tool kits and more; they even, perhaps, represent MET. Best now to conclude with philosopher Andy Clark's (2003:7) cogent comment, "Minds like ours were made for mergers. Tools-R-Us and always have been."

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What Occurred at a Moche Festival

Christopher B. Donnan

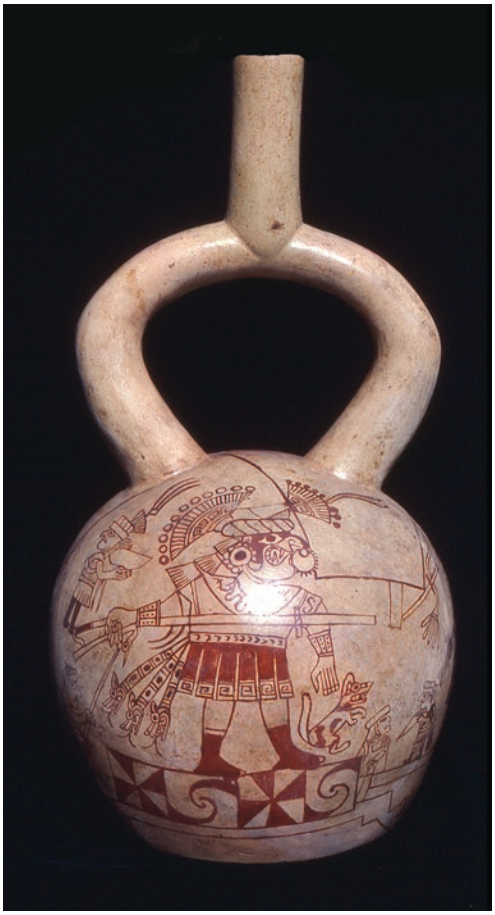


Figure 1a. Ceremonial badminton scene painted on a vessel in a private collection. (Photograph by Christopher B. Donnan.)

All societies, both ancient and modern, have festivals. Some festivals focus on a single activity, but more often they involve a combination of activities that are enacted in conjunction with one another. When written accounts of ancient festivals exist, as with the Greek Olympics, we are almost entirely dependent on these archaic texts. Texts tell us that the Olympic athletic events depicted in the iconography were accompanied by art displays, theater, animal sacrifice, oratory, and so on. The texts also tell us when, where, and why Olympic festivals occurred. With ancient societies that left no written accounts, reconstructing what occurred at a festival is much more challenging. Archaeologists can often identify where festivals probably took place, but how can they know what combination of activities constituted a festival? Recently, clues found in Moche iconography suggest what activities occurred together at a Moche festival.

The Moche people, whose civilization flourished on the north coast of Peru between around 200 and 850 CE, had no writing system but left a vivid artistic record of their beliefs and practices in beautifully modeled and painted ceramic vessels. Some of the most intriguing images show individuals using spears and atlatls (spear throwers) to hurl feathered objects into the air. When the activity was first identified in the 1950s, it was named Ceremonial Badminton because the feathered objects resemble badminton shuttlecocks. The ceremony involved two groups of participants (Figures 1-3). One group used atlatls to launch spears into the air. Wound around each spear was a cord with a feathered object at one end and a small peg at the other. As the spear flew upward and the cord unwound, the feathered object disengaged from the spear and slowly drifted toward the ground.

The Moche people left a vivid artistic record of their beliefs and practices.



Figure 1b. Ceremonial badminton scene from the vessel shown in Figure 1a.
(Drawing by Donna McClelland.)



Figure 2. Ceremonial badminton scene from a vessel in the Museo Nacional de Antropología Arqueología e Historia, Lima. (Drawing by Madeline Fang.)



Figure 3. Ceremonial badminton scene from a vessel in the Museo Nacional de Antropología Arqueología e Historia, Lima. (After Kutscher 1958:fig. 2.)

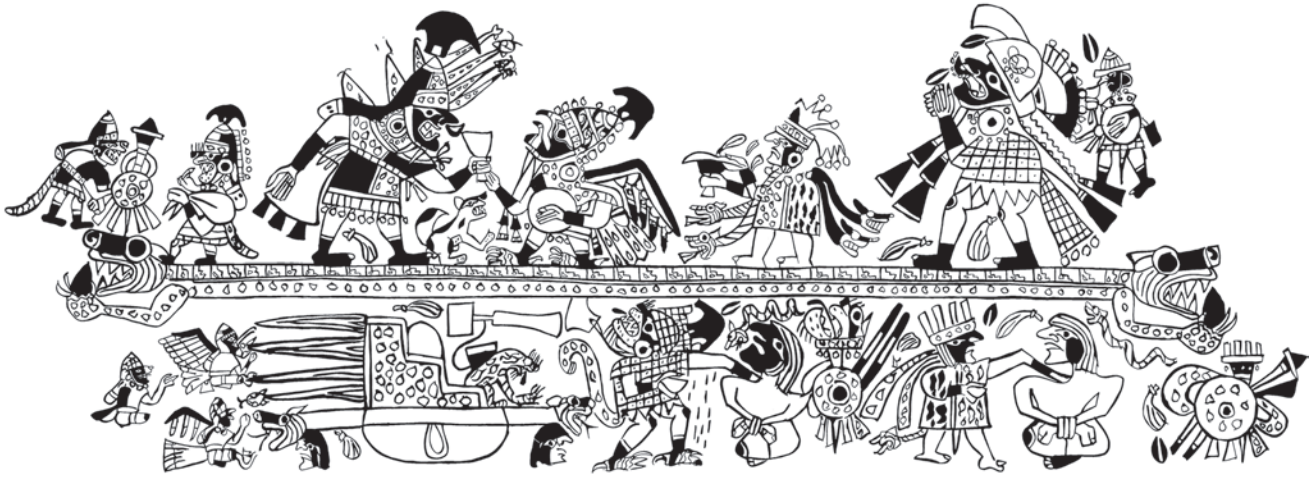


Figure 4. Sacrifice ceremony scene on a vessel in the Staatliches Museum für Völkerkunde, Munich.
(Drawing by Donna McClelland.)

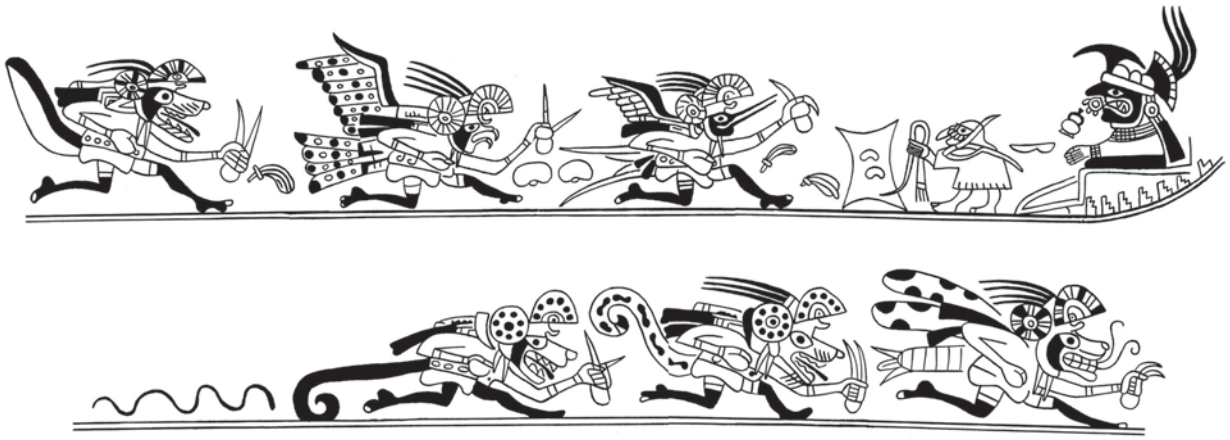


Figure 5. Ritual running scene on a vessel in the Museum für Völkerkunde, Berlin.
(After Kutscher 1983:fig. 295.2.



Figure 6. Music and dance scene from a vessel in a private collection.
(Drawing by Donna McClelland.)

Meanwhile, another group of participants used atlatls to propel spears with attached crosspieces, aiming to ensnare the feathered objects midair.

CEREMONIAL BADMINTON AS PART OF A LARGE FESTIVAL

Detailed analyses of depictions of Ceremonial Badminton painted on ceramic vessels reveal features that have no clear relationship to the activity but instead relate to other activities portrayed in Moche art. A good example is the individual in Figure 3 who is walking up a ramp holding a goblet in his right hand and pressing a disk against his torso with his left hand. The goblet and disk are very distinctive objects used in the Moche Sacrifice Ceremony, in which the blood of prisoners is offered in precisely this type of goblet by individuals who hold disks against their torsos (Figure 4, upper left). The anthropomorphized owl holding a whiplike object in the upper left of Figure 2 is another feature that does not seem to have any relationship to the badminton ceremony. This owl figure does, however, appear in a scene of Ritual Running (Figure 5). Yet another feature that appears in depictions of Ceremonial Badminton is a large trapezoidal object with a handle (Figure 1b, upper left). This is thought to be a sound-producing instrument, perhaps a rattle or gong. Such instruments have no clear connection to Ceremonial Badminton, but they appear in Moche scenes where dancers holding hands are accompanied by musicians (Figure 6).

This suggests that dance and music were being performed at the same time and place as Ceremonial Badminton. The two drums with deer heads in the lower right of Figure 1b add support to the connection between Ceremonial Badminton, music, and dance. Rows of large jars can be seen in depictions of Ceremonial Badminton (Figures 1-3). These are thought to contain *chicha,* a beer that was consumed at religious festivals along with large quantities of food. The frequent occurrence of these jars in scenes of Ceremonial Badminton, along with individuals holding plates (Figure 1b, upper left), implies that drinking and feasting occurred in conjunction with its enactment. All this suggests that several activities previously thought to be distinct, such as the Sacrifice Ceremony, Ceremonial Badminton, Ritual Running, music, and dance, occurred together at a single festival, accompanied by feasting and drinking.

Ceremonial Badminton scenes include elements that allude to other activities.

It is curious that of all the ceremonial activities portrayed in Moche art, only Ceremonial Badminton scenes include elements that allude to other ceremonial activities. Moreover, what appear to be spectators are not portrayed in scenes of other ceremonial activities. Yet they are shown in several Ceremonial Badminton scenes, such as in Figure 1b, where three individuals holding hands in the upper right appear to have no role in the activities and are there simply to witness their enactment. Without written texts, which are so important in our understanding of Greek Olympic festivals, we may never know when and why Moche festivals took place. But we can now appreciate how activities that were previously thought to be separate were enacted in combination, and that combination is what occurred at a Moche festival.

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Celebrating the Archaeological Site, Its Environment, and Community:

The Case of Ancient Methone

John K. Papadopoulos and Sarah P. Morris

In 2000 Richard Leventhal and I organized the very first Cotsen advanced seminar, published as *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives* (Cotsen Institute of Archaeology Press, 2003). The volume was dedicated to Lloyd Cotsen, who attended the entire symposium, contributing substantially to the discussion (Figure 1).

The volume was arranged in five parts: "Archaeology and Text," "Large-scale Archaeological Fieldwork in a New Millennium," "The Recent Past and the Remote Past: Regional Survey and the Archaeological Landscape," "Archaeology and Architecture," and "Site Preservation, Conservation, and Archaeological Ethics." These five areas covered some of the range of issues that interested Lloyd. It is the last of these themes that I discuss here, specifically with reference to the Ancient Methone Archaeological Project,



Figure 1. Left to right: Brendan Burke, Lloyd Cotsen, Richard Leventhal, and John Papadopoulos during the first Cotsen advanced seminar, 2000.

located in the North Aegean, a collaboration of the Greek Ministry of Culture and UCLA, under the auspices of the American School of Classical Studies at Athens (another institution that Lloyd generously supported and served, holding the position of trustee).

Methone lies immediately south of a natural wetlands and bird sanctuary, under the protection of Natura 2000 of the European Commission on the Environment, Nature, and Biodiversity (Figure 2). Here I present the plans already undertaken by the project directors for the long-term preservation and maintenance of not only the archaeological site of ancient Methone and the landscape around it but



Figure 2. Aerial view of the excavations at Methone in 2014, seen from the west. Excavations on the West Hill are in the center, foreground. The wetlands and bird sanctuary are to the left (north). (Photograph by Hugh Thomas.)

also its broader cultural environment, especially the villages of Nea Agathoupolis and modern Methone. To this end, I will tell the story of the rebuilding of the historic railway station of Methone—abandoned with the construction of a modern rail line and highway between Athens and Thessaloniki (the two largest cities in Greece)—and a celebration of the work of local artist Nikos Semizidis. The story also celebrates the work of local stakeholders, especially "the Agathones," a women's group that has been at the forefront of raising the cultural profile of the region and its environment.

THE ARCHAEOLOGICAL SITE

Excavations conducted at ancient Methone by the Greek Ministry of Culture since 2003, and in collaboration with UCLA since 2014, have uncovered one of the most significant harbor sites of the North Aegean, occupied from the Final Neolithic era (around 4000 BCE) to the destruction of the site by Philip II, the father of Alexander the Great, in 354 BCE. Important remains include an early marketplace (agora) with workshops housed in monumental buildings, including one of the earliest roofed colonnades (stoas) in Greece, and open areas dedicated to craft industries in metal, clay, ivory, bone, and glass. This public urban and industrial space succeeds an important Early Iron

Excavations have uncovered one of the most significant harbor sites of the North Aegean.



Figure 3. Views of the railway station of Methone–Nea Agathoupolis: (a) the old roof being demolished in 2015; (b) the 2016 opening of the refurbished building; (c) Sarah Morris and John Papadopoulos standing in front of the refurbished station (the sign was painted by Nikos Semizidis); (d) the Agathones at the opening. (Photographs by Jeff Vanderpool and Petros Christodoulou)

The local community went out of their way to welcome and feed us.

Age phase, including an enormous deposit, more than 11 m (36 feet) deep (the so-called Hypogeion), filled with thousands of artifacts, especially commodity containers and decorated pottery, industrial debris, and, most importantly, the largest corpus of early Greek inscriptions on clay known from the Aegean, dating to the late eighth and early seventh century BCE.

Geophysical survey coupled with geomorphological prospection, intensive surface survey, and targeted excavation in 2014–2017 have contributed significantly to reconstructing the ancient shoreline of the city and its potential harbor sites, today landlocked by fluvial sediments of the Haliakmon River. Perched between the Aegean, inland Macedonia, the Balkans, and the Mediterranean, Methone served as a conduit for the movement of commodities, peoples, and ideas across a relatively large area of the Greek world, involving Mycenaeans, Euboians, Athenians, eastern

and northern Greeks, and indigenous tribes, as well as Phoenicians, in both prehistory and history. Methone thus offers a unique opportunity to explore not only a large ancient harbor and major industrial center but also Greek connections with indigenous populations and others attracted to this large site that formed a middle ground between different cultures. During the protohistoric period, Methone played a major role in the origin and development of the Greek alphabet, contributing especially to its development from the Phoenician alphabet, a process with major cultural ramifications. The project has already illuminated these processes of cultural contact, the rise of urbanism, and the spread of literacy in the ancient world.

The methodology of the fieldwork in 2014–2017 was thus multipronged, involving targeted excavations, particularly on the West Hill, where a robust stratigraphic sequence was encountered from the end of the Bronze Age to 354 BCE, overlying a cemetery of the Mycenaean era together with earlier tombs (Early or Middle Bronze Age of the third and second millennia BCE). Trenches were supervised by UCLA graduate students Brandon Braun, Adam DiBattista, MaryAnn Kontonicolas, and Debby Sneed, as well as Angelos Boufalis, Hugh Thomas, and Emily Wilson, with Trevor van Damme and Marianna Nikolaïdou running the pot shed. Intensive and extensive pedestrian survey of the ancient city, as well as the Macedonian garrison established by Philip II about a kilometer to the northwest of the ancient city, some 80 ha in all, was directed by Myles Chykerda and MaryAnn Kontonicolas. The geophysical survey, especially of the area by the presumed ancient harbor, was conducted by Brian Damiata. Geomorphological prospection involving coring to determine the ancient shoreline and harbor was headed by Nancy Krahtopoulou and Jonathan Turner, while a terrestrial LiDAR survey of the entire site was conducted by Robert Kayen of UCLA and the United States Geological Survey (USGS), assisted by Skye Corbett of the USGS.

THE AGATHONES AND THE ABANDONED RAILWAY STATION

From the very first season of fieldwork at Methone, the local community, especially the Women's Association of Nea Agathoupolis (the nearest village to ancient Methone)—the so-called Agathones—went out of their way to welcome and feed us. This began with mid-morning snacks on site, but in the perpetual quest for shade, these events were soon moved to the sheltered porch of the nearby abandoned railway station of Methone–Nea Agathoupolis. This soon led to our decision to refurbish—in fact, to restore—the railway station and to establish it as a cultural center for nearby villages. Work on reconstruction of the building began in 2015, and in 2016 we celebrated the opening of the new "cultural super-station" of Methone–Nea Agathoupolis, complete with the mayors of the two villages and a Greek Orthodox priest to bless the proceedings (Figure 3). This was our gift to the local community and a way to say thank you. Since its opening in 2016, the new railway station has hosted various exhibitions and served as a gathering place for all sorts of events. Moreover, every Wednesday, shortly after 5:30 p.m., the Agathones gather for coffee, and everyone is welcome! In 2019 we would like to devote one room of the station to a permanent exhibition of ancient Methone through photographs and plans.

In 2016 we celebrated the opening of the new cultural super-station.

NIKOS SEMIZIDIS AND THE PAINTED WALLS OF METHONE

With the economic difficulties facing Greece today, and the constant migration of younger members of the community to cities and even abroad, many villages of the area are largely inhabited year-round by retired and older members of the community; it is only during the summer months that the younger people return. This is a phenomenon sadly familiar all over Greece today. But Nea Agathoupolis and modern Methone have been enlivened by the work of local artist and former hippie Nikos Semizidis, who signs many of his works "Theio Nick" (Uncle Nick). Rather than painting on canvas, Nikos likes to paint blank walls, particularly of abandoned buildings, though any blank

Nea Agathoupolis and modern Methone have been enlivened by the work of Nikos Semizidis.



Figure 4. The artwork of Nikos Semizidis: (a) Nikos in front of one of his works; (b) Nikos's house; (c) the changing room at the beach near Methone. (Photographs by Jeff Vanderpool).



Figure 5. The artwork of Nikos Semizidis: (a) the interior of the changing room; (b) self-portrait on a rock of the breakwater at the beach near Methone. (Photographs by Jeff Vanderpool).

surface will attract him. Among other things, he has painted structures and rocks at the local beach, including its changing room (Figures 4 and 5). In addition to making pictures, he is an avid poet, and his art is a combination of pictures and words. In 2015 I asked our photographer, Jeff Vanderpool, to document, as thoroughly as possible, Nikos's work. We are certain that his art will not be permanently preserved: buildings collapse or are refurbished, and future owners may decide to repaint houses graced by Nikos's art. Indeed, one of his decorated houses has already been whitewashed. In collaboration with Nikos and Jeff, we are planning an exhibition of his work in both Athens and Methone.

I HAVE A DREAM

It is a great irony that although the wetlands immediately to the north of ancient Methone are a fully protected reserve for local wildlife, especially the many birds, the ancient site itself is mostly privately owned. The only exception is the West Hill, where our excavations have focused, which is public land. The current economic woes of Greece and of its Ministry of Culture are such that the government simply cannot afford to expropriate those parts of the site in private hands. It is our dream, conceived with our initial study of the landscape in 2012, that funding can be found to ensure the long-term protection of this remarkable site and landscape.

Celebrating Life in Mesopotamia

Marilyn Kelly-Buccellati

Celebrations in ancient Mesopotamia were occasions to affirm connections among the people, their gods, and their city. The evidence for these celebrations comes from architectural remains, iconography, and cuneiform texts. Causes for celebrations are primarily events connected with deities, installations of important public and religious figures, weddings, funerary rituals, and prominent military victories. What we do see in the sources is weighted toward state and religious occasions. But luckily, some more personal celebrations are documented, and here I want to focus on the iconographic and written evidence from three sites in Syria—Urkesh, Ebla, and Mari—with particular emphasis on the role of women.

We know that in Mesopotamia, the majority of women usually worked within the household setting, raising children, providing and preparing food, maintaining the house, and the like. For these women, we have scarce evidence. We see from the texts, however, that some women bought and sold property, while some worked outside the nuclear family setting, as midwives, wet nurses, tavern keepers, workers in large weaving establishments, and even managers of these large organizations. For instance, in the southern Mesopotamian city of Adaba, a textile workshop was supervised by a woman, Mama-ummi, who was responsible for 170 weaving women (Foster 2016:125).

Beer drinking in Mesopotamia was a sign of civilization.

Celebrations can be connected with taverns, and we know from the texts that some women were tavern keepers. Beer made from barley was the main alcoholic drink in these establishments. The tavern keeper made her own beer or bought beer made by others. Beer drinking in third-millennium BCE Mesopotamia was a sign of civilization, as emphasized in the *Epic of Gilgamesh*.[1] Enkidu, an uncivilized creature, was given bread and ale to drink for the first time (Figure 1):

> Enkidu drank the ale, seven jugs (full). His mood became free, he was singing, his heart became merry and his face shone bright. The barber treated his body so hairy, he anointed himself with oil and became a man.

1. Texts from Gilgamesh used here are translations from the original by G. Buccellati.

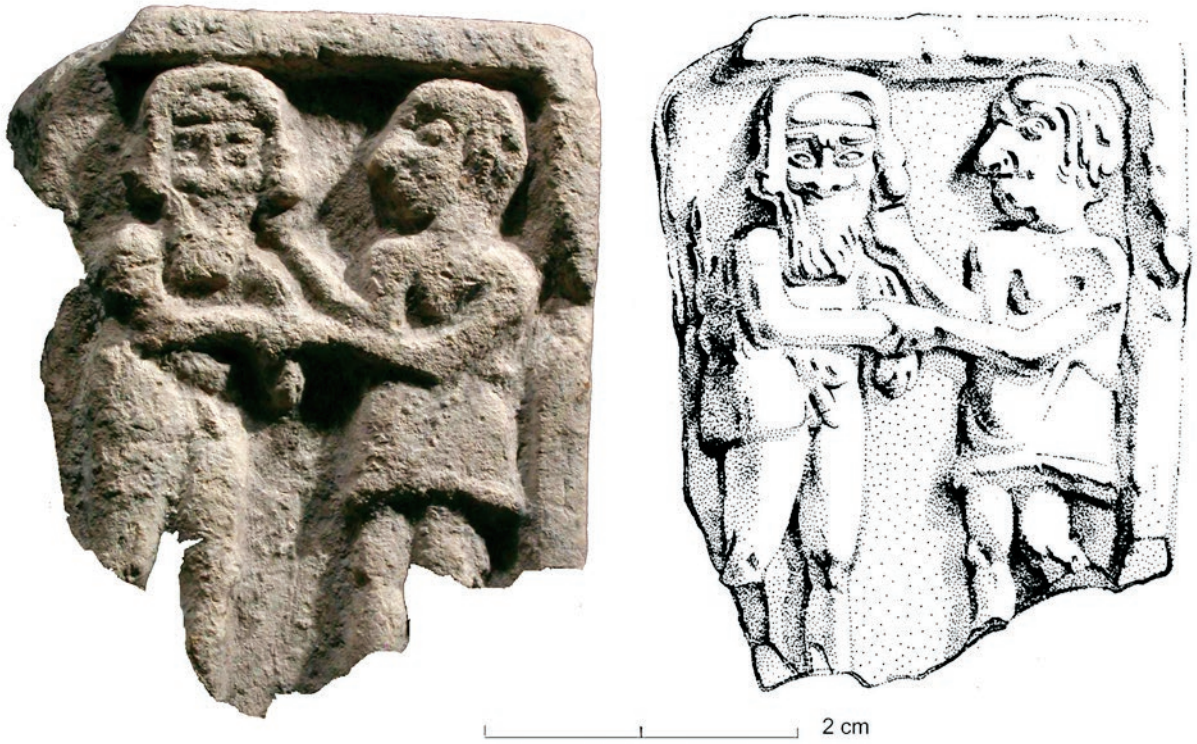


Figure 1. Gilgamesh (right) gives a friendly greeting to the hairy Enkidu.

One female Mesopotamian tavern keeper is especially famous. We hear of her, also in the *Epic of Gilgamesh*, because she advises Gilgamesh to enjoy life. We will hear her advice in her own words below.

THE ROYAL FAMILY OF URKESH: LIFE WITHIN A FORMAL COURT SETTING

The visual corpus from the Urkesh excavations stems mainly from the large number of seal impressions found broken on the floors of several rooms and a courtyard of the administrative portion of the Akkadian-period palace, around 2250 BCE. The seal designs have a unique mix of cultural expressions, which is both authentic and authoritative. The secular scenes belonging to the queen, Uqnitum, and the king, Tupkish, have a tangible immediacy, with scenes rendered in a vivid and realistic manner, and just as importantly they are specific to these monarchs. In the Urkesh corpus of seal impressions, the inscribed seals show women observed in the palace context and clearly not in a religious context. Instead of recording military victories, the rulers of Urkesh are interested in representing the royal family, within a dynastic program that aims at showing a stable succession of power and, in the case of the seals of Uqnitum, her preeminent role in the palace.

Looked at on a deeper level, this iconography intimately connects Uqnitum with this desire. Moreover, it shows that she is equal to the king in this endeavor. The formal setting in which this message



Figure 2. Seal of King Tupkish, with the crown prince touching his knee.

is proclaimed can be interpreted as a celebratory occasion, because the object of the message is that it would be proclaimed widely. This message, and the way it is proclaimed, is found in no other Mesopotamian court. Therefore the message of both Uqnitum and her husband, Tupkish, is multigenerational in that it was aimed at assuring the succession of their son to the throne.

The scenes are set in important contexts that reflect both formal and informal occasions. These two



Figure 3. Seal of Queen Uqnitum, shown holding a small child and with Tupkish and the crown prince.

