BACKDIRT

ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA
DECEMBER 2019

Archaeologists in Action

BACKDIRT

ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

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FRONT COVER: Sarah and Sally Beckmann among a collection of Roman portraits from the villa of Chiragan, kept in the Musée Saint-Raymond in Toulouse, France. Sarah's article on several Late Antique sculptures from Chiragan appears in the January 2020 issue of the *American Journal of Archaeology*.

BACK COVER: Brittany Dolph Dinneen consolidates the surface of a cuneiform tablet in preparation for the reopening of the Morgens West Galleries of Ancient Near Eastern Art at the Michael C. Carlos Museum, Emory University. (Photograph courtesy of Emory Photo/Video).

ABOVE: Ruth Tringham, University of California–Berkeley, presents a Friday Seminar: Giving Voices—Without Words—To Prehistoric People, February 8, 2019.

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

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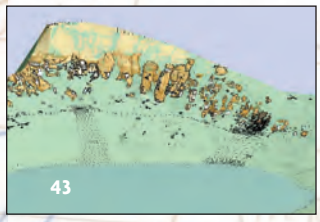

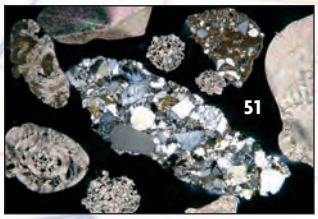

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Message from the Director

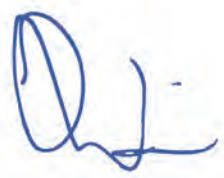
Cotsen Institute Director Willeke Wendrich

IN THIS CENTENNIAL YEAR of UCLA, we also celebrate the academic year 2019–2020 as the 50th anniversary of the Interdepartmental Degree Program in Archaeology at the Cotsen Institute. In the fall of 1969, the first archaeology student enrolled in this program. The next quarter, winter 1970, Marija Gimbutas, teaching European archaeology, accepted into her program a student who went on to become the heart and soul of our institute. Fifty years later, Ernestine Elster is still going strong. Her latest publication, *The Archaeology of Grotta Scaloria: Ritual in Neolithic Southeast Italy*, came out in 2016. She is a champion of publishing lingering archaeological data and forgotten excavations, of which there are, unfortunately, too many.

We will celebrate our semi-centennial in the winter and spring of 2020, and it may be clear that the archaeology program and the Cotsen Institute are very much alive, as is our second graduate program: the UCLA/Getty Interdepartmental Degree Program in the Conservation of Archaeological and Ethnographic Materials. This academic year we are seeing renewed energy and activities. Our new crop of students includes an academically strong and enthusiastic group of archaeology PhD and conservation MA students, as well as the first cohort of conservation PhD students. Our two programs are starting off under new leadership: Gregson Schachner of the Department of Anthropology has taken over as chair of the archaeology program, and Glenn Wharton of the Department of Art History recently started at UCLA as chair of the conservation program. I want to thank John Papadopoulos of the Department of Classics for his many years of successfully finding ways to support our students, both by commenting on the content of their work and by securing additional funding. I also want to thank William Roy of the Department of Sociology, who stepped in as interim chair of the conservation program after the retirement of David Scott.

The cover of this issue of *Backdirt* shows our latest arrival. I am not referring to the babe in arms, however delighted and fascinated she seems to be by a Roman portrait bust, but to Sarah Beckmann, who has started a position in the Department of Classics.

Attention to equity, diversity, and inclusion continues to be an absolute priority for UCLA and for our institute. The hashtag for our disciplines could be *#archaeology_and_conservation_so_white*, and that needs to change. I am therefore especially thankful for the work of two of our faculty members. Jason De León of the Department of Anthropology has joined the core faculty of the Cotsen Institute and brings the very important and exciting Undocumented Migration Project into our institute. This involves the long-term study of undocumented border crossings, combining ethnographic, archaeological, visual, and forensic approaches. Secondly, Ellen Pearlstein of the Graduate School of Education and Information Studies has obtained a grant from the Mellon Foundation with the title Opportunity for Diversity in Conservation. In addition, our graduate students participate in archaeological outreach programs with children from historically underrepresented groups to show the fun of archaeology, the importance of science, and the cultural diversity that has existed through time and space. By conveying our love of archaeology, we remember to celebrate it, and celebrate we will!



Willeke Wendrich

Director, Cotsen Institute of Archaeology

The Bradshaw Foundation Launches the Rock Art Network Website

The Rock Art Archive, directed by Jo Anne Van Tilburg, is proud to be affiliated with the Rock Art Network, as featured on the Bradshaw Foundation online resource www.rockartnetwork.net. The Rock Art Network was established by Neville Agnew and Janette Deacon in collaboration with the Getty Conservation Institute and the Bradshaw Foundation. It involves individuals and institutions committed to the promotion, protection, and conservation of rock art anywhere in the world. The goals of the Rock Art Network are to foster principles of research and conservation, create a network of collaboration, and promote public and political awareness of this fragile and irreplaceable global heritage.

Since 1992 the Bradshaw Foundation, a privately funded nonprofit organization based in Geneva, has worked to create a database of rock art information. The visual resources and robust social media presence of the foundation make it an ideal partner to host the Rock Art Network. The main areas of focus of the Bradshaw Foundation are archaeology, anthropology, and genetic research, while its primary objectives are to discover, document, and preserve ancient rock art around the world, as well as to promote the study of the artistic achievements of early humankind. It funds preservation projects as well as scientific research and publications. The foundation collaborates with UNESCO, the Royal Geographic Society, the National Geographic Society, the Rock Art Research Institute in South Africa, and the Trust for African Rock Art to ensure that the programs achieve maximum impact.

Since the late 1980s, the Getty Conservation Institute has undertaken training courses and projects in rock art conservation and management. The Rock Art Network emerged after a series of workshops held in South Africa between 2005 and 2011 as part of the Southern African Rock Art Project, a program of the Getty Conservation Institute. This program was extended to Australia between 2012 and 2014 as an exchange between rock art specialists, managers, and custodian communities from southern Africa and Australia. It culminated in a forum in Kakadu National Park in 2014 and a document, "Rock Art: A Cultural Treasure at Risk," in which four pillars of rock art conservation policy and practice were identified. This document served as the basis for the 2017 colloquium Art on the Rocks—A Global Heritage in Namibia, headed by Neville Agnew, where the author represented the Rock Art Archive (see *Backdirt* 2017:23–29).

In 2018 a similar colloquium, with the title Art on the Rocks—Developing Action Plans for Public and Professional Networking, was held in California and Texas to continue this work. The Rock Art Archive, represented by Jo Anne Van Tilburg, John Bretney, and the author, hosted a trip to Little Lake Ranch (see *Backdirt* 2018:12). In October 2019, Van Tilburg attended the colloquium Replication as Conservation of Rock Art, hosted by Jean-Michel Geneste. As part of this event, she visited the sites of Chauvet, Lascaux, and Altamira in France and Spain.

The Bradshaw Foundation is exemplary of how a well-designed website can reach a worldwide community and how networks facilitate the sharing of resources and information, not only for research by individuals and institutions but also to support conservation efforts. The Rock Art Archive looks forward to continued collaboration with the Bradshaw Foundation, the Getty Conservation Institute, and the Rock Art Network.

— Wendy All

THE INSTITUTE IN THE NEWS

Jo Anne Van Tilburg Honored at the 2018 Polynesian Migration and Navigation Conference, Rapa Nui

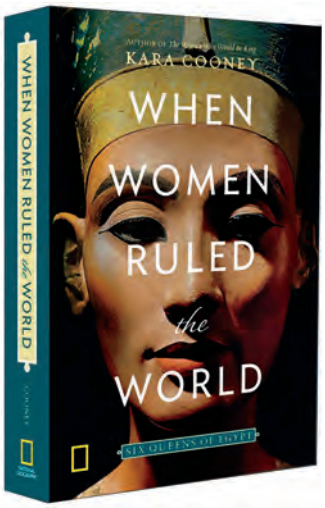
The Polynesian Migration and Navigation Conference, the third major archaeological conference held on Rapa Nui (Easter Island) since 1983, took place in Hanga Roa in November 2018. Among the attendees from UCLA were Garine Babian and Charles Stanish (on their first visit to the island) and Director's Council members Charles Steinmetz (on his fourth visit), Bruce Hector, and Rose and Michael Marzolla.

Organized by an international team headed by Rapa Nui archaeologist Sonia Haoa Cardinali, the conference focused on the emergence of Rapa Nui as a megalithic society shaped by the prehistoric Pacific migration. Three presentations describing recent excavations in the Rano Raraku quarry were delivered by Jo Anne Van Tilburg, director of the Rock Art Archive at the Cotsen Institute, and her colleagues Sarah Shephard, of Sewanee: The University of the South, and Alice Hom, manager of the Easter Island Statue Project. Two other lectures, coauthored by Van Tilburg, were presented by Adrienne L. Kaeppler, curator of oceanic ethnology at the Smithsonian Institution, and by Van Tilburg on behalf of Douglas Owsley of the National Museum of Natural History, also at the Smithsonian Institution.

Highpoints of the conference included traditional feasting, music, and dance presentations by local artists, a festive opening of a special exhibit at the Mana Gallery, and guided tours of key archaeological sites Rano Raraku and Orongo. Conference participants enjoyed a barbeque on Poike after helping local schoolchildren plant trees, part of a Corporación Nacional Forestal reforestation project directed by Haoa Cardinali. A sunset banquet took place amid an

outpouring of Rapa Nui music and Chilean wine at the restored Tahai Ceremonial Center. It was attended by dignitaries of the Chilean government and respected heads of Rapa Nui families. The Mata Ki Te Rangi Rapa Nui Foundation, which sponsored the conference, presented awards to local dignitary and former governor Sergio Rapu Haoa, himself an archaeologist, and to Van Tilburg. Inscribed on her glass medallion are these treasured words:

> To Jo Anne Van Tilburg, with our respect and gratitude for possessing the transcending human values that strengthen the survival of the traditions, history and cultural heritage of our forebears.



Egyptology Professor and Cotsen Affiliate Kara Cooney Wins 2019 ASOR Book Award

At the American Schools of Oriental Research meeting in San Diego in November, Kara Cooney was honored with the 2019 Nancy Lapp Popular Book Award for *When Women Ruled the World: Six Queens of Egypt* (2018, Penguin Random House). The award recognizes a book published in the last two years that offers a new synthesis of archaeological or textual evidence intended to reach an audience of scholars, as well as students and the broader public.

"Kara Cooney injects an important and timely topic into popular discourse," noted ASOR's Honors and Awards Committee chair, Laura Mazow, when presenting the award. "Not only is *When Women Ruled the World* a fascinating book on its own—a tour de force of the highlights of Egyptian history from Dynasty 0 through the Ptolemies—but Cooney's specific focus then invites us to reflect on broader questions about the historic role of female leadership and its implications in the modern world." Mazow continued, "Cooney's book serves as a great example of how studies of ancient societies can be made relevant and interesting to a general audience and, in doing so, can raise provocative questions that very much still matter today."

Figure 1. Conservation students discuss their work and research with children and their parents.

Figure 2. Archaeology students explain excavation techniques and artifact analysis to young aspiring excavators.

Mummies, Bones, and Garbage

On Sunday, November 3, the Cotsen Institute for the first time participated in the yearly science fair Exploring Your Universe in and around the Court of Sciences on South Campus. Based in Booth 50, aptly named Mummies, Bones and Garbage, graduate students of the archaeology and conservations programs explained their work and research to countless interested children and their parents.

For 10 years, Exploring Your Universe has provided a day of free science education by offering fun, hands-on experiments and presentations to curious minds and future scientists alike. Organized by UCLA graduate students on the first Sunday in November and run by volunteers, the fair has grown into one to the largest annual events on campus, drawing in thousands of children, parents, and friends from the greater Los Angeles region. The 2019 edition of Exploring Your Universe was one of the main events in celebrating the centennial of UCLA. The fair included more than 60 interactive booths, of which the Cotsen Institute filled one; lectures on science throughout the day; and planetarium shows and telescope viewings. The day started with the presentation of the UCLA Science and Education Pioneer Award to actress, author, and neuroscientist Mayim Bialik, who graduated from UCLA in 2007.

Director of the Cotsen Institute Elected President of the International Association of Egyptologists

Willeke Wendrich, director of the Cotsen Institute, was elected president of the International Association of Egyptologists. This was announced on the first day of the twelfth International Congress of Egyptologists, held in Giza, Egypt, November 3–8, 2019. This scientific conference is held every four years in a different country. It is attended by large numbers of Egyptologists, Egyptian archaeologists, researchers, heritage professionals, and others interested in Egyptology from many countries around the world. This was the third time Egypt hosted the conference.

Wendrich, who is a professor in the Department of Near Eastern Languages and Cultures, is the editor in chief of the UCLA Encyclopedia of Egyptology and co-principal investigator of both the Digital Karnak Project and the Ancient Egyptian Architecture Online project. She has more than 30 years of experience in archaeological excavation and survey in Egypt, and she conducted archaeological field schools for the Egyptian Ministry of Antiquities from 2002 to 2014.

Wendrich's nomination for the presidency of the International Association of Egyptologists required the support of at least 10 professional or honorary members of the association. She will serve for four years, until the next congress. In her vision statement, which included a four-year plan in support of her candidacy, Wendrich stated, "I see the role of the International Association of Egyptologists as one of listening and acting on behalf of the Egyptological community. Egyptologists continue to innovate their discipline by examining their assumptions, renewing their objectives, subjects of study, methods, and theoretical approaches. If we expect governments or the public to support our work, we need to engage in explaining why our work is relevant. The struggle we find ourselves in to preserve archaeological sites can only be alleviated if we connect with stakeholders and involve communities in our work."

Figure 1. Willeke Wendrich, director of the Cotsen Institute and newly elected president of the International Association of Egyptologists, addresses the plenary meeting of the twelfth International Congress of Egyptologists in the Marriott Mena House Hotel (Giza, Egypt).

The congress was opened by the outgoing president, Christopher Naunton, who thanked the organizing committee and especially colleagues from the Ministry of Antiquities, who had gone to great lengths to arrange the event. In particular, he expressed gratitude to His Excellency Khaled al-Enany, minister of antiquities, for his generous support. More than 500 Egyptologists presented the results of their latest work at the congress. Wendrich herself spoke on "The Africanness of Ancient Egypt."

Museology in Turin

Caroline Arbuckle MacLeod

The 2019 summer field school in Museo Egizio consisted of two five-week sessions of 16 students each, coming together to study museology and Egyptian material culture in Turin, Italy. This project is based on cooperation between the Cotsen Institute of Archaeology and Museo Egizio under the auspices of the Institute for Field Research, an independent, nonprofit organization that facilitates field research courses at many sites around the world. This particular summer field school represents the work of multiple generations of the Cotsen family. The program is codirected by the author, a recent Cotsen Institute alumna, and longtime Cotsen Institute core faculty member Hans Barnard. This year the teaching assistants were Danielle Candelora, a PhD candidate in the Department of Near Eastern Languages and Cultures at UCLA; Rose Campbell, another recent graduate of the Cotsen Institute; and Nicole Inglot, a recent graduate of the Department of Classical, Ancient Mediterranean, and Near Eastern Studies and Archaeology at the University of British Columbia. Participants joined the program from Australia, Canada, India, Spain, and the United States. Among the participants were a few graduate students and several UCLA undergraduate students, as well as hopefully some future archaeologists or conservators. Friday August 23, 2019, the summer field school featured prominently on page 47 of the large national newspaper *La Stampa*, which is based in Turin.

There was an emphasis on digital technologies this year.

This year the field school was able to take advantage of the temporary exhibition *Invisible Archaeology*, which addressed the use of scientific analyses to explore the hidden stories of objects and the people who made them. Thus there was an emphasis on digital technologies this year, including the ethics behind the reproduction of objects for use in museum displays around the world. Students were asked to consider the value of historicity during the handling of ancient Egyptian objects and why these objects were more important than facsimiles. The use of computed tomography scans to study mummies was also called into question, as students debated the most appropriate ways to store, study, and display human remains.

Figure 1. The first group of students in front of the Basilica di Superga, which houses the tombs of the House of Savoy and was the site of the 1949 Grande Torino air disaster.

Figure 2. The author leads a tour centered on Egyptian texts in the collection of Museo Egizio.

Figure 3. The field school visits Palazzo Reale, home of the House of Savoy until 1946.

Figure 4. Fine art conservator Paola Buscaglia explains her work on an ancient Egyptian coffin being treated in the conservation department in the Reggia della Venaria Reale.

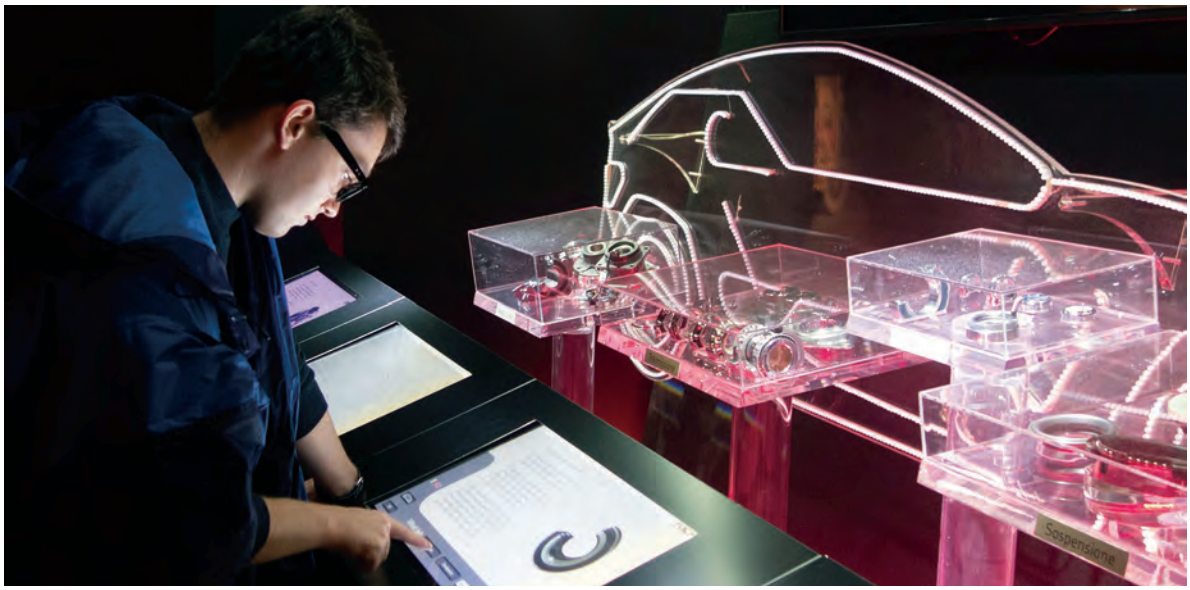


Figure 5. Field school student Liam O'Reilly studies a display in the National Automobile Museum.

Students were immersed in the world of cultural heritage.

Lectures included an abridged overview of ancient Egyptian archaeology, history, and religion, necessary for students to understand the context of the objects they were studying. As in other years, a selection of curators, registrars, conservators, and administrators affiliated with the museum also served as instructors. In addition to leading visits to specific object groups on display in the galleries or stored in the large storage rooms of the museum, they also spoke about proper object handling methods, how to differentiate between forgeries and genuine artifacts, and what is often overlooked about running a large world-renowned museum. Over the course of five weeks, the students were immersed in the world of cultural heritage management and how this pertains to the care and display of objects from ancient Egypt.