Life seems to protrude out of a scene intended to show the prowess of the crown prince.

dimensions blend in unexpected ways, and it is in this sense that we can speak of celebrations of life. Take, for example, the scene in Figure 2. On the one hand, the occasion is most formal: the crown prince has a crown-like headdress; the eight-pointed star over the son's head may also offer a significant recognition of his special status as the crown prince; the king holds a scepter that clearly points to royal status; the filler motif is a bull, which may have a particular symbolic valence in a political sense. On the other hand, the prince is shown standing on the mane of what appears to be a live lion. His feet seem to be embedded in the mane of the animal. The attendant figure pours liquid in a vessel in front of the lion, which is yawning, suggesting that he has just been fed and is fully sated. Also, the animal's hind quarters make a bend from behind the legs of the seated king and emerge under the king's seat, thus giving again the appearance of a live animal rather than a statue serving as the base of the throne. The dimension of life is projected by this blending of a real and very concrete situation (a live lion) and the formal moment of the crown prince's recognition by the ruler. (With regard to the touching of the knee, we are reminded of the gesture in Genesis 24:2, 24:9, and 47:29, where placing the hand under

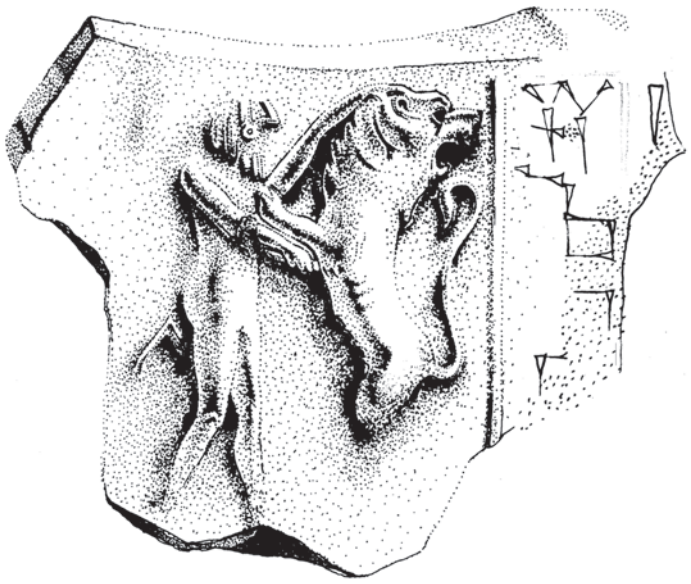


Figure 4. Seal of the son of the king, shown in combat with a lion.

the thigh serves as a symbol that accompanies an oath, here too combining a familial gesture with a formal occasion.)

Or take the family scene in Figure 3. On the one hand, the seal conveys a political message: the queen is proclaiming that she is the most important female in the court (we assume she may be related to the royal house of Akkad, like her successor, Tar'am-Agade) and that her son should become the next king of Urkesh. This is clearly evinced from a series of visual details that signify the concurrence of King Tupkish with the queen's intent: he accepts the special greeting of his son, who touches his knee, and returns it by lifting the cup; the young boy wears the same crown-like headdress as in Figure 2, but this time we see that the king also wears the same type of head covering; and again the eight-pointed star appears as a possible attri-

bute of the crown prince. It is therefore a seal about dynastic continuity. On the other hand, the queen holds on her knee a small child (possibly her daughter, given her braid, which echoes that of her mother). The detail indicates that this is indeed a family scene, where the king appears now as a father who appreciates the simple joy of being together. The portrait-like nature of the faces of the participants (in particular the two adults) also gives a special tone of familiarity to the scene. Finally, the ram as the filler motif under the legend does not seem to stand out as a particularly official symbol. Altogether then, it seems as though the emphasis on the family dimension brings out a special aspect of life, imbuing the official aspect (the dynastic concern) with a different kind of energy.

A fragment of a seal impression that the legend attributes to the crown prince (Figure 4) shows a human figure engaged in combat with a lion standing on its hind paws. Unlike other representations of such combat, which tend to be very heraldic and stylized in nature, we have in this impression a very lifelike animal, which appears to echo that of Figure 2. Again, here life protrudes out of a scene that presumably was intended to show the prowess of the crown prince in a very realistic fashion.

These scenes are in contrast with a large and complete door sealing of a later king of Urkesh, Ishar-kinum (Figure 5), which shows instead a ritual celebration, still centered on highlighting the power of the dynasty. In it a small figure—a child or the king?—is standing on two lion figures, which appear in this case to be statues, not real lions. Also on the lions is a seated god. A figure pouring liquid in front of the lions completes the scene. The reason for thinking that this is a cult celebration of the power of the dynasty is its close iconographic connection with the earlier seal of Tupkish (Figure 2), although here, both the occasion and the style are quite different.

THE URKESH COURTIERS: THE LIFE OF THE DAILY TASKS

The seals I review here are all inscribed, and we know that possessing an inscribed seal naming the owner was important for the personal identity of elite men and women in Mesopotamia. In one of the letters found in Mari, dated after the Urkesh seal impressions, the royal princess Shimiatum writes to her father, Zimri-Lim, king of Mari, asking him for a lapis lazuli cylinder seal with her name written on it. She says, "When I write, I will not be mocked by others who say 'Her seal has no imprinted legend'" (Sasson 2015:113). Seal inscriptions give us another significant register to "read," since many identify the seal owner by name and title; this is certainly the case for elite seals found in Urkesh and the mention of Urkesh in the title of the king was of course fundamental in allowing us to identify the ancient name of the site. For our topic, the legends of the seals are of particular importance, because they show a close connection between the functions of the individuals as given by their titles and the images on the seals. We look at three in particular.



Figure 5. Seal of Ishar-kinum, showing images similar to those in the seal of Tupkish in Figure 2.



Figure 6. Seal of Zamena, the wet nurse of the seated Uqnitum.

In the seals of the wet nurse Zamena (Figure 6), we see her as a smaller figure standing before Uqnitum, who is holding a young child on her lap. Zamena



Figure 7. Seal of Tuli, the cook of Queen Uqnitum.

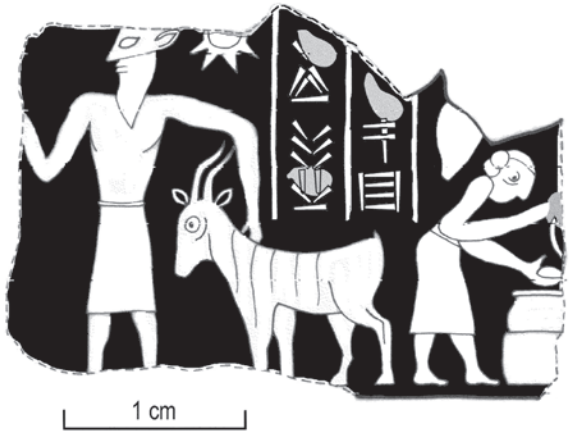


Figure 8. A later seal of Tuli, showing her name.

is intimately connected with these two figures, as she is touching the baby with both hands. The intimacy of the whole scene is powerfully indicated by the servant behind the queen, who is in the act of braiding her hair. In this instance we are not viewing a festive occasion but one of probably an everyday occurrence. From texts elsewhere, we know that the wet nurse often stays with the family and in some way becomes part of the family. The message in Urkesh stresses the power of Zamena in the court through her very close connection with Uqnitum. Proof of this power can be seen from the large number of containers sent to the palace under her seal. In the Mari letters, we hear of a princess from Qatna, Beltum, who is bringing her nanny with her to Mari when she is married. The comment from the Mari point of view is that this nanny knows nothing about the palace operations, with the implication that she will not be a good administrator. Based on evidence from the number of containers sealed in her name, Zamena must have been an efficient administrator in Urkesh.

Tuli was the "cook of Uqnitum," as per the legend on her seals (Figures 7 and 8). Two points about this title need to be stressed. The first is that she was no ordinary cook but the manager of all the cooking needs. Second, these were the needs of the queen, as distinct from the king. Her two seals do not show her (as distinct from the seals of Zamena) but rather the events and personnel for whom she was responsible: a male butcher and a female who is churning butter (in one seal; in the other she may be stirring, and possibly cooking, something else in a large vat). Both points are interesting for our topic. By connecting her exclusively with the queen, the cuneiform legend proclaims, as it were, the singularity of her position and of the queen's administrative apparatus as well. It is quite a statement to make, underlining as it does such a special distribution of functions and "offices" within the royal palace. And the life of this office is shown in the details of its most minute operations, in its two main aspects of food procurement (the butcher) and food preparation (churning and cooking).

Ishar-beli was presumably a courtier of Tar'am-Agade, the daughter of Naram-Sin, who succeeds Uqnitum as queen by probably one generation. His seal (Figure 9) may be interpreted as a scene celebrating the birth of a foal, where the mother is prancing in front of a seated deity while one of the standing deities holds the little foal in his arms. There is a great sense of dynamism (Buccellati 2015) in the scene, with the mother raised to receive a gift (possibly some special food) and the little one locking eyes with the buffalo; the filler motif being adroitly and unexpectedly integrated in the main scene. The great realism and the strong dynamics of the scene underscore the intent to celebrate an event (the birth of a young animal), placing it in a mythological context (the deities) while at the same time anchoring it in the reality of everyday life. Whether Ishar-beli was specifically in charge of animal husbandry we do not know, but it is likely, also in view of what we have seen in relationship to Tuli and her tasks in the "kitchen" of the queen.

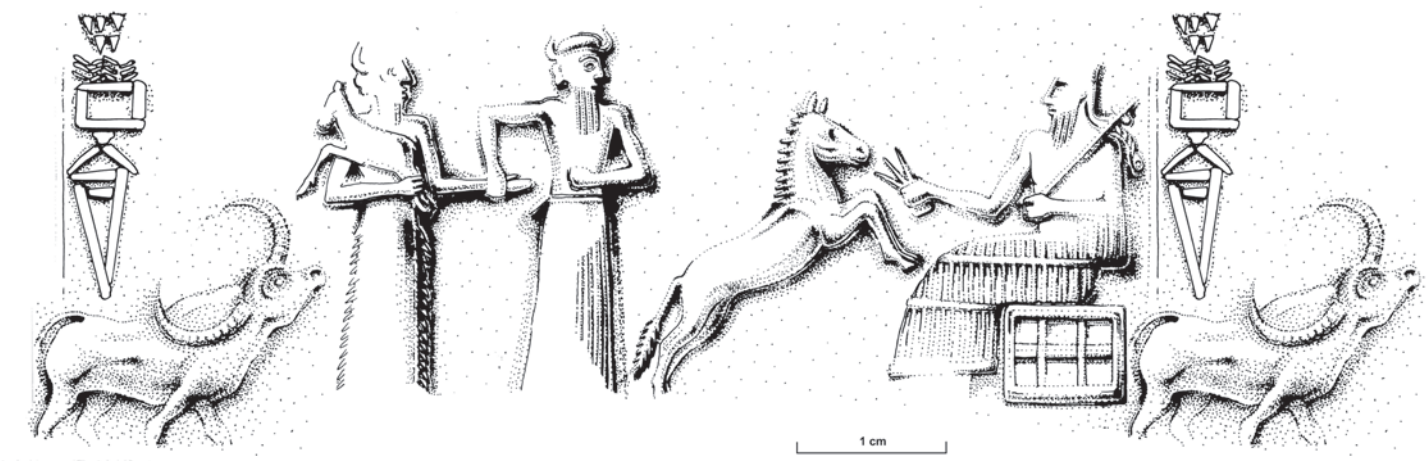


Figure 9. Seal of Ishar-beli, with a horse prancing before a bearded deity.

THE COURTS OF EBLA AND MARI: MARRIAGE CELEBRATIONS

Celebratory occasions in Mesopotamian lives are often alluded to in the texts. For instance, from the Ebla texts we understand something about the processions and ceremonies connected with the wedding of Tabur-damu to her cousin Ishar-damu, the king of Ebla at that time. Events begin the night before the wedding, when she sleeps outside the city walls of Ebla. Her transformation from a young girl into the queen of Ebla (*maliktum*) begins in the morning, with a ritual anointing with oil, followed by a purification ritual and then her entry into the city. After her entry, she is clothed in new royal garments and proceeds directly to the Kura temple to sacrifice to the gods of Ebla. During this ceremony, she presents offerings of jewelry and precious vessels to the two important city deities, Kura and Barama, both especially connected to Ebla royalty. The marriage celebrations include a procession of Tabur-Damu through the city, so that city dwellers have a chance to view and cheer their new queen. The wedding is celebrated by the entire court and entails the giving of precious gifts of metal and splendid fabrics to the courtiers, their distinguished guests, and invited allies (Fronzaroli 1998; Matthiae 2010:109-10).

In the Ebla texts connected with this marriage, we again see the position of the wet nurse. In Ebla court documents, we recognize the intimate relationship between the queen of Ebla and her old wet nurse. When Tabur-damu marries Ishar-damu and becomes queen of Ebla, Agašadu, her nurse, is also present at court. She does not work as the nurse of the children of the queen, but she bears the title "nurse of the queen"—that is, the nurse who nourished the queen when she was a child (Biga 1997). Here we see that the nurse of a young girl given in marriage goes with her, as her friend, to her new home. It must have been the same relationship that Zamena had to Queen Uqnitum in Urkesh.

We see that the nurse of a girl given in marriage goes with her to her new home.

In the Mari letters, we hear that when Princess Shiptu of Yamhad was to marry Zimri-Lim, king of Mari, he sent two trusted members of his court to bring his bride to Mari: his chief musician and his diviner. The chief musician probably also was in charge of the harem in Zimri-Lim's court. We know from other texts that in conjunction with the marriage ceremonies there were wedding processions, and music was a very popular entertainment on many occasions.

"THE LITTLE ONE HOLDING YOUR HAND"

We have not looked at formal celebrations of life but rather at the way in which life emerges with all

They are the simplest of gestures.

its vigor in a variety of contexts. The formality surrounding the king, the queen, and the crown prince is pierced through, as it were, by the concreteness of moments that proclaim the value of family ties. The courtiers choose to place on their seals moments of the life that characterize their tasks, in ways that in their simplicity succeed in portraying the life that these tasks are meant to serve. The marriage texts give us a glimpse into aspects that affect the daily life as well as the events involved in a wedding ceremony.

By way of conclusion, we may read a passage from the *Epic of Gilgamesh* that seems to echo, in a very poetic tone, the scene with which we opened our considerations. The seals illustrated in Figures 2 and 3 show us the crown prince touching the knee of the king. It is a formal sign, but one that at the same time involves a great familiarity. And this reminds us of good advice the tavern keeper Siduri gives to Gilgamesh. She says in the text:

> Gilgamesh, wherefore do you wander?
> The eternal life you are seeking you shall not find.
> . . . . . .
> As for you, Gilgamesh, let your stomach be full.
> Always be happy, night and day.
> Make every day a delight.
> Night and day play and dance.
> . . . . . .
> Look proudly on the little one holding your hand.
> Let your mate be always blissful in your loins.
> This, then, is the work of mankind.

Holding the hand, touching the knee: they are the simplest of gestures, but they emerge as the most eloquent way to celebrate life in all possible settings. I like to think that Lloyd Cotsen would enjoy this way of combining different moments and aspects, and this is because he was so deeply open to the full dimension of life in all its variations, and so sensitive to the human experience we can also read in the ancient documents.

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Djehuty: Celebrating an Egyptian War Hero

Aaron A. Burke

Egyptian New Kingdom tombs preserve a wide range of scenes celebrating the lives of their occupants. Many of these are well-known thanks to modern excavations. Others are poorly known, having been excavated before the twentieth century or simply looted, and their contents sold on the antiquities market. Unfortunately, the latter was the case for the tomb of Djehuty, an Egyptian military commander who served during the late fifteenth century BCE and is celebrated in the famous "Tale of the Capture of Joppa." While the remains of his tomb are scattered among different collections (Giovetti et al. 2016; Lilyquist 1988; Reeves 1993), viewed in light of recent excavations in Jaffa and closer examination of this story, they provide interesting insights into military service in Canaan and the celebration of a war hero from the Egyptian New Kingdom Empire.

The Ramesside "Tale of the Capture of Joppa" celebrates the achievements of Djehuty, commander of the Egyptian fortress of Iapu, ancient Jaffa. (For translations of this tale, see Goedicke 1968; Junge 2001; Peet 1925; Simpson 2003:598.) He recovered the fortress from the "rebel of Jaffa," the Canaanite leader who had taken it, during the reign of the pharaoh Menkhepere, who is identified with Thutmose III (1478–1424 BCE). At the center of the short narrative that survives was the employment of a ruse to take Jaffa—namely, the spiriting into the fortress of his troops in baskets that were ostensibly carrying supplies. We also learn from this tradition that, as commander of the fortress, Djehuty had brought his family with him into Canaan. While the story has been traditionally identified as a legend (Allen 2001) and continues to be identified as such by some (Manassa 2013), there are grounds to believe that the story was at the least inspired by actual events, if it does not in fact relate historical events. Among the lines of evidence for its historicity are evidence of the career of Djehuty himself; evidence of destruction of the earliest Egyptian fortress, which would set the stage for the retaking of the fortress in the life of Djehuty; and the persistence of an Egyptian fortress in Jaffa long after the events in question, which merited the celebration of Djehuty's accomplishment during the Ramesside period.

The story was at the least inspired by actual events.

The information surrounding Djehuty's actual identity stems from objects associated with his tomb at Saqqara, which was looted in 1824. These reveal that he bore the title "overseer of northern/foreign countries," "general," "scribe," and "royal scribe."



Figure 1. Inscribed alabaster jars from the tomb of Djehuty in the Rijksmuseum van Oudheden, Leiden. (Photo by Hans Ollermann.)

The Egyptian fortress was razed by enemies of Egypt.

More than 30 objects from his tomb have been identified among collections from the Louvre, the British Museum, the Metropolitan Museum of Art, and museums in Bologna, Florence, Turin, Vienna, and Leiden (Lilyquist 1988), and others likely remain unidentified (Figure 1). These objects, which were presumably acquired over his lifetime, assist in the reconstruction of his biography, and they lend credibility not only to the character behind the narrative but also to its setting in the reign of Thutmose III.

This alone would be impressive, yet the archaeological exploration of Jaffa affords a historical context for Djehuty's actions. The evidence consists of an extensive destruction of Jaffa during the second half of the fifteenth century BCE (Figure 2), which resulted in the deposition of a large assemblage of Egyptian ceramics associated with a kitchen complex (Burke et al. 2017:124–125), suggesting that the Egyptian fortress was razed by enemies of Egypt during an early period of intense resistance. Based on the date of two ceramic forms present in this destruction, this occurred during the reign of either Thutmose III or his successor, Amenhotep II (Burke and Lords 2010). The tradition associated with Thutmose III, known as Menkhepere in the tale, suggests the former.

The fortress was immediately rebuilt, presumably under the oversight of Djehuty, but this time along the lines of a traditional Egyptian fortress, and it was much larger than contemporaneous local fortification types. The earlier fortress inhabited by the Egyptians had consisted, evidently, of little more than the walled Canaanite settlement, with no evidence for the formalism and monumental features that were a hallmark of Egypt's occupation of Jaffa until the end of the twelfth century BCE. There was, therefore, reason to celebrate Djehuty's accomplishment because for nearly three centuries, until late in the Ramesside period, Jaffa remained unassailed, a seeming bulwark against periods of Canaanite resistance.

It is the integration of archaeological and textual sources, such as those associated with early Egyptian imperial presence in Jaffa, that makes it possible to celebrate the life and times of an individual like Djehuty. Lloyd Cotsen understood the value of such research and its contribution to the reconstruction of the past. With this in mind, and with gratitude for his support through the Cotsen Institute of Archaeology, I hope the results of our work in Jaffa serve as a tribute to his legacy.



Figure 2. Destruction debris of late-fifteenth-century BCE layers in Jaffa, including Egyptian vessels from a garrison kitchen excavated in 1958.

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Archaeology, Cultural Heritage, and Collaboration on the Hopi Mesas

Gregson Schachner,[1] Wesley Bernardini,[2] and Leigh Kuwanwisiwma[3]

At Hopi, *big* is a relative term. In the heat of a cloudless summer day, we had been exploring an archaeological site on the Hopi reservation for more than an hour and still had not found the edge of it. The site appeared to cover the entire top of the mesa, a seemingly endless string of roomblocks covered in a dense thicket of ankle-high prickly pear cactus. We had been led there by our Hopi colleague Lee Lomayestewa, who had said only that there was supposed to be a "pretty big site up there." Based on the abundance of unpainted pottery visible on the surface and the scarcity of masonry stone in the collapsed structures, it was becoming increasingly obvious that we were walking over one of the largest (and thorniest) early agricultural villages (approximately AD 600-900) in northern Arizona. From what was known about the Hopi region for this time period, this site should not have been here. Most archaeologists, even those knowledgeable about northern Arizona archaeology, could count the number of early agricultural villages on the Hopi mesas of any size on the fingers of one hand. We have had a lot of days like that doing fieldwork at Hopi, days that are forcing us to reevaluate our notions of *big* and helping us to rewrite significant parts of the archaeological history of the region.

Our work is collaborative in every sense.

The Hopi Archaeology Project has been recording sites like the one we found on that hot summer day, called *San'ovi* in Hopi, since 2005. Initiated by Wesley Bernardini of the University of Redlands and joined by Greg Schachner of UCLA in 2010, the Hopi Archaeology Project is now one of the longest continually running collaborative projects in the American Southwest. We work in partnership with the Hopi Cultural Preservation Office (Leigh Kuwanwiswma retired as its director in 2018) to record ancestral Hopi sites both on and off the Hopi reservation. Our work is collaborative in every sense, with joint decisions about research questions, fieldwork priorities, methodology, and dissemination of results. However, it has not

1. University of California, Los Angeles.
2. University of Redlands.
3. Former director of the Hopi Cultural Preservation Office.



Figure 1. Left to right: Dana Tewanima and Nuvadi Dawaheya, Jr. (Hopi High School interns), Lee Wayne Lomayestewa (Hopi Cultural Preservation Office), Leigh Mitchell (University of Redlands undergraduate), Wes Bernardini (University of Redlands), A. J. White (UCLA graduate and graduate student at UC–Berkeley), and Greg Schachner (UCLA) after recording Huvatuqwa on the southern Hopi reservation, June 2014. (Photograph by Joel Nicholas, Hopi Cultural Preservation Office.)

always been this way, for research on the Hopi and for southwestern archaeology in general.

THE HOPI TRIBE AND ARCHAEOLOGISTS

The Hopi have been one of the most intensively studied groups in North America for more than a century. After the Atlantic and Pacific Railroad was constructed across northern Arizona in the 1880s, later paralleled by Route 66 and Interstate 40, government agents, anthropologists, archaeologists, Protestant missionaries, and tourists descended on the Hopi pueblos to witness the rich ceremonials, excavate ancient villages, and implement the Indian policy of the U.S. government. Ancient Hopi pueblos on and off the reservation were mined for artifacts, which were transported to museums and private homes throughout the world. Hopi traditional histories, society, government, language, and ceremonies were subjected to "scientific" investigations, over which the tribe had little control, dispersing Hopi sacred knowledge far beyond members of the ritual sodalities charged with maintaining that knowledge to ensure the functioning of the Hopi world. Hopi people were relegated to the role of "informants" in books that built the academic careers of anthropologists and captivated American and European audiences.

Unsurprisingly, many Hopi became disillusioned with these efforts and attempted to exert greater control over outsiders on their lands and to limit the appropriation of Hopi knowledge and material culture. The last large-scale archaeological project on the reservation, the Awatovi Expedition of Harvard University, ended in 1939, when the tribe objected to the renewal of the Antiquities Act permit under which the work was conducted. Archaeological work on the reservation essentially halted for many decades.

The relationship between Native Americans and archaeologists changed substantially after the 1990 passage of the Native American Graves Protection and Repatriation Act (NAGPRA), especially in the American Southwest, where tribal reservations cover large areas and American Indians are a substantial proportion of the population of the region. Although the repatriation of human remains, sacred items, and objects of cultural patrimony is the most well-known aspect of the law, it also requires that government agencies, museums, and archaeologists conduct consultations with Native American tribes. Today, many archaeological projects incorporate consultation pursuant to NAGPRA and other federal and state laws, while others go further, developing explicitly collaborative research designs that aim to bring archaeologists and tribal members in dialogue to produce studies that provide mutual benefit and respect. The Hopi Archaeology Project is one of these collaborative

efforts, aimed at moving beyond minimal compliance with legal requirements to pursue research topics that provide clear benefits to tribal communities.

At Hopi, the passage of NAGPRA coincided with establishment of the Hopi Cultural Preservation Office as the official tribal entity tasked with "preserving the culture of the Hopi people by managing archaeological sites on and off the reservation, protecting intellectual property rights, preserving Hopi language, and fulfilling repatriation and reburial responsibilities." As one of the first southwestern tribes to establish a cultural preservation office, the Hopi tribe has led the way in forging productive partnerships with external researchers. Staff from the Hopi Cultural Preservation Office have been prominent voices in recent controversies over the auction of Native American cultural objects in Europe and the establishment of national monuments in the Southwest. The office is often viewed as a model in advocating for indigenous perspectives within a legal framework largely shaped by federal legislation and priorities. The partnership of the Hopi Archaeology Project with the Hopi Cultural Preservation Office augments the ability of the tribe to manage ancestral sites, produce educational materials, and communicate Hopi perspectives about the interpretation of southwestern history. For Schachner and Bernardini, ongoing discussions with our Hopi colleagues about the ancient past also challenges us, requiring us to rethink what we know, how we know it, and what questions we might overlook.

THICK AND THIN

The archaeological record at Hopi is thick, with dense occupations stretching back continuously at least 2,000 years, but publications on Hopi archaeology are surprisingly thin. Although seminal archaeological work began in the region in the early 1900s, Hopi area archaeology is relatively poorly known in comparison to that of surrounding areas. The relatively thin archaeological documentation stands in stark contrast to the voluminous ethnographic literature on Hopi, which includes dozens of monographs and hundreds of articles. The lack of archaeological knowledge about the Hopi area is largely due to the paucity of archaeological work on the reservation since the 1930s. One exception is the massive Black Mesa

The Hopi tribe has led the way in forging productive partnerships.

Archaeological Project, which was conducted from the 1960s through the early 1980s as a result of the development of coal mines in the far northern reaches of the Hopi reservation. The mine area, however, was always peripheral to the Hopi mesas proper and was primarily used as a resource-collection area for Hopi residents rather than a population center in its own right.

To fill in the gaps of Hopi archaeology, the Hopi Archaeology Project has worked with the tribe and individual Hopi villages. What we have found is remarkable. To date, we have mapped more than 60 large ancestral Hopi villages (many in excess of 1,000 rooms), conducted pedestrian survey of dozens of square kilometers, recorded surface ceramics and lithics at several hundred smaller sites, and recorded more than 5,000 rock art panels. Although the statistics are impressive, even more remarkable are the archaeological sites themselves, ranging from massive masonry villages that were occupied just prior to Spanish contact to some of the largest early agricultural villages in the northern Southwest.

All fieldwork is conducted with Hopi participants, including staff of the Hopi Cultural Preservation Office, at times assisted by summer interns from Hopi High School, staff from other units of the Hopi tribal government (range managers, GIS specialists, biologists, and so on), and members of the Cultural Resources Advisory Task Team, which is composed of Hopi elders from villages across the reservation who assist the Hopi Cultural Preservation Office in its mission (Figures 1 and 2). In addition to Hopi participants, the Hopi Archaeology Project has included archaeologists from James Madison University, the University of Arizona, and the University of Michigan; undergraduates from the University of Redlands and UCLA; and graduate students from UCLA, Arizona State University, and Binghamton University. The participation of students helps train the next generation of archaeologists in a collaborative setting and gives them an opportunity to encounter indigenous perspec-



Figure 2. Lee Wayne Lomayestewa (Hopi Cultural Preservation Office) and Reilly Murphy (UCLA graduate) record rock art and historic masonry in a sandstone alcove, June 2011.

tives on the past directly and witness the benefits and challenges of community archaeology.

Our Hopi colleagues are exceedingly knowledgeable about the distribution of settlements on the reservation, and our project has attempted to respond quickly to community interest and input about productive locales for exploration and documentation. In addition, traditional Hopi histories about the past, usually passed down through Hopi clans, provide novel insights into the identities and origins of immigrant groups and some of the social and environmental factors that influenced the tenure of ancient residents in particular areas. Our documentation of rock art, which often contains information about clan identity and history interpretable by Hopi people, aids in Hopi understandings of their current landscape, particularly in places that may be difficult to travel to today.

In the spirit of traditional Hopi views of respect for ancestral villages, we have used nonintrusive methods of site documentation, including total station, GPS, and aerial mapping (by balloon, kite, and most recently drone); photography (particularly of rock art); and the recording and analysis of surface artifacts to provide information on chronology and economic interaction. The work began with documentation of the largest ancient villages on the reservation, which represent the greatest preservation challenges due to their size, their proximity to modern settlements, and the fact that their locations are well-known to people with both positive and negative interests in Hopi archaeology. We produced three-dimensional models of many of these villages (Figures 3 and 4), which are used in Hopi schools and elsewhere on the reservation. Mapping and surface documentation of artifacts from ancestral Hopi villages have greatly improved our understanding of Hopi demography in the centuries before and after the arrival of Spanish conquistadors and missionaries on the Hopi mesas, untangling and providing context for some of the less well-documented archaeological work of the 1900s.

> It was obvious that we were walking over one of the largest early agricultural villages.

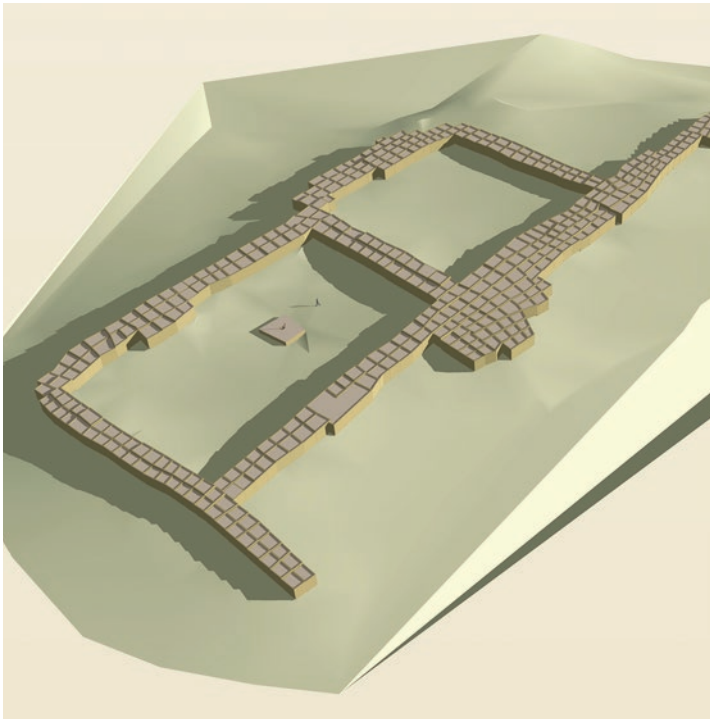


Figure 3. Three-dimensional model of Tsuk'ovi created from total station and balloon maps. The village, which consisted of multistoried roomblocks surrounding two plazas, was inhabited around AD 1400-1450 by approximately 500 people.

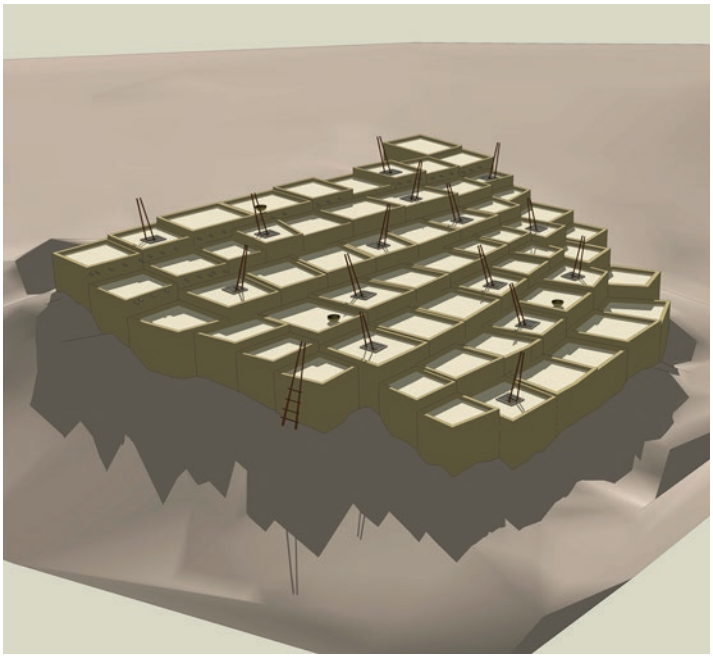


Figure 4. Three-dimensional model of White Spring Ruin, created from total station and balloon maps. This pueblo was the home of approximately 50 people around AD 1175-1300.

All fieldwork is conducted with Hopi participants.

More recently, we have initiated full-coverage survey in a few areas on the reservation (Figures 5 and 6). This work provides us a clearer understanding of the temporal range and spatial distribution of archaeological sites on the reservation, enabling a proactive rather than reactive approach to management of Hopi archaeological sites under tribal and federal law. Avoidance of impact on archaeological sites is often the preferred approach, and it is best achieved when the density and types of archaeological sites present in an area proposed for development are known beforehand. In addition, this survey work provides a much improved context for understanding the full chronology of Hopi archaeology. Much early-twentieth-century work was focused on the well-known villages occupied around the time of the Spanish *entradas.* The extent of earlier occupation at Hopi was poorly understood by archaeologists and was often assumed to follow patterns documented in surrounding areas, such as the Black Mesa Archaeological Project area. As a result, Southwest archaeologists have thought of the Hopi area primarily as a focus of relatively late occupation that experienced significant population growth only when much of the Colorado Plateau was depopulated during massive migrations around AD 1300.

Although we have intensively surveyed only a relatively small portion of the reservation area, our research has demonstrated that the Hopi area was occupied by a much larger population over a much longer period than previously believed. Residents of the Hopi mesas were among the earliest farmers on the Colorado Plateau, and population steadily grew over the millennia that followed. Substantial large villages, such as San'ovi, were present during the early Pueblo period (AD 600-900), in parallel with historical developments in better-known regions such as Mesa Verde and Chaco Canyon. These settlements were supported by ingenious and sustainable farming practices that leveraged the unique geographic characteristics of the Hopi mesas to support populations through periods of variable rainfall and without the population busts apparent in many parts of the Colorado Plateau. Although the population of the Hopi mesas expanded significantly as migrants arrived in the few centuries prior to the arrival of Spanish



Figure 5. Archaeological survey crew overlooking Orayvi Wash, June 2015.

explorers, these immigrants entered a landscape that had been densely populated for centuries. Today, Hopi identity and clan histories are shaped by this long, intertwined history of long-term settlers and migrants that links the modern Hopi people to ancestors who resided across the Southwest.

In the big scheme of archaeological fieldwork, the Hopi Archaeology Project is relatively small. Our field crews consist of a handful of archaeologists and Hopi staff rather than the crews of dozens employed in large excavation projects, and our time in the field is limited. Yet we hope that our impact outweighs our size. Publications based on our collaborative work have changed how archaeologists think about southwestern prehistory, especially the integration of archaeological data with traditional knowledge. Past archaeological research was limited by its lack of engagement with the people most knowledgeable about the ancient past. Our work has demonstrated that there is still much to discover in the field, especially if we partner with our native colleagues as cocreators of knowledge.



Figure 6. A. J. White (UCLA graduate and graduate student at UC–Berkeley), Kellam Throgmorton (graduate student at Binghamton University), and Julie Solometo (James Madison University) record an eroded pit structure built around AD 700 near the Hopi village of Bacavi, June 2015.

Ongoing Research on Bronze Age Pottery of the Oxus Civilization

Élise Luneau[1]

Large amounts of pottery are found at Bronze Age sites in southern Central Asia, which shows the importance of ceramic containers in the life of the ancient inhabitants. Pottery was used by everyone and was associated with many situations of daily life, including food processing, food consumption, storage, and material and cultural exchanges. For archaeologists, this material constitutes a major source of information, shedding light on ancient human beings, practices, cultures, and exchanges. It also provides insights into potters' choices about ceramic technology and aesthetics.

The thousands of potsherds excavated at settlement sites related to the Oxus civilization are often neglected in favor of the beautiful, complete vessels discovered in large graveyards. The Oxus civilization, or Bactria-Margiana Archaeological Complex (BMAC), dates from around 2300 to 1500 BCE and represents one of the lesser-known cultures of the ancient Orient (Francfort 2009; Kohl 2007; Lamberg-Karlovsky 2012). It was identified about 50 years ago as a vast homogenous cultural entity ranging from northern Iran to southern Uzbekistan and Tajikistan (Figure 1). As a supplier of raw materials such as lapis lazuli, turquoise, and perhaps tin, the Oxus civilization was part of a chain of exchanges among cultures located between the Indus Valley and the Mediterranean Sea, also known as the Middle Asian Interaction Sphere (Possehl 2007). The Oxus culture experimented with increased social stratification, proto-urban development, centralization, territorial expansion, cultural homogenization, and task specialization of high-skilled production technologies, especially metal and stone handicrafts (Figure 2). The production of pottery, affected by significant technological and stylistic transformations during the Bronze Age (around 2500–2400 BCE), is characterized by frequent use of the potter's wheel, the near disappearance of painting motives, and a search for standardization (Figure 3). The first works on pottery from the BMAC focused on stylistic aspects of the pots, aiming to identify human groups and establish chronologies (Askarov 1977; P'jankova 1993; Udeumuradov 1993). This emphasis, although important for compre-

1. Élise Luneau was a visiting scholar from the German Archaeological Institute at the Cotsen Institute from January to April 2016.

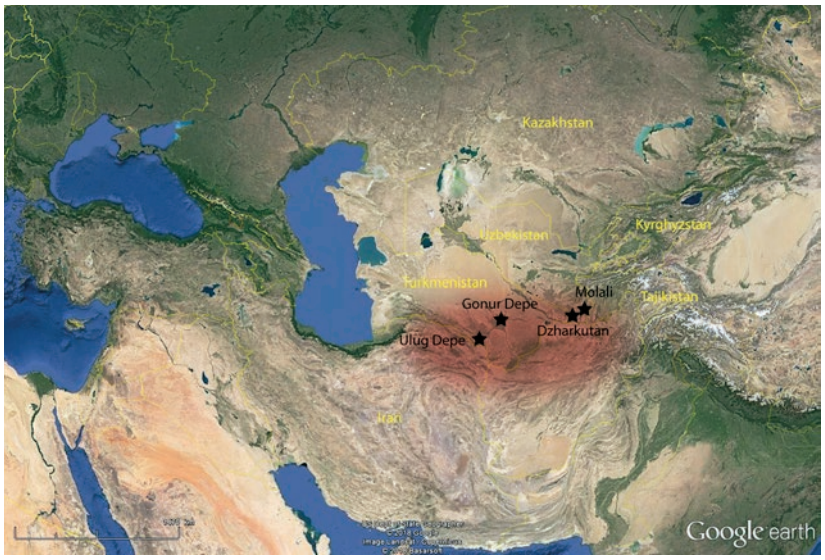


Figure 1: Location of the BMAC/Oxus civilization (in red).

Figure 2. Aerial view of Gonur Depe, Turkmenistan. (Image created by N. Boroffka.)





Figure 3. Changes in pottery production between the Early and the Middle/Late Bronze Age in southern Central Asia. The pottery comes from Ulug Depe, Gonur Depe, and Dzharkutan. (Photographs by MAFTUR; MAFOUZ-Protohistoire; Deutsches Archäologisches Institut, Eurasien-Abteilung.)

hension of the shapes and development of the ceramic sequence, impeded a systematic study of the pottery and eventually created numerous issues within the study of the Oxus civilization.

THE FRAMEWORK OF A NEW STUDY

To describe the properties of the Oxus ceramic complex, the development of pottery production, and exchange across the region throughout the Bronze Age, selected ceramic corpora from different areas and periods are now being studied. I directed the study of around 50,000 potsherds from different sites within the BMAC in Uzbekistan (Dzharkutan; Molali) and Turkmenistan (Gonur Depe; Ulug Depe). These sites date between the Middle/Late Bronze Age and the Final Bronze Age and have recently been studied by several international archaeological teams. Excavations at Dzharkutan were directed by J. Bendezu-Sarmiento and M. Mustafakulov (affiliated with the Centre National de la Recherche Scientifique and the Institute of Archaeology at the Academy of Sciences of Uzbekistan). Those at Molali were directed by N. Boroffka and L. Sverchkov (affiliated with the Eurasia Department of the German Archaeological Institute and the Institute of Fine Arts of the Academy of Sciences of Uzbekistan). Those at Gonur Depe were directed by N. Boroffka and V.I. Sarianidi (affiliated with the Eurasia Department of the German Archaeological Institute, the Institute of Archaeology of the Russian Academy of Sciences, and the Turkmen Directorate for the Protection, Study, and Restoration of Historical and Cultural Heritage). Those at Ulug Depe were directed by O. Lecomte, J. Bendezu-Sarmiento, and M. Mamedow (affiliated with the Centre National de la Recherche Scientifique and the Turkmen Directorate for the Protection, Study, and Restoration of Historical and Cultural Heritage).

With my research, I wish to develop an integrated approach to examining the different dimensions of pottery, from raw materials to the use of vessels, using

I directed the study of around 50,000 potsherds from different sites.

different kinds of archaeometric analyses. Pots are viewed not only as aesthetic artifacts but also as processes; as the outcome of particular technological gestures; as expressions of mental representations of their shapes, decorations, and functions; and as vectors of social relationships. Taking into account the multidimensional aspect of ceramic material, archaeologists are able to infer information on the technology of production, use, and functions; on the production systems in past economies; on cultural choices; and on the exchange of items between populations. The value of pots is never static but continuously changes through practices, uses, and perceptions, which are in constant flux. Pottery is thus a good tool to help us understand human behavior in the dynamic relationship between artifacts and people, and to help us appreciate ancient practices and beliefs.

My multifaceted study aims to gain an accurate perspective by characterizing pottery production and its relation to human practices of food consumption, and their relations with the environment, networks of exchange, technological changes, social organization, and cultural development. It will contribute to the definition of cultural, chronological, and geographical connections—locally (at the site scale), regionally (at the scale of one area), and supraregionally (between different areas)—and discuss circulation networks of populations, materials, and styles within the Oxus civilization. Was pottery production homogeneous or can we distinguish different technological and stylistic provinces? How did the diffusion of shapes occur over the territory? When and how was the potter's wheel adopted? How did it transform the system of production? Was pottery a valuable commodity to be exchanged? How were knowledge and practices exchanged between potters within the Oxus civilization and with neighboring cultures? These broad questions have long been studied in most ancient cultures but still need to be addressed in southern Central Asian prehistory.



Figure 4. Different types of ware in the Oxus civilization: (1) fine beige ware from Dzharkutan; (2) fine gray ware from Gonur Depe; (3) coarse beige ware with grog temper from Gonur Depe; (4) coarse gray ware with shell temper from Molali. (Photographs by MAFOUZ-Protohistoire; Deutsches Archäologisches Institut, Eurasien-Abteilung.)

The project draws on a combination of different methodologies. Detailed descriptions and the creation of taxonomies of paste, shapes, and decorations allow us to define different wares and provide insights into the morphological range and stylistic variations in the whole set of ceramics. An analysis of technical gestures by observing features and marks at the surface and in the section of a potsherd can identify production methods. Physical and chemical analyses (petrography, elemental fingerprinting, spectrometry, stable isotope analysis) complement the technological characterization of the ceramic material. They allow determination of the composition of fabrics (clay and temper), its homogeneity across different groups of wares at different scales (locally and regionally), and the development of production processes over time. They afford the detection of possible imports or the exchange of raw materials and vessels.

Between 2012 and 2015, the Roxiana Project, coordinated by H. P. Francfort (Centre National de la Recherche Scientifique) and N. Boroffka (Eurasia Department of the German Archaeological Institute), was jointly funded by the Agence Nationale de la Recherche (France) and the Deutsche Forschungsgemeinschaft (Germany). In collaboration with the Bureau de Recherches Géologiques et Minières and the Service d'Analyse des Roches et des Minéraux of the Centre de Recherches Petrographiques et Géochimiques, pottery from different areas was analyzed to provide a preliminary basis for the characterization of pottery production (Luneau et al. 2019). The ongoing project Las sociedades antiguas complejas de Asia Central a través de la cerámica; Entre la tradición nómada y las influencias mediterráneas (CERAC, 2016–2020), directed by V. Martínez Ferreras and E. Ariño Gil **from** the University of Barcelona and Salamanca, focuses on the study of pottery from southern Uzbekistan. The research is complemented by experimental study of the different steps of vessel production in collaboration with Arkéo Fabrik (France).

A VARIED POTTERY PRODUCTION

Whereas some wares were largely neglected in previous pottery studies, the new research project revealed the great variety of pottery in southern Central Asia during the Bronze Age. A fine to medium-fine, buff to orange-reddish ware, made of calcareous fabrics with different amounts of carbonates and aplastic inclusions, was often the only pottery studied and thus was viewed as representative of the Oxus civilization (Figure 4.1). A fine gray pottery was also recorded in small amounts (Figure 4.2). Other types of pottery were often ignored in favor of these fine ceramics (Figures 4.3, 4.4). Many of these were made of medium-coarse to coarse pastes, with colors ranging from gray-black to beige-orange. A variety of tempers has been found. They include crushed rock, crushed pieces of pottery (*chamotte*, or grog), crushed shell, and vegetal inclusions. Different shaping techniques have also been identified. Wheel throwing and a mixed technique called wheel coiling (Courty and Roux 1995)—defined as creating a preform by coiling before use of the wheel—are the most observed for the fine to medium-fine ware. A few fine ware or



Figure 5. Experimental production of Oxus pots, in cooperation with ArkeoFabrik (France), by combining different steps. The base, made of clay plaques placed in a mold, was smoothed on the wheel (1). The upper part was made of clay coils assembled on the wheel (2). The two parts were joined together (3) before removal of the mold and the obscuring of the joints.

medium-coarse vessels were made by coiling or from slabs. These were sometimes carefully smoothed with use of a slow wheel (*tournette*). A combination of different methods is also seen (Figure 5). An example is use of the wheel for the bottom part of a vessel and use of a mixed technique for the upper part. Experiments suggest that different methods were chosen because of their efficiency, speed, or predictability. The control of these parameters indicates the skills acquired by potters of the Oxus civilization.

The question of use and function of the vessels was also poorly addressed in the past. The definition of pottery types can contribute to our understanding of technical and cultural choices. The choice for different raw materials appears related to the intended function of the vessel. The abundant fine ware vessels display a large range of forms, which indicates a variety of purposes. Vessels could have been used for the preparation, storage, and presentation of food, beverages, or other contents, but also as prestige objects. The study of medium-coarse wares, sometimes referred to as kitchenware, demonstrates different ways in which food was prepared. Medium-coarse vessels may or may not show evidence of the use of fire, such as soot staining or firing clouds, and also differ in temper and form. Pots with crushed shell temper appear to have mainly been used for cooking. Handmade, coarse vessels with crushed rock or grog temper are more diverse in shape than wheel-thrown coarse ware and largely imitate finer wheel-thrown vessels. Pottery was also connected with the world of the dead. Pots often accompanied the deceased in





Figure 6. Jar and bowl of a broken-footed cup used as a grave container at Dzharkutan. (Photograph by MAFOUZ-Protohistoire.)

Pottery was connected with the world of the dead.

their graves, and a deviation from the original function of vessels is sometimes seen. Examples are jars containing the remains of a human body and capped with an upside-down cup with a broken foot (Figure 6). Different hypotheses explaining the cultural choices of potters and consumers, consumption practices, and the function of vessels are now being investigated.

Although fine wares appear to be visually very similar from northern Iran to the southern parts of Uzbekistan and Tajikistan, archaeometric analyses reveal a heterogeneous composition between different geographical areas, sometimes at the level of sites (Luneau et al. 2019), indicating probable local productions. Medium-coarse wares can likewise be distinguished by different paste preparations in different areas. This geographical difference in the way to make coarse wares raises a series of questions. Does the different nature of the paste reveal cultural boundaries between groups within the Oxus civilization or was the geological environment decisive in this divergence? The composition does not seem to change significantly throughout the duration of the Oxus civilization, which indicates a continuity of knowledge of the locations of clay. These preliminary results change our understanding of the development of pottery production and the definition of local technological provinces within the BMAC.

MOVEMENT OF POTS AND PEOPLE

The identification of geographical divergence in the composition of the vessels and possible local centers of pottery production is important for our understanding of the movement of pots and people in southern Middle Asia during the Bronze Age. This work contributes to the study of the roots and developmental processes of the Oxus civilization, which are assumed to be associated with the migration of people. The

Pots apparently did not travel.

petrographic and chemical analyses found so far indicate only a few possible imports at the different sites under study, which may mean a limited exchange of pottery across the BMAC (Luneau et al. 2019). Pottery may not have been a valuable commodity in the network of exchange during the Bronze Age. Pots apparently did not travel; the transmission of styles and techniques through the movement of potters seems more likely. Technological and cultural transfers are highly complex processes that require intense investigation taking into account numerous parameters (Roux 2015).

In contrast with the results of the comparative analysis of stylistic features, a rather high stylistic homogeneity in the ceramic complex of the Oxus civilization has been observed, especially during the peak phase of this culture. Except in southern Turkmenistan (the Kopet Dagh area), so far typical shapes of the Oxus civilization have been discovered in graves attributed to the Middle/Late Bronze Age in northeastern Iran, central Turkmenistan, and northern Afghanistan, and to a lesser extent southern Uzbekistan and southern Tajikistan (Luneau 2019). Strong parallels in technology and style are evident; this shows common roots. Genetic connections existed between these remote regions, but the processes of emergence and the directions of diffusion are not well-known. Pottery appears to be particularly powerful in indicating cultural homogenization across the territory.

Conversely, local divergences are observed in the morphological and decorative repertoire of the pottery assemblage. They further indicate specific practices or aesthetic choices made at a local level. Stylistic variations over time between different areas of the Oxus civilization, if important for the definition of relations between different centers of production in the area, also need to be viewed as potential clues to cultural differentiation. What do they signify about the peculiarity of regional centers of production? Are they indeed different communities? The regional variability challenges us with the entanglement of different scales of cultural identity in the broad cultural sphere of the BMAC.

CONCLUSION

Contrary to what is commonly stated in the literature, Bronze Age pottery related to the Oxus civilization is quite diverse in raw material, processes of production, and decorative patterns. Pottery production appears to combine different degrees of cultural integration within the BMAC, with supraregional and local shapes as well as variation in production techniques in different areas. Investigations now focus on (1) patterns of production (functions, modes of production, specialization, and so on) and (2) identification of cultural choices for the adoption of common techniques, shapes, and decorations for a better understanding of processes of diffusion and homogenization. This issue is also particularly significant in the Central Asian Bronze Age context at the moment of an increasing presence of mobile pastoralists in the area of the Oxus civilization during the second millennium BCE. These mobile groups are globally related to Bronze Age populations originally located in northern Central Asia (the so-called Andronovo Cultural Community). The occupation pattern and evolution of these groups in southern Central Asia at the end of the Bronze Age, as well as the nature of the interaction with local groups of the BMAC, are still highly debated. Evidence or absence of the local chemical signature already distinguishes the pottery assemblage associated with the mobile pastoralists. The degree of connection and complementarity between both groups in regard to pottery production appears highly significant in the understanding of these populations, their interactions with the Oxus civilization during the Bronze Age, and, ultimately, the sociocultural recomposition observed at the end of the Bronze Age. Continued work on pottery, through an integrated approach, fully contributes to defining the major historical and anthropological processes in this relatively unexplored region and period.

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Conservation, Education, and Outreach at Corral Redondo, Peru

Vanessa Muros and Elena Bowen

The summer of 2018 marked the first season of the Corral Redondo Project, a multidisciplinary project that aims to understand the function of Corral Redondo, an archaeological site in the Ocoña Valley in southern Peru, and its significance within the historical and geographical context of the region. To do so, the project integrated four modules: excavation, survey, conservation, and community outreach. The project was made possible by a generous private gift and was organized by María Cecilia Lozada (University of Chicago), Danny Zborover (Institute for Field Research), Hans Barnard (Cotsen Institute of Archaeology), Erika Simborth (independent researcher, Arequipa, Peru), and the first author (UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials) under the auspices of the Institute for Field Research. Field school students were exposed to the multiple facets that make up an archaeological field project and associated research.