To widen the view of the students and consider different display options, there were also visits to some of the many other museums in Turin. These included museums visited during previous iterations of the course, including the National Cinema

Figure 6. Museum curator Federico Poole discusses the differences between genuine and fake objects.

Museum (in the iconic Mole Antonelliana) and the Museum of the Holy Shroud, as well as some new additions, including the Cesare Lombroso Museum of Criminal Anthropology and the Francesco Garnier Valletti Museum of Fruits. By being exposed to dramatically different settings, students were able

Figure 7. Government archaeologist Alessandro Quercia explains the nearby Roman site of Industria, which preserves the remains of an Iseum and a Serapeum (temples to the Egyptian gods Isis and Serapis, respectively).

to reconsider some of their responses to the ethical issues concerning display and digital tools brought to the fore earlier. Ultimately they realized that perhaps there are not always clear answers but that solutions often must be reached on a case-by-case basis and are bound to change over time and place. To add to their technical knowledge of object analysis, we were fortunate to be invited back to the state-of-the-art conservation laboratories in the Reggia della Venaria Reale to learn about cutting-edge techniques and overcoming challenges while working with objects in the field.

During the course of the field school, students also worked on digital projects, most importantly designing an online exhibit based on objects in the museum. For this they used the digital platform Omeka, an open-source content management system developed by the Roy Rosenzweig Center for History and New Media at George Mason University. This platform allows students to create a database for objects based on the common classifiers used by museums. The digital projects were designed to encourage students to display the culmination of their museological and historical knowledge learned over five weeks. The outcome is permanently stored on the server of the Digital Archaeology Laboratory at the Cotsen Institute.

Students also worked on digital projects.

To test the efficacy of such summer field schools as learning tools, the codirectors of the summer field school are undertaking a research project called "The Value of Digital and Museum-Based Pedagogy." Through a series of voluntary questionnaires, student participants were asked to consider how hands-on object handling affected their ability to learn about ancient Egyptian history, the importance of preserving and studying physical objects, and the value of Omeka as a learning platform. This project will continue in the summer of 2020. It is our hope that this effort will allow us to refine our teaching methods and that the shared results will help other museums and archaeology programs consider the value of experiential approaches to teaching about archaeology and history through museums.

Figure 8. The author explains the intricacies of wood identification using a handheld digital microscope.

Figure 9. Textile conservator Cinzia Oliva explains her work on animal mummies being treated in her laboratory in Museo Egizio.

Figure 10. The second group of students during the farewell reception at the end of their summer field school in Turin.

Excavating with Language

Elizabeth Wayland Barber

The technologies of making cloth, once they were invented millennia ago, began gobbling up more human labor hours than all other technologies put together, including food production. And yet cloth, clothing, string or thread, and the slim fibers they are all made from are so perishable that we are hard put to reconstruct this sector of human endeavor. But precisely here we can use a special tool to help us, one that may seem more evanescent than fibers but is actually far more robust: language. The languages of today are merely changed later forms of older and older languages (Figure 1), carrying embedded within them the things people have wanted to talk about. Some information will have gotten lost, but there is much left to dig through.

Let's take an instructive example. The word *cannabis* (from Greek κάνναβις) doesn't make sense, when you think about it. Or at least when I finally came to think about it seriously. In my graduate courses in historical linguistics, we were told that Greek *kánnabis* was clearly related to words in other Indo-European languages: Latin *cannabis* (borrowed from Greek), Armenian *kanap'*, Russian *konopljá,* Old English *hænap* (giving us modern English *hemp*), Sanskrit śaṇá- (ś from palatal *k*), and so forth. Yet the sounds do not quite correspond, so—we were told—the word must have been borrowed into each language subfamily after the Indo-European family broke apart around 3000 BCE. Hence this word was borrowed probably in the second millennium BCE.

Languages of today are merely later forms of older languages.

That seemed reasonable enough. The earliest known artifacts for exploiting hemp smoke were found in several of the frozen burials of Scythian (Iranian-speaking) nomadic herders at Pazyryk, in the Altai Mountains, from the fourth century BCE (Rudenko 1953:35, 62) (Figure 2). A century earlier, the Greek historian Herodotus actually described the use of hemp smoke by the Scythians (*Book 4*.73–75). He thought this was how the Scythians bathed, and marveled at how, after climbing into a tent full of hemp smoke, they were so pleased that they came out and ran around screaming with joy. (He seems to have missed the psychoactive part—didn't take one of those "baths" himself!)

Decades after graduating, while chasing the origins of cloth and clothing across western Eurasia, I hit a bump. Archaeological data clearly showed that people from Germany to Tibet had been using hemp since at least 5000 BCE. It became so important for its fiber that people must have had a word with which to talk about it during all those millennia, one separate from words for linen (flax), nettle, and eventually

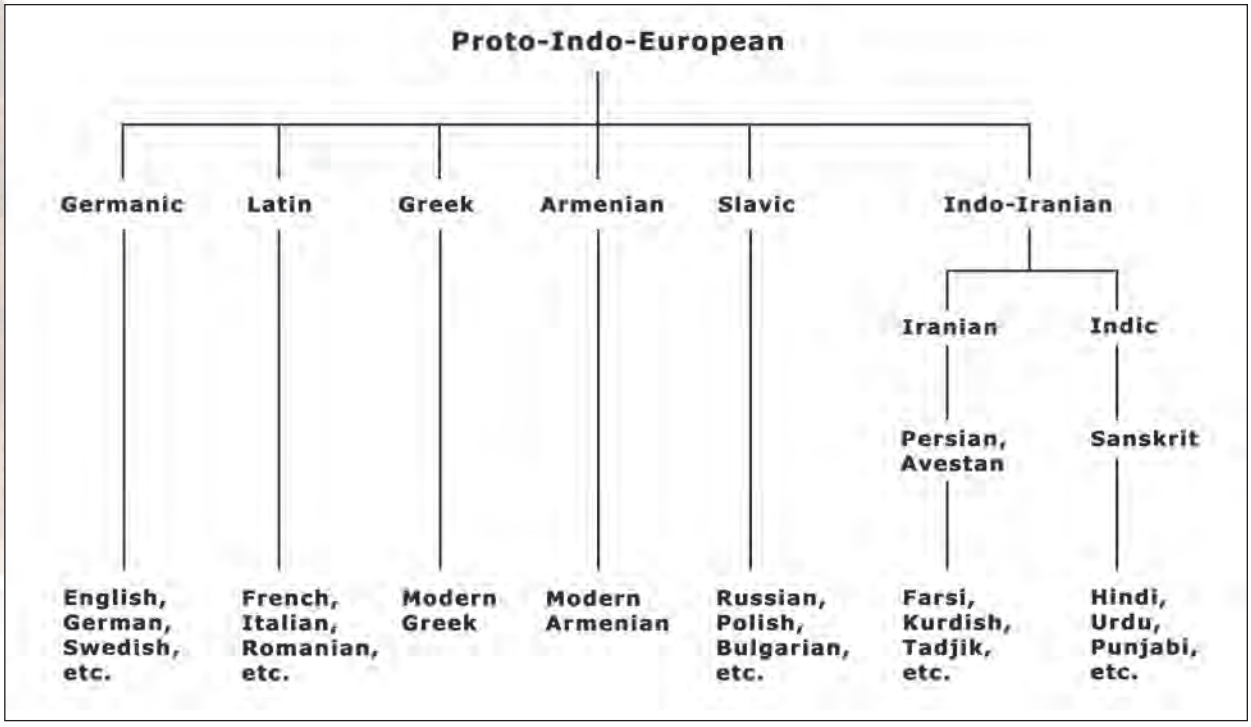


Figure 1. Partial family tree of Indo-European languages, showing only those language subfamilies mentioned in the text. Proto-Indo-European is the name given to the ancestor of this large group of languages. Evidence demonstrates that this proto-language was spoken around 3000 BCE, most likely in what is now southern Russia and the western Caucasus.

wool, all of which were important fibers, each with its own properties. Why, then, did they need a new word for something they had already known and used for three or four millennia?

Much sleuthing among botanists, archaeological reports, and virtually every language family from western Europe to India and eastern Siberia showed that the borrowed words indicated that types of hemp specifically bearing psychoactive chemicals began diffusing across Eurasia from northern India in the late second millennium BCE. You may be aware—our legislature is not—that hemp comes in many varieties. Those best for fiber contain essentially no psychoactive drug, whereas drug-bearing types are grown in a way that maximizes the psychoactive chemicals while rendering the plant largely useless for fiber. So with this new kind of hemp, one bearing a narcotic, a new word spread from India. It was something like **kanab-*, whence the words discussed in school.

As a side note: in India a second word form with a curious history existed. Narcotics, including hemp and opium, had been used by the Indo-Iranians since at least 2000 BCE. We know this because Soviet archaeologists found their residues in

Figure 2. Poles for a 45 cm (18 inch) high felt tent to capture hemp smoke, much as described by Herodotus; found in Burial Mound 2 of Iranian nomads at Pazyryk, in the Altai Mountains, dated to the fourth century BCE. With the tent were two braziers, one shown here, containing remains of hemp and cooking stones, which when heated would cause the hemp to smoke rather than burn. (Adapted from Rudenko 1970:photo plate 62)

special vessels in the early fire-temples of Turkmenistan (Barber 1999:162–64). Since mind-bending drugs were used to gain access to the spirit world, and since the spirit world—across the entire globe—has typically been seen as the reverse of our human world (Barber and Barber 2005:163–75), the Indic speakers went so far as to reverse the order of the sounds in the name of the drug. This turned the sequence **kanab* into **bhanag*—borrowed much later into English as *bhang* "narcotic hemp." (For the full story of hemp, including the spread of the word in Finnic, Altaic, Chinese, and Neo-Assyrian, see Barber 1991:15–19, 36–38. For other spirit-laden word reversals, see Barber and Barber 2005:171–72.)

Digging into the history of words can shed light on cultural history.

One can see from this tale that digging into the history of words can shed considerable light on ancient cultural history, including dating. Language has discernable layers, just like an archaeological trench. In fact, when pursuing technologies as perishable as fibercraft, we find that the words often survive rather better than the artifacts and can help us interpret the histories of the latter. Our common English words for fibers (such as *linen*, *wool*) as well as for textile techniques and tools (such as *weave, sew, needle*) go right back to the Stone Age. That they are shared with virtually all of of our linguistic cousins tells us that the speakers of our common ancestor-language, which we call proto-Indo-European (see Figure 1), already knew these fibers, as well as how to spin, sew, and weave, well before 3000 BCE. Archaeology agrees: spinning had spread across western Eurasia by 20,000 and true weaving by 4000 BCE. The abstract notion of numbers above five, on the other hand (pun intended), apparently came into being only in the late fourth millennium, in Mesopotamia, and the terms for six and seven clearly spread to both proto-Indo-European and the Caucasian languages from that area at that time (Barber and Barber 2005:214–16; Justus 1999; Schmandt-Besserat 1992).

There are many ways to excavate languages for information. For years I collected every textile-related term I encountered while reading ancient Greek literature. Finally I made a huge flow chart of the steps needed for making cloth, starting with "catch your sheep" and "harvest your fiber-plant" on through the various processes for obtaining and cleaning the fibers, spinning them into thread or yarn, setting up the loom with all its parts (here using hard-won archaeological knowledge of the type of loom known to the Greeks), all the way to finished cloths of various types. Then I laid each Greek vocabulary card onto the appropriate box on the chart.

And something odd happened. Some boxes had one or two cards, others none, and others . . . well, the box for "thread, yarn, string" had more than 20 cards on it!

One or two cards was okay; 20 meant that the lexicographers didn't understand the technological differences. But no cards at all? For example, how could Aegean weavers, who often wove as a team on their upright warp-weighted looms (Figure 3), possibly have functioned without any word for the most crucial moving part of the loom, the heddle? Heddles are thread loops on the warp that allow the weaver to pass the weft bobbin efficiently through the warp to form cloth. Until people got heddles, they basically did not "weave"—they laboriously twined or darned the weft into the warp one thread at a time. In the archaeological record, you know they've gotten heddles when they suddenly switch from twining to true weaving and switch from making a little bit of cloth to a lot. My accumulated data suggest, in fact, that the complex notion of the heddle was invented only once, probably in southeastern Europe in the late Palaeolithic, slowly spreading worldwide from there across Eurasia by 4500 BCE, finally jumping over to the northwest corner of South America about 2000 BCE, whence the notion spread south down the coast and north through Central America, reaching the Four Corners region about the time Europeans arrived from the Atlantic side (Barber 1991; Jett 2014).

So how to find the crucial word for *heddle*? Try excavating the pile of words for string.

There I eventually I unearthed *mitos* (μίτος). Mitos is what Ariadne gave a ball of to Theseus to unroll and reroll to escape from the Labyrinth; so it was assumed

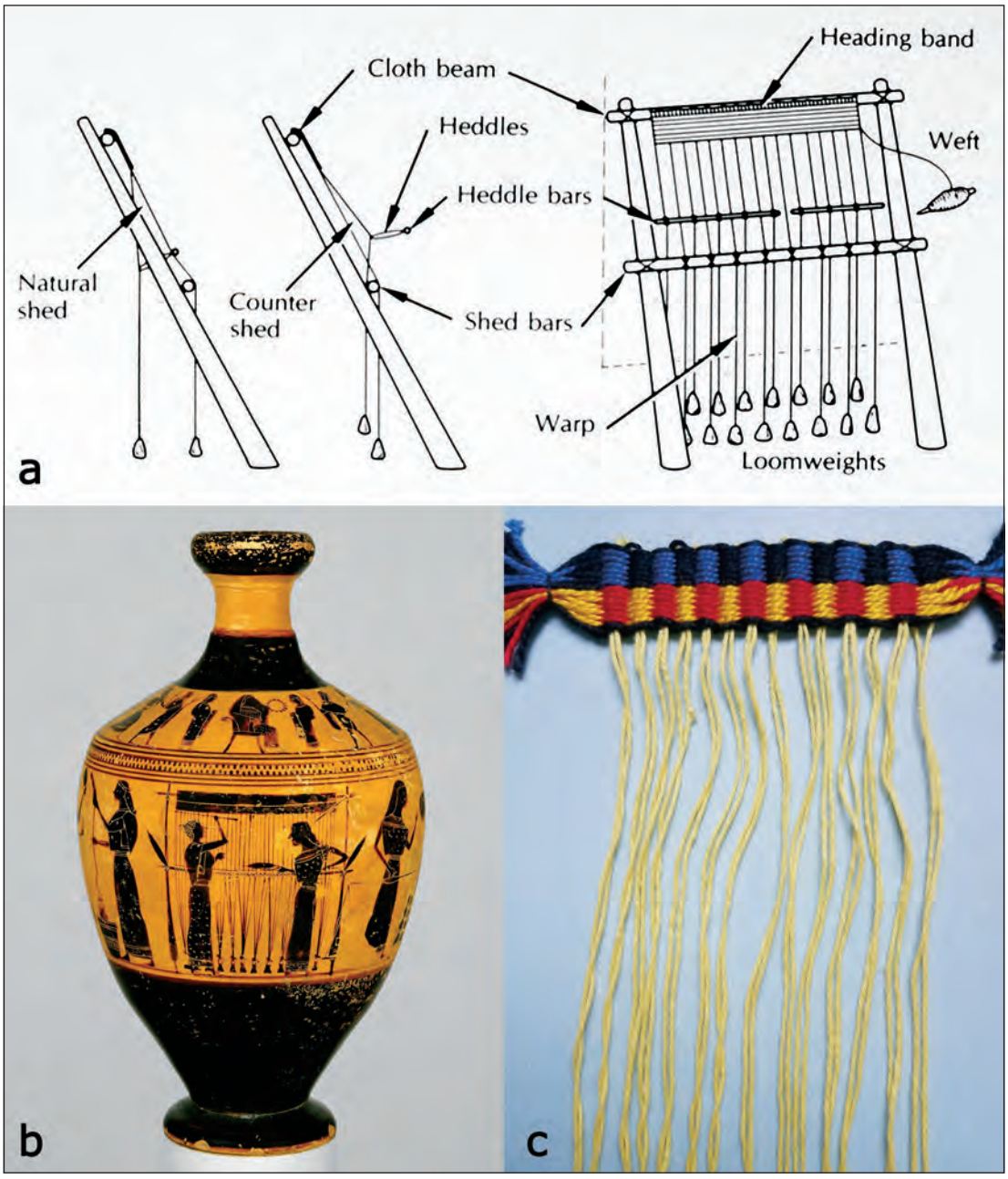


Figure 3. The warp-weighted loom. *A*, diagram of the ancient Greek form of the warp-weighted loom, with key parts labeled. Normally many threads, not just one, as here, would be tied to each weight. (Adapted from Barber 1991:270, figure 12.3) *B*, Attic black-figure vase attributed to the Amasis Painter, 550–530 BCE, showing women weaving on a warp-weighted loom, as well as other stages of making textiles. Normally two women wove together, but one could manage by walking back and forth, like Calypso in the *Odyssey*. (On display in Gallery 154 of the Metropolitan Museum of Art. Fletcher Fund 1931, accession number 31.11.10. Image in the public domain, CC0 1.0 Universal Public Domain Dedication) *C*, typical Mycenaean heading band used to form and anchor the warp—the yellow threads hanging down—for a warp-weighted loom, as rewoven by the author in the traditional Mycenaean colors. No other loom is warped this way, as the woven band serves to stabilize the warp before the weights are tied onto it (see diagram).

to be long and strong. Furthermore, the derivative *mitinoi* answers to Latin *licinae* "loops, heddles," from *licium* "noose, tether, girdle" (whence French *lisse* "heddle"). Now, when you set up to weave something on a warp-weighted loom, which we know from excavated artifacts was the kind used throughout the Aegean from Neolithic through Classical times (and was still used in Scandinavia in the 1960s), you hang the warp threads from the top beam, then use a ball of especially strong, slick linen thread to create the heddles, alternately looping this thread around a warp thread and then tethering it to the heddle-bar that will control the warp, all the way across the loom. Moving the heddle-bar back and forth creates two so-called sheds through which to pass the weft. When you finish weaving the cloth, you unravel the heddles,

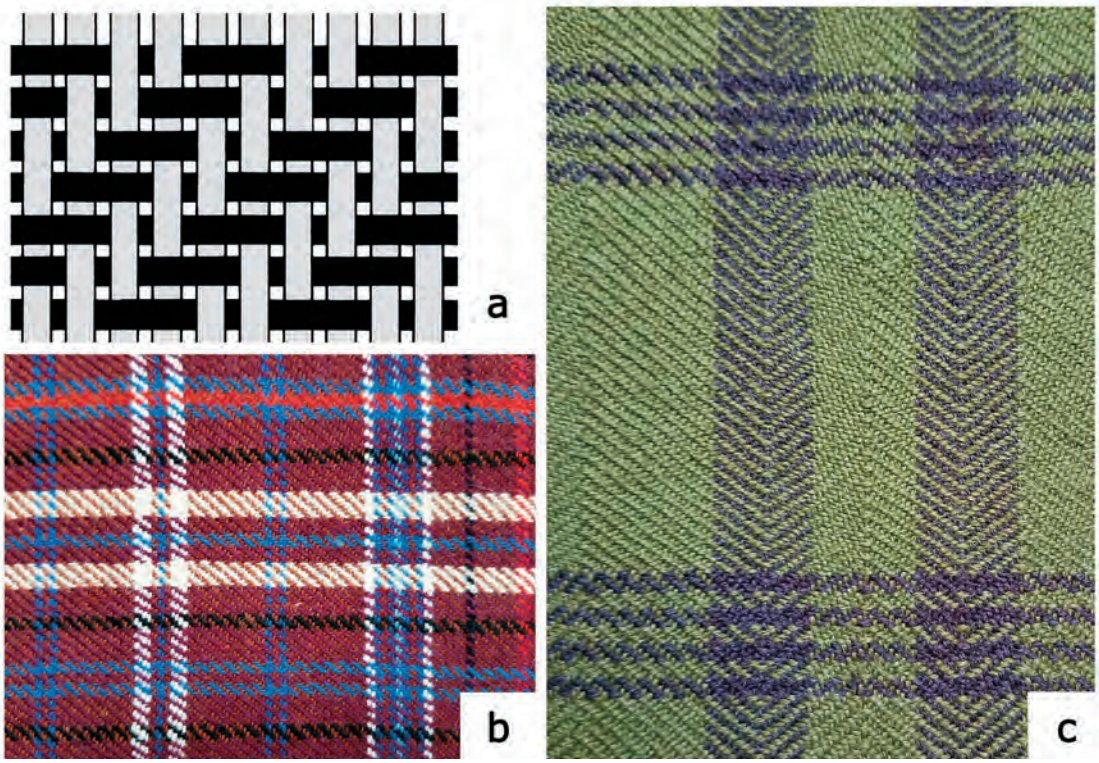


Figure 4. *A*, diagram of the most common twill weave, called 2/2-twill because each thread, whether warp or weft, goes over two and then under two of the threads at right angles to it, offsetting by one thread in the next row and thus creating the diagonal pattern. *B*, exact replica of plaid diagonal twill from a burial at Qizilchoqa, near Hami, Uyghur Autonomous Region, dated around 800 BCE; colors preserved by salty sand (woven by B. Ashendon). *C*, exact replica of plaid twill from an ancient salt mine at Hallstatt, Austria, dated around 800 BCE. Note that the weaver changed the direction of offset every few rows to form zigzags (the warp runs horizontally here). The colors may have been chosen so that a garment of this cloth would provide good camouflage in the surrounding forests: green-based Scottish plaids are still called hunting plaids (woven by the author).

roll up the ball of heddle-string, and store it away as an essential component of your loom, ready for next time—or for handing to a hero in distress.