Corral Redondo is located at the confluence of the Chorunga and Ocoña Rivers in southern Peru, near the towns of Iquipi and Alto Molino (Figure 1). The site was first discovered in 1943 by local workmen digging for clay to make adobe bricks (King 2013). Among their finds were large imperial Wari face-neck jars, brightly colored Wari feathered textiles, silver Inca objects, and prestigious Inca ceramics, miniatures, and textiles (King 2013, 2016). The artifacts, ranging in date from 600 to 550 CE, were found within a series of stone circles. The location of Corral Redondo at the confluence of two rivers and the precious Inca and Wari objects found at the site indicate its significance as a *huaca*, a sacred place, and possibly a *capacocha*, an important location where prestigious objects were buried as a part of elite ceremonies. It is within this context that the Corral Redondo team set out to undertake systematic excavations at the site and to revisit areas excavated in the 1940s. Alongside the excavation, a survey of nearby sites took place. During this survey, eight sites that could be associated with the Wari and Inca cultures were located.

Objects were donated by members of the community.

While work took place in the field, the authors were stationed in the Museo Escolar Luis Guillermo Lumbreras Salcedo in Iquipi (Figure 2). The museum is located at the Institute Escolar Miguel Grau and was established in 2004 by Willy Huashuayo Chávez, the director of the school, and two of his colleagues. The museum exhibits artifacts found in the area, mainly from Corral Redondo and Jarana, but also includes material from areas farther away, such as Chuquibamba. The objects were donated by members of the community and represent the various cultures that lived in the valley and beyond. The collection consists mainly of textiles and weaving implements,



Figure 1. The site of Corral Redondo (La Victoria, Peru) prior to the start of the 2018 excavation season.



Figure 2. The Museo Escolar Luis Guillermo Lumbreras Salcedo.



Figure 3. Corral Redondo field school students examine textiles to identify fibers, weaving techniques, and condition issues prior to cleaning and stabilizing the artifacts.

as well as ceramic vessels representing the Wari, Inca, Chuquibamba, and Ramada traditions, with a few colonial tools and weapons. The mission of the museum is education, and it is visited primarily by students from the school. However, the ultimate goal is to make this a place that is visited and used by the larger community, as well as tourists to the region.

The aim of the conservation work was to assess the condition of the collection, stabilize objects where necessary, and plan improvements to the mounts and display cases to ensure preservation of the artifacts. Textiles were our priority because those were the most fragile and were in urgent need of examination and stabilization. We recorded environmental conditions within the museum, including temperature, relative humidity, and sunlight entering the space. We assessed the exhibition cases and object mounts, and compiled recommendations for modifications to both to be implemented next season.

Students from all grades presented scientific projects.

Similar to the excavation and survey modules, the conservation module included participation by field schools students in the examination, documentation, and stabilization of the objects (Figure 3). Two groups of field school students rotated through the museum, learning the basics of the treatment of archaeological materials. Each student had the opportunity to examine and conduct a minor treatment on a textile in the collection. The students also had sessions on ceramic reconstruction, artifact labeling, the storage and mounting of archaeological objects, and how to choose appropriate materials for these activities. In addition to treatment of the more fragile objects in the collection, everyone also worked to help document the collection. This entailed photography and written documentation of the identification of materials, methods of manufacture, and current condition. This information, providing the first comprehensive record of the collection of the museum, was put into the project database to be accessed by other team members and future researchers. Students were able to select which activities they wanted to focus on for the last 10 days of the season. During these days, we were aided by Lavina Li (University of Chicago), who helped complete treatments on unstable textiles, wrote condition reports, and cleaned several weaving implements as well as bone and reed instruments.

At the school, we had many opportunities to engage with the community. From the beginning of the project, all team members were encouraged to interact with Miguel Grau students and teachers to discuss the work undertaken in the museum and the project as a whole. The team emphasized the importance of the collection and the need for its continued preservation. Through these informal discussions, we were able to share our experience and knowledge, thus empowering the school community, including a group in the secondary school that was particularly interested in working with the collection and caring for these cultural artifacts.

In addition to informal daily discussions and interactions with teachers and students, team members participated in several more formal activities that helped us give back to the school community



Figure 4. Conservation graduate intern Elena Bowen describes the process for reconstructing ceramics and helps visitors mend their own miniature vessels during the open house. (Photograph by Danny Zborover.)

and to engage with them in non-site and non-museum activities. One of these was the twenty-eighth Feria de Ciencia Eureka (a science fair), held in late July. Students from all grades presented scientific projects in areas as diverse as renewable energy, cultural heritage, agriculture, and health. Those working at the museum that day were invited to be judges for the science fair, and winners were selected from each grade and subject area. The winners will present their projects in a regional competition later in the year.

At the end of the season, the Corral Redondo Project planned an open house to share with members of the community the work undertaken during the season. Stations highlighted different aspects of the archaeological research and offered hands-on activities to engage visitors in the different types of work that take place on an archaeological expedition. One station described quipus, their meaning, and how they are used to record information through knotted strings. Visitors were encouraged to make their own quipus to represent their dates of birth. A second station focused on the analysis of textiles and how microscopy can be used to identify fibers and weaving techniques. A third station focused on conservation and explained the process of reconstructing ceramic vessels (Figure 4). The final station focused on bioarchaeology and showed the steps undertaken to identify human skeletal elements and how these can inform us on sex, age, and pathology. During the open house, members of the community were also invited to the museum, where we walked them through the work that had been completed by project conservators and students. This allowed the community to see the results of our conservation efforts and encouraged them to take an active role in preserving the cultural heritage from the region and using it to teach students, residents, and visitors about the rich history of the valley.

The first season of the Corral Redondo Project was a success, and planning for next year started right after our return from the field. Excavations will carry on in previously excavated areas to increase our understanding of the function of the site. Documentation and treatment of the artifacts at the museum will also continue. Conservation efforts will focus on the display of materials in the museum, with a focus on improving exhibit mounts, creating new labels and case information, and replacing damaged exhibition cases.

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An Ethnoarchaeological Study of Block-Printed Textile Production in Rajasthan, India

Nirinjan Khalsa[1]

In a typical industrial textile manufacturing house, the sounds of production may be that of machines: the gentle humming from the repetitive movements of mechanical mills or printing presses. However, in low-lit rural block-print houses in Bagru, India, the rhythmic sounds of production represent the engrained and embodied practice of the workers' bodies and histories. The processes within block-print textile production are physically taxing, though in archaeology, physical exertion is normally associated with agriculture or the building of structures, not with craft making. When examining craft materials within the archaeological record, the intricacies and techniques within the production of the craft can be missed. Ethnoarchaeological study allows us to examine contemporary craft making in-depth and helps us imagine or understand past practices.

In 2018, I traveled to Jaipur, the capital of Rajasthan, to study the production of handmade block-printed textiles for eight weeks between the end of June and the beginning of August. The globalization of Indian textiles had designers and buyers turning their focus to the area of Rajasthan to purchase high-quality block-printed fabrics, making the region a significant site for understanding the economic and social relationships within the block-printed textile industry.

The rhythmic sounds of production represent the embodied practice of the workers.

My goal was to investigate the block-printing communities of Bagru and Sanganer, known for being key production centers in the long history of block printing in Jaipur, dating back roughly 400 years. Both towns are historically known for the use of specific prints and colors. However, with the growth of textile exporting and manufacturing, the towns host many block printers, screen printers, and block makers that produce a variety of prints, colors, and motifs for the global market.

During my fieldwork, I observed two areas of the industry that demonstrated how embodied practice took on conditioned physical attributes: block making and block printing. To understand the physical and technological practice of these areas, I participated in different workshops and observed production during work hours over a continuous period of time. The labor roles that feed into the production of textiles each have their own techniques. Common in the methods are that techniques are acquired through experiential learning, or rather apprenticeship learning. This method of learning is different from other types of

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Figure 1. Artisan carving a wooden block.

vocational training, because skills are measured not through certification but solely in their execution. In Bagru and Sanganer, most artisans were introduced to areas of textile making at an early stage in childhood. They often noted that there was not a specific moment when they became initiated into the craft but were rather raised within it, suggesting an engrained history and practice associated with textile making.

Block making is an essential component of the industry. Blocks can vary in design and are typically carved from either teakwood, used for more intricate designs, or rohida wood, used for less intricate designs. To understand the process of block making, I participated in a workshop at a well-known block-making business in Sanganer, located roughly 16 km. (10 miles) south of Jaipur. Throughout the workshop, I struggled with the physical discomforts that came with the craft, such as squatting in front of the work station: a small, low square table with a marble slab top. While the carvers could easily fold their bodies into the required posture, I needed a small wooden block as a stool to sit comfortably. In addition, my instructor demonstrated the proper way to hold the metal and wood tools used in the chiseling process. My instructor's hand effortlessly gripped the small metal tools, called *kalams*, while mine struggled to hold on; not unlike the process one goes through



Figure 2. *Dabu* mud paste and printing blocks.

when learning to wield chopsticks. When observing the hands of my instructor, I noticed that a callus had formed on the side of his pinky from gripping the metal tool, representing long hours of work over the years. While *kalam* means "pen" in Hindi, the small metal tool did not easily glide across the wood surface; my movements were jagged and broken, while my instructor's were seamless and rhythmic. The wooden stick used to tap the end of the *kalam* is held midway up the shaft, and the weight of the stick is used as a



Figure 3. The author participating in a workshop.

source of momentum through a gentle flick of the wrist. This is a simple movement in theory, yet my body resisted, wanting to gain momentum from my entire arm. Seeing this, the men in the work space laughed and commented on my exaggerated movements. Eventually the "tap, tap, tap" of the workshop provided a musical soundtrack against the street noise that wafted into the work space, a constant reminder of the dedicated years in which each carver honed his skills until they became second nature.

Block printing is another area that demonstrates how the embodied practice takes on physical conditioning. Bagru, located approximately 28 km. (18 miles) east of Jaipur, is known for its namesake block print, Bagru print, defined by a *harda* (off-white) background with black and red mineral colors for the motifs. Another commonly used technique in the region is *dabu*, a mud resist-dye technique, often followed by dyeing the fabric with indigo. *Dabu* printing and dye-block printing use the same technique of application: the fabric is laid out over a long tall table, and a wooden block is dipped into a paste and pressed onto the surface of the fabric. However, there are slight differences between *dabu* and dye printing methods. In *dabu* printing, the mud paste is thicker and, in most cases, requires a block with less detailed designs to get a clean print on the fabric. In dye printing, because the color paste is thinner, a clean print can be achieved with more intricate block designs.

> Proficiency is measured on performance and not certification.

The thickness of the paste also alters how a printer lowers and picks up the block. In dye printing, the printer presses the block onto the fabric and hits the top once or twice with a closed fist to achieve a clear impression. This repetitive movement often creates a callus on the soft side of the hand. The dye printer then picks up the wooden block and repeats the process until the fabric is completely covered with the desired design. The physical movements differ slightly



Figure 4. Wooden blocks used for *dabu* printing.

in *dabu* printing. A *dabu* printer does not hit the top of the block but rather lightly presses the block onto the surface without releasing the handle fully. The printer then picks up the block by sliding it forward slightly while simultaneously pulling the handle up. This precise movement is used to prevent the mud paste from smudging, ensuring that the print comes out clean.

During my fieldwork, I watched printers use both block-wielding techniques and was amazed at the speed and consistency they were able to achieve. Proficiency in block printing is measured solely on performance and not on any form of certification or accreditation. The quick and precise movements of printers during production reflect their dedication to the craft. It is important to remember that although skilled printers have the ability to move quickly, they are not machines. Machines are valued for rapid manufacturing and consistency. However, the skills of artisans have not been calibrated or tuned through mechanical manipulation, but honed through years of instruction, mistakes, and printing on many yards of fabric. When observing the finished product—textiles or blocks—one can miss the intricacies tied to the craft.

You can run the textile through your fingers or run your palm over the smooth wood, taking in the energy and the imagined history of the object. It is



Figure 5. Artisan *dabu* printing on an indigo-dyed fabric.

not until you witness the artisan's conditioned body with tools in hand, however, that you really start to get an understanding of how hard the work actually is. An understanding of how the hands and minds of the workers created such beauty is found only through ethnographic investigation. This is the value of ethno-archaeological study within a material craft culture. Whether it is the repetitive thuds from the side of the printer's fist hitting the block handle or the tapping of wood on metal *kalams* during the carving, the sounds of production are a constant reminder of the intricate work and physical strain required to produce the fine materials that global buyers desire.

Selected Classes

In addition to fieldwork, analysis, and publishing, an important aspect of academic archaeology is preparing the next generation. This entails not only training in the field but also instruction in the classroom. Below are descriptions of a selection of noteworthy and exciting classes offered by affiliates of the Cotsen Institute.

CAEM 260:
Structure, Properties, and Deterioration of Materials: Ceramics, Glass, and Glazes

Christian Fischer

In many ways, ancient ceramics epitomize the concept of material culture, and their manufacture is often considered the first technological revolution in human history. This significant step was followed by the development of other innovative materials, such as faience and glass (if limiting the scope to the silicate world). From the Neolithic to historical times, ceramic materials became increasingly popular and hence ubiquitous in the archaeological record. Their subsequent study has informed us about various and central aspects of ancient societies. Unsurprisingly, conservators of archaeological objects are often depicted reconstructing ceramic vessels, even though their expertise and skills extend far beyond the conservation of this iconic artifact type.

It is now well accepted that ancient potters and glassmakers carefully chose raw materials, such as natural clays, sands, and other important components, to produce ceramics and vitreous materials. They developed processes to purify the raw materials and to mix them together in well-defined proportions, and they determined the optimal firing or melting conditions, acquiring an empirical knowledge and developing a real savoir faire over time. For conservators, it is equally important to comprehend the nature of these materials, the relationships between their structure and properties, and the fundamental mechanisms and technological processes involved in their manufacturing. Also critical is to understand the stability



Graduate students Emily Rezes (left) and Karime Castillo experiment with different clays and tempers to understand their properties. (Photograph by Vanessa Muros.)

and durability of the raw materials and final products; for instance, how they respond and transform as temperature increases or how they interact with water and other environmental factors.

CAEM 260: Structure, Properties, and Deterioration of Materials: Ceramics, Glass, and Glazes, a required core course for graduate students in the UCLA/Getty Conservation Program, encompasses all these aspects and introduces students to the materiality and technology of ancient ceramics and vitreous materials in different periods and cultures. Besides hearing lectures on the fundamentals, involving basic notions from the natural sciences, students are assigned two literature-based research projects, with topics focusing on particular regions, styles, technologies, or periods. Results are then shared and discussed through short presentations and roundtable discussions. Although the course is mainly theoretical and does not entail a laboratory component per se, a few hands-on experiments, using facilities at the Getty Villa and the Department of Materials Science and Engineering at UCLA, give students the opportunity to create ceramics and make glass, and to explore the effects of compositional and process changes. The course also aims to develop critical thinking skills to prepare students to assess the condition of cultural artifacts and to propose conservation strategies for their preservation.



Foodstuffs laid out for the miracle berry experiment. Miracle berries *(Synsepalum dulcificum)* contain the glycoprotein miraculin, which binds to taste receptors in the tongue and causes sour foods, such as lemons and limes, to taste sweet. The effect lasts for about 30 minutes.

Cluster M1C: Foreign and Familiar: The Culture of Food

Jacob Damm

The UCLA Cluster Program is designed to help freshmen successfully transition to UCLA. Cluster courses span three quarters and are collaboratively taught, interdisciplinary, and open to entering freshmen only. Clusters allow new students to explore complex topics from multiple angles, developing skills that will assist them through the rest of their undergraduate careers. The Cluster M1 series is titled Food: A Lens for Environment and Sustainability. The spring 2018 seminar, Cluster M1C: Foreign and Familiar: The Culture of Food, built off the framework established in the first two quarters (fall and winter) of the series. While the fall and winter courses focused on the relationship between the modern human diet and the environment, the M1C seminar sought to explore the complex relationship between diet and culture. In class, we took Jean Anthelme Brillat-Savarin's oft-cited quote "Dis-moi ce que tu manges, je te dirai ce que tu es" (Tell me what you eat, and I will tell you what you are) and collectively worked to nuance how dietary practices develop and become part of our normality.

The seminar served as an interdisciplinary introduction to the major problems and theoretical approaches in the study of food culture. In addition to drawing on formal, peer-reviewed studies, the course utilized evidence from less conventional sources. Students were given the opportunity to conduct close readings of BuzzFeed videos, recipe blogs, movies, and literature to unpack the role that food plays in the construction of cultural identity. While the explicit topic of the course centered around the inclusionary and exclusionary role that food plays in human culture, food served as a more general vehicle for students to explore the contingent nature of cultural normativity. It thus provided an arena in which students could reflexively examine their own cultural knowledge and predispositions. Either with abstract topics, such as the relationship between culture and sensory experience, or more targeted discussions of issues like the connection between food and gender roles, students could integrate readings with their own personal experience to enrich in-class discussions. The collective diversity of the student body added to the strength of

the course, ensuring that even the most esoteric topics were grounded in the tangible reality of our own lives.

Students also drew on their experiences through in-class exercises centered around the physical act of eating. To ground the theoretical in the practical, students literally embodied insights from assigned texts by critically observing their own reactions to food. Instead of just reading case studies describing various world cultures' perspectives on entomophagy, students were presented with roasted, whole crickets and insect-based protein bars to explore their own ingrained responses to eating bugs. To reinforce the malleable nature of taste alongside the power of expectation reversal, we used miracle berries (*Synsepalum dulcificum*) to alter the experience of eating sour fruits and candies. The introduction of real food into the classroom made it possible to illustrate even the most abstract concepts. Strongly scented and flavored durian (*Durio zibethinus*) opened the door for students to explore their own gustatory codes by pushing the sensory experience of food to its limits. Similarly, rather than relying solely on complex definitions of synesthesia, we demonstrated the synesthetic principles of food through the simple experiment of closing one's eyes, plugging one's nose, and trying to guess the flavor of a Skittle, which—contrary to popular belief—is scented rather than flavored. The resulting confusion presented a perfect opportunity to demonstrate interactions between the various sensory inputs that structure our perception of food, taking what would have otherwise been a vocabulary term and transforming it into intuition about the world around us.

ACKNOWLEDGMENT

Course activities were generously funded by a mini-grant from the Office of Instructional Development at UCLA.





Anthropology C117: Methods in Field Archaeology

Stephen Acabado

This class focused on basic archaeological field techniques, including basic mapping, setting up excavation units, artifact classification and recording, and writing archaeological site reports. Within this framework, undergraduate and graduate students were introduced to use of the Brunton compass for navigation and how to map a site with a measuring tape and compass techniques. Later in the quarter, a transit was demonstrated, and the differences in accuracy and precision of the two mapping techniques were discussed.



The so-called Opening of the Mouth ceremony was performed in ancient Egypt to allow the mummy of a deceased person to breathe, eat, drink, and speak. It can serve as paradigm for the ambiguity between medical procedures and magical rituals. (British Museum EA9901, sheet 5. Shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International [CC BY-NC-SA 4.0] license.)

ANNEA 14W:
Medicine and Magic in Ancient Times

Hans Barnard

The contemporary natural sciences and Western evidence-based medicine are the result of efforts that started well before the invention of writing more than 5,000 years ago. Significant progress has evidently been made to satisfy the fundamental human desire to understand, but also actively transform, the world around us. To put these achievements into perspective and appreciate their more or less ephemeral nature, it is essential to appreciate the meandering and often serendipitous ways in which our conventional wisdom and accepted know-how came into being. At the same time, it is necessary to recognize that the boundaries between medicine, magic, science, religion, superstition, folklore, philosophy, and art are much less sharply defined than they may appear at first sight.

ANNEA 14W, Medicine and Magic in Ancient Times, is a Writing II General Education class that aims to provide an overview of the history of medicine, focusing on ancient Egypt, Mesopotamia, the Greco-Roman world, Mesoamerica, India, and China. This is achieved by a series of lectures, discussion sessions, readings, and quizzes. At the center of the course are one short and two longer essays—one discussion and one research paper. Students compose and improve upon them during the quarter with the help of their undergraduate peers and graduate student teaching assistants.

In the first essay, students explain what they hope to get out of the class and why it fits their plans for the future. Students revise this paper, based on what is discussed and learned during the 10 weeks of class, and return it at the end of the quarter. The revision includes a discussion of the extent to which the course answered their expectations. The second essay is a polemic in which students first discuss two articles that disagree on a specific subject and subsequently formulate their own opinion. For the third essay, students need to select one of five subjects and research it in some detail. The resulting written argument needs to be supported by at least six external sources. In the spring quarter of 2018, 81 students enrolled in this class; 79 of them completed it with a satisfactory grade.

Museology and Ancient Egypt: A Summer Field School at Museo Egizio, Turin, Italy

Jeffrey Newman

During the summer of 2018, 21 undergraduate and graduate students from the United States, Puerto Rico, and Australia attended a field school in museology and Egyptian material culture at Museo Egizio in Turin, Italy. Organized by the Cotsen Institute, the Institute for Field Research, and Museo Egizio, the field school was directed by Hans Barnard and Caroline Arbuckle MacLeod, a recent graduate of the Cotsen Institute, assisted by UCLA graduate students Vera Rondano, Jordan Galczynski, and myself. The program focused on various subjects related to the management of a museum in the modern world. These included artifact ownership, public outreach, community involvement, and social justice, as well as issues concerning preservation, conservation, and display. Integral to the program were visits to other museums to explore different visions, priorities, and management choices. Object-handling sessions provided students a chance to engage directly with objects in the collection of Museo Egizio and to explore how artifacts are preserved, studied, and displayed.

The students received many lectures and guided tours by museum staff and outside researchers. These included a behind-the-scenes tour of the current special exhibit at Museo Egizio, *Statues Also Die*, by curator Paolo Del Vesco, who examined the powerful role a museum plays in the modern perception of ancient artifacts and cultures. A lecture by curator Federico Poole challenged common assumptions about object authenticity within a museum collection. Dr. Poole discussed examples of fakes and forgeries purchased by the museum throughout its history of nearly 200 years (Figure 1). He stressed the importance of the complete history of an object, not only its history in ancient times but also its deposition, recovery, and relocation to its current context. Lectures on collection management were given by registrars Marco Rossani, who discussed the intricacies of loaning and moving unique and priceless, and often fragile or otherwise cumbersome, artifacts; Federica Facchetti, who highlighted her role in the research and display of the vast collection of ceramic objects in the museum; and Suzanne Topfer, an expert in Egyptian papyrus documents.



Figure 1. Curator Federico Poole explains the complexities of artifact authenticity while exhibiting an example of a fake female statue in the collection of Museo Egizio.

For an appreciation of decisions made by the staff of Museo Egizio, the field school included numerous visits to nearby institutions and historical sites. These included the National Museum of Cinema—housed in the iconic Mole Antonelliana building—the National Automobile Museum, the Museum of Oriental Art, the

Museology and Ancient Egypt: A Summer Field School at Museo Egizio, Turin, Italy



Figure 2. Textile conservator Cinzia Oliva details the construction techniques utilized to produce a 4,500-year-old pleated linen dress.

Museum of the Holy Shroud, and the former royal palaces. We also visited the Basilica of Superga, which not only contains the tombs of the House of Savoy but is also the site of the 1949 plane crash that killed the famous soccer team known as Grande Torino, and toured the archaeological site of Industria, an important regional center dating to the time of the Roman emperor Augustus. Students were encouraged to compare and contrast how these institutions conserve and display history with methods employed at Museo Egizio, and to reflect on the strengths and weaknesses of each.

In addition to curatorial institutions, we also visited two of the independent conservation facilities servicing the vast and varied collection of Museo Egizio. First was the workshop of Cinzia Oliva, an expert in textiles conservation, who leads a team of conservators working on the notable collection of ancient Egyptian textiles in the museum (Figure 2). The students were provided with an overview of the methods used in textiles conservation and also shown some ongoing projects, including the conservation of a series of pleated linen tunics excavated at Gebelein in Upper Egypt and dating to the Egyptian Old Kingdom (around 2500 BCE). Later we went to the regional conservation laboratories housed in Venaria Reale, the former hunting palace of the Savoy family. This impressive facility comprises many laboratories focused on the conservation of privately and publicly owned artifacts in the Piedmont region of Italy, including textiles, sculpture, furniture, and paintings. The state-of-the-art laboratories demonstrated the cutting-edge technology employed to preserve the overwhelming amount of cultural heritage in Piedmont. The facility provided valuable insights into the Italian system of historical preservation, which is one of the most scrupulous in the world.



Figure 3. Caroline Arbuckle MacLeod demonstrates wood identification techniques using a simple digital microscope.

One goal of the field school is to provide students with the practical skills utilized when documenting and researching museum artifacts. To achieve this goal, the program included several object-handling sessions, under the supervision of experts in the various types of material culture housed in Museo Egizio, including textiles, metals, wood, and pottery. Textiles sessions were supervised by Jordan Galczynski and included microanalysis, aided by a Dino-Lite digital microscope, to determine types of weaves, thread count, and spin direction. Jordan also led the class in an experimental archaeology exercise: students were able to weave their own textiles using a simple toy loom. The wood analysis sessions were supervised by Caroline Arbuckle MacLeod. Carrie focused on wood identification and use-wear analysis, again aided by a Dino-Lite digital microscope (Figure 3). In addition to materials studies, she presented most of the lectures on the history and craft specialization in ancient Egypt. Ceramics analysis was supervised by Hans Barnard, with the assistance of registrar and ceramicist Alice Salvador. Their instruction focused on the drawing of ceramic fragments. I supervised the sessions on metal analysis, including a demonstration of metal identification with one of the portable X-ray fluorescence instruments owned by the institute, as well as assessment of the various types of corrosion found on ancient metal objects. I also led two sessions on advanced digital imaging techniques, including reflectance transformation imaging and photogrammetry.

The final product of the students was a virtual exhibition of objects kept in Museo Egizio, supplemented with virtual loans from other museums. Displays were created using Omeka software and hosted by the Digital Archaeology Laboratory of the Cotsen Institute. Omeka is an open-source content management system developed by the Roy Rosenzweig Center for History and New Media at George Mason University. It allows users to publish and exhibit cultural heritage objects online and is used widely to teach curation. Each project was presented in a short lecture followed by a discussion with peers and museum staff.

Overall, the summer field school was both entertaining and informative. Although the curriculum was vigorous and exhausting at times, copious amounts of gelato and comradery made this second edition an overwhelming success. We expect this program to develop significantly in the coming years.

Alumni Adventures

After spending years in close contact with faculty, staff, and students affiliated with the Cotsen Institute, those finishing their education go out into the world to engage in bigger and better things. For this new section in *Backdirt*, we ask those who graduated half a decade ago to reflect upon their adventures since leaving UCLA.