What finally convinced me that *mitos* really had to be the missing word for heddle-string was my quest for another important missing term, that for twill. Archaeologically we know that twill was the favorite type of cloth all over Iron Age Europe, including Greece. In twill weave, the warp threads are doubled sequentially (Figure 4), a technique well suited to weaving fine wool and to making the cloth very sturdy. The way most looms work, one needs two bars to hold the heddles for plain-weave but four bars for twill, so some call twill a four-shaft weave. But the peculiar structure of the warp-weighted loom, on which one set of threads always hangs free, requires *three* heddle-bars, not four, for twill. Among the undifferentiated cards for common types of cloth was one inscribed *tri-mitos* "three-*mitos*"—three-heddle cloth: that is, twill specifically as it is made on a warp-weighted loom!

Once I had ferreted out more precise meanings for as many ancient Greek words as I could, I found

There are many ways to excavate languages for information.

I typically had two words for each box on the flow chart, sometimes three. Double vocabulary commonly occurs when a populace has had to function in two languages for a while. English is famous for this. Because of the Norman invasion of 1066, the official language of England was French for several centuries; so while the Anglo-Saxon farmer *sweated* as he tended and *ate* the *cows* and *swine* he raised while living in a one-*room house*, his French lord might *perspire* as he *dined* on *beef* and *pork*, sitting in a *chamber* in his *mansion*. All those high-class English words are from French, whereas the equivalent common words are Anglo-Saxon (Germanic) in origin.

So who was supplying the doublets in Greek textile vocabulary? (Remember: making cloth was a household occupation—you couldn't go to a store to

buy cloth or clothes, so wives and daughters spent most of their lives making them. From scratch.) From whom were they learning more about this craft?

One major source was the Minoans, expert weavers of fancy fabrics (Figure 5). Although we have not yet deciphered the Minoan script, we know a lot about at least one southern Aegean language that preceded the arrival of the Greeks, the language that left so many place-names in Crete and around the southern Aegean with sound sequences *-nth-* and *-ss-*, such as Corinth (Greek *Korinthos*), Zakynthos, Amnissos, and Tylissos (a geography first explored by Blegen and Haley in 1928), not to mention Minoan cultural inventions picked up by the Greeks like *labyrinthos* "labyrinth", *asaminthos* "bathtub", and *plinthos* "column base" and local edible flora like *minthos* "mint" and *lebinthos* "chickpea". So it was no surprise to find a kind of yarn called *merinthos*. One Semitic word turned up—*kanōn* "heddle-bar"—and lots of words with no readily identifiable source language.

What was odd, however, was that the words with good Indo-European etymologies were sufficient only for weaving little narrow bands and belts:

INDO-EUROPEAN		NOT CLEARLY INDO-EUROPEAN	
ORIGINAL TERM	TRANSLATION	ORIGINAL TERM	TRANSLATION
huph-	weave	*az-/att-/ ast-*	weave heading band
histós	a stand, a loom		
histópodes	loom feet	*keléontes*	uprights for loom
antíon	cloth beam		
		kaîros	shed bar
		kanōn	heddle-bar
		mítos	heddle-string
		laiaí, agnûthes	loom weights
stēmōn	foundation, warp	*ētrion*	warp
pēnē	weft	*rhodánē*	weft
krek-	beat weft in with small pin-beater	*spath-*	beat weft in with big sword-beater

Figure 5. Woman wearing a flounced skirt, made of cloth with an intricate tricolor pattern of interlocking quatrefoils (a typical Minoan pattern), alternating with four-color striped cloth. The angle of her feet suggest that she is dancing in her garden. Cretans were famous in antiquity, as now, for their love of dancing. Part of a fresco found in a Middle Minoan villa at Hagia Triada, Crete, dated around 1600 BCE. (Adapted from Halbherr 1903:plate 10).

All the additional words needed to cope with the great warp-weighted loom have been borrowed. And that includes both of the words for loom-weights (Figure 6). This would finally explain why archaeologists find almost no loom-weights in Middle Bronze Age Greece (though they are copious in the Early and Late Bronze Ages), starting about 2000 BCE, for many think this is just when the Greeks first arrived in Greece. Over the next few centuries loom-weights start to reappear, and we also see that the words for them are borrowed into Greek. Combining the language and excavation information, we see that the

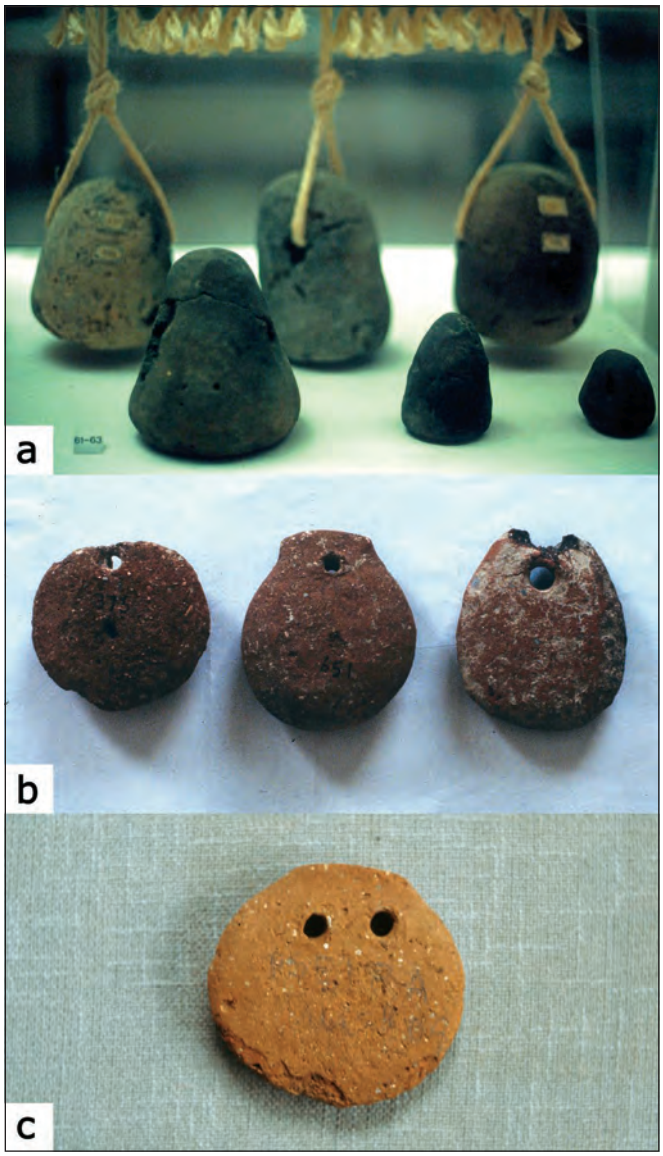


Figure 6. Two main types of Bronze Age European clay loom-weights. *A*, large globular weights similar to fieldstones (which were also used), answering to Greek *laiaí*. These vary greatly in weight and hence size, from 150 g (5 ounces) to 1 kg (2 pounds) or more. *B–C*, slim disc-shaped weights developed by the Minoans for intricate pattern weaving, answering to Greek *agnûthes*. For patterns, one needs many small weights, so these typically run 100-200g (3.5-7.5 ounces), less than 7.5 cm (3 inches) in diameter, and less than 2.5 cm (1 inch) thick.

> Greeks had to have come into Greece *not knowing* the warp-weighted loom but gradually learned how to use it from the locals they overwhelmed, picking up the needed vocabulary for the loom at the same time. This match in information from two very different disciplines greatly strengthens the long-debated assertion that the Greeks arrived about 2000 BCE. (For the full set of Greek textile words and their analysis based on the archaeology and the craft, see Barber 1991:260–82.)

Note once again that people come up with words for things they know about so they can talk about them. Conversely, if they don't know about something, they won't—can't—have a word for it. So when we find that the *proto*-Indo-Europeans (Figure 1) had reconstructable words for thread, weaving, sewing, a few metals, numbers from one to ten (and 100), and certain plants and animals, both domestic and wild, we know they already knew about these things when they started to split up and migrate in various directions. While splitting spread their culture, it also caused their language to split, changing slowly into the many branches of Indo-European we know today. But the fact that the proto-Indo-Europeans already knew quite a bit about the technology of metalworking means they cannot have split up before that technology *came into being* late in the fourth millennium; the same goes for their knowledge of numbers above five. So it is intrinsically impossible that the speakers of the language defined and reconstructed as proto-Indo-European could have been responsible for spreading out and carrying agriculture across Europe around 6000 BCE (a linguistically indefensible position argued by Renfrew 1987) when the invention or discovery of so many things for which they had names in common was still far in the future. Maybe some of their distant ancestors spread agriculture, but that's quite another matter.

There are other, fun ways to excavate languages in the service of archaeology and historical reconstruction. When I was writing a women's studies book on the economic prehistory of textiles for a New York press (Barber 1994), my editor wrote to say that I needed more stories to enliven the Palaeolithic chapter. Stories?? With no written texts that early, how do you find stories? Then I recalled that, when I was chasing words for hemp all over Eurasia, I had found a dictionary of those terms that were reconstructable for proto-Fenno-Ugric (Collinder 1955). It had no index or other way of locating words for hemp, so, since the dictionary was short, I started simply to read through it from the beginning, hoping I would get lucky. Suddenly I realized something much more interesting. The *meanings* of those reconstructed words represented only things known in the late Palaeolithic or earliest Mesolithic: proto-Fenno-Ugric was pre-Neolithic! So I relocated this dictionary, and using just these meaning units, I put together an instructive walk through the day of late Palaeolithic northerners, peering at the world from their (linguistically encoded)

eyes. In the following excerpt, the italicized words represent words that had to have been present in proto-Fenno-Ugric; hence the meanings had to be known to its speakers. We pick up some women as they set out to forage (words for domestic plants and agriculture were not yet present) while the men hunted:

> To deal with the youngest children while they gathered, the women had *portable cradles*, probably made from short poles and soft hides. To help in their collecting, they fashioned containers such as *baskets* and *birchbark pails*, by *peeling the bark* from *birch*, *willow*, and *linden* trees.
>
> Among the tastiest things to collect were the various sorts of wild *berries* and *seeds* that ripened in the summer [*thaw-time*], as well as *eggs* from the *nests* of the many *birds* that roosted there. (As for species, we hear of *grouse*, *sparrows*, and *crows*.) But these people also knew of *intoxicating mushrooms.*
>
> Collecting had its little hazards. A variety of *sticker-bushes* like nettle, thistle, and wild rose grew in the area, for which the inhabitants had a single name. After all, what you needed to know about them was not their botanical classification but the practical fact that those plants were the kind that hurt! The foragers also encountered *snakes, lizards, worms, ants*, and—scourge of the tundra—hungry little *flies* and *midges*.
>
> They had a special word for *tent-poles*, which they could have fashioned from *aspen or poplar, spruce, fir*, or any of the other abundant trees. They also built *raised wooden storage frames* for *hoards* of food to be preserved.
>
> But to keep these precious stores safe from prowling *wolves* and other predators, they had to build protective *fences*.
>
> Interestingly, they designated *hunting and fishing* with the same word. As weapons they could use *nets, lines, traps*, *arrows*, and *knives*.
>
> If the kill or the catch was big enough, *sledges* made with *runners* could serve to *drag* or *carry* it home. (Barber 1994:48–50)

A quite unexpected but accurate window onto Palaeolithic life, simply from mining the reconstructable vocabulary. And no, they did not have a special word for hemp yet, just—as with sticker-bushes—an undifferentiated word for any plant with usable fiber.

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Late Antique Portraits in a Villa in Roman Gaul

Sarah E. Beckmann

Among other things, Late Antiquity is characterized by a sharp decline in the production of marble statuary. Extant examples of even the most quintessentially Roman sculpture types, such as portrait statues and busts, are rare in this period (circa 284–500 CE) as compared with the High Empire (circa 69–235 CE). This is especially true in the Roman West and in provinces such as Gaul and Hispania, where I have been working since 2014. But, as luck would have it, while researching the role of provincial elites and *villas* in southwestern France this past summer, I came upon two Late Antique portraits.

These portraits were recovered in late-twentieth-century excavations of the villa of Lamarque, located near present-day Agen in central Aquitaine (Figure 1). They were elements of a larger program of decorative and structural renovations at the villa in the fourth century CE, probably designed to outfit and update the residence for important social negotiations. Both heads depict middle-aged men and are sculpted in fine-grain white marble, but it is here that the similarities end. One of these portraits—a beardless male with a face and hairstyle that evoke the style of the Theodosian court—seems to have been made *ex novo*, but the other portrait, which represents a bearded male, was recut from an earlier portrait (Figure 2). That is, the latter portrait was first created in the second century CE and years later it was recarved for reasons as yet unknown. My interest in these heads, and in the aesthetic and technical differences between them, is twofold. Firstly, they are rare evidence of a contemporary marble portrait tradition. Secondly and perhaps more importantly, I think these objects—neither of which has been published in great depth—can help us think about the economics of marble in Late Antiquity. Their presence in a rural villa in the western provinces suggests that, despite a dwindling number of finds in the later Roman era, the production and

These marble heads are rare evidence of a portrait tradition.

Figure 1. View of the semicircular colonnaded entrance to the bath complex of the villa of Lamarque, appended to the western corridor of the residential quarter in Late Antiquity (*pars urbana*).

circulation of marble statuary is more complicated and more dynamic than we previously thought. (See Smith and Ward-Perkins 2016 for a summation of the evidence and emphasis on marble ateliers in the eastern Mediterranean).

WORKING WITH (LATE) ROMAN PORTRAITS

Although I have long been interested in Roman sculpture, portrait statues and busts are a new direction in my research. Indeed, portraiture is a distinct species of Roman sculpture and has been treated separately from mythological statuary or architectural sculptures. Roman portraits have a long history in German art historical scholarship (Fittschen and Zanker 1983–2014). The influence of this scholarly tradition is such that stylistic analysis of a Roman portrait remains an important component of any academic argument, even if the scholar, like myself, is ultimately interested in sociohistorical narratives.

To that end, dating a Roman portrait is an essential component of an argument about portraiture. To do this, scholars look at the aesthetic and technical features of a portrait, which are then compared to known portrait types of Roman emperors. The imperial types are themselves based largely on those identified in coinage. For scholars working with portraits from the High Empire, it is relatively easy to date finds in this way. In the imperial period, even

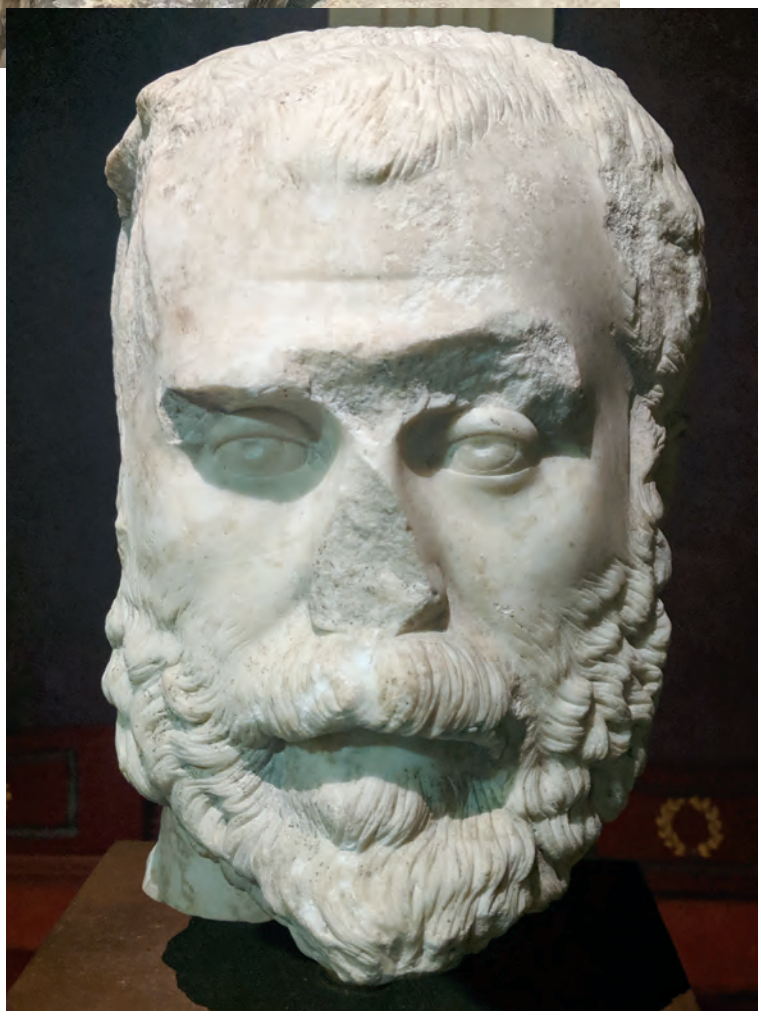

Figure 2. Recut male portrait from the villa of Lamarque, in the Villascopia site museum (Castelculier, France).

portraits of unknown individuals (called private portraits in scholarship) can be dated stylistically to a rough chronological moment, because the portraits tend to reflect and adapt imperial portrait styles. This practice of imperial imitation, however, does not continue into Late Antiquity. Rather, by the later fourth century CE, private portraits of elite men bear little resemblance to the contemporary emperors and exhibit great stylistic and technical variety (Bergmann and Kovacs 2016).