Since Graduation

Brett Kaufman[1]

IT GIVES ME GREAT PLEASURE to check back in with *Backdirt*, where I have published before and served as an editor from 2012 to 2014. I count myself truly fortunate to have practiced archaeology professionally and on a daily basis since I graduated from the Cotsen Institute in 2014. From 2014 to 2016 I held a postdoctoral fellowship at the Joukowsky Institute for Archaeology and the Ancient World at Brown University. From 2016 to 2018 I was an assistant professor at the Institute for Cultural Heritage and History of Science and Technology at the University of Science and Technology Beijing (USTB). In the fall of 2018 I joined the faculty of the Department of the Classics at the University of Illinois at Urbana-Champaign as an assistant professor.

My research interests straddle political economy and sociopolitical organization, including the formation and maintenance of hierarchy, reconstructing

1. PhD Archaeology, UCLA, 2014



Figure 1. Brett Kaufman in an excavation trench of the Roman forum at Zita, near Zarzis in southern Tunisia, 2015. (Photograph by Hans Barnard.)

management strategies of ancient and historical societies facing environmental change, and ancient engineering and design. Although I have found a comparative approach to be effective and engaging, the regions in which I primarily operate are around the Mediterranean Sea. As an archaeometallurgist, it has been greatly rewarding and humbling to analyze metallurgical remains from Bronze Age Canaan, Iron Age Jerusalem, Crusader Jaffa, Phoenician Carthage, and Neo-Punic Zita in southern Tunisia.

I began working at Zita as codirector in 2013, along with Dr. Ali Drine of the Institut National du Patrimoine, Hans Barnard from UCLA (and the current *Backdirt* editor), and Rayed Khedher (PhD Anthropology, UCLA, 2016) from Davidson College in North Carolina. Our work was the first collaborative archaeology and ethnography project between

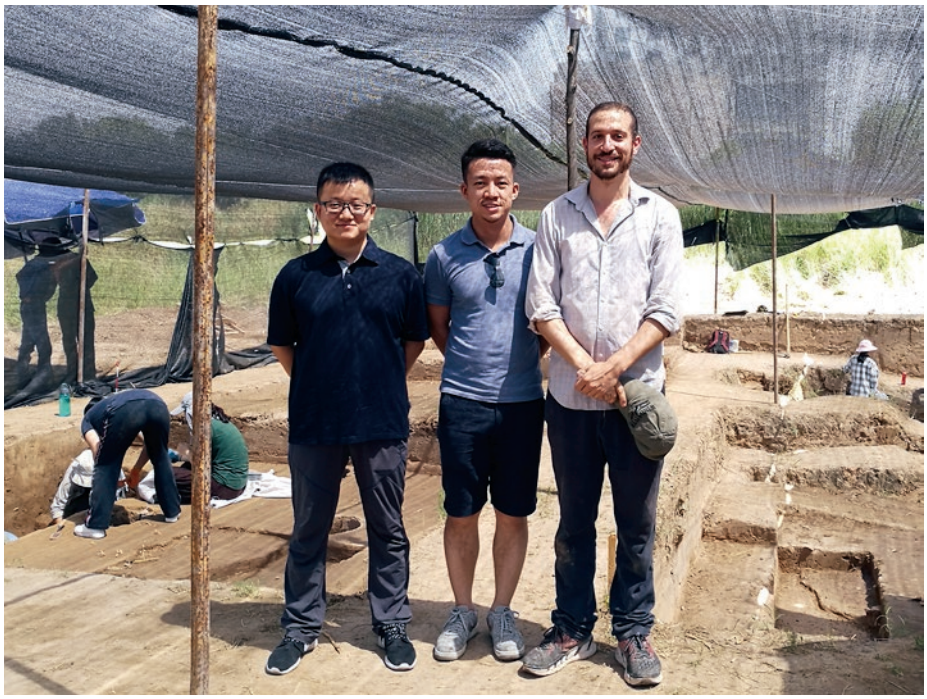


Figure 2. The Yangguanzhai Archaeological Project field school in Shaanxi, China, 2017. Pictured are (from right to left) Brett Kaufman and visiting students Yuchen Tan and Yong Liu from the University of Science and Technology Beijing. (Photograph by Elizabeth Berger.)

American and Tunisian scholars since the Arab Spring (which began in Tunisia in 2011 as the Jasmine Revolution). Preliminary evidence points to Zita being founded as a colony by Carthage as it expanded into North Africa in the sixth century BCE. The research design we developed integrates archaeological, historical, and anthropological methodologies to reconstruct the daily life of the inhabitants, including their diet, health, trade, industry, and rituals. The site is particularly interesting due to the fact that a tophet, or Punic ritualized sacrificial precinct, was likely established by refugees from Carthage following the Roman destruction in 146 BCE. The Romans built a forum at Zita in 42 CE as part of a campaign to integrate the agricultural wealth of North Africa into their empire (Figure 1). In 2015 I was awarded a grant by the National Geographic Society Committee for Research and Exploration to investigate the relationship between the industrial output of Zita (metallurgy, amphorae production, olive oil) and its paleoecology (timber fuel consumption, potential industrial pollution). To date, we have had five seasons in the field (2013–2017), and we are currently focusing on publishing our findings and perhaps renewing excavation and geophysical survey.

I also spent two seasons as field director at the Yangguanzhai Archaeological Project field school, focusing on the site of Yangguanzhai, a Neolithic settlement in Shaanxi Province. The project codirectors were Dr. Ye Wa (PhD Archaeology, UCLA, 2005); UCLA professor in art history Lothar von Falkenhausen; director of the Shaanxi Archaeological Academy professor Sun Zhouyong; site chief Mr. Yang Liping, also from the Shaanxi Archaeological Academy; and

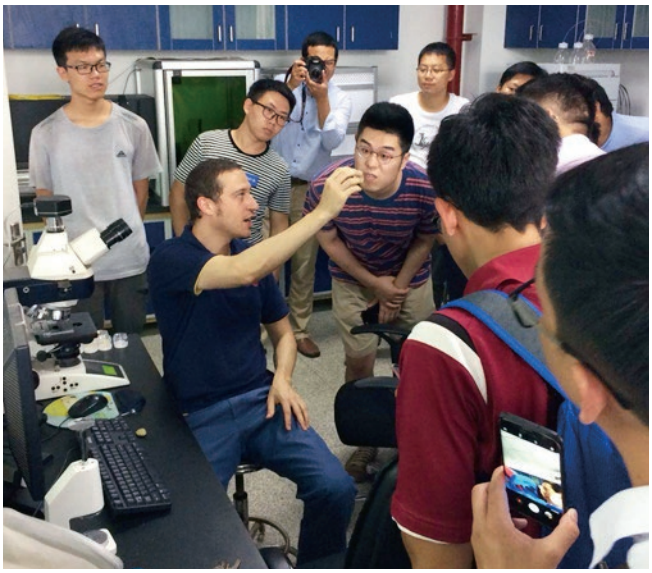


Figure 3. A metallography laboratory demonstration for participants in the Archaeometallurgy in Asia summer school, in the archaeological and conservation science labs of the University of Science and Technology Beijing, 2018. (Photograph by Juan Manuel Cano Sanchiz.)

postdoctoral fellow Dr. Elizabeth Berger from the Lieberthal-Rogel Center for Chinese Studies at the University of Michigan (Figure 2). This excavation marked my first fieldwork in China, and since then I have had the opportunity to be a part of other projects with my colleagues and students at USTB. For one, we hosted the 2018 Archaeometallurgy in Asia summer school, which was a joint venture between USTB, led by Dr. Siran Liu, and Silpakorn University, led by Dr. Pira Venunan (Figure 3). Also in the summer of

Brett Kaufman



Figure 4. Smelting copper ore during an experimental archaeology project re-creating Bronze Age and Iron Age metallurgy in Zhouyuan, Shaanxi, China, 2018. Brett Kaufman regulates charcoal fuel input as two students operate the bellows. (Photograph by Yujie Zhong.)

2018, I joined in experimental smelting, casting, and forging copper and iron alloys in traditional Bronze and Iron Age fashion (Figure 4). This project brought together students and faculty from all over China. It was organized in collaboration with the Zhouyuan Museum, the Shaanxi Archaeological Academy, and Peking University professor Jianli Chen, who kindly invited me to participate, together with my colleague Dr. Siran Liu of USTB and Dr. Huang Xing from the Institute for the History of Natural Sciences of the Chinese Academy of Sciences.

Working experimentally with materials is a great way to not only understand the formation of the archaeological record, but also to get a sense of why people made what they made and what efforts it must have taken them to do so. At Brown, engineering professor Clyde L. Briant and I taught a design course in which students researched metal coinage, weaponry, and musical instruments as objects made within their cultural contexts by ancient people seeking specific aesthetic, mechanical, acoustic, and economic properties. The students then redesigned and cast replicas of the artifacts and analyzed the material of both the originals and the reproductions. The course was eye-opening for both engineering and archaeology students; design is perhaps as much a social process (incorporating societal norms and taboos, such as sustainable materials, tasteful morphology, tactile sensations, aesthetic concerns, health and safety, and cost) as it is a scientific one (developing exact specifications via physical or simulative models, testing prototypes, and dealing with production constraints).

The collaborations, friendships, and fond memories I developed at the Cotsen Institute persist to this day. Archaeology as a professional field is, at its best, all about human interaction, communication, and shared heritage. Scientifically, the archaeological record is the only way to empirically analyze spatially bounded data over very long periods of time. In other words, what you find in your, say, 1 x 2 m excavation unit is, when undisturbed, everything that happened at that specific place for the past X number of years. No more, no less. Being trusted by the public to open it up is a tremendous privilege that we should never take for granted.

Building a Business as an Objects Conservator

Nicole Ledoux[1]

I AM CURRENTLY A FREELANCE objects conservator practicing in the Boston area. I provide conservation services to local museums and private clients. My projects have included a wide variety of objects, from archaeological ceramics to nineteenth-century gilded frames to contemporary sculpture and decorative arts. I have had the privilege of working at a wide range of institutions, from small university museums to larger arts institutions.

After receiving my MA in 2012, I pursued additional training through a fellowship at the Straus Center for Conservation and Technical Studies at the Harvard Art Museums from 2012 until 2014. During that time, I treated a range of objects in preparation for their installation in newly renovated galleries of the museums. I had the opportunity to learn and practice new treatment techniques, such as laser cleaning of stone sculpture and reducing stains on ceramics. I also greatly expanded my knowledge of modern art materials through a long-term research project on the deterioration of polyvinyl chloride artworks by Joseph Beuys and an involved treatment of a lead and string sculpture by Henry Moore. After completing this fellowship and giving birth to my son, I put my professional life on hold for a year to consider my next steps. I gradually began taking on small projects and contract work.

Since then, my transition to independent, project-based work has developed into a sustainable business. I gained valuable guidance and mentorship in this realm working at a private frames conservation studio, where I learned how to work with clients while also getting specialized training in conserving



Nicole Ledoux filling a loss in a Japanese ceramic vessel.

gilded surfaces. Between 2016 and 2018, I returned to the Harvard Art Museums to undertake various projects, including the treatment of significant ancient Greek vessels that were unsuitable for handling and exhibit due to their poor condition. Two of the vessels required more than 150 hours of treatment each and required complete disassembly and reassembly to remove unstable old restorations. I also undertook a large survey of more than 400 objects in the expansive plaster cast collection of the museum, which features large-scale early-twentieth-century casts of German architectural and sculptural monuments, many of which are still on permanent view in the original Busch-Reisinger museum on campus.

Most recently, I began working on a large project at the Museum of Fine Arts, Boston, documenting and treating ancient Nubian artifacts that will be part of a traveling exhibition. While I embrace the variety of projects that I have been presented with in the last six years, it has been wonderful to focus on archaeological objects once again.

1. MA Conservation, UCLA 2012.

Preserving Watts Towers

Lily Doan[1]

BETWEEN 1921 AND 1955, Sabato ("Simon") Rodia (1879–1965) built Watts Towers, a sculptural monument, on a triangular lot near the intersection of 107th Street and Willowbrook Avenue in Los Angeles. This site was also his place of residence. Watts Towers consists of 17 sculptural towers and other structures, the tallest of which is about 30 m (99 feet) high. The site was designated a National Historic Landmark and a California Historical Landmark in 1990.

Rodia, working until he was 76 years old, built Watts Towers all by himself and without the use of a scaffold. This artistic feat is particularly amazing considering that more than 60 years later, the current campaign to preserve Watts Towers requires a team of seven conservators and a custom-designed scaffold built to the safety standards of the Occupational Safety and Health Administration. One must wonder at the sheer moxie of the man who scaled and built these tall concrete structures with nothing but buckets full of mortar, tools, and fragments of glass, ceramic, and shell. As for myself, for the next couple of years, while I work on the conservation treatment of this monument, I will climb to access higher elevations of the towers, but with much less audacity and via a set of stairs that leads to a very secure platform. While access into the site is restricted due to our conservation activities, the Watts Towers Arts Center continues to offer tours to the public along the perimeter, outside the gates of the site.[2]

1. MA Conservation, UCLA, 2012.
2. www.wattstowers.org/tours/.

Visitors to the monument are often curious about my background and are surprised to learn that qualified conservators have gone through years of study and extensive hands-on training, and that most have obtained advanced degrees in conservation. For instance, I studied anthropology and archaeology for my BA and received my MA from the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials. My traditional, immigrant Asian parents were dubious about the practicality of this discipline and the many hours of unpaid internships. However, they may rest easy knowing that I am earning a living doing something I truly love.

Internships are an important component of the training of a conservator and a requirement for completion of the UCLA/Getty MA degree. In fulfillment of this requirement, I completed an internship at the Los Angeles County Museum of Art (LACMA). Upon my graduation, the internship turned into a fellowship, and I spent a couple of summers at Watts Towers with a UCLA/Getty Conservation Program–LACMA collaboration focusing on outreach to the local community. As part of this project, graduates from the conservation program mentored local high school students, and I was rewarded with the opportunity to share my love for art and preservation with teenagers from backgrounds not all that different from my own. Five years later, I am back at LACMA, working as a conservator at Watts Towers, and I still love what I do.

Watts Towers, which is part of the California State Parks system, is maintained through an agreement with the City of Los Angeles. In 2010 the city and LACMA entered into a contract to assess the condition of Watts Towers and develop a new protocol for the conservation and preservation of the monument. This phase of work was comprehensive and included reorganization of the archives, establishment of a



Figure 1. The Watts Towers in Los Angeles. The Los Angeles County Museum of Art, in partnership with the City of Los Angeles, has undertaken conservation of the three tallest towers, with an estimated completion date of 2020. (Photograph by Yosi Pozeilov, LACMA Conservation Center.)

monitoring program, and testing of treatment materials, in both laboratory and outdoor environments. The assessment and testing phase required a collaborative effort between conservators, conservation scientists, and engineers. In 2017 LACMA began the next phase of work, which is to carry out the treatment protocol on the three tallest towers, colloquially referred to as the East, Central, and West Tower.

What does a typical day look like when you are working on a National Historic Landmark, particularly one as magical as Watts Towers? In the morning, as I walk through the park to my office, I pass by the Watts Towers Arts Center, where tables are set up for an art camp while children from the local community are led through morning stretches in the park. Once on site, I may climb up on scaffolding to take photographs or use a tablet to record deterioration issues or areas of new repair. Next, I turn my attention to damaged areas on the towers, using power tools to carefully remove old, failing repairs to make way for new and longer-lasting conservation efforts. Blue skies and the warm California sun may be a draw for tourists, but the heat is highly detrimental to the longevity of a concrete monument like Watts Towers. Thermal stress causes cracks in the concrete, resulting in openings that allow the introduction of moisture to the underlying steel armature (Abazarsa et al. 2016). In the presence of moisture and oxygen, the steel armature corrodes, causing further cracking in the concrete. A major component of our current treatment campaign is to repair cracks and seal them from moisture, thereby interrupting this cycle of damage (Preusser et al. 2014). To visually integrate the repairs, we will either tone these areas by mixing in dry pigments or paint them with a conservation-grade paint system. Our goal is not to falsify the authenticity of Watts Towers. On the contrary, we spend a significant amount of



Figure 2. Lily Doan checks the stability of a glass fragment on the interior of the West Tower, one of the three tallest structures at Watts Towers. Conducting such a condition assessment is the first step in each repair. The information is subsequently recorded on a tablet and incorporated into the documentation of the conservation project.

time documenting each repair. Our goal is to ensure that when our treatment campaign is complete and the site is once again open to public tours, each visitor can experience the grandeur of the towers without being visually distracted by our intervention.

The development of cracks in the concrete also affects the stability of the ornamentation, which includes significant fragments of decorative Batchelder, Malibu, and Bauer ceramics. While the concrete serves to provide the overall shape and structure of the monument, the decorative ornamentation is the primary source of visual interest, making its preservation an important component of our treatment campaign. Therefore, on many days I sit down at a laboratory bench to work on ceramic, glass, shell, or stone fragments that require careful cleaning or repair before being placed back onto the sculpture.

The conservation treatment of the three tall towers is estimated to be a three-year project. However, many other structures at Watts Towers also require conservation attention. At this time, LACMA and the Los Angeles Department of Cultural Affairs are raising funds to continue the important work of preserving this significant monument. As for myself, as I go about my daily tasks as a conservator, perhaps serenaded by the sounds of an accordion player enjoying a fine Los Angeles day in the park, I hope that for generations to come, visitors can relish, as I have, the magic of Watts Towers.

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Figure 1. The June 14, 2018, PhD celebration of the Cotsen Institute of Archaeology. Left to right: Kristine Olshansky, Marissa Stevens, Lyssa Stapleton, Sarah Morris, Debby Sneed, Richard Ehrich, Carrie Arbuckle MacLeod, Kara Cooney (in back), Willeke Wendrich, Hans Barnard, Trevor van Damme, and John Papadopoulos.

Report of the Chair of the Archaeology Program

John K. Papadopoulos

THE PAST ACADEMIC YEAR, 2017–2018 was a banner year for the Interdepartmental Archaeology Graduate Program at UCLA. No fewer than nine of our students graduated and marched in the annual UCLA PhD hooding ceremony on June 14, 2018. They were (in chronological order): Evan Carlson (winter 2017), Trevor van Damme (summer 2017), Richard Ehrich (fall 2017), Lyssa Stapleton (fall 2017), Kristine Olshansky (winter 2018), Carolyn (Carrie) Arbuckle MacLeod (spring 2018), Debby Sneed (spring 2018), Chenghao Wen (spring 2018), and MaryAnn Kontonicolas (summer 2018). This was the largest number of graduates ever hooded in our program in one year. Three of the students focused on classical archaeology and Aegean prehistory (Kontonicolas, Sneed, and van Damme), three wrote dissertations on Chinese archaeology or artifacts (Ehrich, Stapleton, and Wen), and there was one student each focusing on subjects dealing with the ancient Near East, Armenia, and Egyptology. They were joined by Marissa Stevens, a newly minted PhD in Egyptology from the Department of Near Eastern Languages and Cultures. Many of our graduates were joined in our celebrations by their families and friends, and as chair of the program, I would like to take this opportunity to thank the families that stood behind our students. We also have a number of soon-to-be-finished PhDs waiting in the wings, and I look forward to reporting on them next year.

I also want to report on the current whereabouts of our recent graduates. Anke Heine (PhD 2013) is now an associate professor in Chinese archaeology at the University of Oxford (St. Hugh's College); Esmeralda (Alda) Agolli (PhD 2014) was recently tenured in the Department of Archaeology and Cultural Heritage at the University of Tirana (Albania); Brett Kaufman (PhD 2014) accepted a tenure-track assistant professorship in classics at the University of Illinois at Urbana-Champaign; Bethany Simpson (PhD 2014)

Report from the Chair of the Archaeology Program

(continued)



Figure 2. Left to tight (wearing academic gowns): Trevor van Damme, Marissa Stevens, Chenghao Wen, Debby Sneed, and John Papadopoulos.

was appointed a postdoctoral fellow at the Getty Villa; Sonali Gupta-Agarwal (PhD 2015) will be starting a postdoctoral position at UCLA, through a generous gift from Mr. Phil Shugar; Chelsey Fleming (PhD 2016) accepted a position as a researcher at Google; Christine Johnston (PhD 2016) was appointed a visiting instructor in the Department of History at Western Washington University; Kanika Kalra (PhD 2016) was appointed an assistant professor at the Jyoti Dalal School of Liberal Arts (India); Trevor van Damme (PhD 2017) has accepted a yearlong visiting assistant professorship at the University of Victoria; Ellen Hsieh (PhD 2017) accepted a position at National Tsinghua University in Taiwan; Benjamin Nigra (PhD 2017) is now a manager of multidisciplinary research at the Expert Institute; Carolyn Arbuckle MacLeod (PhD 2018) has obtained a one-year postdoctoral position at the University of British Columbia in Vancouver; MaryAnn Kontonicolas (PhD 2018) has accepted a position at Ex-Consultants Agency; Kristine Olshansky (PhD 2018) has been named director of the Armenian Archaeology Laboratory at the Cotsen Institute, with a postdoctoral fellowship; Tao Shi (PhD 2018) is now a tenure-track assistant professor at Sichuan University in China; Debby Sneed (PhD 2018) is a visiting assistant professor at Loyola Marymount University; and Chenghao Wen (PhD 2018) has received a job offer for a permanent research position at the Institute of Archaeology at the Chinese Academy of Social Science in Beijing. Please join me in congratulating our recent graduates. May this list of budding careers be our witness: archaeology matters greatly in our scrutiny of material culture, social structures, economic developments, and the intangible reality of past and present lives.

We welcome our incoming cohort of six graduate students, including four international students (in alphabetical order): Alba Menedez Pereda (from Spain, focusing on Andean archaeology with Stella Nair), Maryan Ragheb (from Egypt, studying Egyptology with Kara Cooney and Willeke Wendrich), Kellie Roddy (from California, who will work with Richard Lesure on the archaeology of Mesoamerica), Baisakhi Sengupta (from India, who will study the archaeology of the Indian subcontinent with Monica Smith), Zichan Wang (from China, who will work with Lothar von Falkenhausen and Li Min on Chinese archaeology), and Rachel Wood (from Florida, a classical archaeologist, who will study with Sarah Morris and myself).

The great success of the graduate students in archaeology at UCLA was in no small measure due to the assistance and support of student affairs officer Matthew Swanson. Matthew left the Cotsen Institute in August 2018 to pursue a PhD in English, here at UCLA, and will essentially become one of us. He was replaced by Sumiji Takahashi, whom we welcome. We wish both Matthew and Sumiji every success in this new phase of their lives.

Message from the Chair of the UCLA/Getty Interdepartmental Program in Conservation of Archaeological and Ethnographic Materials

William G. Roy[1]

THIS HAS BEEN A YEAR OF TRANSITION for the conservation program, learning how to manage without David A. Scott, the founding chair of the program and an indispensable component of our teaching, relationship with the university, and voice to the profession. Moving forward with an interim chair unfamiliar with the discipline is never easy, but I have enjoyed the guidance of our faculty and staff, as well strong support from Darnell Hunt, dean of social sciences, Scott Waugh, executive vice chancellor, Willeke Wendrich, director of the Cotsen Institute of Archaeology, and Tim Whalen, director of the Getty Conservation Institute. Willeke's support as director of the unit of which we are a part has been essential, and Tim's knowledge and wisdom have been especially important to make the UCLA–Getty relationship a true partnership.

Despite the uncertainty and teaching shortage, the program has had a successful year, with a cohort of first-year students that the faculty raved about, the effective placement of graduating master's degree students in important and coveted conservation jobs, impressive achievements by faculty, and effective progress toward hiring a faculty member to fill David's slot. (No one can take his place.) His courses were taught during the winter quarter by John Hirx, a conservator at the Los Angeles County Museum of Art, and in spring by Vanessa Muros, our laboratory manager. Students had the extra benefit of an intensive workshop on the technology and deterioration of metals taught by conservator Alice Paterakis (Figure 1). The afternoon laboratory sessions included metal-



Figure 1. First-year student Emily Rezes (left) and conservator Alice Paterakis examine the surface of an Ethiopian silver cross at a workshop on the technology and deterioration of metal.

1. Lore and Gerald Cunard Chair of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials.

lography; students got to polish, etch, and examine archaeological bronze samples. They also examined different types of metal artifacts to learn about corrosion and condition issues.

FACULTY NEWS

Emeritus distinguished professor David A. Scott retired to Hastings, UK, but continues to be active in a number of spheres. In the May 2018 issue of *Studies in Conservation* he had two articles published. One was on reproductions of *The Wedding at Cana* by Paolo Veronese (the original is displayed in the Louvre, while a high-quality replica is displayed in Venice) and *Bicycle Wheel* by Marcel Duchamp (the original is lost). A second article was on technical studies of Egyptian sarcophagi and mummies in the San Diego Museum of Man. The latter research had long been completed, but only in retirement did David find the time to write a comprehensive report. He is now working on a book on the metallography of ancient and historic metals, together with Roland Schwab, the foremost expert on the subject in Germany. This volume is scheduled to be published by Springer in 2019. David also organized a successful summer course on metallography and microstructure at the Hastings campus of the University of Brighton. This course has run since 1983, marking 35 years of teaching in the summer period. Reviews of his *Art: Authenticity, Restoration, Forgery,* published by the Cotsen Institute of Archaeology Press, are very positive, and he has begun work on a book dealing with art restoration, aimed to be finished in 2021.

In the past year, Ioanna Kakoulli returned to her faculty position, having served as chair of the UCLA/Getty Conservation Program for two consecutive terms (2011–2017) and as the Lore and Gerald Cunard Chair of Conservation in 2016–2017. During her tenure as chair, she matched the challenge grant of the Getty Foundation with $2 million and spearheaded the development of a PhD program on the conservation of material culture, which was approved in 2016 and is set to offer a new paradigm in conservation education and training. In 2017 she organized a pilot training workshop on issues pertaining to looted antiquities, the first in the western United States, for special agents and custom and border patrol officers, in collaboration with the Departments of State and Homeland Security. This workshop focused on the illicit trade of antiquities and established UCLA as a go-to resource for materials characterization for Department of Homeland Security (DHS) and FBI special agents. Ioanna has also helped efforts for the 2017 establishment of the Center for the Study of Hellenic Culture at the Division of Humanities at UCLA, after a gift by the Stavros Niarchos Foundation. Currently she oversees research of five PhD students and one master's degree student in the Materials Science and Engineering Department, her home department, as well as two students in the conversation program and one in the archaeology program. Ioanna also serves as a scientific consultant for UNESCO, an expert witness for DHS, and a scientific expert of the International Atomic Energy Agency.