Recent scholarship on Late Antique portraiture has attempted to account for and explain both the iconographic variety of the finds and their dwindling number. With respect to variety, some see it as a material consequence of Late Antique hierarchies (summarized in Kiilerich 1993). That is, the increasingly bureaucratic nature of the government during the Late Empire further detached the emperor from his subjects, elite or otherwise, and the imperial look was gradually restricted to the imperial family. Others, however, associate the stylistic variation in Late Antique portraits with changing workshop traditions and the broader decline of the sculpture habit (Ward-Perkins 2016). According to this argument, variability correlates with a dwindling sculpture market, which is no longer fueled by large-scale commissions for the state as it was in earlier periods. Regardless, most scholars agree that the low number of finds for portraits made in Late Antiquity reflects a serious change in the marble statuary habit. The reasons for this remain unclear but they likely correlate with large-scale changes in the political structure of the Roman Empire, the sporadic attention to urban aggrandizement, and the growing popularity of two-dimensional artistic media such as paintings and mosaics for portrait representations.

> The production and circulation of marble statuary is complicated and dynamic.

I give you this brief summary of the scholarly baggage that accompanies the study of Roman portraits—as a genre and in Late Antiquity—so that you may understand somewhat my feelings of joy and trepidation upon finding two of these objects in the course of my summer fieldwork. What follows is a preliminary summary of these portraits—their date and also the evidence they provide for the marble industry in Late Antiquity.

THE RECUT PORTRAIT

As an example of marble recycling and reuse, the recut portrait of a bearded male is especially intriguing (Figure 2). This head, which is in good condition with only minor damage, is currently on display at Villascopia, the museum located on the site of Lamarque. It is not clear from the high break on the neck whether the head belonged to a statue or a portrait bust, although the latter is more common in domestic contexts.

Several features date the current portrait to the fourth century CE, most importantly the high polish, the forward-combed hair, and the long beard. A deep horizontal wrinkle stretches across the brow and emphasizes the man's age, but the rest of the skin is smooth in the manner of heavily polished Late Antique sculptures. The hair also evinces what became the standard Late Antique practice of rendering coiffures, specifically the combing forward of the locks from the crown to the forehead. Here, deep, long incisions made with a chisel separate individual locks of hair, and these locks are shown combed forward into a sharp widow's peak. Combed-forward long locks may seem like a minor detail, but in Roman portraiture, hairstyles are everything. This particular coiffure is significant because the chiseled but voluminous locks reflect a departure from the short, cropped military cuts that were popular from the mid-third century CE under the soldier emperors through the reign of Constantine and his successors.

This hairstyle and those long but chiseled (rather than drilled locks) are also evidence for the recutting of the portrait. To see this, we must look closely at the eyes, the beard, and the hair, all of which point to the initial creation of the portrait in the second century CE. Beginning with the face, we see a prominent brow ridge that shades but also accentuates deep-set, hooded eyes with drilled lachrymal ducts; the pupils

Figure 3. Fragmentary portrait of Marcus Aurelius from the villa of Lamarque, in the Villascopia site museum (Castelculier, France).

and irises are also lightly delineated with the drill. The dependence on the drill here, together with the downcast eyes and hooded lids, signals a piece made in the later second century CE, probably inspired by the portraiture of Emperor Marcus Aurelius (circa 161–180 CE; Figure 3). The facial hair is also reminiscent of late Antonine portraiture. The man wears a thick mustache that hides his upper lip, and a full beard. Along the jaw, the whorls of the beard are rendered as rounded tufts, loosely arranged in layers and brushed outward, as was the style of the second century CE. Unlike Antonine portraits from that era, where the drill is used frequently, in the Lamarque portrait, longer whorls of the beard that taper beneath the chin have been shaped by a chisel. These marks suggest that the beard was trimmed to remove the outer layer of a bushy Antonine beard, so as to accommodate the full but tight beard favored by elite men in the fourth century CE.

Finally, the smoking gun for the recutting of this piece appears in a profile view of the portrait (Figure 4). Atop the widow's peak we see a rather deep divot that crosses the head at the juncture of the frontal and parietal skull bones. The divot aligns roughly with a deep, long incision along the left jaw along the beard. Together, these details point to the removal of a superficial layer of marble, presumably excised during the reworking of the portrait. The removal of this layer suggests that the original was indeed a male portrait from the late Antonine era, which would have featured a profusion of voluminous, drilled curls (Figure 3), a style that had fallen out of fashion by Late Antiquity. In summary, the curious mélange of the long, shaped beard and the chiseled but voluminous locks of the hair marks the piece as recut in the later

Figure 4. Recut male portrait from the villa of Lamarque in three-quarter profile.

fourth century CE terminus post quem. Only in this period do voluminous coiffures and beards come back into fashion among the upper class after a long hiatus (Smith 2002).

WHAT MOTIVATED THIS RECUTTING?

A recut portrait is not uncommon in the Roman world, but it is unlikely that the head from Lamarque reflects the well-known practice of recutting called *damnatio memoriae.* The scholarly term refers to the destruction of an individual's image, carried out as part of a state-mandated project of oblivion. Indeed, this practice seems to explain the frequent recutting of imperial portraits in the early and High Empire. It was used to remove images of "bad" emperors, such as Domitian, from public view (Varner 2004). But in Late Antiquity, it becomes difficult to attribute the recutting of most portraits to *damnatio memoriae,* simply because a greater number of portraits were reworked in this period (Prusac 2011). In fact, this may be further evidence of the decline of the marble habit and decreased access to fresh-cut marble. It is possible that, faced with a diminishing consumer market and limited access to marble, Late Antique workshops were not always able to make contempo-

rary portraiture *ex novo*. Therefore they may have resorted to recutting as a means of making do with the materials on hand.

In Aquitaine, however, this argument is somewhat complicated by evidence for the quarrying of local marbles in the Pyrenees well into the fourth and fifth centuries CE. What is more, contemporary Late Antique portraits made in that local marble are known from the villa of Chiragan, a distant neighbor of Lamarque and one of the largest estates in the region (Beckmann 2020). This would suggest that if the Lamarque portrait were recut as a matter of necessity, it reflects not a dearth of fresh marble but rather changes in statuary production and workshop practices.

If we look beyond the party responsible for the recutting and consider instead the consumer and owner of this portrait, it is important to note that the decision to commission or accept a recut portrait in no way correlates with a disregard or distaste for Antonine sculpture, because other portraits from this era, including a head of Marcus Aurelius (Figure 3), were found at the villa of Lamarque. It is more likely that the individual who was initially represented in our recut portrait had been forgotten or was simply unrelated to the later owners of the villa, such that its upcycling was not an issue. Given the probable anonymity of the sitter in the second century CE portrait, it would appear that the workshop decision to recarve an antique head was a simple alternative to sculpting a new portrait. Expediency, moreover, may have been desirable if the piece was for a customer who required an ancestor portrait. In that case, the lush locks and beard of an old Antonine portrait would have been especially amenable to contemporary fashions, if trimmed ever so slightly.

THE SECOND PORTRAIT: AN EASTERN IMPORT?

We must be cautious of overly simplistic readings of portrait recutting as economically convenient, however, because of the other Late Antique male head found at Lamarque. The portrait also dates to the later fourth century CE, but it shows no signs of having been recut from an earlier portrait. Rather it appears to have been made *ex novo* and was perhaps even imported from the Eastern Empire. As previously mentioned, the face of this second middle-aged male is smooth and free of facial hair (Figure 5). The hair lacks volume and sits like a thick cap atop the head.

Figure 5. Male portrait from the villa of Lamarque, in the Villascopia site museum (Castelculier, France).

Here again, the locks of hair are combed forward from the crown to the forehead, although the regularized, straight locks give the coiffure a vaguely stylized aspect. Beneath the cap of hair is a strong brow marked by two small horizontal wrinkles; age is also suggested by the thin skin beneath the eyes and the pocketed cheeks. The eyes are deep-set and almond-shaped, framed by thick, chiseled eyebrows. The pupils, however, are marked with the drill and gaze upward. A date near the end of the fourth or the turn of the fifth century CE should be assigned to this piece because of the prominent eyes, their upward gaze, and the thick cap of hair and beardless face. These features find *comparanda* among the many figures arranged on the obelisk base of Theodosius, carved around 390 CE (Kiilerich 1993:Figure 6).

Figure 6. Southwestern face of the Theodosian obelisk base (Istanbul, Turkey).

We might be better served by reopening the dialogue about socioeconomics.

With such *comparanda*, I am of the opinion that this second portrait from Lamarque was likely made in a workshop in Asia Minor. That workshop probably catered primarily to elite members of the imperial court, now associated with the new power base at Constantinople (former Byzantium, modern Istanbul). The discovery of this Theodosian-style head at Lamarque, therefore, may mark the owner of the villa as involved in the late imperial bureaucracy in some way, perhaps serving in the senate in Constantinople or more likely as an imperial representative in the western provinces. The marble must be analyzed to verify claims for importation, but if the portrait was indeed sculpted in a foreign workshop, then together with the recarved head, it brings attention to the many ways that villa owners in rural Roman Gaul could acquire contemporary portraits, provided they had the means and the connections.

CONCLUSIONS: DIRECTIONS FORWARD

The notion of a variety of avenues for statuary acquisition in Late Antiquity is more provocative than it might seem. Previous scholarship on Late Antique sculpture and especially portraiture has stressed the importance of well-known centers of production in the eastern Mediterranean, such as Aphrodisias in modern-day Turkey (Smith 2002; Smith and Ward-Perkins 2016). The same scholarship has focused almost exclusively on the role of portraits in urban contexts, where admittedly such finds are concentrated. Yet in Aquitaine, which lay far from both the Eastern Empire and major urban capitals of the Western Empire, we have evidence for contemporary portraits, both new and refashioned. Moreover, contemporary portraits have been found at at least two other villas in the region, which suggests a peculiar concentration of these finds in Aquitania. There is no immediate parallel for what appears to be a localized, domestic habit of portrait displays. Going forward, we might be better served by reopening the dialogue about the socioeconomics of marble portrait displays in Late Antiquity, including those in rural contexts, those in residential structures, and the small but significant number of finds clustered in Roman Aquitania.

To conclude, let me offer some final thoughts on the function of these portraits in a Roman villa. This is, in fact, the subject of a forthcoming piece, so I will keep my comments brief. With regard to the display of these objects, it is unfortunate that the excavated context gives us no clues. The two heads were found interred together near the monumental entrance to the villa, alongside a marble cup (Jacques 2006:Figure 1). The clustering of marble objects may evince a purposeful deposition, but it does not give insight into whether these heads were once displayed together as family heirlooms. What is more, the stratified context of the portraits corresponds with the final phase of the reuse of the site, when the villa was reorganized as a site for artisanal production in the late fifth or early sixth century CE. But it would seem that the destruction of the villa and its domestic decor confirms the ancestral function of the portraits, for when the villa ceased to function as an elite Roman residence, its portraits were rendered nonfunctional as well. Their message of ancestry and legacy was perhaps no longer viable in the early sixth century CE, which underscores the changing face of the elite class in the post-Roman world.

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The ASArt-DATA Project: An Integrated Approach to the Study of Saharan Rock Art

Marina Gallinaro[1]

Rock art represents an extraordinary view of the past. Paintings and engravings are among the most tangible remains of the symbolic and social world of ancient societies. Furthermore, the artworks can provide important insights about their materiality, such as raw materials, techniques of production, and so on. This can reveal valuable information on the technical expertise of their creators and their knowledge of the surrounding landscape and its resources. Worldwide, important regions with prehistoric rock art include western North America, northern and southern China, Australia, western Europe, southern and eastern Africa, and the Sahara region of northern Africa. Africa hosts dense concentrations of rock art galleries all over the continent. A recent estimate included more than 500,000 sites (Smith 2013). This represents a minimum number; more sites remain unknown, while many works are no longer visible. This impressive heritage is affected by two issues, one related to its extreme fragility and the other to its persistent marginality in archaeological and anthropological research. Both issues also apply in the Saharan region.

Natural processes have resulted in irreparable damage to the art.

The Saharan massifs show significant concentrations of rock art sites, and the central massifs in modern Algeria and Libya play a unique role. Two of the main concentrations of ancient imagery, located in the adjacent massifs of Tassili n'Ajjer (Algeria) and Tadrart Acacus (Libya), were added to the UNESCO World Heritage Site list in 1982 and 1985, respectively. These were the first African rock art sites recognized in this way (Figure 1). Nine others were added many years later, but only one more in North Africa: the nearby natural and cultural landscape of the Ennedi Massif in Chad.

The artwork in the Sahara is mainly found in open-air contexts (Figure 2), from isolated boulders

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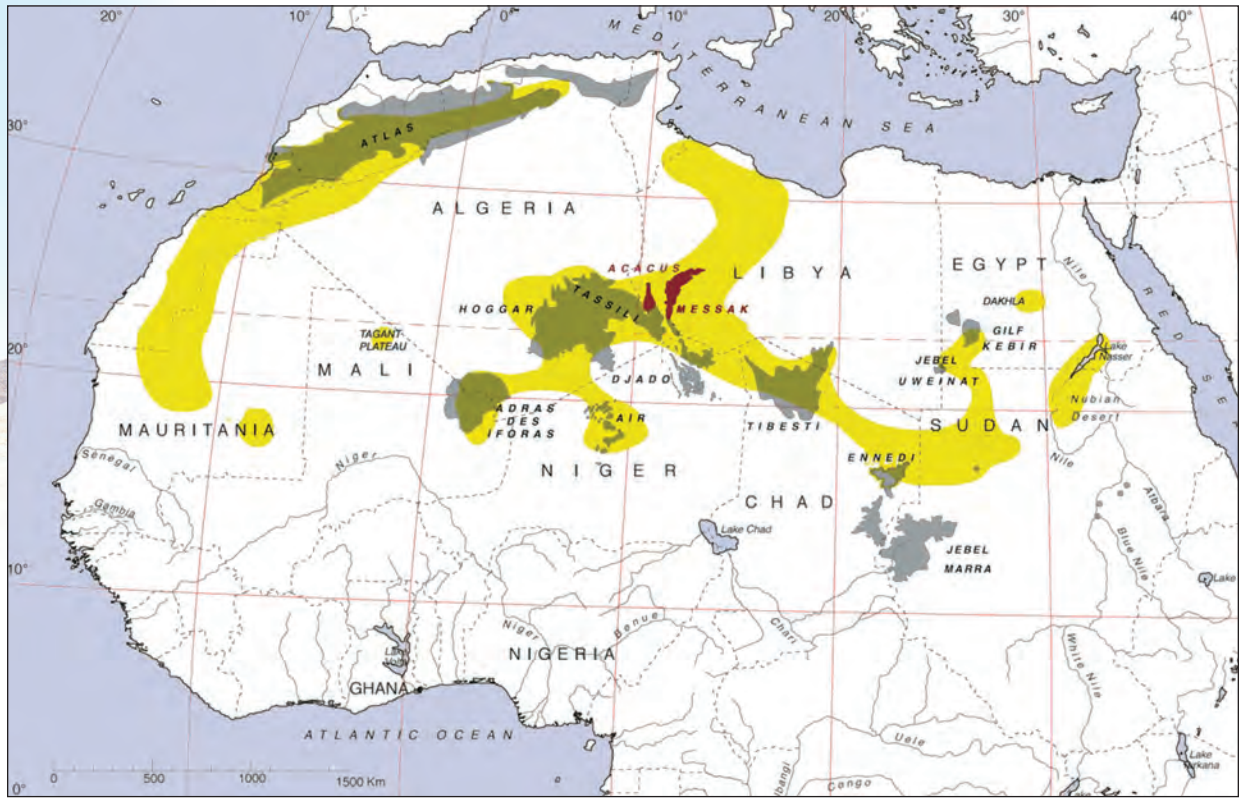

Figure 1. Map of the Sahara showing the main mountain systems, the major rock art concentrations (yellow), and the research area (red).

Figure 2. Open-air rock art site with engraved crocodiles in Wadi Mathendush (Messak).
(© The Archaeological Mission in the Sahara, Sapienza University of Rome)

Figure 3. Anthropomorphic figures painted on the vault of Afozzigiar I rock shelter (Tadrart Acacus). (© The Archaeological Mission in the Sahara, Sapienza University of Rome)

Figure 4. Tin Lalan rock art site (Tadrart Acacus) before (a) and after (b) being vandalized, when the paintings were covered with black spray paint. (© The Archaeological Mission in the Sahara, Sapienza University of Rome)

to exposed cliffs and, in the most favorable cases, on the walls of rock shelters and caves (Figure 3). In all these cases, the art panels have been, and still are, exposed to atmospheric and biological agents as well as an environment that has dramatically changed over the millennia. Natural processes, ranging from wind erosion to biochemical activities, have resulted in irreparable damage to the art, including exfoliation, the detachment of painted surfaces, and fading. The damage is increased by anthropogenic factors, such as indiscriminate economic development (including oil exploration, building, mining, agriculture programs, and the sudden influx of tourists), pastoral activities, and invasive rock-art-focused visits by tourists, as well as deliberate vandalism, including graffiti, scratching, detachment, looting, and seemingly foolish destructive actions (di Lernia et al. 2010 - Figure 4). Furthermore, the marginal role that rock art research has in the

archaeological and anthropological debate reduces the strategic interest in this heritage and impedes a mature local and international awareness of its cultural value.

The effort to integrate rock art within more general archaeological and anthropological work faces both methodological and theoretical challenges. The main problems are the difficulty of dating and the frequent lack of documentation necessary for a systematic analysis of the massive quantity of represented motifs. These problems have been dramatically influenced by the political and social crisis generated by the so-called Arab Spring, which started in the early months of 2011. Since then, the central Sahara has become dangerous and largely abandoned, with the effect that in 2016, the rock art sites of Tadrart Acacus were included on the List of World Heritage in Danger.[2]

THE ASART-DATA PROJECT

In January 2019 I joined the Cotsen Institute of Archaeology as a visiting scholar from Sapienza University of Rome to carry out part of my Marie Skłodowska-Curie project: Ancient Saharan Art: Decoding Art through Theoretically Sounded Archive (ASArt-DATA). This project is funded by the Horizon 2020 Research and Innovation Programme of the European Union under the Marie Skłodowska-Curie Grant, agreement 795744 (H2020-MSCA-IF-2017 Global Fellowship). The project involves different phases executed at either Sapienza University or the Cotsen Institute.[3] The aim of the project is to propose a new theoretical and methodological approach to prehistoric rock art through an integrated study of the artwork, combining archaeology, anthropology, visual studies, digital humanities, and cultural resource management. The main focus of the research is the Saharan rock art of the Tadrart Acacus and Messak Libyan massifs, located in the center of the Sahara Desert. The project is part of a much larger initiative involving archaeological research and cultural resource management activities carried out by the Italian Archaeological Mission in the Sahara of the Sapienza University of Rome (formerly the Italian Archaeological Mission in the Tadrart Acacus and Messak region). This initiative has been directed by Fabrizio Mori (1955–1997), Mario Liverani (1998–2002), and, since 2003, Savino di Lernia.

Important regions with rock art include the Sahara region of northern Africa.

In the region, rock art covers a long period, from at least the eighth millennium BCE to modern times. It is characterized by different styles (Figure 5), subjects, and techniques, which have been tentatively correlated to the complex archaeological sequences reconstructed for the study area (di Lernia 2018; di Lernia and Gallinaro 2011; Gallinaro 2013). The first rock art evidence in the region was discovered in the Messak area in the second half of the 1800s (Barth 1857–1858) and around the mid-1900s in the Tadrart Acacus region (Mori 1965). Since then rock art has assumed a prominent role in the archaeological exploration of the region, partly due to the impressive quantity and quality of the rock art galleries.[4] The early research primarily focused on a few sites or limited areas, mostly because of technical and accessibility limitations (Graziosi 1942; Jelinek 2004; Mori 1965, 1998). From the 1990s onward, extensive surveys documented a large number of rock art sites all over Tadrart Acacus and the Messak massifs. These surveys were carried out by institutional archaeological missions (Barnett 2019; Cremaschi and di Lernia 1998; Cremaschi et al. 2005; di Lernia and Zampetti 2008), as well as by independent travelers, who were in some cases remarkably careful and systematic (Van Albada and Van Albada 2000).

2. A decision made during the fortieth session of the World Heritage Committee, Istanbul, 2016; https://whc.unesco.org/archive/2016/whc16-40com-19-en.pdf.

3. As laid out in the proposal, the project includes a set of interconnected phases. Funding is granted to the Dipartimento di Scienze dell'Antichità of Sapienza University of Rome. The author, the Marie Skłodowska-Curie Researcher, designed the research and executes the project, under supervision of Savino di Lernia, Sapienza University of Rome, and Richard Lesure of the Cotsen Institute of Archaeology.

4. For a detailed overview and analysis of the different stages of rock art research in the area, see di Lernia 2018; di Lernia and Zampetti 2008; and Gallinaro 2013, and the references therein.

Figure 5. Examples of styles from the rock art sites in the Tadrart Acacus. (© The Archaeological Mission in the Sahara, Sapienza University of Rome)

After the end of the international embargo of Libya in the 1990s, the number of independent travelers and amateur researchers increased rapidly, resulting in an increase in the number of recorded rock art sites. However, these are only partially published, often among a plethora of more generic publications. Political turmoil starting with the Arab Spring marked the end of fieldwork activities and the sudden interruption of many activities related to the preservation and sustainable management of the cultural heritage in the area (di Lernia and Gallinaro 2014).

OUR RESEARCH PROGRAM

The ASArt-DATA research program includes four sections, with an archaeological research question and a more general interest on the role of rock art in archaeological and anthropological research, as well as attention to the dissemination and management of the rock art heritage. The different goals are intertwined and are designed to create a digital open-access *webAtlas* of the rock art in the Tadrart Acacus and Messak region (southwestern Libya); to create a new theoretical framework for interpretation of rock art produced by Saharan pastoral Neolithic communities living in the area between the late seventh and the first millennium BCE; to integrate rock art studies with archaeological and anthropological research; and to raise awareness of the preservation, promotion, and transmission of rock art heritage as a meaningful transcultural agent.

The collaboration with the Cotsen Institute is crucial to the project.

The collaboration with the Cotsen Institute is crucial to the project, as it incorporates the theoretical approach of visual studies and digital humanities. The input of Richard Lesure and the constant dialogue on theoretical approaches to ancient art; discussions on digital humanities with Willeke Wendrich; and the support of the Digital Archaeological Laboratory, directed by Deidre Whitmore, not only contribute to the project significantly but also create a base for a future collaboration.

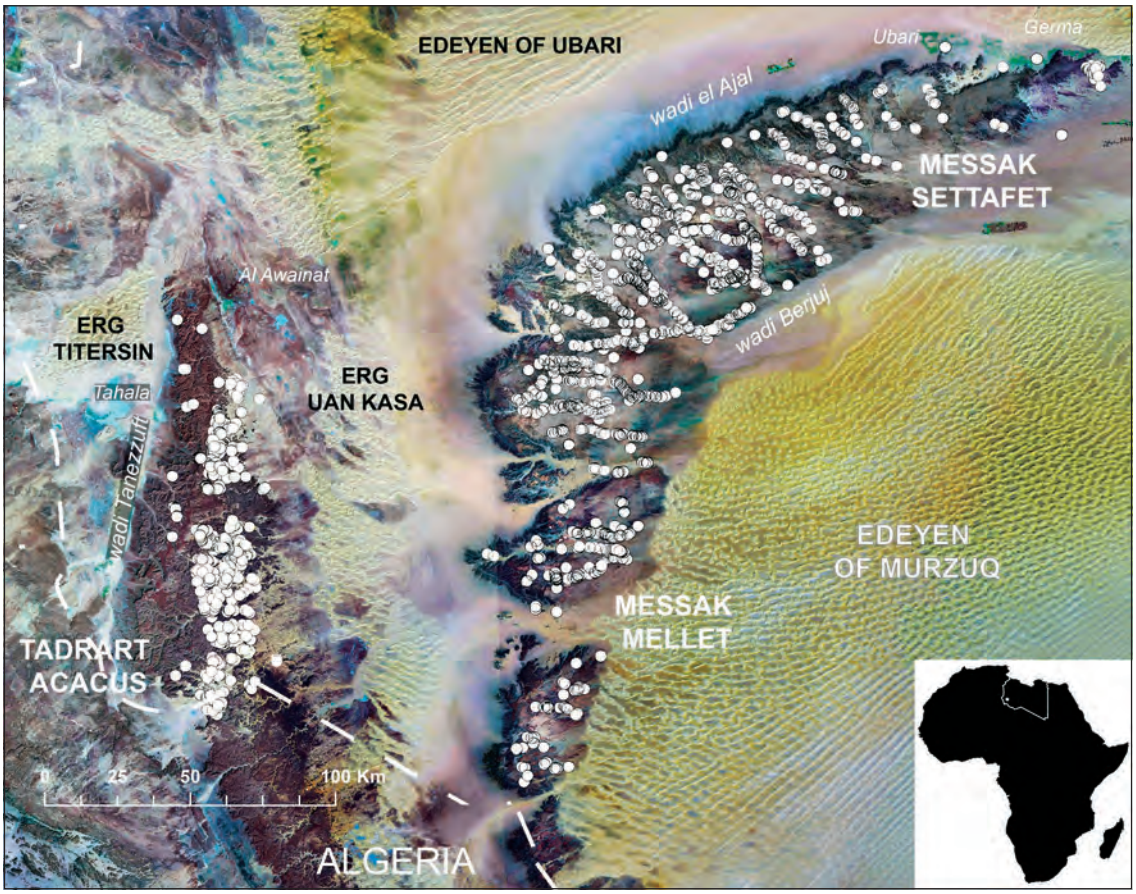

Figure 6. Detail of the research area licensed to the Archaeological Mission in the Sahara with the distribution of rock art sites included in the *webAtlas*. (Prepared by the author; © ASArt-DATA Project)

THE *WEBATLAS*

After many years of research in the Saharan massifs, improvement in information and data technologies and online resources allow us to create and maintain a cross-checked list of sites that were formerly registered in different archives, often under different names. The digital *webAtlas* proposed in our project will be site-oriented and based on an in-depth, theoretically framed logical and keyword organization. The database will hold general information about the sites, organized in five main blocks, including position and geomorphology, type of site and landscape, main rock art features, archaeological information, and data source. For each site, a synthetic description and a selection of images will also be published. The atlas will have an easy-to-use graphical interface and a flexible and modular structure to address the main issues of Saharan prehistoric art, including research, cultural heritage resource management, and dissemination and communication. In fact, no other atlases available so far allow both a scientific and a popular use of the comprehensive information on sites.

The *webAtlas* will rely mainly on the archive of rock art sites of the Archaeological Mission in the Sahara, on other sets of data from private archives, and on published data, for a total amount of more than 2,000 sites (Figure 6). An important aspect will be attention to ethical issues related to the publication of digital open-access archives, which will constantly be considered by the ASArt-DATA project. A memorandum of understanding, signed by the Libyan Department of Archaeology and the Department

Figure 7. Pastoral scene painted on the wall of Uan Amil Cave (Tadrart Acacus). Left: original photo. Right: version digitally enhanced with DStretch. (© The Archaeological Mission in the Sahara, Sapienza University of Rome)

of Ancient World Studies of Sapienza University of Rome, establishes a formal agreement with the only Libyan institution devoted to the safeguarding, conservation, and management of cultural heritage. This memorandum regulates ethical issues related to the dissemination of sensitive data—such as coordinates and accessibility—as well as the rules in terms of intellectual property.

The Creation of a New Theoretical Framework for Rock Art Produced by Saharan Pastoral Neolithic Communities

The specific research focus of ASArt-DATA is to propose a comprehensive archaeological and anthropological framework for the study of rock art, focusing on rock art produced by mobile pastoralists who inhabited this region from 6300 to 850 BCE, in more favorable environmental conditions than those of the present day. The research process will move from a specific and micro- to meso-regional scale of analysis of the represented figures, with a main focus on human representation, outlining variability, and local sets of regularities, to a search for enforcing regularities at the macro-regional scale.

A corpus of the main pastoral rock art sites, selected from the *webAtlas* archive, will be digitally recorded from existing sources, after which innovative techniques of image processing and digital enhancement, such as DStretch software,[5] will be applied to obtain high-quality and accurate recordings of images with faint colors and overlapping figures (Figure 7). The development of a theoretically oriented database will support a detailed iconographic analysis, leading to interpretative models of data patterning to reveal the ideological interactions of the Saharan region during the Pastoral Neolithic period.

The Integration of Rock Art Studies with Archaeological and Anthropological Research

The European tradition of research has not adequately fostered the integration of archaeology and anthropology. In particular, rock art studies have remained inadequately integrated and understood. The ASArt-DATA project will assume a transdisciplinary approach and help address this deficiency, using pastoral Saharan communities as a case study for a more comprehensive approach. The creation of an interdisciplinary and international working group involving colleagues and students in archaeology and anthropology, as well as

5. Harman, J. 2005. Using Decorrelation Stretch to Enhance Rock Art Image, http://www.dstretch.com/AlgorithmDescription.html (accessed October 7, 2019).

the organization of specific workshops or thematic sessions in international conferences, will help foster a reassessment of disciplinary integration.

Raising Awareness of the Preservation, Promotion, and Transmission of Rock Art Heritage as a Meaningful Transcultural Agent

Rock art is one of the most fragile heritage expressions, but at the same time it could be one of the most powerful tools to raise awareness of the cultural value of past remains. The immediate visual power of the art has an emotional impact on contemporary observers. A specific aim of the ASArt-DATA project is to exploit this underdeveloped potential, with the ultimate goal of strengthening the connection between archaeological and anthropological studies and also between academia and society. Combined sets of actions, including online publication of the *webAtlas,* public lectures, the use of social media, and seminars and programmatic meetings, will be addressed to different stakeholders—local institutions; international bodies devoted to the management, conservation, and promotion of rock art; and the general public—as the first tangible steps toward this broad and inclusive perspective. It is noteworthy that relevant parts of the *webAtlas* will be available in Arabic, starting with the first online publication, and a specific effort will be devoted to a full translation by the end of the project to guarantee that the data is readily accessible to Libyans and other North African peoples.

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Visualizing Rapa Nui (Easter Island): From Points to Profiles

Alice Hom

The Easter Island Statue Project (EISP), directed by Jo Anne Van Tilburg and Cristián Arévalo Pakarati, began as a targeted inventory of the megalithic stone sculptural object, of which the famous monolithic statues (*moai*) are a subtype. An ambitious initiative grew out of Van Tilburg's (1986) doctoral dissertation into a larger project to integrate data from research archives and active collaborators doing concurrent surveys. The purpose was to establish a dependable range of variation for the *moai* corpus within a local and island-wide context and to evaluate the vulnerability and sustainability of individual statues as part of our long-standing community archaeology project on Rapa Nui (formerly known as Easter Island).

Reconnaissance survey is a basic method of archaeological object inventory, used to document remains of the past that are visible in the landscape. The megalithic remains of Rapa Nui are easily discernible on the ground and on high-resolution aerial and satellite imagery. Our main survey goals were to compile an archaeological base map aligned with the municipal map used by contemporary researchers, plot the location of each megalithic stone sculptural object on our base map, describe associated remains using a defined object taxonomy, and link location and description data in a digitized archive to facilitate flexible research queries.

Reconnaissance survey is a basic method of archaeological object inventory.

Building an archive that would hold collective archaeological knowledge required a strategy for the filing of discrete descriptions and metric sources that could be combined and used in multifaceted ways. As cross-referenced identifiers, descriptions, and metric data were entered into database sub-records, chronological strata emerged, detailing of the archaeological recording of the object over time. All object and location data were evaluated and entered by staff members of the EISP, including those who worked with us in the UCLA Rock Art Archive and obtained field experience on Rapa Nui. Historical records were transcribed, translated, and standardized to be comparable with new digital data. For example, the unpublished field notes of Katherine Routledge—who codirected the Mana Expedition to Easter Island with her husband in 1914–1915—constitute a major comparative data set with supplemental statue metric records (Routledge 1919). Her imperial values for

Figure 1. Cristián Arévalo Pakarati and Matthew Bates survey the slopes of quarries in the Rano Raraku Interior Region. (Image copyright EISP)

statue dimensions, excavation levels, and distances between objects were converted into metric units and entered into the EISP database under her name. Her data correlated very well with modern measurements. Her field notes describing the condition of sites that have now been displaced by modern development allowed us to place the records of relocated statues at their original contextual sites. Many objects in the historical sources were documented without spatial locations and required re-survey to establish GPS coordinates. The lack of consistency across time and the multiple research methodologies remain significant issues that can be addressed as access to the original data of survey projects improves.

EISP GEOSPATIAL DATA METHODS

Without an authoritative map of the island, we initially compiled a base terrain map from published sources (Cristino et al. 1981), which was amended as more data became available. In archaeological mapping, a baseline terrain map should represent the first documented condition of the study area, including snapshots of the terrain at the time of each survey. For conservation purposes, a series of maps from aerial, satellite, and drone photography is useful in correlating environmental changes over time. Georeferenced spatial data from other expeditions were pooled with survey data collected by the EISP and ranked in a selection processing model to generate a representative contextual location coordinate for each object. Identification of previously mapped sites benefited from follow-up correspondence with numerous colleagues who provided additional insight and field notes from their original surveys. Casting a wide net of historical and new sources yielded documentation of previously unknown objects that were recently exposed or reburied. These were drafted back into their original contexts.

THE RANO RARAKU INTERIOR REGION SURVEY

The Rano Raraku Interior Region Survey was initiated by the EISP in 2002 at a uniquely situated crater lake site where *moai* were carved from the bedrock

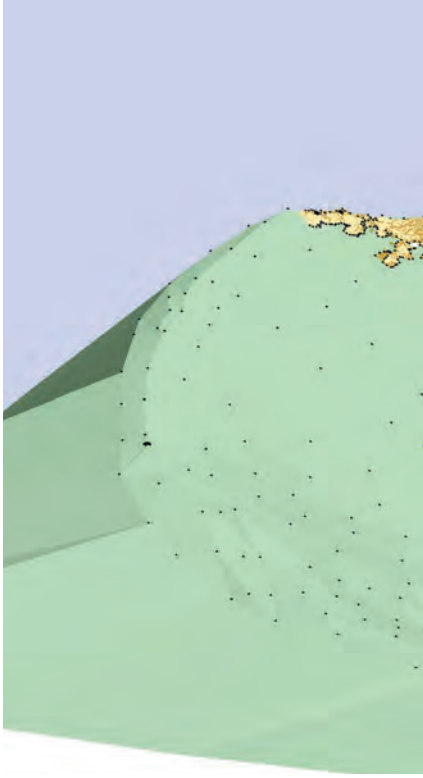

Figure 2. A three-dimensional ArcScene rendering showing the density of more than 15,000 GPS points collected by Peter Boniface and Matthew Bates during the Rano Raraku Interior Region Survey between 2002 and 2013. (Image copyright EISP)

on both the exterior and interior of the crater (Van Tilburg et al. 2008). The location is an area of intense tourism traffic but is also subject to restricted access because of the steep terrain and the fragility of the objects. A detailed 1:200–scale map of the exterior quarries, showing the outlines for each statue, was published in an archaeological atlas (Cristino et al. 1981), but the features of the interior quarries were represented only as symbols. Starting in 2002, we created a detailed interior quarry map, which became the foundation for the planning of the first major statue excavations conducted there since Thor Heyerdahl and his 1954 Norwegian Archaeological Expedition to Easter Island (Skjølsvold 1961). Another major outcome of the completed survey is an enhanced ability to assist the community of Rapa Nui in heritage preservation initiatives in areas with increasing tourism.

The first field survey season, in 2002, was conducted by Peter Boniface of California State Polytechnic University–Pomona, using the Thales Navigation stop/go GPS survey system. Boniface transferred local survey control points to Rano Raraku from the geodetic Easter Island Laser Station–JPL 4008-S (established by the Jet Propulsion Laboratory in 1992). From 2004 to 2013, Matthew Bates, also from California State Polytechnic University–Pomona, used a Trimble 5700 real-time kinematic base station, a Trimmark 3 base station radio, and a Trimble 5800 RTK rover (Figure 1). Following the 2004 field season, Trimble Navigation generously donated an R8 GPS system to our survey. A permanent survey marker was implanted in Quarry Section Q02 at the close of the survey in 2013.

ART IN THE SERVICE OF SCIENCE

Our artist-focused survey protocol grew out of three decades of familiarity with statue design, prioritizing the documentation of distinct quarry and statue attribute details. Basic location surveys usually involve collecting a single point per object with a separate field sketch for reference. Instead, our method was to produce field sketches as the basic documents upon which survey points were simultaneously recorded along the outlines of each object. Pakarati recorded every detail in pencil sketches in the field and then directed the surveyor to capture points at key locations drawn onto the sketch map. This resulted in a precise illustrated map documenting what is visible in the field at a specific moment in time. More than 15,000 survey points were recorded on the ground, resulting in a constellation of points anchoring the outlines of each statue, each quarry feature, and the contours of the slope (Figure 2).

Our survey protocol grew out of three decades of familiarity with statue design.

Each field season was followed by the process of converting the data into a digitally rendered map. The survey points were plotted in AutoCAD, handwritten metrics and field notes were entered into the database, digital photos were sorted in the image catalog, and the pencil sketch maps were scanned into raster image files. Our initial cartographical goal was a set of large printed map sheets, and the tools and methodology used were geared toward achieving this objective. From 2004 to 2009, graphic artists imported the points from AutoCAD into Adobe Illustrator, traced each scanned sketch, and edited the vector illustrations to fit the survey points. This resulted in a comprehensive digital map in orthographic projection, to be printed as 1:200–scale map sheets to match the previously published exterior quarry maps. The field sketches captured a perspective that was slightly dif-

Figure 3. An example of survey sketches by Cristián Arévalo Pakarati and the digitized ArcGIS map of the same area. The green arrows indicate locations of rock art. (Image copyright EISP)

ferent from the machine-generated orthogonal projection. Long objects situated parallel to the quarry slope showed the greatest discrepancies between the map points and the field sketches due to the foreshortening effect. The georeferencing task was art in the service of science, as sketches were adjusted and redrawn to fit the proportions of the ortho-projected points (Figure 3). Our map calls to mind early eighteenth-century maps. Its hand-drawn field sketches are aesthetically pleasing, highly accurate, and highly detailed line illustrations of the surveyed objects, conveying personally observed information that is cohesive as a whole. To ensure that the georectified sketch observations were correct, the digitized map underwent several rounds of field checks between 2004 and 2015. Intensive field auditing resulted in touch-up edits and the occasional addition of objects rediscovered after changes in environmental conditions, including fire, grass cutting, and erosion.