Ioanna has consolidated and expanded research areas in archaeometry, conservation, and archaeological forensics. Her research efforts have created new national and international interdisciplinary collaborations and have yielded important peer-reviewed publications, including an article in *Scientific Reports* of the Nature Publishing Group. For this research she and John Delaney, a senior imaging scientist at the National Gallery, used a combination of hyperspectral diffuse reflectance, luminescence, and X-ray fluorescence to produce a detailed analysis of a second-century Greco-Roman Fayum portrait. They are the first to use this specific combination—known as macroscale multimodal chemical imaging—to examine an ancient work of art (Figure 2). This approach enabled them to learn about the raw materials used by the artist and the operational steps of the production, both the pigments and the making of the painting. It revealed insights about ancient technology and connections of the art of painting with other chemical arts of the period, as well as the life of people in Hellenistic Egypt.

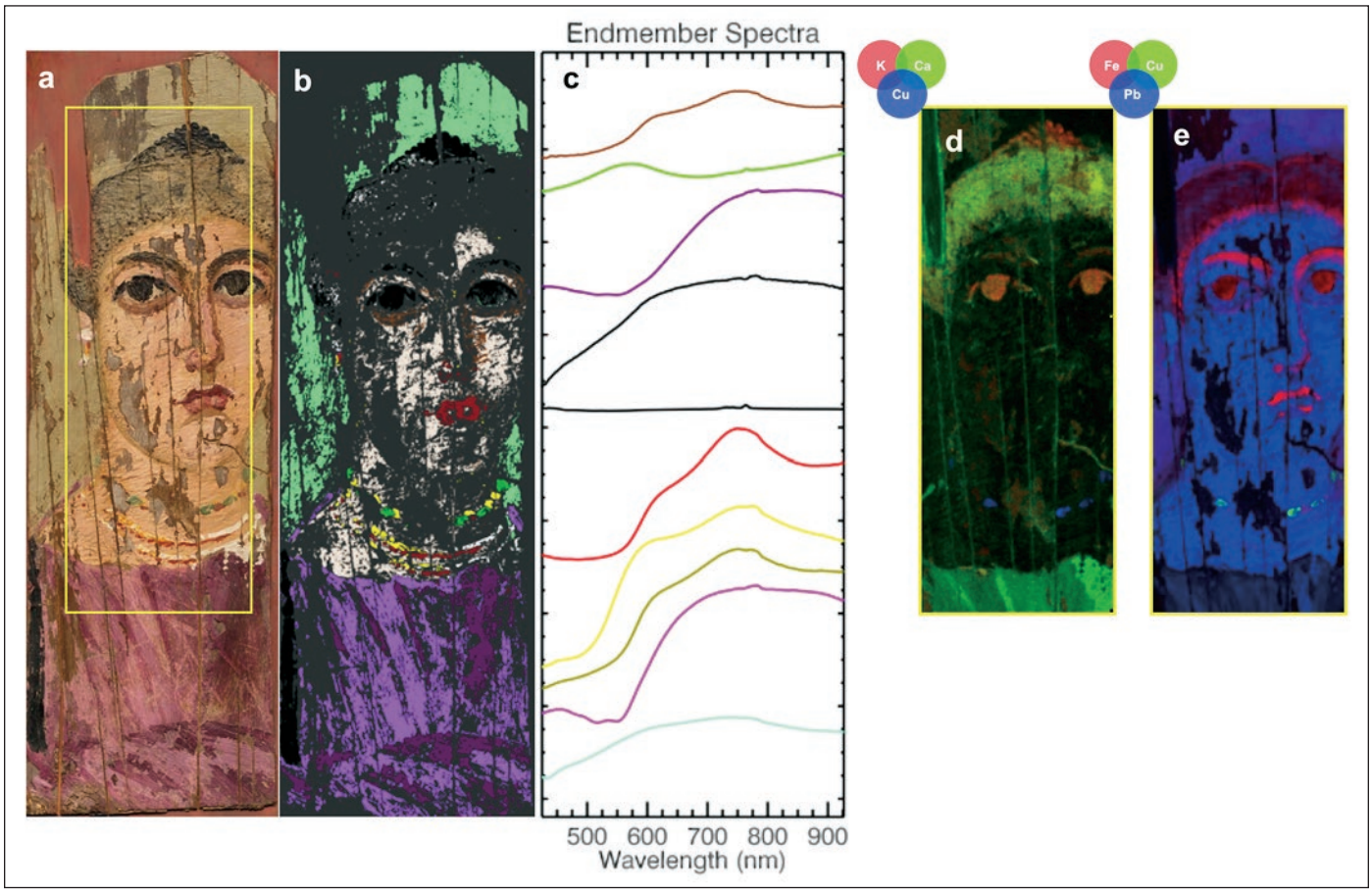


Figure 2. An original painting at the National Gallery of Art (far left), along with images made using hyperspectral diffuse reflectance, luminescence, and X-ray fluorescence.

During the past year, Ellen Pearlstein has worked to deepen her understanding of the roots of global indigenous participation in preservation practices, to focus on financial and racial inequity in the conservation profession, and to share expertise in the conservation of featherwork along with the important roles of object significance and environmental sustainability in conservation decision making. She continues to be committed to strengthening the role of UCLA in professional conservation and preservation leadership by maintaining a large network and promoting the visibility of her accomplishments and those of her students. In summer 2017 Ellen arranged to work with master craftsperson Naho Murata to learn how to make Japanese paper. She also received numerous invitations to engage in teaching and lecturing this past year. She was invited to Lima, Peru, to advise on the development of graduate education in preventive conservation; to Berlin, Germany, to an experts' meeting on South American featherwork; and to the School for Advanced Research, Indian Arts Research Center, to participate as a panelist for "Lighting a Pathway: Community + Museum Guidelines for Collaboration," part of the 110 Years at SAR: Preservation, Policy, and Thought Leadership series. She organized a panel entitled "Diversifying Conservation in the U.S.: What's Happening Now" at the 2018 Annual Meeting of the American Institute for Conservation. In 2017 she published an edited volume with the title *Conservation of South and Central American Featherwork*, which has been well reviewed, and she is hard at work on *Readings in Conservation: Conservation and Stewardship of Indigenous Collections; Changes and Transformations*, to be published by the Getty Conservation Institute. Other publications include two technical articles about pigments found on Andean wooden vessels known as *qeros*. These focus on how the white and red pigments used in their decorations may be indicative of their date of production. Ellen looks forward to planning the annual meeting of the Association of North American Graduate Programs in Conservation, to be hosted by the conservation program in April 2019, and to continuing her work as president of that organization.

Report from the Chair of the UCLA/Getty Interdepartmental Program

(continued)



Figure 3. Students of the UCLA/Getty Conservation Program graduating in the summer of 2018. Left to right: Vanessa Muros (laboratory manager), Mari Hagemeyer, Hayley Monroe, Marci Burton, Michaela Paulson, Lindsay Ocal, and Morgan Burgess.

STUDENT NEWS

The 2017–2018 academic year was exciting for our students. In the fall we saw the arrival of a new cohort of students embarking on their graduate degrees in conservation. With the graduation of the class of 2018, the program has reached a total of 44 conservation graduates since its inception in 2005. Our third-year students returned to the Getty Villa in June 2018 to give their final presentations, based on work done for their theses, as well as summaries of the work they undertook during their third-year internships (Figure 3).

MORGAN BURGESS MA THESIS: "Digitizing Conservation: An Approach to Reconstruction and Loss Compensation Using Digital 3D Technologies"; third-year internship sites: Fowler Museum at UCLA and the Museum of Fine Arts, Houston. This past summer Morgan started a Kress Fellowship at the Smithsonian National Museum of American History and has been working in the objects laboratory on several different collections, both objects that require treatment and objects to go on display and loan. She also does research on the early sound collection of the museum, consisting of some the oldest cylinder recordings. She studies deterioration mechanisms—the migration of fatty acids and solids from the proprietary wax mixtures and fungal growth—to test methods for preventing and undoing deterioration of the recordings and to select candidates for audio recovery in collaboration with the Library of Congress using IRENE/3D.

MARCI BURTON MA THESIS: "A Technical Study of a Pre-Columbian Chilean Child Mummy Bundle from Arica, Chile"; third-year internship sites: Yosemite Museum and the University of Pennsylvania Museum of Archaeology and Anthropology.

MARI HAGEMEYER MA THESIS: "Exploratory Investigations into the Effectiveness of a Novel Treatment for Denatured Leather and Skin Materials"; third-year internship sites: Portland Art Museum and the Maryland Archaeological Conservation Laboratory.

HAYLEY MONROE MA THESIS: "Conditioning Basketry Elements with Water and Ethanol: An Investigation into the Effects of Existing Conservation Methods"; third-year internship sites: Yosemite Museum and the Museum of Anthropology at the University of British Columbia. Since graduating, Hayley has been exploring how to evaluate a museum collection for toxic materials at the Museum of Vancouver. Objects can encounter or contain a wide range of toxic hazards: pesticide-treated textiles, heavy-metal pigments, poisonous botanical extracts, and radioactive radium paint. These hazards pose a variety of risks to conservators and anyone else handling these objects. Hayley and her colleagues were able to develop a straightforward and eye-catching labeling and database flagging system, as well as a manual to train museum staff on the safe handling of such objects.

LINDSAY OCAL MA THESIS: "Materials, Technology, and Conservation of Ceramic Vessels from the Site of Amapa in Nayarit, Mexico; third-year internship sites: archaeological exploration of Sardis and the American Museum of Natural History. Lindsay spent the summer working for the Harvard–Cornell Joint Archaeological Expedition to Sardis in western Turkey. The 2018 season focused on the cleaning and stabilization of a Roman mosaic pavement and wall paintings, as well as conservation of smaller finds, including bronze arrowheads, coins, iron implements, ceramics, and glass objects. In September, Lindsay attended the Annual Meeting of the Western Association for Art Conservation at the Ghost Ranch Education and Retreat Center in Abiquiu, New Mexico. There she participated in the Angels Project at the Ruth Hall Museum of Paleontology and also presented "A Mask on the Move: Analysis and Treatment of an African Mask for Traveling Exhibition."

MICHAELA PAULSON MA THESIS: "The Visible Effects of Adhesives and Pressure on Color in Kingfisher Feathers; third-year internship sites: Historic Architecture, Conservation, and Engineering Center, National Park Service; Yale University Art Gallery; and the Michael C. Carlos Museum. Michaela also served as assistant conservator at the American Museum of Natural History in New York. For at least the next year she will work on objects to be installed in the Northwest Coast Hall, which will reopen in 2020 after significant renovations.



Figure 4. Third-year student Lindsay Ocal examines a mask from the Bobos people of Burkina Faso belonging to the collection of the Connecting Cultures Mobile Museum. Lindsay presented the treatment at the 44th Annual Meeting of the Association of North American Graduate Programs in Conservation.

First-year students Austin Anderson and Emily Rezes presented "Analytical Imaging, Visualization, and Interpretation of a Byzantine Icon," a project they completed with archaeology graduate student Karime Castillo at the 44th Annual Meeting of the Association of North American Graduate Programs in Conservation, hosted by the Department of Art History and Art Conservation at Queen's University in Kingston, Canada, April 5–7, 2018. At the same meeting Lindsay Ocal presented "A Mask on the Move: Analysis and Treatment of an African Mask for Traveling Exhibition" (Figure 4). First-year students gave two presentations in the lightning round: Elena Bowen presented "Examination and Treatment of a Vejigante Mask," and Skyler Jenkins presented "Analysis and Treatment of an Ipu Heke."

In February 2018, students worked with Getty Museum conservator Jeff Maish to create X-ray images

Report from the Chair of the UCLA/Getty Interdepartmental Program

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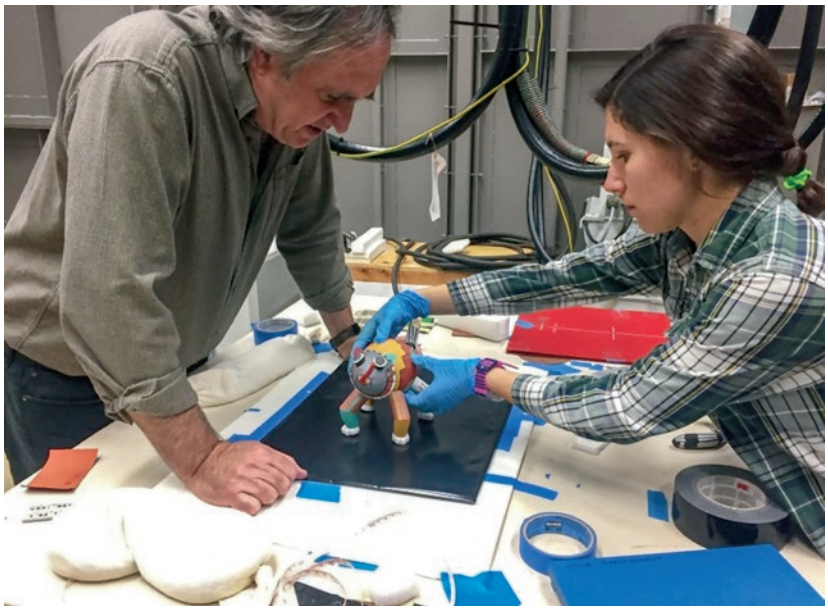


Figure 5. J. Paul Getty Museum antiquities conservator Jeff Maish (left) and first-year student Megan Salas prepare to create an X-ray image of a painted gourd sculpture owned by Zena Pearlstone (February 2018).

of the wood and gourd objects undergoing treatment during the winter quarter (Figure 5). Students also conserved wooden objects from the collection of the Connecting Cultures Mobile Museum, which takes diverse collections out to LAUSD middle schools to teach cultural tolerance

During the summer, the class of 2020 took off for their summer internships. They worked at museums and archaeological sites worldwide:

- Austin Anderson at the Yosemite Museum (Yosemite National Park) and the Royal Museum for Central Africa (Tervuren, Belgium)
- Elena Bowen at the Fowler Museum at UCLA and the Corral Redondo Project (Iquipi, Peru)
- Kasey Hamilton at the Stone Conservation Workshop, National Museum of Cambodia (Phnom Penh, Cambodia)
- Skyler Jenkins at the Villa Romana di Poggio Gramignano excavations (Umbria, Italy), at the Tayinat Archaeological Project (Antakya, Turkey), and in Nea Paphos, Cyprus, to participate in a study of ancient Cypriot wall paintings
- Emily Rezes at the Pachacamac Site Museum (Lima, Peru)
- Megan Salas at the Laboratory of Archaeometry, University of the Peloponnese, and the Archaeological Museum of Messenia (Kalamata, Greece)

Another exciting development for the IDP was the approval for our new PhD program on the conservation of material culture, to be offered along with the existing MA program. The program will start in the 2019–2020 academic year, with applications being accepted in December 2018. Find more information on the PhD and MA programs and other news from the Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials at http://conservation.ucla.edu.

ALUMNI NEWS

Casey Mallinckrodt organized a very successful and memorable reunion of our program in June 2018. Alums from all classes were in attendance. They gave lighting-round presentations on current projects and discussed plans for a publication to share the research presented.

OUTLOOK

Our outlook is upbeat as the conservation program sets out on a new phase of its development, hiring the first new faculty member since its inception and embarking on a PhD program. The finalists for the new faculty position are all very impressive, both as practicing conservators and as contributors to the field. The PhD program will make UCLA the national leader in the field of conservation. Our affiliation with the Cotsen Institute of Archaeology and solid working relationships with the archaeology PhD program enhance both our teaching and our scholarship and help propel us into an even brighter future.

Incoming Graduate Students

Willeke Wendrich



ALBA MENÉNDEZ PEREDA, originally from Madrid, Spain, received a BA in archaeology and ancient civilizations from Durham University (UK) in 2016. In 2017 she graduated with an MPhil in archaeology from the University of Cambridge. In her master's dissertation, she discussed the evolution of Aztec funerary practices until the Spanish conquest and early colonial period. Alba has participated in numerous research projects covering various cultures and time periods, conducting fieldwork in England, Italy, and Spain. Before joining the Cotsen Institute, she worked in a commercial archaeology unit in England. Alba's primary research interests include the archaeology of colonialism and postcolonial theory, identity, cultural exchange, and the development of syncretic practices in the Americas. At UCLA, under the supervision of Stella Nair, Alba will research imperial Inca funerary practices in the Inca heartland to discern how these evolved during the early colonial period.



MARYAN RAGHEB was born in Egypt. She received BAs in both Egyptology and business administration, with a concentration on management of information systems, from the American University in Cairo. With a fellowship from the Selz Foundation, she continued at the same university to obtain an MA in Egyptology. Her thesis focused on mummy portraits and the regional variation between workshops manufacturing such portraits. During her studies, Maryan joined several research projects of her professors and also joined excavation projects in Aswan, Luxor, and Saqqara. During her work with a German archaeological project on Elephantine Island near Aswan, she was introduced to settlement and workshop archaeology. Since that time, Maryan has been primarily interested in workshop production from an economical and logistical standpoint, a topic she hopes to investigate further at the Cotsen Institute. For the past two years, Maryan has been working as a research assistant for Zahi Hawass, helping him with several writing projects, most recently the catalog for the *Tutankhamun: Treasures of the Golden Pharaoh* exhibition. She has also worked as an assistant curator for this exhibition, which premiered at the California Science Center in Los Angeles.



KELLIE RODDY
earned BAs in both archaeology and the history of art from Brown University in 2015. After graduation, she served in cultural resource positions in projects in Arizona, California, and New Mexico. Some of these were private projects; others were administered by the U.S. Forest Service. Her duties allowed Kellie to expand her survey and excavation skills while providing her a broad familiarity with fieldwork and with topics ranging from San Diego shell middens to southern New Mexico Jornada ceramics. In addition to projects in the American Southwest, Kellie participated in the Proyecto Arqueológico Busilja-Chocolja in Chiapas, Mexico, and directed excavation crews at the Mayan site El Infiernito, located across the border from the dynastic Mayan city of Piedras Negras, Guatemala. Next, she expanded her experience into Peru, assisting the Proyecto Arqueológico del Valle de Andagua with ceramic analysis and mapping ancient roads and paths. Most recently, Kellie conducted laboratory work at the site of Guachimontones in the Mexican state of Jalisco, focusing on the analysis of pre-Classic pottery. Kellie is interested in expanding her knowledge of pottery production techniques and the technical analysis of pottery. She plans to focus on the archaeology of western Mexico, specifically examining the rise of social differentiation in early Classic Mesoamerican sites and the development of household and political organization in pre-Hispanic Mesoamerica.



BAISAKHI SENGUPTA
is a native of India. After completing her BA in history at Hindu College, University of Delhi, she received her MA and MPhil in ancient history and archaeology from Jawaharlal Nehru University in Delhi. Baisakhi is interested in exploring the archaeology of medieval northern India, with a focus on the representative aspects of terra-cotta figurines, the emergence of warrior and horse imagery, and entangled processes of the birth of urban life in this region. In her MPhil dissertation, "Embodied Materiality: Crafting Human and Animal Figurines in Medieval North India," she studied miniature figurine collections from the sites of Lalkot and Chandravati in northern India. Her work revolves around themes of materiality, representation, gender, ethnicity, and religion, and she looks forward to developing these themes further at UCLA. She has participated in well-known archaeological projects in India, including the Indus Valley sites of Karanpura and Rakhigarhi and the medieval site of Chandravati. For her doctoral work, she most recently engaged in fieldwork and recording of terra-cotta sculptures at Pir Panjal Valley in the Jammu region of India. Her background in history and archaeology have brought her diverse work opportunities, such as projects in the National Museum in Delhi digitizing artifacts and paintings, transcribing and documenting nineteenth-century documents from colonial America, and mapping historical monuments from the erstwhile state of Kapurthala in Punjab. Baisakhi has a keen interest in projects that help introduce archaeology to young children and that make it fascinating for them in experiential ways.



ZICHAN WANG
is from Jinan, Shandong, China. She obtained her BA and MA in archaeology at Shandong University. Her study in China mainly focused on the Bronze Age. During her first year of graduate education, she visited Tel Aviv University to study biblical archaeology, especially in the Iron Age. During the past four years, Zichan has participated in excavations in Daxinzhuang and Yangguanzhai in China and Megiddo in Israel. Currently she is interested in the transitioning period between the late Neolithic and the early Bronze Age in China, a period that is critical to understanding the emergence of civilization. At the Cotsen Institute, she plans to explore this issue from a comparative perspective.



RACHEL WOOD
obtained a BA in classical archaeology and anthropology from Florida State University in 2016 and an MA in classical archaeology from the same institution in 2018. Although most of her course work concentrated on Roman and Greek archaeology, she became interested in the peripheral cultures of the classical world, including Iron Age France and the Black Sea. Her master's thesis, under the supervision of Nancy de Grummond, explored head-hunting ritual and the display of severed heads in the Lower Rhône Basin of Iron Age France. For two seasons she worked as a trench supervisor at Cetamura del Chianti, an Etruscan settlement in Italy, under the direction of de Grummond. During her MA studies, she was a program assistant at Cetamura del Chianti, working through Florida State University International Programs. She was responsible for managing student affairs and teaching the participating undergraduate students archaeological field techniques. Rachel also participated in archaeological outreach programs, teaching visually impaired children the fundamentals of archaeological excavation and laboratory techniques. Her interests are head-hunting, warfare, and cultural change and stagnation in ancient Gaul and Scythia because of Greco-Roman interaction and conquest.

The Steinmetz Outreach Program

Each year, graduate students in the Cotsen Institute participate in outreach programs, because we want to share our passion for archaeology and also to meet a requirement of the travel funding made available through the generous support of Charlie Steinmetz. We attend school fairs and community days or work with teachers as part of their scheduled programming. We talk to young students about archaeology, share stories from the field, and give them the opportunity to handle a teaching collection of artifacts. This year we were particularly interested in establishing relationships with new schools and outreach organizations. We now have arrangements with around 20 elementary schools in the Los Angeles area, and we plan to increase this number this year. We also began what we hope will be a regular partnership with the nonprofit organization 826LA.



Figure 1. Cotsen graduate student Jacob Damm works with a student at the Mar Vista location of 826LA.

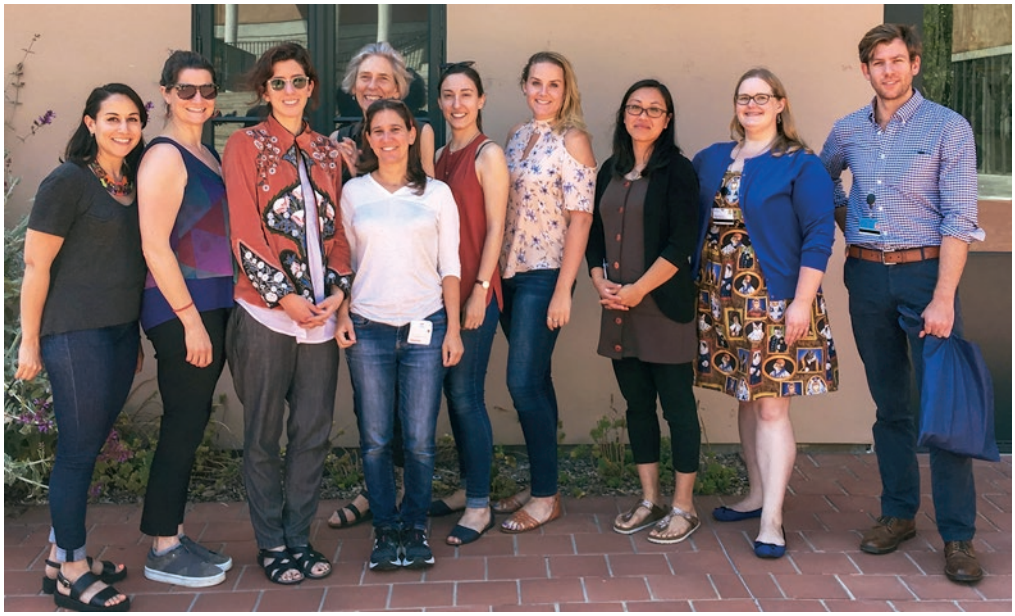
826LA is dedicated to supporting students with their creative and expository writing skills. This year we were able to visit its locations in Mar Vista and Echo Park. We worked with the group to create the workshop Adventures in Archaeology. As part of this program, archaeology graduate students presented stories about their work and introduced students to the science of archaeology and material analysis. We then helped students produce short stories: imagining themselves as archaeologists in the field, as ancient individuals, or even as ancient objects. The students were very creative, and we were delighted to hear their stories about, for instance, a self-reflective gladiator tired with his lot in life and the adventures of animated archaeological tools. We hope to repeat this workshop each quarter for the foreseeable future.



Figure 2. Cotsen graduate students and 826LA students study artifacts at the Mar Vista location.

Working with school groups is not just beneficial for the students. It also helps remind us how amazing archaeology is. It is not simply an academic field where we debate the minutia of material remains and ceramic typologies. It is a career where we explore what it means to be human. It takes us out into the field to discover new areas of the world, and it brings us into contact with diverse peoples. Outreach opportunities require us to rethink how we communicate with nonspecialists and build on our presentation skills. When we work with students, the excitement we feel for archaeology is reflected back to us in the enthusiastic responses of the next generation. Whether they grow up to become archaeologists or end up in another profession, we want to stimulate in them a love for the past and for archaeology. It is a necessary reminder for us all, as sometimes our own enthusiasm gets buried by the pressures of being in this highly competitive field.

— Caroline Arbuckle MacLeod



Alumni of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials squint into the setting sun during their first reunion in the Getty Villa. Left to right: Alexis North (2014), Brittany Dolph Dinneen (2014), Caitlin Mahony (2014), Casey Mallinckrodt (2014), Lauren Horelick (2010), Haley Monroe (2018), Michaela Paulson (2018), Lily Doan (2012), Lindsay Ocal (2018), and Tom McClintock (2016).