FROM POINTS TO PROFILES

While the locations of objects were being collected, we needed a way to organize the wealth of narrative and visual data associated with each object. The EISP online database was developed in 2009 with programming support from Ewan Branda, Academic Technology Services, UCLA. It replaced the single-user Microsoft Access database originally built to store metrics and field notes. Each statue now has an object profile webpage listing its metrics, history of observations, and commentary on interpretations. Simultaneously, we built ArcGIS geodatabases with technical assistance from Yoh Kawano, GIS coordinator at UCLA, to organize the growing amount of spatial data. With this convergence of digital archives, the objective for the Rano Raraku Interior Region map was broadened to be an accurate map that maintains a hand-crafted quality while also supporting GIS spatial analysis. The technical challenge was then to convert the vector lines from Adobe Illustrator to ArcGIS. The points were replotted in ArcGIS from the processed coordinate tables. Vector line work was exported from Adobe Illustrator into AutoCAD, imported into ArcGIS, and scaled again to fit the replotted points. An extensive period of style refor-

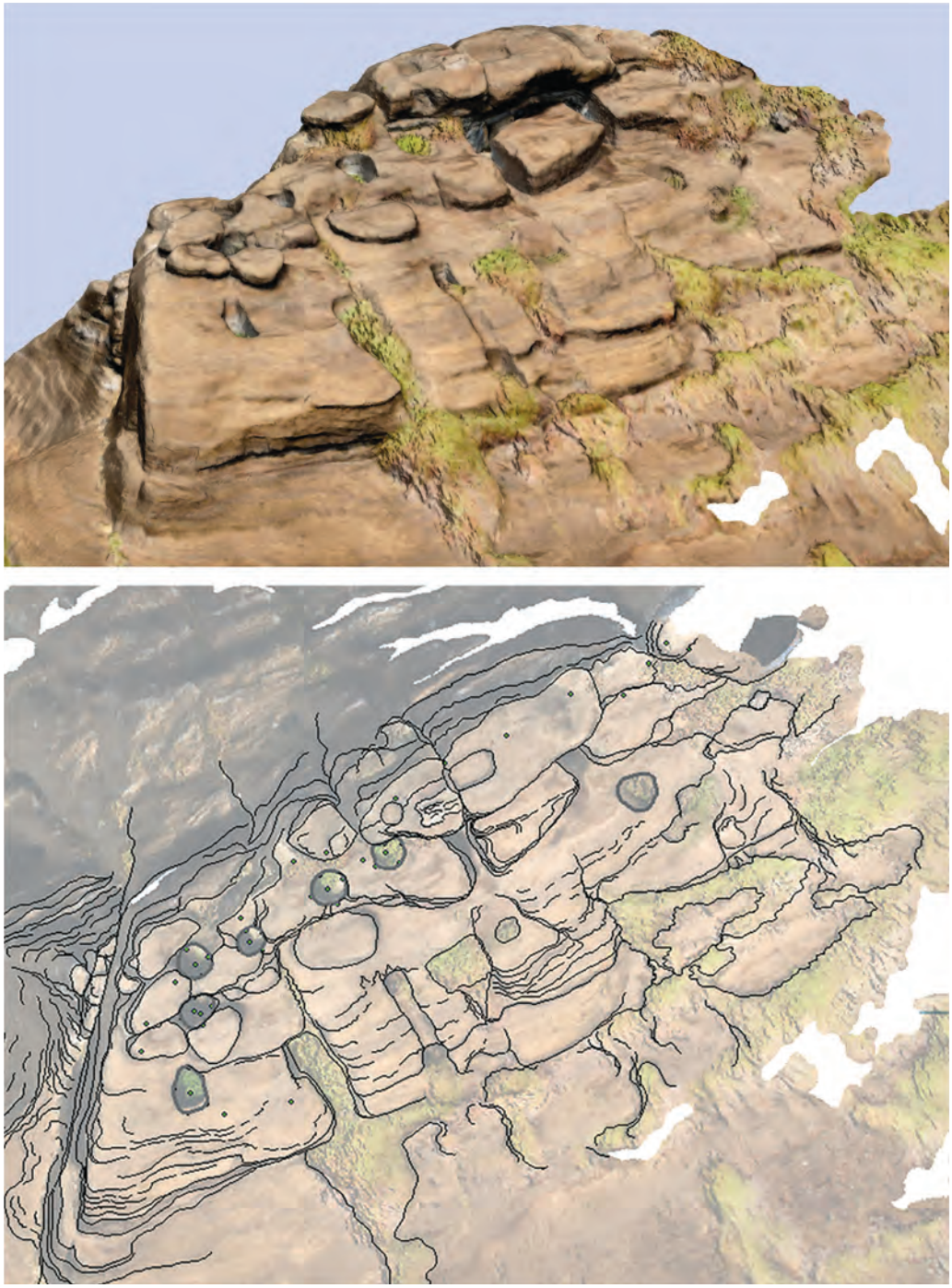

Figure 4. A three-dimensional photogrammetry model of Te Pu Makari (top) produced by XRez Studio, georeferenced using EISP survey points for detailing line work on the two-dimensional map (bottom). (Image copyright EISP)

matting was required, as was the entry of metadata to relate each map element to the object database records. Our work flow proved to be a valuable learning experience in data format acrobatics and prepared us for processing data from diverse archival sources. Our map developed into a foundational geospatial database supporting the display of and querying between additional cross-referenced data sets.

Digital geospatial technology matured in parallel with our mapping project, and newly available tools expanded the spectrum of possibilities for viewing areas of study from a wider context while capturing data in greater detail and precision. Satellite and aerial imagery of Rano Raraku became plentiful but was challenging to georeference satisfactorily, as its conical formation is projected differently depending on the angle of documentation. Bulk image processing technologies such as three-dimensional photogrammetry efficiently translated high-resolution photographs into

surface terrains. In 2013, Greg Downing, an imaging technologist and founder of XRez Studio, created a three-dimensional photogrammetric model of Te Pu Makari, a site containing large bedrock concavities and partially quarried blocks located at the peak of Rano Raraku. The model provided a 360° perspective not possible to get from the ground. To complete the blank area of the map, an orthogonal image was generated and georeferenced to previously surveyed points to provide supplemental information for the depiction of objects in a location too dangerous to survey on foot (Figure 4).

In our mapping endeavors we traversed many dimensions: tracing a living terrain onto a flat, two-dimensional line map, projecting the vectors back into virtual three-dimensional profiles while also traveling through time with the reactivation of archival data. The ongoing development of our island-wide base map and our commitment to adapting our recording, archival, and interpretive strategies are aims to ensure the future utility and reuse of the collective data. Our landmark survey of the Rano Raraku Interior Region is a component of the ever-growing Rapa Nui base map, which demonstrates the potential richness of combined data as an invaluable aid in statue conservation and as an asset to the community of Rapa Nui in understanding how their ancestors lived, worked, and raised families on the remarkable island landscape.

In our mapping endeavors, we traversed many dimensions.

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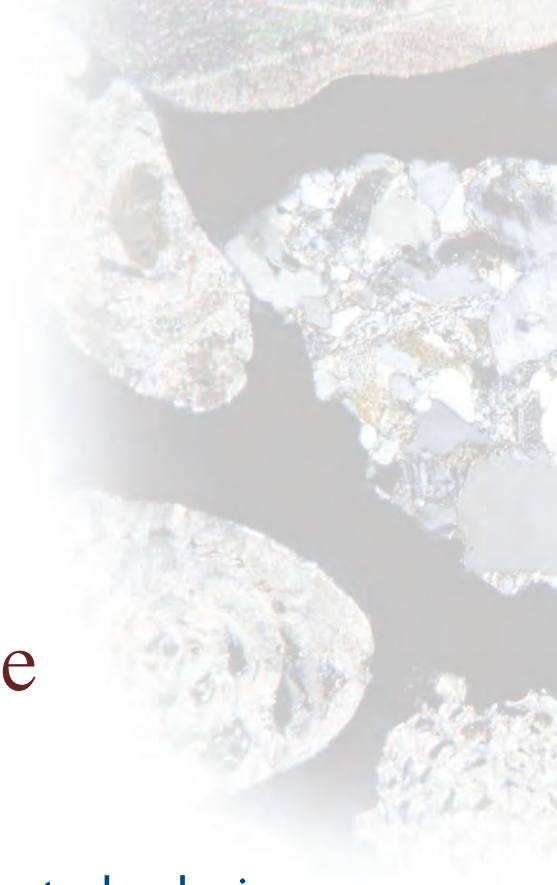

Geochronology and the Late Pleistocene Origins of Pottery: A Special Case from Southern Japan

Fumie Iizuka[1]

In the United States we are surrounded by a variety of material-based technology, ranging from laptops and cell phones to clothing, bicycles, forks, spoons, chopsticks, and cooking pans. Archaeologists investigate technology to understand human behavior and society, and the ways they change. In the past, some technologies were invented, adopted, and eventually abandoned; others went through a series of changes and continued to be used for millennia. Ceramics are among the latter. The oldest ceramic technology dates to the Upper Paleolithic in Europe (32,000–27,000 cal BP) in the form of fired clay pellets and figurines (Farbstein and Davies 2017; Iizuka 2018:267; Svoboda et al. 2015). Current evidence indicates that the first ceramic vessels did not appear until the Late Pleistocene. The oldest pottery is found in eastern and northeastern Asia ; this is suggested to be associated with hunting and gathering (Iizuka 2018:268). In this area, absolute dates for early pottery are between 20,000 and 17,000 years ago in South China (Boaretto et al. 2009; Cohen et al. 2017; Wu et al. 2012), between 16,000 and 14,000 years ago in the Russian Far East (Buvit and Terry 2011; Hashizume et al. 2016, 2017; Kuzmin 2002), around 14,000 cal BP in Trans-Baikal (Kuzmin 2017), and between 17,000 and 15,000 cal BP in Japan (Kudo 2012; Morisaki and Natsuki 2017).

Some technologies went through changes and continued to be used for millennia.

I currently pursue the topic of the origins of pottery in East Asia and argue here that geochronology is unreliable in certain regions and that without more and more accurate dates, it will remain difficult to conduct interregional technological comparisons and to understand intraregional technological and behavioral variability. I also introduce my research on pottery from the southern area of Kyushu, the southernmost major island of Japan. In this region, pottery is associated with a firm geochronology within the Late Pleistocene. This article is an excerpt of my research review on the origins of pottery in East and Northeast Asia (Iizuka 2018), with some recent research updates. Calibrated radiocarbon dates provided here are based on the calibration in Iizuka (2018), unless noted.

SOUTH CHINA

In South China, archaeological sites with Late Pleistocene dates that are commonly discussed in English-language literature include Xianrendong (Cohen et al.

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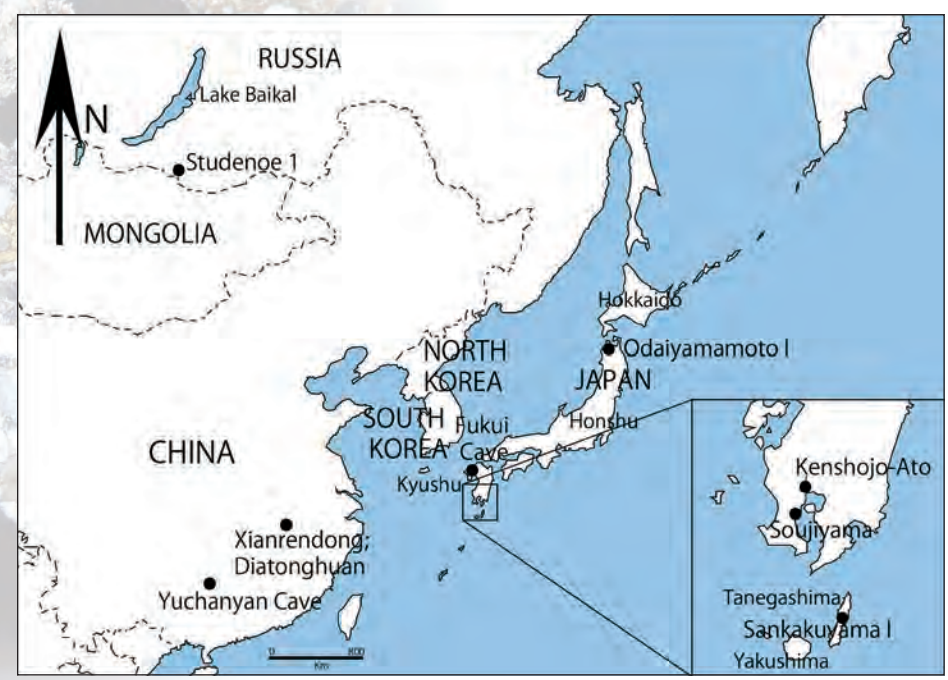

Figure 1. Map of eastern and northeastern Asia indicating the archaeological sites mentioned here.

Figure 2. A restored vessel of the Incipient Jomon from the Sankakuyama I site.

2017; MacNeish 1999; Wu et al. 2012), Diatonghuan (MacNeish 1999; Zhang 2002), and Yuchanyan (Boaretto et al. 2009; Lu 2010; Yuan 2002) (Figure 1). These sites are associated with limestone caves in the Yangtze River valley. The Xianrendong site was excavated by a group of Chinese scholars in the 1960s, by a Sino-American team in the 1990s, and again by a Chinese team in 1999 and 2000 (Cohen et al. 2017; Wu et al. 2012). The radiocarbon dates for the earliest ceramic phase, identified as the Xian Ren phase in the 1990s are between 17,625 and 16,775 cal BP (Sample UCR3440) and 15,225 and 14,165 cal BP (Sample BK95145) (MacNeish 1999). Zhang (2002) evaluated these early dates and suggests that the Xian Ren–phase materials are earlier than 14,992–14,164 cal BP. Environmental studies report both wild and domesticated rice (*Oryza sativa*) phytoliths in upper Xian Ren–phase pottery-yielding layers (Zhang 2002; Zhao 1996).

Wu et al. (2012) revisited the site in 2009 and obtained sediment blocks and samples from profiles of previous excavations for micromorphology and accelerated mass spectrometry (AMS) radiocarbon dating. They concluded that post-depositional disturbances are minor. The AMS dates associated with the earliest pottery were between 21,435 and 20,660 cal BP (Sample AA15005) and between 17,540 and 17,115 cal BP (Sample BA09872). These dates range between the Last Glacial Maximum and the early half of the Oldest Dryas, currently the earliest time periods for pottery in the world, meaning that pottery must have been adopted by hunter-gatherers, prior to sedentism and the cultivation of wild rice (Iizuka 2018:279; Wu et al. 2012).

The research history and new AMS dates are problematic given the wide range of dates associated with early pottery, the environment, and evidence for subsistence practices. In South China, the process of rice cultivation and domestication seems to have started in the Holocene (Higham and Lu 1998; Zuo et al. 2017). The limestone geology in South China has been shown to yield inaccurately old radiocarbon dates, with discrepancies as large as 2,000 years (An 1991; Lu 2010). I therefore suggest that the dates provided for Xianrendong may have errors of up to

Figure 3. The author collects raw materials on Tanegashima Island.

10,000 years and that the available materials and data need to be reevaluated.

Diatonghuan is a site near Xianrendong and seems to have similar problems (Iizuka 2018). It was excavated by a Sino-American team in the 1990s (MacNeish 1999; Zhang 2002). The radiocarbon dates for the earliest pottery are thought to be from the Xian Ren phase, 14,060–13,390 cal BP (Sample BK95138) (MacNeish 1999), or at least from 12,430 ± 80 BP (14,992–14,164 cal BP) (Zhang 2002) or 18,780–17,875 cal BP (Sample BA00014) (Wu and Zhao 2003; Iizuka 2018:279). This site yielded wild rice (MacNeish 1999), and domesticated rice phytoliths associated with early pottery (Zhao 1998), which Zhao (1998) estimated to be from the Early Holocene.

Yuchanyan was excavated by Jiarong Yuan in the 1990s and the Boaretto group in 2004 and 2005 (Boaretto et al. 2009; Yuan 2002). Boaretto et al. (2009) provided AMS dates from their excavation in a range between 18,300 and 15,000 cal BP for early pottery. The excavation and dating seem rigorous and reliable. However, sherd clusters from earlier excavations, probably associated with much younger dates—13,770–13,560 cal BP (Sample BA05420)—were found in relative close proximity to a sherd excavated in 2004 (Boaretto et al. 2009), should also be taken into consideration (Iizuka 2018). Whereas Boaretto et al. (2009) suggest that the site was used by hunter-gatherers, an earlier report by Yuan (2002) suggests that husks of wild and semi-domesticated rice were uncovered near the bottom layer, similar to contexts in which pottery was encountered (Iizuka 2018; Yuan 2002). Therefore Yuchanyan also suffers from discrepancies between the antiquity of the radiocarbon dates and the timing of the process of rice domestication.

TRANS-BAIKAL

In Trans-Baikal, early pottery-yielding sites associated with mobile foraging include Studenoe 1 (Figure 1). This site was investigated starting in 1975 (Konstantinov 1994). Buvit et al. (2003) conducted geoarchaeological studies at the site in 1998. The earliest pottery was encountered in Cultural Horizons 9 and 8 of Unit VI (Buvit et al. 2003; Khlobystin and Konstantinov 1996; Kuzmin and Vetrov 2007). Radiocarbon dates of Cultural Horizon 9G range between 14,025

and 13,305 cal BP (Kuzmin 2017; Razgildeeva et al. 2013). However, Buvit et al. (2003) demonstrated inconsistencies in radiocarbon dates of 10,000 years or more at this site in both Paleolithic and Neolithic contexts (Buvit and Terry 2011). Konstantinov (2016) suggests that Humic Layers 9 and 8, from which early pottery was recovered, developed during the climatic optimum of 7,000–6,000 cal BP (Iizuka 2018). The cause of the discrepancy between the radiocarbon chronology and the stratigraphic data is yet to be determined. In a poster presented at the 2019 conference of the International Union for Quaternary Research (INQUA), we hypothesize that among the causes may be old carbon originating from Lake Baikal (Konstantinov et al. 2019).

THE JAPANESE ARCHIPELAGO

Inferences based on sites in the Japanese Archipelago with absolute dates for Late Pleistocene pottery generally tend to be accepted in the English-language literature (Kudo 2012; Keally et al. 2003; Kuzmin 2013, 2017). Nevertheless, caution is required here as well. For example, the Odaiyamamoto I site in the Aomori Prefecture of northern Japan (Figure 1) has been dated between 17,200 and 14,300 cal BP (Iizuka 2018; Kudo 2012; Nakamura et al. 2001; Odai Yamamoto I Site Excavation Team 1999). The first problem is that the date of the site is partly based on the presence of stone tools belonging to the Chojakubo-Mikoshiba lithic assemblage, associated with the late Upper Paleolithic and Incipient Jomon (Sotogahamamachi Board of Education 2011). These tools, however, were dated by tephrochronology at another site without pottery, but containing similar stone tools, in the Aomori Prefecture. Another issue is the presence of anomalous radiocarbon dates, as early as 8,000–7,800 cal BP, which are not explained by a careful evaluation of the site formation processes (Iizuka 2018; Odai Yamamoto I Site Excavation Team 1999). A recent re-excavation in Fukui Cave, in the Nagasaki Prefecture on Kyushu Island in southern Japan, is detailed and has yielded abundant radiocarbon dates (Sasebo City Board of Education 2016). The timing of micro-level technological changes, however, appears difficult to discern.

My colleagues and I have chosen southern Kyushu as the focus of our research. With tephrochonology, this place has produced some of the most reliable dates for Late Pleistocene pottery in eastern and northeastern Asia (Iizuka 2018; Iizuka and Izuho 2017). Materials from the earliest pottery period, the Incipient Jomon (14,000-13,500/12,800 BCE), associated with foraging, are commonly encountered below Satsuma tephra, dated to 12,800 cal BP. Because of this, it is possible to conduct intraregional studies of technologies and reconstruct human behavior. We are interested in understanding intraregional behavioral variability and changes from the Upper Paleolithic to the Incipient and Initial Jomon periods, around 38,000–7,300 cal BP. We study stone tools and pottery technology, features, and site locations. We place these in the larger context of environmental changes such as global climatic fluctuations, local volcanic eruptions, biomes, and sea level changes (Iizuka and Izuho 2017; Iizuka et al. 2019a). Reconstruction of pottery technology such as production processes, uses, distribution, and post-depositional alterations is our core research purpose. With reconstruction of the technical process, we evaluate possible performance characteristics and intended functions of the recovered ceramic fragments (Iizuka 2013; Schiffer 1995, 2011; Skibo 2012). My colleagues and I have conducted visual analyses of Incipient Jomon pottery excavated at more than 10 sites (Iizuka and Izuho 2017; Iizuka et al. 2016, 2018, 2019a, 2019b). Parameters such as vessel forms, inclusion types, thickness, manufacturing techniques, Mohs hardness, reduction and oxidation patterns, and decorative techniques have been examined. The sites of Kenshojo-Ato and the Soujiyama on Kagoshima are presented here as a case study (Figure 1; Iizuka et al. 2018).

Reconstruction of pottery technology is our core research purpose.

There are more than 50 Incipient Jomon sites within the Kagoshima Prefecture (Iizuka and Izuho 2017; Kagoshima Prefectural Archaeological Center 2019). In southern Kyushu, features and artifacts of the Incipient Jomon include indicators of increased sedentism, with pit houses, game pits, possible smoking pits, grinding stones, and stone plates, but

with significant intersite variability (Iizuka 2018; Iizuka and Izuho 2017; Morisaki and Sato 2014). We have been studying sites on Tanegashima Island, off the southern coast of Kagoshima, as well as sites on mainland Kyushu. Pottery production likely began around 16,000–15,000 cal BP on mainland southern Kyushu. There are, however, only a small number of sites with both pottery and absolute dates from this context, and a further evaluation of the geochronology is necessary (Iizuka 2018).

Within the context of 14,000-13,500/12,800 cal. BP, pottery at Kenshojo-Ato comprises deep bowls and cylindrical vessels that can have raised bases (Aira City Board of Education 2005), while Soujiyama yields deep and shallow bowls with open to somewhat closed mouths and with raised, rounded, or pointed bases (Kagoshima City Board of Education 1992) (Figure 1). Body sherds from Kenshojo-Ato are thicker than those from Soujiyama. All pottery has sandy inclusions and was likely produced using raw materials available within a 10-km (6-mile) radius (Iizuka et al. 2018). Vessels were mainly made by the layering of slabs. Their Mohs hardness was below 2, with an average of about 1.5 at both sites. Vessels from Soujiyama had more variable reduction and oxidation patterns than those from Kenshojo-Ato. Whereas the majority of the material from Kenshojo-Ato is plain, sherds from Soujiyama tend to preserve appliques on the exterior.

Given these results, we assume that Soujiyama had more varied redox conditions and that pottery was produced and used for a wider variety of purposes than at Kenshojo-Ato. Both sites had raw materials readily available, and the relatively soft pottery was not suitable for long-distance transportation. Vessels were thus likely made and used locally. Pottery at both sites has sandy inclusions, indicating that producers prioritized heating effectiveness (Schiffer and Skibo 1997; Skibo et al. 1989). The thicker walls at Kenshojo-Ato, however, may demonstrate that this was less of a concern here than it was at Soujiyama, where walls were thinner (Braun 1983; Eerkens 2005). The common slab technique may indicate the prioritization of the ease of manufacture (Skibo et al. 1989) or that users belonged to the same linguistic group (Gosselain 1998; Reina and Hill 1978). If the application of exterior decoration had implications for the display characteristics of the vessels (Mills 2007), Soujiyama potters found this more important than those at Kenshojo-Ato (Iizuka et al. 2018).

Building on our visual analytical results, we are currently conducting instrumental analyses of pottery samples. Pottery sourcing is often done by adopting petrographic and geochemical methods (Iizuka 2017). Pottery thin-section analysis is among the most effective ways to evaluate sources of raw materials. For this, pottery is sectioned, mounted on a glass slide, and ground to a 30-micron thickness. The result is studied using a petrographic microscope in cross-polarized light. With this method, mineral and rock types, as well as organic inclusions, can be identified and quantified, and their size, form, and texture can be described. The results can be compared with geological maps of the locations of archaeological sites and areas with raw materials (clayey soils, rocks, and sand). If pottery displays the characteristics of raw materials available near an archaeological site, then the pottery is interpreted to be a local product. However, it is difficult to make such assumptions if the archaeological site is in a geologically homogeneous area. If there are inclusions of non-local origin that are also not introduced by river or sea currents, the pottery may have been transported from elsewhere.

Thin-section analysis is among the most effective ways to evaluate sources of pottery raw materials.

The use of the polarizing microscope at the Cotsen Institute of Archaeology helped us obtain the petrographic results presented at the 2019 INQUA Congress (Iizuka et al. 2019a). Based on our hypothesis that most pottery was produced locally but that some vessels may have been transported from a long distance, we examined 58 thin sections of Incipient Jomon pottery from Sankakuyama I on Tanegashima Island (Figures 1 and 2). We compared these with thin sections of sediments gathered on Tanegashima (with predominantly sedimentary geology; Figure 3),

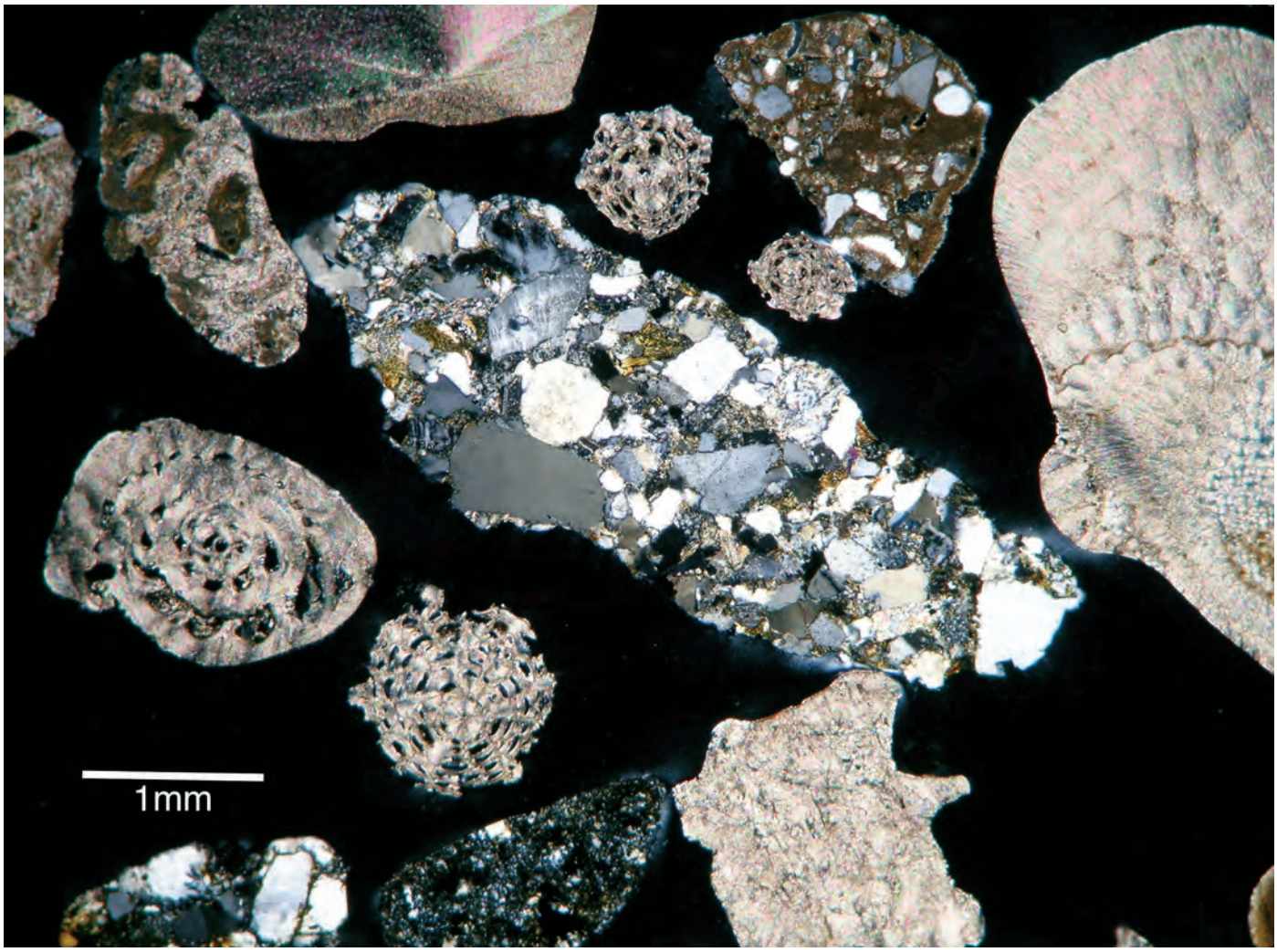

Figure 4. A microphotograph in cross-polarized light of inclusions from Tanegashima Island. The piece of sandstone in the center is surrounded by aragonite fragments.

Yakushima Island (about 17 km or 11 miles away, with mainly granite and sedimentary geology), and southern Kyushu Island (about 33 km or 21 miles away, with some granitic but mostly volcanic geology). The majority of the samples had signatures of local sedimentary geology (Figure 4), at times combined with tephra and minor amounts of naturally transported sediment from Yakushima. A few samples contained non-local granitic materials, likely derived from Yakushima or the Osumi Peninsula of Kagoshima. Our results were concurrent with the conclusions of our visual inspection (Iizuka and Izuho 2017) suggests that pottery was mainly produced by foragers with high degrees of sedentism during the Bølling-Allerød but with significant investments in the long-distance transportation of minor amounts of pottery. Details of this study will be submitted soon to an English-language peer-reviewed journal, so stay tuned for more.

In summary, early ceramic research at regional and interregional levels from the Late Pleistocene requires careful assessments of geochronology. Only with the proper understanding of it can we begin to compare materials from the same time ranges. The Satsuma tephra of southern Kyushu, where we run the project on the origins of pottery, is dated around the onset of the Younger Dryas. Satsuma tephra is found above the Incipient Jomon phase. This place, hence, is an ideal area to begin to reconstruct human behaviors involving early pottery production, uses, circulation, and post-depositional changes.

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Documenting Archaeologists in Action

Jeremy Là Zelle and Kristin Gates

From the cliff edge, the way down did not look navigable. The land fell hundreds of feet to the valley floor (Figure 1). It was the dry season in the northern Ethiopian highlands, but we could still see a stream glinting under the brutal sun at the canyon bottom. Luckily, we did not need to go far. After pushing our way through a section of waist-high brush at the edge of the plateau, we found a steep trail leading down. We scrambled carefully, inching our way along, stirring up dusty earth until we reached a ledge that was large enough to fit the five of us. A slight overhang thankfully protected us from the equatorial sun. The entrance to the cave was blocked with a wall of rocks that nearby residents had put in place many years before to keep hyenas out. Goitom Weldehawe-riat, an archaeologist at Adrigat University, in the far north of the Tigray region of Ethiopia, sat down without hesitation and began passing back stones to open up the mouth of the cave. Our eyes widened as the archaeologists began their work; we kept our cameras rolling. In minutes, Goitom, who luckily has no issues with claustrophobia, was lying on his back, several feet into the cave, passing out chert and bone fragments through the narrow entrance. Pottery expert Haregewin Belete examined the specimens eagerly, and Matthew Curtis, the head of the survey team, wrote the outline of his report right there (Figure 2).

Our job as filmmakers is to help tell this story.

A wide range of human settlements exists on the Shire Plateau, dating from the Paleolithic period to the modern era. Ethiopia is famous for its early hominids and the Aksumite Kingdom, but not much is known about what happened in between. It is an exciting time to be an archaeologist in Tigray.

Our job as filmmakers is to help tell this story, the story of the UCLA Shire Archaeology Project, coordinated by the Cotsen Institute in close collaboration with archaeologists and Ethiopian authorities. We carry everything we need on our backs, having carefully whittled down our production kits to include all necessary professional camera equipment without sacrificing quality. We pride ourselves on being expedition filmmakers, ready to film top scholars in all conditions, from the frigid Arctic to impenetrable jungles to the scorching heat of African deserts. Ethiopia is a whole new challenge, however, because archaeological

Figure 1. Kristin Gates, a student in the 2017 Shire Archaeological Project, returned in 2018 as part of the documentary film team.

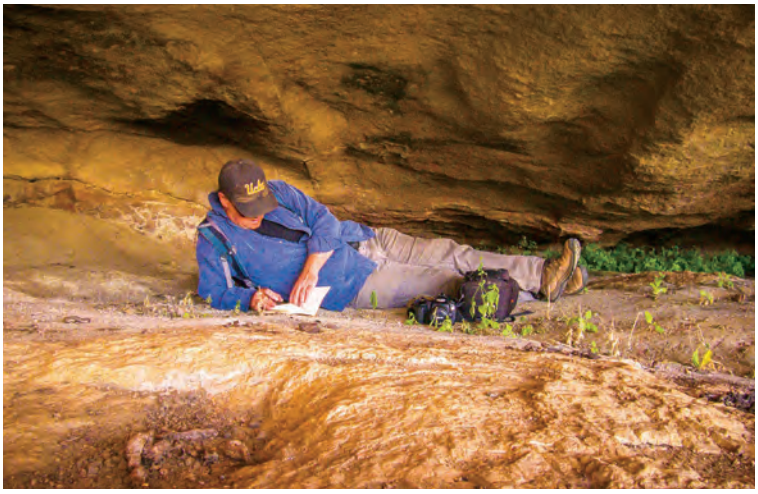

Figure 2. Matthew Curtis takes notes in one of the rockshelters discovered during the regional survey.

projects include many specialists, who each accomplish so much every single day. There are thus so many great stories to be told.

As filmmakers we strongly believe that now more than ever we must share the work of scholars, as their endeavors will ultimately provide solutions to the great challenges our Earth is currently facing. The survival of humanity depends upon powerful imagination, limitless ideas, perfect research, and honest results to be shared with the world. Such documenting and sharing often translates into new funding, new permits, inspired youth, a better understanding of our collective history, and preservation of the environment. It must be said: documenting and showcasing the groundbreaking work of archaeologists is extremely important. This is our job. We love it.

The UCLA team, led by Willeke Wendrich, director of the Cotsen Institute, is slowly and steadily uncovering pieces of Ethiopian history. Every day the survey team explores the 100 km² (almost 25,000 acres) concession area, while the excavation crew works in the trenches (Figure 3). The pottery, lithics, zooarchaeology, metallurgy, and bioarchaeology teams are back at the dig house, studying the materials found

Figure 3. Regional representative Gidey Gebregziabher takes elevations at the excavation site at Mai Adrasha.

Figure 4. Matthew Curtis analyzes and photographs surface finds found during the regional survey.

Figure 5. Diederik Pomstra of Leiden University (the Netherlands) reconstructs a lithic striking technique typical of the region.

Figure 6. The daily team meeting in progress.

by the excavation crew (Figure 4). The experimental archaeology team might be anywhere (Figure 5), and the ethnoarchaeology team often visits different villages to speak with community members. Meanwhile, we two filmmakers scramble from exciting scene to exciting scene, working hard to capture the story of this important work in perfect detail.

Beyond documenting evidence of a pre-Aksumite civilization, Willeke's approach to filming a feature-length documentary is to include as much of the local perspective, language, culture, and identity as possible. Her directive here is very important. The theme of our film is heavily based upon the concept

Archaeologists can utilize film techniques to aid their studies.

of community archaeology, integrating communities fully into the process of rediscovering their past, which is crucial for the preservation of antiquities and safeguarding the future of research in often politically volatile regions.

One main goal with our videography work is to encourage interest in this program among potential students and donors. The Cotsen Institute and the Institute for Field Research (IFR) run an excavation and archaeological field school in Shire, also referred to as Indaselassie. Students come from all over the world to learn here. Through film, we are able to show those considering joining the program why it is worthwhile. Over the field season, these students become an integral part of the team and gain hands-on experience working alongside top specialists in the many different disciplines within archaeology. The exchange of information is part of the daily rhythm (Figure 6). There is no one better than the students themselves to explain their goals when they signed up for the field school and what they ultimately gained from the experience. We followed each field school student throughout the season and watched as they all grew. Viewers will see that students come for a variety of reasons, from wanting to gain skills needed for cultural resource management positions to preparing for graduate school. Each student went from learning techniques to applying

Figure 7. Drone photographs of excavation unit MA02, with stacks of drying *teff* (a local cereal), a pile of backdirt, and a shelter on the left, and the beginning of an area destroyed by gold mining activities in the top right.

their new skills efficiently without needing any direction. These powerful transformation stories shine right through on camera and will hopefully inspire future students to sign up and become leaders in their fields of study. From ethnoarchaeology to survey to excavation and beyond, archaeologists can utilize film techniques and processes to aid their studies.

Drones are a great tool for archaeological research. On this particular project, we were able to assist by taking detailed aerial photos of different trenches (Figure 7). Imagery from our drone helped archaeologists determine whether an ancient wall connected two trenches, thus showing a relic of some ancient structure. We conducted all-encompassing interviews with everyone involved, including local site excavators and politicians (in their own language), trench supervisors, students, and directors. Documenting this vast archaeological project properly requires much more than just highlighting excavators digging with trowels, glossy high-angle imagery from our drone, and macro shots of varied pottery finds. More importantly, we were asked to examine the diverse and complex community of local stakeholders, including youths, teachers, politicians, and business leaders (Figure 8). All these individuals are very invested in benefiting from the use of their land. It was up to us, the filmmakers, to capture effectively and relate to audiences the multifaceted Ethiopian political atmosphere as it relates to protecting their culture heritage or disregarding it in favor of destructive resource development initiatives such as gold mining. Through our interviews we learned that many locals prefer forgoing certain profitable practices, such as mining for gold, in order to preserve their cultural heritage. This is the truth, and in the documentary we reveal this truth.

Further, film is a fantastic tool to raise awareness and interest in cultural heritage projects in local communities. As gold mining continues to threaten the preservation of the land and rich Ethiopian history, it is important for locals to have the opportunity to share informative media about the incredible archaeological research taking place in their homeland. Villages

Figure 8. Willeke Wendrich discusses the involvement of local students with a school headmaster.