Alumni of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials Come Together for Their First Reunion

The first reunion of alumni of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials took place June 8–9, 2018, at the Getty Villa, where the conservation laboratories are located. As the conservation program enrolls a new class only every other year and entails two years in residence and a third year of internships, there are limited opportunities for successive classes to interact. This reunion was planned to bring together graduates, current students, and the graduating class to learn about one another's work and to make personal and professional connections.

The first class of the conservation program graduated in 2008. and there are now 38 alumni. One of these is currently pursuing a PhD; all others work as conservators. About one-third of these attended the reunion, traveling to California from seven states. Others attended electronically. On the first day, alumni joined the current students and their families to attend the final presentations of the graduating class. Both graduating students and alumni gave brief presentations on their work. In the afternoon they worked together on preparing a joint publication.

Lily Doan (2012) talked about her work on the Watts Towers in Los Angeles, quoting professor emeritus David Scott with her title "Rust Never Sleeps." Brittany Dolph Dinneen (2014) presented on her work in the Carlos Museum in Atlanta. Caitlin Mahony (2014) talked about her work at the Metropolitan Museum of Art in New York, and Tom McClintock (2016) talked about his work at the Getty Conservation Institute. Alexis North (2014) reported on the work of several UCLA/Getty graduates at the conservation department of the University of Pennsylvania Museum of Archaeology and Anthropology, including Molly Gleason (2008) and Tessa de Alarcon (2012). Özge Gençay-Üstün (2008) participated remotely with a presentation on her work in the Autry Museum of the American

Their First Reunion

(continued)

West and the Resources Center of the Autry in Los Angeles. I spoke about the technical analysis of historic arts of Africa at the Virginia Museum of Fine Arts.

Interim chair William Roy and faculty members Ioanna Kakoulli, Ellen Pearlstein, Vanessa Muros, and Christian Fischer, as well as former administrator Amber Cordts-Cole, attended the presentations. Pearlstein provided a fascinating overview of the program history and a discussion of the new PhD program.

The reunion was a great success, and we owe thanks for support to the Getty Foundation and the leadership of the conservation program. We look forward to the second reunion, planned to take place in 2020.

— Casey Mallinckrodt

Urban Animals Past and Present: A UCLA Workshop

When cities were first developed, around 6,000 years ago, they presented new constraints and opportunities for animals as well as humans. In cities, people had many exciting new possibilities related to jobs and entertainment, but they had to get used to getting food from a distance instead of keeping a whole harvest of provisions under the roof of a hut as they could in villages. Animals faced the loss of habitat, but some species gained advantages in the landscape of built environments that could shelter larger populations of pets, pests, and predators. With cities increasing in both population size and area, a consideration of urbanism as an anthropogenic environmental niche provides the opportunity to evaluate theories and methods to integrate the past, present, and future of urban animal studies.

On October 20, 2018, a group of archaeologists and biologists came together for a one-day workshop entitled Urban Animals Past and Present, cosponsored by the Cotsen Institute of Archaeology, the Navin and Pratima Doshi Chair in Indian Studies, the UCLA Office of Interdisciplinary and Cross Campus Affairs, and the UCLA departments of Anthropology, Ecology and Evolutionary Biology, and Urban Planning. A morning session featured current graduate research with discussions and critiques of dissertation proposals by three distinguished guests: Judy Stamps, a biologist from the University of California–Davis; Levent Atici, an archaeologist from the University of Nevada–Las Vegas; and Ian



Figure 1. Cows in the streets of Delhi, India, circa 1996. (Photograph by Monica L. Smith.)



Figure 2. A goat wearing a sweater, India, 2017. (Photograph by Steven Ammerman.)



Figure 3. Participants in the 2018 Urban Animals workshop. (Photograph by Monica L. Smith.)

MacGregor-Fors of the Institute of Ecology in Veracruz, Mexico. In the afternoon the guests delivered their own lectures to an engaged audience, and discussions continued through an evening reception and dinner.

The workshop presenters focused on the variety of living species found in urban environments: domestic companion animals such as dogs and cats and domestic herd animals that are a source of meat; wild animals that live on the outskirts of expanding urban areas and in the interstices of human habitations; opportunists that thrive on the trash-rich environmental niche of the city, such as opossums, coyotes, and rats; feral animals that slip in and out of human control amid parks and buildings; and invasive species that colonize cities and find a comfortable habitat there far from their native places.

Researchers discussed the archaeological study of cities in which the balance of wild versus domestic animals reflects the changing role animals play in the urban space as ideologies and identities shift over time. For example, in the ancient urban site of Sisupalgarh in eastern India, the types of animals used by humans in the city seem to have changed in response to the widespread adoption of Buddhism after the third century BCE, in light of a new ethos of nonviolence toward living things. As new features emerged in urban physical and social landscapes, animal populations responded in other ways as well, incrementally creating and modifying ecosystems that were intrinsically reliant on urban and human inputs.

Trajectories observed in the archaeological record continue into present-day examples. One of the most remarkable revelations by workshop participants was that animals are continually colonizing new territories by expanding into urban settings where they had not been seen previously. Red foxes are expanding their network in Britain, coyotes are moving into urban centers in the United States, and many different native and nonnative birds are colonizing urban areas throughout the Americas. In Los Angeles, for instance, birds known as dark-eyed juncos only started to move onto the UCLA campus starting 15 or 20 years ago, but they are now ubiquitous. More evident as invasive species are the parrots that can be found noisily roosting throughout the city in increasing numbers.

Studies such as those presented enable us to be more realistic and thoughtful about dynamic adaptive processes in the past. In ancient times, when the boundary between urban and rural was more porous, we are likely to see variability in faunal assemblages as the result of animal mobility and choice making, and not just the result of direct human interference. In turn, the study of ancient cities encompasses a perspective on human–environmental dynamics over the long term in ways that can help us make sense of the present and future of an urban life in which cities are expected to become long-lived entities all over the world.

— *Monica L. Smith and Steven Ammerman*

Friends of Archaeology Events

Friends of Archaeology (FoA) dinner lectures bring together members and potential members in an informal setting to listen to presentations on a wide variety of archaeological subjects. The programs, including hors d'oeuvres and wine before the dinner and lecture at the Faculty Center, provide ample opportunity to mingle with Cotsen Institute faculty and fellow guests (Figure 1). Starting in 2018, these programs were recorded, and they will be made available through our website to FoA members in the near future.

The series started on October 3, 2017, with "Cuisine and Cooking at the Crossroads of Civilization: New Discoveries from Iraqi Kurdistan," presented by Alan Farahani, at the time a postdoctoral scholar at the Cotsen Institute (Figure 2). Dr. Farahani spoke of the archaeological site of Kani Shaie on the border between Mesopotamia, in present-day Iraq, and the Zagros Valley in modern Iran. The area has been home to different communities for six millennia and has witnessed some of the first cities, states, and empires in the world. Archaeological research using high-resolution scientific techniques to recover plant and animal remains helps us understand changes that impact people in an important place: on their plates. This talk presented archaeological discoveries and changing culinary practices in the 6,000-year-long history of the site.

On January 16, 2018, Susan Phillips of Pitzer College (Claremont, California) presented a program on "Vertical Archaeology, Horizontal Stratigraphy: A Century of LA Graffiti" (Figure 3). Her lecture combined elements of ethnography and archaeology and incorporated art historical concerns with philosophical and social aspects of art. Using graffiti to investigate the present and the



Figure 1. Friends of Archaeology members and potential members enjoy dinner with faculty and staff of the Cotsen Institute during the event on January 16, 2018.



Figure 2. Alan Farahani takes samples for archaeobotanical research at the site of Kani Shaie in Iraqi Kurdistan.

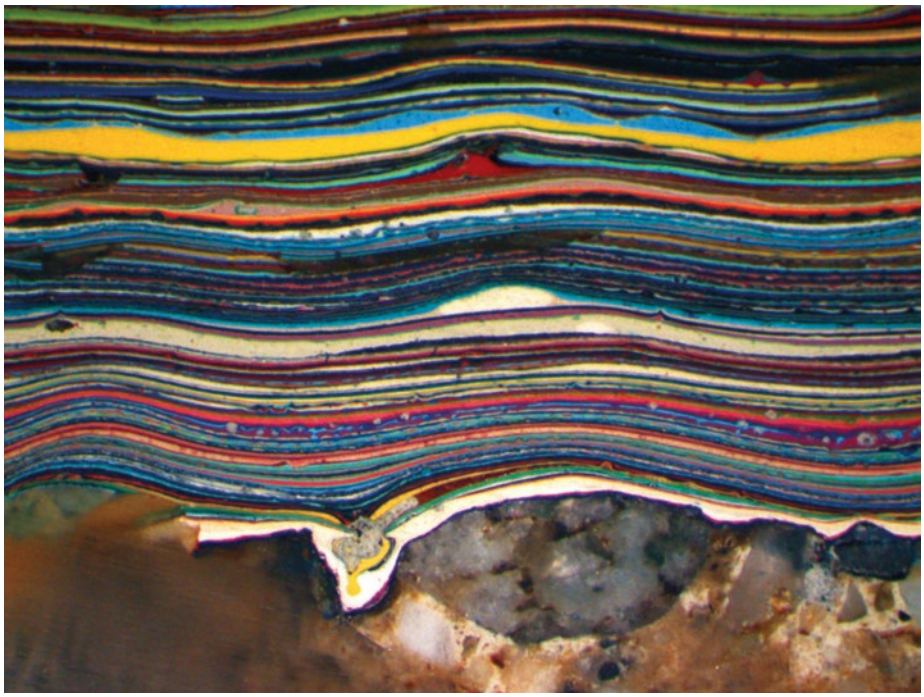


Figure 3. Micrograph of the various layers of graffiti at a much-decorated site in Los Angeles.

recent past, she examined how people inscribe vernacular history on the built environment with paint, chalk, charcoal, pencil, rocks, and sometimes railroad tar. Looking at communities as diverse as hobos, children, gay men, and Hollywood workers, she demonstrated how marginalized individuals use illicit representations to connect themselves to the built environment and, in the process, create ties between the landscape, cultural memory, and social life.

At our third dinner lecture, on April 17, 2018, we had two speakers: Laura Maccarelli and Megan O'Neill, both from the Maya Vase Research Project at the Los Angeles County Museum of Art (LACMA). The title of their joint presentation was "How Many People Does It Take to Understand a Maya Pot?" They presented the collaborative project conducted by LACMA curators and conservation scientists, which combines historic analysis and materials studies to understand ancient Maya ceramic vessels in the LACMA collection (Figure 4). They discussed their research methods and presented selected results of their innovative interdisciplinary exchanges.

On April 7, 2018, we went to the Santa Barbara area for a day on the indigenous Chumash people. Jan Timbrook, curator of ethnography at the Santa Barbara Museum of Natural History, presented a lecture on the Chumash and showed us a newly discovered large basket. She then took us to see some of the material that is not currently on display. This was a great privilege and very interesting, especially in combination with the broad knowledge of Chumash ethnobotany imparted by Dr. Timbrook. We then drove to Painted Cave, a Chumash site in the mountains above Santa Barbara, where we got a good look at the paintings in the cave.

— Jill Silton



Figure 4. Combined photograph and X-ray image of a Maya vessel in the collection of the Los Angeles County Museum of Art. Note the ceramic balls in the foot of the vessel

COTSEN COMMUNITY EVENTS

Friday Seminars



During the 2017–2018 academic year, the Cotsen Institute of Archaeology again hosted a diverse group of archaeologists and other scholars who work in the field of cultural heritage. The fall quarter began with a presentation by Norman Yoffee of the University of Michigan. He discussed novel perspectives regarding ancient trade, with a focus on the old Assyrian Empire. The second talk was given by Christopher Witmore from Texas Tech University, who explored the concept of time in antiquity and proposed an alternative theory of time. We were also visited by Ridha Mounmi, from L'Institut de recherche sur le Maghreb contemporain, who shared his research regarding antiquarianism, diplomacy, and politics in nineteenth-century Tunisia. The following talk was offered by Lorenzo d'Alfonso, from New York University, who explored the period of experimentation that followed the Hittite Empire. The next talk was given by Marcos Llobera, from the University of Washington, who showed how different digital tools are used to explore landscape and societal changes in Mallorca from the Late Bronze Age to the medieval period. We learned about new findings in the Maya area made possible by LiDAR in a talk presented by Thomas Garrison from Ithaca College. The final talk of the fall quarter was given by Olivia Navarro-Farr, from the College of Wooster, who shared her research about Kaanul women and their political legacies at the Classic Maya city of El Peru-Waka' in Guatemala.

During the winter 2018 quarter, the Friday seminars featured a new start time of 3 p.m. We kicked off the quarter with Doug Bailey (professor of visual archaeology and graduate coordinator, San Francisco State University) and his talk "Destroying the Archive: Sex, Racism, Image, and Contemporary Archaeology." He utilizes archaeological methods to "excavate," record, and archive contents of boxes found in storage. Federico Buccellati (Freie Universität Berlin) discussed "Perception in Palatial Architecture: The Example of a Turkish Palace." His wife, Maria Gabriella Micale (Freie Universität Berlin), presented a project titled "Assyrian Architecture between Bricks, Images, and Words." David Fredrick (associate professor of classical studies and director of humanities, University of Arkansas) presented "Data Games: Cognitive Mapping in Ancient Pompeii" as part of a critical archaeological gaming workshop. In lieu of a Friday seminar on February 2, Kent Lightfoot gave the keynote address for the Archaeology Graduate Student Conference. Justin Walsh (associate professor of art history and archaeology, Chapman University) presented research on space exploration and the lives of astronauts in space in "The Past, Present, and Future of Space Archaeology." Miriam Stark (anthropology professor and director of Southeast Asian



Miriam Stark of the University of Hawai'i at Mānoa shares her research in Cambodia in the newly decorated seminar room. (Photograph by Maddie Yakal.)

studies at the University of Hawai'i at Mānoa) shared her research in Cambodia with "Khok Thlok, Cosmology, and Angkor as a Hydraulic City." Mark D. McCoy (associate professor, Anthropology Department, Southern Methodist University) finished off the quarter with his talk "Island Kingdoms of Ancient Hawai'i."

Four speakers rounded out the Friday lecture series in the spring quarter. Giorgio Buccellati of UCLA, founding director of the Cotsen Institute, addressed fundamental issues of the theoretical discourse in archaeology, with particular attention to the structural, digital, and philosophical aspects of the excavated record and how each of these aspects relates to the others. His talk was titled "A Critique of Archaeological Reason," after his recently published book. Stratos Stylianidis of Aristotle University of Thessaloniki explained in his lecture the protocols that are currently in place for recording and documenting cultural heritage and introduced new methods being developed for 3D modeling and digital recording of cultural heritage. His presentation was titled "Tools, Processes, and Systems for Cultural Heritage Documentation in Archaeology." The third presentation of the quarter was by Mohamed Ali of the American Sudanese Archaeological Research Center. In his talk, "Sociopolitical Structure and the Regeneration of the Meroitic State between the 5th Cataract and Khartoum," he argued against mainstream scholars on how the nature and the manifestation of Meroitic sociopolitical power changed during and after the collapse of the Meroitic state. The final speaker of the year was John Baines of the University of Oxford, who presented "Watery Landscapes in Ancient Egypt: Their Depiction and Why They Mattered." This talk shed new light on the fundamental importance of the region of the Nile Delta in Egyptian religion and ideology.

— *Brandon Braun, Karime Castillo, Gazmend Elezi, Michael Moore, Vera Rondano, and Maddie Yakal*

Pizza Talks

The Pizza Talk lecture series in 2017–2018 included speakers from many different specializations. For the first Pizza Talk of the fall 2017 quarter, Debby Sneed (recent graduate of the Cotsen Institute) used both literary and archaeological evidence to discuss "Disability and Age in Ancient Greece." Luo Di (postdoctoral fellow, Center for Global Asia, Shanghai) then gave a stimulating introduction to digital methods used in analyzing ancient Chinese architecture, titled "Digital Buddhism: 3D Modeling and Photogrammetry in the Study of Chinese Buddhist Architecture." In "Interlaced Scrolls and Feathered Banners: Markers of Culture in Teotihuacan (or, Whose Marcador Is It, Anyway?)," Matthew Robb (chief curator, Fowler Museum, UCLA) suggested innovative avenues for the interpretation of recent discoveries at Teotihuacan. In the following talk, Timothy Murray (Charles La Trobe Professor of Archaeology, La Trobe University) briefly outlined a new interdisciplinary research project in "Towards an Archaeology of Extensive Pastoralism in the Great Artesian Basin in Australia," which was followed by James McHugh's (associate professor, School of Religion, USC) text-based discussion of "Alcohol and Drugs in Pre-Modern India." The final three talks of the fall focused on ancient Chinese material culture. Li Min (associate professor, Department of Anthropology, UCLA) presented a dynamic view of early Chinese state formation in his lecture "In Search of the First Dynasty: Archaeological Landscapes and the Spatialization of History in Early China." Yanjun Weng (assistant professor, Jingdezhen University, and research fellow, Peking University Ceramic Research Institute of Archaeology and Art) subsequently turned to current excavations at Jingdezhen, specifically the "Changing Configuration of Porcelain Production in Jingdezhen: Excavation of the Luomaqiao Kiln Site." Finally, Shi Tao (recent graduate of the Cotsen Institute) presented survey-based research into early Chinese political landscapes in his talk "Longshan Network and Political Landscape of Early Bronze Age, China."

The winter series started with Jennifer Meanwell (lecturer, Department of Material Science and Engineering, MIT), who discussed "The Manufacture and Use of Metallurgical Ceramics at Mayapan, Yucatan, Mexico." The following week, Kenneth Seligson (lecturer, Department of Anthropology, USC) also spoke about the Mayas in a presentation titled "Burning Rings of Fire: Ancient Maya Lime Production and Environmental Resource Management." Adam DiBattista, a PhD candidate in the Cotsen Institute, shared a portion of his PhD research on "Worked Animal Objects in Early Iron Age Greece." The next talk was given by Jade d'Alpoim Guedes (assistant professor of anthropology, UC San Diego), whose presentation "Moving Agriculture onto the Roof of the World" used ecological niche modeling to illuminate how foragers and farmers of the Tibetan plateau interacted in an environment marginal to crop cultivation. Ioanna Kakoulli (professor of materials science and engineering, UCLA) presented the following week on how "Macroscale Multimodal Imaging and Spectroscopy Reveals Raw Materials Selection and Production Technology of Fayum Portraits." Ali Mousavi (lecturer, Near Eastern Languages and Cultures, UCLA) investigated a series of stone towers from the site of Pasargardae, the capital of the Achaemenid Empire in the sixth century BCE, in a talk titled "Achaemenid Stone Towers and Recent Excavations at Pasargadae, Iran." In the second-to-last talk of the winter quarter, Sarah Beckman (assistant professor, Classics, UCLA) used the multiple relief series from the villa of Chiragan (Haute-Garonne, Aquitaine) to demonstrate the importance of studying these reliefs when considering the marble statuary habit



Bioarchaeologist Chin-hsin Liu from California State University–Northridge discusses how metalworking shaped the bodies of laborers in prehistoric Thailand. (Photograph by Maddie Yakal.)

of late Roman villas in southern Aquitaine. The final presentation was made by Michael Moore, a recent graduate of the Near Eastern Languages and Cultures Department at UCLA. His presentation on "Performance and Politics in Hittite Anatolia" discussed the function of Hittite festivals both politically and socially.

The spring Pizza Talks continued to incorporate a variety of researchers from diverse backgrounds. PhD candidate Gazmend Elezi began the spring lecture series with his presentation on the construction, use, and repair of Late Neolithic pottery from southeastern Albania. Seppi Lehner, a Cotsen alumnus and assistant professor in the Department of Archaeology at the University of Sydney, delved into underwater archaeology with a discussion of maritime trade and metal production through his study of the Cape Gelidonya shipwreck. Recapping their fieldwork in Tell Mozan, Marilyn Kelly-Buccellati and Giorgio Buccellati delivered a joint presentation emphasizing the importance of community integration into cultural preservation. Shifting to the history of archaeology in the Southwest, James Snead from California State University–Northridge (CSUN) spoke of the underlying sexual politics between Elizabeth Deuel and her colleagues. Bioarchaeologist Chin-hsin Liu from CSUN captivated listeners with her discussion on how metalworking shaped the bodies of laborers in prehistoric Thailand. UCLA postdoctoral fellow Alan Farahani and student researchers summarized the work being accomplished at the UCLA Ancient Agriculture and Paleoethnobotany Laboratory, focusing on a project from the Iron Age and the Late Antique southern Levant. Getty researcher Jana Skrgulja displayed impressive artifacts attributed to Goths to discuss their presence in the southern Pannonian region and, more generally, the relationship of artifacts to ethnic identity. Visiting scholar Brian Alofaituli concluded the lecture series for this quarter with his discussion of Fa'a Sāmoa and how it allowed for Christianity to be readily incorporated into Samoan life.

— *Jordan Galcyznski, Danielle Kalani-Heinz, Robyn Price, Kirie Stromberg, and Amr Shahat*

An Interview with Professor Meredith Cohen

Robyn Price

THE COTSEN INSTITUTE of Archaeology welcomes Meredith Cohen, associate professor and director of graduate studies in the Department of Medieval Art and Architecture, as a new member of its core faculty. Her interests in aboveground archaeology, the history of architecture, and the incorporation of digital technologies into her own research and into the classroom promise to both complement and expand the area coverage of the institute.

Robyn Price: Could we start by having you tell us a little about your research and the current projects you are working on?

Meredith Cohen: Of course. I am an associate professor of medieval art and architecture, and I specialize in the Gothic architecture of western Europe, particularly that of Paris, France. Paris was the biggest city in medieval western Europe. Around 1250, it is estimated the population was between 200,000 and 300,000 people, so there is a lot of city to cover. This period is when the kings of France become the most powerful territorial rulers of what is more or less the nation of France today, and they begin reusing and reformulating notions of sacral kingship. I look at how architecture reflects this transformation because Paris became the center of arts and architecture in the thirteenth century, and the rest of Europe looked to Paris for inspiration. So I am examining architecture of this period and redefining it as not exclusively royal. I have a book out on the Saint Chapelle of Paris, which is a very beautiful building. If you ever visit it, you will never forget it.

RP: It was my favorite building when I visited Paris.

MC: That makes sense. It was built between 1239 and 1248 for the crown of thorns of Christ that King Louis IX purchased from his cousin in Constantinople, so it was a monumental reliquary chapel built in the palace. I argue that it proclaims the notion of sacral kingship on a monumental scale before that idea became normative, de jure, and thus stands at the origin of French absolutism. The book that I wrote about it was awarded the 2017 Alice Davis Hitchcock Prize from the Society of Architectural Historians for the best book on architecture published in North America. Since the book was published in 2015, I have been working on digital reconstructions of the many lost or destroyed monuments of medieval Paris. I have been working with a team of undergraduate, graduate, and postdoctoral student on different sites. Of those the most complete so far is the Lady Chapel of the abbey of Saint-Germain des Prés, which gave its name to that area in modern Paris. I am also working on another project near the Châtelet. If you know Paris, you might know the Tour Saint-Jacques, which is where people in the Middle Ages started their pilgrimage from Paris to Santiago de Compostela in Spain. The tower once belonged to a church called Saint-Jacques de la Boucherie. This can be translated as Saint-Jacques of the Butchers; it was the church of the butchers. It was located in a tightly packed and densely populated mercantile area, which included wealthy butchers, and the merchants that lived there



Figure 1. A digital reconstruction of the Lady Chapel of the abbey of Saint-Germain des Prés, available through Meredith Cohen's website Paris Past and Present, http://paris.cdh.ucla.edu/.

rebuilt their church four or five times from the tenth until the sixteenth century. I am working on reconstructing that church in all its iterations, around that still-standing tower, based on archaeology and later drawings of it. The church was destroyed in 1797 to make room for the Rue de Rivoli. I am part of an international team, with Rosa Tamborrino of the Politecnico di Torino and Maurizio Gribaudi of the École des Hautes Etudes in Paris. They are reconstructing the various stages of the Rue de Rivoli from the twentieth century back to the eighteenth century, and I am doing Saint-Jacques de la Boucherie from its origins to the seventeenth century. So we are going to merge our work to have a four-dimensional comprehensive resource.

RP: What do you see as the goal of three-dimensional reconstructions?

MC: There are several goals I think. In reconstructing these churches, we are both making these lost buildings, known only from archives and drawings, more comprehensible by modeling them, and we are at the same time learning about how Gothic architecture was really made. When you are working with computers, you must idealize plans, when in reality they are built within a margin of error, usually ranging about 3 to 5 percent. When every part of the building varies so much, it remains difficult to see how buildings were actually built. With the Lady Chapel, we had to correct the error, so our reconstruction is partially hypothetical, because the plan has been idealized. When I analyzed the idealized plan in terms of its measurements, however, it appeared extremely precise according to medieval measurements. This helped me to understand what measurements medieval builders used and how they planned, unraveling some things that people have been unable to understand so far. Also, this particular building was built by a well-known architect in medieval architecture (Pierre de Montreuil), who is buried in it. Pierre de Montreuil is attributed to many other extant buildings in Paris, such as Notre-Dame and Saint-Denis, but not with great certainty. Thus understanding the Lady Chapel

better can help us to understand his role in those important buildings, and whether he really worked there or was simply associated with them because we know his name. There is a scale that runs between highly accurate and highly hypothetical in digital reconstructions. Our reconstructions cover the range: for the Lady Chapel we had 108 fragments available that define the whole building. Once we had the building almost complete, the last fragments fit perfectly into the model. With Saint-Jacques de la Boucherie, all we have are archaeological drawings, archival information, and some engravings, which only allow for a hypothetical reconstruction. Our digital modeling also makes such lesser known material—archives and engravings—more readily available to people who are interested in the past and cultural preservation. Thanks to the Cotsen Institute and Willeke Wendrich, its director, I was able to go to Turin, where I participated in a summer workshop to learn more about historic building information modeling and the different ways of doing three- and four-dimensional reconstructions and how to insert all this material into a digital portfolio.

RP: Do you see your research overlapping with some of the interests of researchers in the Cotsen Institute?

MC: Absolutely, particularly with the digital reconstructions and my interest in cultural preservation.

RP: What sparked your interest in the history of architecture?

MC: I would not say it was a straight trajectory for me. I can look back on my childhood, where I spent a lot of time in Hawai‘i with local youth there, learning their songs and playing with native Hawaiian and Polynesian friends, whose mothers were teaching us about their culture. It was all new and interesting to me, and I believe these experiences contributed greatly to my interest in different cultures and people and how we represent and create our identities. The next step and major turning point in my life was probably when I was 16 and I left my home in Los Angeles, where I grew up, to spend a semester in Rome as an



Figure 2. Meredith Cohen and her students take a break from work in the cathedral galleries of Notre-Dame de Paris.

exchange student. It changed my life entirely. I was essentially a surfer-beach girl, and then, all of a sudden, I was going past the Colosseum in Rome every day to get to school, which was in a converted monastery at the base of the Aventine. We would picnic every day inside Circo Massimo at the base of the Palatine Hill; it completely blew me away. From that time on, I was always interested in this relationship between the past and the present, if there was some sort of continuity between now and then, whether we see it next to us or not. In college, I started out as an art historian interested in paintings conservation, but then I had some really good architecture professors, who convinced me architecture is a frame for people, society, and culture, combining all my interests, so that is pretty much how I got into architectural history.



Figure 3. Meredith Cohen on the roof of Notre-Dame de Paris.

RP: Do you have a particular teaching style or way you like to work with students?

MC: I am very interested in trying to make digital technology accessible to students. I have been teaching a course called Digital Gothic in which I teach them to reconstruct lost monuments. I like to do project-based work with students. So, for example, in this course I curate a lost monument for them to research and reconstruct as a group, which allows each person to find her own skills and run with them, and this seems to work really well. The website Paris Past and Present combines my own research with the products of this course, Digital Gothic, which I will be teaching again in the winter quarter of 2018. The website features the final presentations of the students alongside my own work.[1] I also like to teach by taking students abroad, because I think that is really important and it is where my work is based. It is very hard to bring a building into a classroom. One of the most exciting things, and I can thank Willeke again for her encouragement, is bringing our work into artificial reality. This serves as a way we can actually experience the scale of Gothic buildings while remaining here in California, though there is nothing like being actually on the ground and feeling the past reverberate around you. So my teaching pattern is really working with hands-on projects. Days of pure lecturing seem to be over and outdated, and I am always looking for new ways to inspire students about the past.

RP: Any advice you would like to offer to graduate students?

MC: The best advice I ever had is to focus on your own work and not listen to the chatter or feel pressured to follow the intellectual or academic trends around you. Make your own work the best and most original it possibly can be.

RP: How would you like to be involved in the Cotsen Institute?

MC: I see my role in the Cotsen Institute as adding aboveground or buildings archaeology, in addition to adding the European Middle Ages to the geography and date range currently covered. I would love to work with students who are interested in doing aboveground archaeology and digital reconstructions.

1. See http://paris.cdh.ucla.edu/.

An Interview with Volunteer Roz Salzman

Robyn Price



Figure 1. Roz Salzman with her husband and travel partner, Michael, in Halong Bay, Vietnam. Michael also graduated from UCLA.

ROZ SALZMAN IS A VOLUNTEER at the Cotsen Institute who works mainly with Deidre Whitmore in the Digital Archaeology Laboratory (DAL). With a background in cultural anthropology and a history of traveling the globe, she has contributed greatly to many projects undertaken in the DAL.

Robyn Price: Let us start off by discussing your background and your experience volunteering in the DAL.

Roz Salzman: Sure. I got my degree in cultural anthropology from UCLA way back when. And, although I have never done anything professionally with that degree, it fueled in me an avid interest in travel. Whenever time and money allowed, mostly in my thirties, I found myself going off to the most bizarre and distant places we could afford to go, exploring and meeting new people. It took me a few years of traveling to realize where this interest came from, because no one in my family traveled. They kept saying, "Why are you going to the heart of the jungle in Indonesia?" And I would say something like, "I don't know. I just thought it would be cool to see this tribe before it disappears." Archaeology and artifacts have always been of interest to me because of the studying I did, although I found physical anthropology to be more challenging academically than cultural anthropology. For the major, there were all these cool classes you could take back in the day, incorporating psychology and language, and it was just a wonderful catch-all specialization. As I grew, my travels expanded, and I went through a series of careers, but my foundation was established at the *Daily Bruin*, where I learned to talk to people and do interviews and stuff like that. I went into marketing and advertising. I worked on a political campaign, where I did public relations. I edited magazines. And, in the middle of everything, the company I was working for decided they needed me to move to Connecticut, and being a native Californian, I told them no.

RP: You are native to Los Angeles?

RS: Actually, I was born in San Diego and moved here when I was four, so I consider myself semi-native. I then got into retail. My friend had a store, and so I sold shoes for fourteen years. Then I got into my third career and was a financial consultant for over twenty years. Starting a couple of years ago, I realized I was at the point where I wanted to cut back on work and I wanted to do some things that were fun for me. I have always been a devout alumna of UCLA, so my first interest was to find someplace to volunteer there. It is not an easy thing to find a volunteer position. I spent a year writing letters to various people, trying to find anybody who would take my time. Willeke [Wendrich] responded to the letter, and her immediate response was to set me up with Deidre in the DAL, where I have been ecstatically ensconced for over a year

working on a variety of projects, primarily the UCLA Encyclopedia of Egyptology [UEE]. I have found it to be a wonderful experience to be surrounded by smart young people, where I get to learn a whole bunch of things but also apply some of the knowledge I have of cultures and places and even my travels. So now I am slowly weening myself off of working, though I still go in most days I am in town and just leave when I want to.

RP: That sounds pretty good. Would you elaborate on some of the places you have been to?

RS: I like to travel off the beaten path. My husband and I have done that, as well as more standard things. Something coincidental is that I had planned a trip to Ethiopia at the beginning of last year only to find out after coming here that one of the sites excavated by archaeologists from UCLA is in northern Ethiopia. So earlier this year I went with my husband and three friends and we visited Ethiopia. In the north, there is a lot of archaeology, and in the south, there are some tribal cultures that are still more or less authentic and choosing to maintain their own cultures in terms of living the ways they have for hundreds of years. That was pretty exciting. My favorite place is Africa because of the variety of cultures there. We had a really difficult time in Madagascar, but the creatures we saw were so extraordinary that for me it was worth the discomfort. I also loved Antarctica, which is totally different. But with the scenery and the penguins, you could just watch them all day. I love watching animal behavior and I find that really interesting. We have been really fortunate to have visited a lot of really interesting places. We went to Mongolia about six years ago and had a guide who was just 19



Figure 2. In Mongolia Roz is thrilled to babysit Kazakh children while everyone else is helping to prepare lunch.



Figure 3. Roz has a "Jane Goodall moment" sitting with gelada monkeys in the Simian Mountains of northern Ethiopia.



Figure 4. Near Lake Titicaca, Peru, Roz meets Paulino Esteban, who helped build Ra, the reed ship of Thor Heyerdahl.

years old and so smart and terrific. We actually got to see him again when he was in Los Angeles earlier this year on his way back to Colombia, where he has a Fulbright scholarship. I took him on a tour, which I love to do, and I asked him if he wanted to stop at UCLA. He said yes, so we came by campus and he fell in love with it. We even came down to the DAL, where Deidre set up the virtual reality headset for us, which was wonderful.

RP: It seems like you have met many wonderful people from all over the world. Do you have a particular approach or philosophy toward traveling?

RS: Time is always a constraint, but I do all the planning myself and consider myself a researcher. When I was a reporter with the *Daily Bruin*, I learned how to do background research, and I used this skill in many of my positions. I always try to make sure I do not miss anything, so I keep a list of possibilities as I travel. I love ceremonies and festivals. I really enjoy watching all the cultural aspects, as well as being amazed by things people have found and the different ways of making that material accessible, like what we are working on here with the UEE or Digital Karnak. The Karnak project is extraordinary, using virtual reality to re-create ancient spaces, where people can go and walk through the ruins without needing a plane ticket.

RP: What projects are you focused on now?

RS: About 80 percent of what I have done has involved the UEE. We have an extraordinary amount of data for it, and the intent is to make these as accessible as possible. We are trying to put in cross-references so when you click on something you get a whole bunch of links to pictures and resources, as well as references that send you off in different directions. I am a very detail-oriented person, so I have been going through lots of photographs and illustrations that were used in existing articles in the UEE and coding them by location and by source to help with this aspect of the project. We are also in the process of soliciting additional articles, as well as cleaning up the site to make it more user-friendly. One of the things that I think I have brought to the department is an outside eye that is not technologically expert. So as long as one of their intentions is to keep this accessible to all people and not only to researchers, I have made a number of suggestions as to how we might set it up and keep everything consistent. I am willing to do almost anything, so when there has not been a project to work on or we have to wait for input on something, I will do whatever needs to be done. I have transcribed field notes, which was really interesting trying to interpret people's handwriting and learning some new words in the process. I have gone through and looked at slides for people. Basically, if something needs doing, I will do it. I come in once a week at the moment but have plans to try and come in more often once I rearrange my schedule. All my friends are jealous because I really enjoy it and the DAL has such interesting projects that have nothing to do with the UEE. Deidre is really good at including me and trying to expose me to all of it. I am learning loads of stuff, and that is another bonus. I have always felt that the activities and education that I was fortunate to participate in when I was on campus—like my time at the *Daily Bruin* or when I was co-chair of an organization called the Washington Internship Program, where we sent students to Washington, D.C.—gave me many opportunities that I otherwise would never have had and really helped to form the person I am. There is

no question in my mind that this is the place I would want to spend any extra time I have as I cut back my schedule.

RP: That is great. Shifting gears just a bit, the theme of this issue of *Backdirt* is the celebration of life. Do you see this concept being a part of how you view the world and see yourself in it?

RS: Oh, absolutely. I think that having a background in anthropology prepares you for meeting other people and motivates you to get out in the world and celebrate. I love festivals and ceremonies, even if they are not overtly celebrating something. We just got back from Nepal, and one of the things that I was most fascinated by was a series of cremations. I could have been there all day. Along the river in Kathmandu, the river flows into the Ganges, which makes it holy, and so the people, who are Buddhist, bring the bodies down almost like an assembly line, but there is a ceremonial procedure that they follow, which is very important. I absolutely see being interested in other cultures as a celebration of life.

RP: I completely agree. Is there anything you want to add?

RS: I am extraordinarily impressed with the scope of the projects the Cotsen Institute is working on, but I am frustrated that they do not have the funding they need to pursue and improve a number of the projects I find to be very worthwhile. I am fascinated by the UEE being an open-source resource available to people all over the world and how much prestige it has established in the years it has been running, without perhaps the attention it deserves. The virtual reality projects that Deidre is working on here, the 3D printing, it is all cutting-edge stuff that is so impressive, especially how it is being used to bring people in and not just for the sake of having really cool new toys. It is actually creating access for people to see and touch and get involved with history. I compare it with what things were like when I was in school decades ago and the overwhelming strides that have been made in technology. We now have technology that allows us to see structures below the surface without damaging anything or that allows us to experience ancient spaces. My only disappointment is they do not have enough money to do more things and complete more projects. It is not just research they are doing but creating access for all people.



Figure 5. Roz tries her hand at pottery in Vietnam.



Figure 6. Roz and Deidre Whitmore in the Digital Archaeology Laboratory.

OBITUARY

Bradley Parker, Field Archaeologist who analyzed Ancient Empires, Dies at 56

Elizabeth Carter



Figure 1. "Let's go surfing, dude!" Bradley on survey in Kahramanmaraş Valley, 1993.

I WAS SHOCKED AND SADDENED by the death of my former student Bradley Parker of the Department of History at the University of Utah. He was a talented and energetic field archaeologist, scholar, and teacher, whose sudden death on January 4, 2018, deprived archaeology of one of its most active practitioners. Bradley received his PhD in 1998 and had participated in Cotsen Institute projects in Turkey and Egypt. He was a specialist in complex societies; his fieldwork in Turkey and most recently in Peru was closely linked to his desire to better understand imperial growth in the ancient world.

His book, *The Mechanics of Empire: The Northern Frontier of Assyria as a Case Study in Imperial Dynamics* (Neo-Assyrian Text Corpus Project, 2001), based on his UCLA dissertation, and numerous articles and book chapters established him as a leading scholar of the archaeology of empires. The book contained a first-rate comparative study of the similarities and differences between expansionism and administrative mechanisms in early empires. The research led to his widely cited study of imperial frontiers published in *American Antiquity* in 2006. In 2013, in a paper published in *Archaeological Papers of the American Anthropological Association*, Parker argued that the Assyrian Empire was an expansionist state that exercised varying degrees of power over conquered landscapes and that studies of these "geographies of power" led to a more nuanced understanding of the spatiality of empire than is usually presented in general works.

Bradley initiated the Upper Tigris Archaeological Research Project and directed it for 11 seasons, beginning in 2001. His excavations were focused on the site of Kenan Tepe in the Upper Tigris region of southeastern Turkey. He and his colleagues published numerous articles and reports based on the many discoveries, ranging in date from the fifth millennium to the first millennium BCE. Intrigued early on by digital humanities, he subsequently published the complete digitized record of his excavations.[1]

In recent years, Bradley had started to work in the Andes and had received a major grant from the National Endowment for the Humanities to continue his research there. He was a serious student of archaeological methodologies, particularly microartifact sampling, processing, and analysis. His article with Nicola Sharratt in 2017 represents several years of work on the topic, in the field and in his archaeological laboratory in Utah.[2]

Bradley Parker leaves behind a number of important publications that have been and will continue to be influential in the field. His writings show his interdisciplinary approach to studying the past, integrating fieldwork with historical and anthropological methodologies. His enthusiasm and his dedication to adapting

1. B. J. Parker and P. Cobb, eds., "The Archaeological Site of Kenan Tepe," electronic document, http://opencontext.org/subjects/5D6B6454-017A-43C1-9F15-6DFE36C3558F.

2. Bradley J. Parker and Nicola Sharratt, "Fragments of the Past: Microartifact Analysis of Use Surfaces at Tumilaca la Chimba, Moquegua, Peru," Advances in Archaeological Practice 5, no. 1 (2017):71–92.



Figure 2. The Incirli Stele at the moment of its discovery in 1993. From the left, Hakan Togul, Mehmet Doğan (Kahramanmaraş Museum), Bradley Parker, and Atilla Engin examine the stele.

new technologies to archaeology are also part of his legacy. We are proud to count him among our most distinguished alumni.

Our paths first crossed when Bradley was an undergraduate at Berkeley. Originally attracted by Egyptology, he became fascinated by the Assyrian Empire toward the end of his undergraduate career. I will never forget his unbridled excitement for the topic when we first talked in David Stronach's office. Instead of being intimidated by the number of language requirements for gaining a doctorate and the limited job prospects, Bradley relished the challenge, and in the fall of 1991 he entered as a new student in the Near Eastern Languages and Cultures Department. He finished his MA in 1994, decided that his real passion was for archaeology, and moved to the Archaeology Program. Fellowships from Rotary International and the Fulbright Commission in 1995–1997 allowed him to work at the State Archives of Assyria project at the University of Helsinki under the direction of Simo Parpola, where he was able to hone his language skills, utilize the extensive library, and work on his dissertation.

Bradley Parker was a wonderful graduate student whose humor and energy was infectious and whose challenges to accepted interpretations kept his professors and fellow students thinking. Bradley first went to Turkey with me in 1992. There we had to commute between the towns of Kilis and Gaziantep in a very hot and stuffy *dolmuş*, a shared van. During those long commutes with many stops, I learned of his earlier songwriting days and collaborated with him on writing "Gaziantep Blues." In 1993–1994 Bradley worked on the Kahramanmaraş Archaeological Survey (Figures 1 and 2) and helped rally the team in the field with calls of "Let's go surfing, dude!" The highlight of the 1993 season was discovery of the Incirli Stele. Bradley was one of the first to try to make a hand copy of the Aramaic inscription on this Iron Age (eighth century BCE) monument, which is now on display in the Gaziantep Museum. He had a natural affinity for typology; one of his fellow students observed that had he run a kebab shop, every cube of meat would have been weighed, measured, and sorted. In 1996 he became known for his meticulous excavation of a poorly preserved sixth-millennium BCE *tholos* of the Halaf period at the site of Domuztepe, where he also earned the moniker Bradley Big Hat and was a featured cowboy star in various theatricals put on by the youngest members of our project.

Bradley was an award-winning teacher and an excellent citizen of the University of Utah. He loved being able to drive from his office directly to the nearby ski slopes. He is survived by his wife, Janet Theiss, also at the History Department of the University of Utah, and their daughter, Tabitha, as well as his two brothers.

IN MEMORIAM

Lady Harrington

Helle Girey

IN FEBRUARY OF THIS YEAR, we lost a dear friend and a volunteer who was a pillar of strength at the Cotsen Institute of Archaeology. Lady Harrington was a member of the Friends of Archaeology, our support group, and became my right-hand person and trusted friend at the very active public lecture program of the institute. Archaeology was a natural fit for the adventure-loving Lady. She loved to travel, had a pilot's license, and visited many archaeological sites in Mexico and Central America with her husband. She skied, sailed, and played tennis, and was a fearsome duck hunter and a crack shot with a 12-gauge shotgun.

In 1991 we were in the process of moving from various locations on campus into our new home at the A Level of the Fowler Museum of Cultural History. Having all laboratories and offices in one place, with what seemed like luxurious space for everyone—including the Lenart Auditorium for our lectures—seemed a dream come true. In Kinsey Hall I had shared an office with the director; now Lady and I had our own office for public programs. The opportunities seemed endless. The only thorn in our side was that the wonderful auditorium was used as a classroom during the day. Because we did not have the funds to have the auditorium cleaned prior to public lectures, Lady and I had to remove half-finished hamburgers and melted ice cream covered with ants. She was able to accomplish the cleanup with much humor and grace; no job was too difficult or below her dignity. This was the hallmark that made her not just invaluable but also a joy to work with.

When Richard Leventhal became director of the institute, the Maya Weekend was born. This was a successful event for 10 consecutive years. The two-day event required invitations, programs, housing for 10 speakers, registration, dinner, lunch, and a final reception for about 300 participants. Lady's charm convinced many graduate students to help, and her endless energy made this huge undertaking possible.

Aside from public programs, Lady volunteered over the years in many excavations, including with Jeanne Arnold and Anthony Graesch in Hope, British Columbia; with James Brady in the Naj Tunich caves in Belize; with Rowan Flad and Lothar von Falkenhausen in the Yangzi River valley in China; with Richard Leventhal in Xunantunich, Belize; and with Marilyn Beaudry-Corbett and David Whitley in Sin Cabezas, Guatemala. She was also a steady volunteer at the Zooarchaeology Laboratory, directed by Tom Wake. Comments from some project directors indicate the high regard they had for Lady:

James E. Brady: "Lady Harrington and the Friends of Archaeology meant a great deal to me as a student at UCLA. Lady and the late Frank Woods worked with me at the Naj Tunich in 1989, effectively doubling my workforce. They were great company in the field. My little daughter loved Lady like a grandmother."

Richard Leventhal: "Lady Harrington was a wonderful volunteer at the Cotsen Institute of Archaeology and with the Xunantunich Archaeological Project in Belize. I first met Lady when I arrived in Los Angeles around 1990, and we quickly became good friends. She was an important member of the institute, working in many of the laboratories and going on an endless stream of digs around the world. She was also an important member of the Friends of Archaeology, hosting parties and events and making sure the



organization and the institute remained strong. One of her deep interests was the archaeological work on the ancient Maya in Mesoamerica. As the Xunantunich Project began to be developed, she and I spent many hours discussing the project, its goals, and how she could best help move the project forward. She gradually took on the role of archivist for the Xunantunich Project. In this position, she traveled the world, gathering the photographs, notes, and publications of the site from scholars and the interested public. Today we reap the benefits of her work as we try to study the history of not only the ancient Maya site but also the position of Xunantunich in Belize and the world today. Lady Harrington was an important and wonderful colleague, both within the Cotsen Institute and within the Xunantunich Archaeological Project."

Lothar Von Falkenhausen: "She was totally intrepid. She arrived at our site in the Yangzi River valley fully prepared to get her hands dirty, and so she did. Climbing up and down hills was no problem for her, even though she was well over 70 by then. And she drank all our hardened local fellow archaeologists under the table."

Rowan Flad: "Lady visited us when we were in the field in Chongqing, in 2000 I believe. It was a wonderful visit and left quite an impression. I remember quite vividly how one of our friends, Tang Fei, then excavating a site of the banks of the Yangzi River for the Chengdu City Institute of Archaeology, was showing us and her around. As the tour was under way, he seemed a little concerned, and maybe even slightly annoyed, that we were moving rather slowly as we explored one site on a rather steep embankment of the river. He and I were walking ahead at one point and he asked her age, which I did not know precisely, but I did know that it was much more than the 50 or so he had presumed. Once he discovered that she was more advanced in age, he was incredibly impressed with her, and he then became even more so when she proceeded to out-smoke and out-drink all the archaeologists on site. She really was such a pleasant, nice person to be around. I hope she and Pochan can have another good meet-up sometime soon."

Lady is survived by her daughter and son, two grandchildren, and two great grandchildren. It was my honor to spend many years at the institute with Lady. We shared many things over the years, but the most enduring was our love for archaeology.

FROM THE PUBLISHER'S DESK

WE ARE VERY PLEASED TO announce that ISD Distributor of Scholarly Books, based in Bristol, CT, is our new distributor for the Cotsen Institute of Archaeology Press books. ISD has years of experience with scholarly and specialist books on archaeology, classics, anthropology, art history, architecture, the ancient Near East, Ancient Egypt, African studies, Asian and Pacific studies, and the ancient Americas. In other words: everything we publish. ISD has a very strong European and worldwide distribution network in cooperation with the University of Exeter Press in the UK and also supports various formats and venues for bookselling.

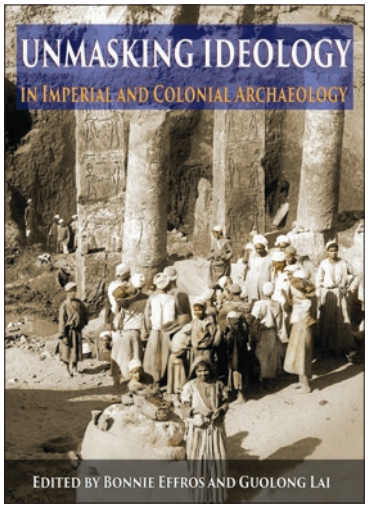
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We have three outstanding publications this year: *Unmasking Ideology*, about archaeology in imperial and colonial contexts; *Images in Action*, a comprehensive study of Andean iconography; and the groundbreaking *Early Athens*, which contains maps of every area of ancient Athens with color-keyed locations of wells, burials, architectural features, and other significant elements, as well as a gazetteer of sites. Like *Images in Action*, it is connected to our digital repository online, which offers scalable and searchable material.

— *Randi Danforth*

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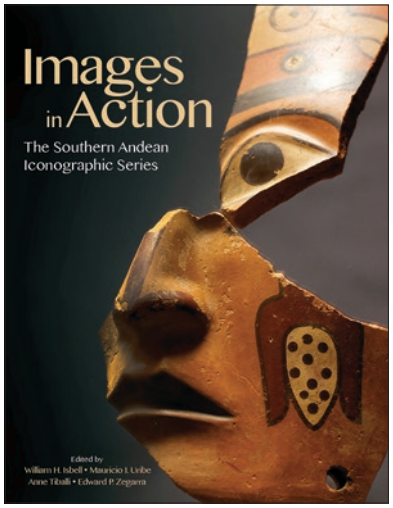


Unmasking Ideology in Imperial and Colonial Archaeology

Vocabulary, Symbols, and Legacy

Edited by Bonnie Effros and Guolong Lai

This volume addresses the entanglement between archaeology, imperialism, colonialism, capitalism, and war. Popular sentiment in the West has tended to embrace the adventure rather than ponder the legacy of archaeological explorers. Allegations by imperial powers of "discovering" archaeological sites or "saving" world heritage from neglect or destruction have often provided the pretext for expanding political might. Consequently, Indigenous populations have often fallen victim to imperialism, while seeing their lands confiscated, their artifacts looted, and the ancient remains in their midst commodified. Spanning the globe, with case studies from East Asia, Siberia, Australia, North and South America, Europe, and Africa, 16 contributions written by archaeologists, art historians, and historians from four continents offer unusual breadth and depth in the assessment of various facets of claims to patrimonial heritage in the context of imperial and colonial ventures of the last two centuries, and their postcolonial legacy.

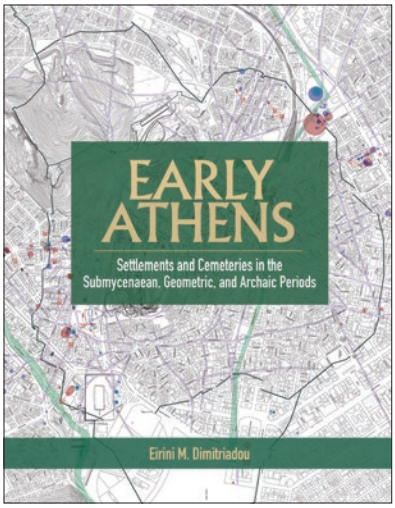


Images in Action

The Southern Andean Iconographic Series

Edited by William H. Isbell, Mauricio I. Uribe, Anne Tiballi, and Edward P. Zegarra

Emanating from the Cotsen Advanced Seminar in pre-Columbian art and archaeology held at the University of Chile in Santiago, *Images in Action* presents interpretations of a large corpus of art and iconography from the southern and south-central Andes, bringing together some of the most esteemed scholars in the field. More than 30 authors, all with extensive experience in the southern Andes, examine artifacts, artworks, textiles, archaeology, and architecture to develop creative new insights on cultural interactions between people in prehistoric western South America. The volume's nearly 700 images are archived in an online database with metadata, fully referenced in the text and searchable.



Early Athens

Settlements and Cemeteries in the Submycenaean, Geometric, and Archaic Periods

By Eirini M. Dimitriadou

This volume is one of the most important works on ancient Athens in the last 50 years. The focus is on the early city, from the end of the Bronze Age, circa 1200 BCE, to the Archaic period, when Athens became the largest city of the Classical period, only to be destroyed by the Persians in 480/479 BCE. From a systematic study of all the excavation reports and surveys in central Athens, the author has synthesized a detailed diachronic overview of the city from the Submycenaean period through the Archaic. It is a treasure trove of information for archaeologists who work in this period. One of the most valuable things about the study is the detailed maps, which present features of ancient settlements and cemeteries, the repositories of the human physical record. More than 80 additional large-scale, interactive maps are available online to complement the book.



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