Figure 9. Willeke Wendrich and regional representative Gidey Gebregziabher discuss the project with the mayor of Mai Adrasha.

in Tigray are growing rapidly. Some ancient sites are being quarried for building materials; others have been completely uprooted by gold mining projects. Nearby Axum is celebrated for its great history, but most do not realize that Shire, 60 km (37 miles) to the east, also has a long history and important archaeological sites right beneath it. Time is of the essence for everyone involved to create legislation that protects these archaeological sites for future research. Sharing this story through film on local television channels and with the local government and community members can help raise awareness in Tigray about the significant past of Shire. As evident in meetings with community members, the people of Shire are eager to preserve these sites. But there is not yet enough awareness about the history.

As documentary filmmakers, we must show all sides of the issues and exactly how the archaeological team is moving forward in an ethically sound manner, with the goal of implementing successful community archaeology practices. So we followed Willeke as she met with government officials from the local, state, and national levels (Figure 9). We documented their meetings, their agreements on how best to incorporate the community into archaeological studies, and their many questions regarding hopes for the future. Willeke and other team members also met with the children of Tigray, their teachers, and their families (Figure 10). They shared recent discoveries and expressed the importance of preserving the land so that locals might protect their culture. Visitors explored the excavation sites daily and spoke directly with trench supervisors about their work (Figure 11). Many lectures and presentations were given at various villages. Written materials about archaeological discoveries were distributed among the populace. Most interestingly, through working alongside the UCLA and IFR teams, Ethiopians became highly skilled

Documentary filmmaking can attract interest in the work of scholars.

community archaeologists and could see firsthand the incredibly rich history of their land. This method of community archaeology became a highly impactful experience for everyone involved. Here they learned the importance of conservation, education, growth, and community outreach and involvement. Focusing on the delicate process of integrating the elements needed to create a foundation for community archaeology ultimately became a powerful story arc throughout our documentary.

As filmmakers we went far beyond the excavation sites. We wanted to build a well-rounded overview of Ethiopian culture, flora, and fauna. To accomplish this we ventured farther northwest into the incredibly hot lowland deserts on the borders of Ethiopia, Sudan, and Eritrea, despite the warning of the U.S. State Department. We filmed rural communities that heavily contrast with the burgeoning infrastructure of the Tigray region. We then traveled south to the Simien Mountains to film the unique flora and fauna of Ethiopia. Here we excitedly packed our bags full of food and heavy camera gear for many days of tough filmmaking expedition work throughout the highest peaks in Ethiopia, with an average elevation of around 4,550 m (12,930 feet). Found along these high-elevation mountain ridges are the remarkable gelada monkeys (*Theropithecus gelada*), which are often called bleeding-heart monkeys due to the large red patch on

Figure 10. Informational meeting at the Mai Adrasha primary school.

their chests. The geladas live in a multilevel society, similar to humans, and are simply fascinating to watch as they interact with one another. We then traveled south to the ancient village of Lalibela in the Amhara region. By documenting the 900-year-old rock-cut churches around Lalibela, we were able to capture visually the rich historical timeline of Ethiopia, which creates an overall context for the documentary.

By bringing an incredible story to life on screen, documentary filmmaking can attract much needed interest in the important work of scholars. Ultimately this creates valuable funding opportunities for new and existing projects around the world. We hope that our media appeals to a large audience and motivates people globally to value their cultural heritage and land, and to become inspired to protect our planet. Earth continues to be devalued. Our climate is deteriorating. Our flora and fauna are entering a period of mass extinctions. The solutions to maintaining a livable ecosystem will require big ideas that might just have their origins in the brilliance of a young archaeologist exploring ancient cave systems in Tigray, Ethiopia. Through our media we hope to inspire children across the planet to become the key problem solvers of the future.

So stay tuned for a special one-hour documentary on the work of Willeke Wendrich and her incredible team. You can discover additional content on the websites of the Cotsen Institute (https://ioa.ucla.edu) and the Institute for Field Research (https://ifrglobal.org/).

Figure 11. Student representatives of all middle and high schools of Shire (Indaselassie) visit the excavations. Jeremy Là Zelle is in the front right, pointing to the camera.

Building a Community Museum: Conservation Initiatives at the Corral Redondo Project

Vanessa Muros and Emily Rezes

The goal for the exhibition was to provide information on traditions within the region.

In 2019 the team of the Corral Redondo Project returned to Iquipi, Peru, for their second field season (see *Backdirt* 2018:82–85). Excavations resumed at the site of Corral Redondo and included the opening of a new unit. Survey of the Chorunga and Ocoña Valleys continued, with expansion of the survey area using new recording methods, such as an unmanned aerial vehicle (drone), and photogrammetric methods that produced three-dimensional visualizations of the surveyed sites. The conservation team returned to the Instituto Escolar Miguel Grau 40446 to continue work in the Museo Escolar Lumbreras Salcedo, documenting and treating the collection. This year the team working at the museum included UCLA/Getty Conservation Program graduate conservation intern Emily Rezes (see *Backdirt* 2017:108), field school teaching assistant Lavina Li of the Queen's University Art Conservation Program, and head conservator and field school instructor Vanessa Muros. The Peruvian private textile conservator Jessica Lévy Contreras joined the team for a few weeks to conduct a condition survey of the textile and feather objects in the collection.

The major focus of our work this season was the reinstallation of the museum. This meant that all objects in the collection had to be documented photographically and examined to assess their condition. After this and any necessary treatment, they were put back on display. Completing the condition assessment and photo-documentation of the collection was a priority for the team because this not only would serve as an inventory of the artifacts in the collection but would also provide information on the condition of each object, allowing us to monitor any future condition changes to pieces in the collection.

One change since last season was that the museum was moved to a new room of the school. The new location allowed for a redesign of the museum

Figure 1. Emily Rezes dry-surface-cleans a ceramic vessel with a soft brush and vacuum. We modified a plastic straw and masking tape to create an attachment that makes the vacuum cleaner safe to use on ancient objects.

Figure 2. Left: Aluminum foil placed over an old felt case lining to seal the surface and create a barrier in case acidic vapors are released. Right: The final display case with a cotton lining over the barrier layers, consisting of polyethylene sheeting over aluminum foil.

exhibits. The new school director gave the team carte blanche in regard to the reinstallation, and the conservation team and archaeologists worked together to determine how best to display the objects. The goal for the new exhibition was to provide information on cultures and material traditions within the region that would be impactful for the education of students at the school as well as the larger community. Because the new museum space was slightly smaller, the first task was to determine how many of the old cases could be reused and how many new cases would fit in the new space. One issue with reusing old cases is that they can be unsafe for long-term object storage and display, as certain materials and fabrics can damage ancient artifacts. Before we placed the objects in the old cases, we first tested the materials with acid detection strips, which indicate whether or not they are releasing acidic vapors. Cases with unsafe materials were lined with aluminum foil and polyethylene sheets beneath the cotton fabric on which the artifacts were displayed. This created a barrier between the unsafe materials and the artifacts, allowing us to repurpose old cases while making sure the objects were safe.

Once the old cases were repurposed and new cases ordered, the next step was to figure out what would go in each case and how the cases would be arranged. Some of the cases would be thematic, one highlighting weaving and another displaying stone artifacts such as lithic tools and painted stone slabs. Another case would present a chronology of the region, with time periods represented by different pottery forms and decorative styles. Because of the number of objects of

Figure 3. Left: Three *aríbalos*, displayed on the top shelf, are supported by plastic bottle rings lined with backer rod. Right: A detail of the leftmost *aríbalo*, showing how the rings help support the cone-shaped bases of these vessels.

Figure 4. Vanessa Muros discusses the identification of materials and condition issues with field school students during their introduction to condition and treatment report writing.

the same type or material, a large wooden cabinet was modified to serve as visible storage. This case would be used to house objects in their storage mounts, grouped by material, while also making the objects visible to visitors, so they could learn about how artifacts are secured for safe storage and handling. This solution also allowed more of the objects to be on view without overcrowding the display cases.

After the layout of the cases was determined and the objects selected, it was time to place the objects in the cases and to create their display or storage mounts. One challenge many archaeological conservators face is the need to obtain archival or conservation-grade materials when in the field. Most countries do not have their own suppliers for these types of materials, so conservators need to purchase them elsewhere and bring them each season or have them shipped in. In many cases, conservators need to be creative in regard to finding local materials that are safe to use in contact with or near archaeological materials. Our experience in Peru was no exception. Each season, members of the conservation team brought supplies purchased from conservation and archival suppliers in the United States. This included materials such as conservation-grade resins and archival board and foam. Though we tried to bring as many supplies as possible, there were times when we had to improvise with locally available materials. For example, one of the display cases in the old museum had used plastic rings as a mount for an Inka storage jar (*aríbalo*). Upon closer inspection

of the mount, we realized it was made from a plastic water or soda bottle, but were not able to determine the type of plastic. Luckily, some tests could be performed in the field, using a protocol established by Emily Rezes in her MA research. The flame and pH tests identified the plastic as polyethylene or polypropylene, which are both considered safe to use in contact with artifacts. Since the previous ring mount had not caused any issues for the *aríbalo* after 10 years, we went ahead and made new plastic ring mounts for vessels using our own water and soft drink bottles. The top edges of the plastic rings were padded with tubular backer rod foam to ensure that the sharp edges would not abrade the vessel surfaces.

> Hands-on experience provided students with a rich introduction to the field.

As in the previous season, one of the modules field school students could participate in was conservation. All field school students helped examine, document, and write condition reports on objects in the collection. They also carefully cleaned objects and performed salt tests on ceramic artifacts. Workshops were held on pottery reconstruction, archival methods for labeling artifacts, and the desalination of ceramics. A combination of lectures, workshops, and readings on general topics in archaeological conservation and museology, combined with hands-on experience in the treatment of objects and the reinstallation of the community museum, provided field school students with a rich introduction to the field. Their participation was also of great help to us in completing the condition survey and treatment of the collection.

After a weeklong marathon session of mount making, case installation, and object label making at the end of the project, the Museo Escolar Lumbreras Salcedo was reinstalled. Now that the collection work has been completed, work on the rest of the museum will continue. A brochure that highlights the Corral Redondo Project and some area sites that the project surveyed was created and will be available to visitors. New didactic information and maps will be produced for museum walls. The museum will be equipped with a television, which will be used for teaching purposes. It will play videos and display images of the excavation, survey areas, and three-dimensional reconstructions of the surveyed sites. The official opening and inaugural celebration of the museum took place in December 2019, with local authorities, students, teachers, members of the Corral Redondo Project, and other members of the community in attendance. The museum can now resume its function as a teaching tool for students at the school and also be a center for the community to learn about the history and cultural traditions of the area and the preservation of material remains of the past.

Figure 5. The completed Museo Escolar Lumbreras Salcedo before the inauguration of the museum in December 2019.

Harvesting Scent in Beni Suef, Egypt

Robyn Price

As archaeologists of ancient Egypt, we are particularly blessed—or perhaps cursed—with a prolific amount of ancient material on which to conduct our studies. At the same time, this abundance makes unexpected gaps in our knowledge particularly visible. For example, while we have many items made of ancient Egyptian faience, there is little information on its method of manufacture. Researchers are then left to undertake alternative procedures for investigation, such as ethnographic analogy or experimental archaeology. I study the ancient experience of smell and its manipulation as a functional tool for organizing and controlling society. With a surplus of written data discussing the act of smelling in such diverse contexts as medical documents, love poetry, and funerary texts, in additional to a plentitude of excavated material goods that seem to have been valued for their scent, I am at no loss when it comes to avenues for research. Where my data end, however, is with the production, manufacturing, and distribution of these products, as such information has not been left to us.

At the beginning of the summer of 2019, Amr Shahat, a fellow graduate student at the Cotsen Institute, accompanied me on a trip to Monshaat al-Omaraa, Ehnasia, located in the Beni Suef Governorate, a few hours south of Cairo. The goal of this visit was to speak with Egyptian farmers who harvest plants valued for their scent or medicinal properties and also process them for export. Later in the summer we visited the Department of Medicinal and Aromatic Plants in the Egyptian National Research Institute in Cairo, where we met with Director Elsayed Hassan, Safaa Elsawah, and Hassam Mehasen, with whom we spoke about their research on aromatic and medicinal plants. The questions I sought to address in these conversations included: What plants are valued for their scent in Egypt today and are they native species? What is the process for collecting the essential oils of plants and how has that process changed in recent times? To what extent is the government involved in the production, manufacture, and distribution of these raw materials and essential oils? Where is the line between public and private production? How do the people fit into this narrative of production—what is their experience, expertise, background, interests? Is it a specialized craft?

I study the ancient experience of smell.

Amr had arranged for us to meet with a friend who owned a plant for processing essential oils. The geranium harvest was under way when we arrived, and you could smell it long before we reached the site of the distillery. Walid, the owner of this particular

Figure 1. Walid's distillery for the production of raw scented oils. The fields of growing plants, fresh harvest, and discarded plant waste are all located in the same area, making production efficient.

Figure 2. A large metal wheel is inserted both at the bottom and top of a steel tank, and to mash the freshly packed geraniums before steaming. The weight of the wheel, in addition to that of several men standing in the tanks, allows for the processing of large quantities of plant material at once.

Figure 3. Oil collected from the tanks is filtered with cheesecloth and allowed to separate from any water that remains in glass vials. The water sinks to the bottom tip of these vials and can be drained before the raw oil is collected in large plastic tubs.

facility, informed us that he had designed and built the entire system himself (Figure 1). The geranium plants were harvested before they flowered and were then transported to the distillery, which is located among the fields. Next, the green plants were loaded and compacted into large steel tanks, to which water was added. This mixture was heated, and the steam, containing oils from the plants, was captured. The oil was then separated and collected, filtered, packed, and shipped. It was mostly young men working the machinery, with younger boys running here and there among the hubbub. Individuals climbed into the tanks to compact the plants by foot, alongside large metal wheels that were inserted into the tanks during loading (Figure 2). A crane was built over the tanks to assist with removing the plants, using those same wheels, and dumping the remains into a truck, which was driven a short distance away and emptied on site. The men together worked seamlessly, each focused on his task, performing his actions as quickly and efficiently as possible.

The collected oils were then filtered in a small room using cheesecloth and glass funnels (Figure 3). Lastly, the finished product was collected in large plastic containers and sent to Cairo. Walid told us that seven corrupt businessmen in Cairo completely control the distribution of products like these, determining the prices and thus how much farmers are able to earn for their products. In fact, both the researchers at the Department of Medicinal and Aromatic Plants and Walid lamented the lack of governmental support for the processing and distribution of scented oils. Producers lack the funds to create an Egypt-based processing plant for separating the oils into their components, which is a necessary step before such products can be used commercially. Therefore, because the machinery does not exist in Egypt, all these oils must

The geranium harvest was under way when we arrived.

be exported for processing and then repurchased by Egyptians at a higher price. Both parties informed me that the oils are exported for about 1,300 Egyptian Pounds per kilo (2.2 pounds in weight), although before the 2011 popular uprising the price was about 3,000 Egyptian Pounds. The separated products are then imported for 15 to 20 times that rate.

After asking Walid about more traditional methods for production, as distillation was likely not used in ancient Egypt until perhaps the late New Kingdom, we visited another distillery in Beni Suef. This facility also used distillation, but it was heated by a furnace rather than an electric heater. The men who worked the machinery all helped in explaining the process, demonstrating their specialized knowledge of their work. What was especially interesting was when Walid mentioned how he had started farming products like geraniums, and even built his distillery, as a seasonal hobby to bring in extra cash. During the year, Walid works as a principal in a high school. While this seemed surprising considering the amount of organization and labor required at the plant, the seasonality of the work is apparent; plants can be sown, harvested, and processed only during limited periods.

Back at the National Research Institute in Cairo, plant samples were being collected and processed in similar ways, but on a much smaller scale. Hassam Mehasen again explained the process of distillation and how only some plants require this kind of processing to collect the raw oils. Others must simply be soaked in hot water or crushed. He also revealed that the plants grown for their scent in Egypt today are largely nonnative species and were chosen based on global demand. Oils from plants like geraniums, basil, mint, and coriander are exported for use in products like deodorizers, detergents, insect repellants, and medicines. He shared with us the types of specialized knowledge required, from selecting a harvest date to method of harvest, from processing to packaging. The National Research Institute works closely with the Pharmacological Institute and the farmers, developing recommendations for every step of the harvest and subsequent processing. The blue water lily—often referred to as lotus—the mandrake, and the cornflower are no longer produced commercially in Egypt. While a sense of regionalism remains, with certain products grown only in certain places—such as geraniums in Beni Suef and mint in the Fayum Oasis—the plants themselves do not seem linked to ancient traditions.

Figure 4. A wonderful traditional meal shared among new friends and local specialists.

I greatly enjoyed interacting with all these individuals and was particularly pleased to be able to share a meal with Amr's friends in Beni Suef who had arranged our visit (Figure 4). The men with whom I dined, not farmers themselves, also discussed the disappointment they felt about the lack of state support for the manufacturing of these oils. The whole experience highlighted the complexities of private versus public production, the importance of specialized knowledge, and the restrictions that people face as a result of the system in which they are enculturated.

An Archaeobotanical Study of the Food in the Tomb of Kha and Merit

Amr Khalaf Shahat

The summer of 2019 was one of my most adventurous and productive seasons during my time at the Cotsen Institute. My trips covered five countries, and my goals varied—from collecting data for my dissertation in the Egyptian Museum in Cairo and Museo Egizio in Turin, Italy, to interacting and training with scholars in the field of archaeobotany and stable isotope analysis in Canada, the Netherlands, and Spain. I ended my summer with an internship in a stable isotope laboratory, where I worked with paleodietary construction methods using collagen extracted from human and animal bones. This internship was hosted by Michael Richards at Simon Fraser University in Burnaby, British Columbia, and was funded by the Canadian Institute at UCLA.

My summer started in Segovia, Spain.

My summer started with participation in excavations of a fourth-century CE Roman villa in Aguilafuente, Segovia, Spain. This villa appeared to have been reused in the sixth century CE for mass burials by Visigoths. The city is known for its pine forests and the associated resin industry, rain-fed grain fields, and the first printed book on the Iberian Peninsula. I was invited by Jesus Herrerin and Nataša Šarkić to teach a session on stable isotope application for paleodiet in the field and to receive training from them on bioarchaeological methods for the reconstruction of paleodiet. After this trip I went to the Netherlands to participate in an advanced archaeobotany summer laboratory school called Food from Field to Forks: An Archaeobotanical Approach, organized by René Cappers and Merit Hondelink of the University of Groningen.

Charged with a lot of archaeobotanical energy, I traveled to Turin, Italy, to analyze the remarkably well-preserved foodstuffs left as offerings in the tomb of Kha (the Shining One) and his wife Merit (the Beloved One). Kha was the overseer of workers who

Figure 1. A covered basket containing juniper berries (*Juniperus drupacea*) from the ancient Egyptian tomb of Kha and Merit. (Museo Egizio S.8414)

built the tombs in the Valley of the Kings and lived in the settlement of Deir al-Medina, just west of Luxor in Egypt. He was a high official under the reign of the pharaohs Amenhotep II, Thutmose IV, and Amenhotep III during the New Kingdom (1540–1975 BCE). The tomb (Theban Tomb 8) was found completely undisturbed in 1906 by Arthur Weigall and Ernesto Schiaparelli. Following this discovery, the food remains found in the tomb were analyzed by the Italian botanist Oreste Mattirolo, who published his findings in January 1920, exactly 100 years ago. Thanks to the help of Willeke Wendrich and Carrie Arbuckle MacLeod, it was quite an honor for me to be the first to receive permission to analyze this unique collection since Mattirolo did so.

The food offerings in the tomb of Kha invite excitement and pose challenges to the methods and theory of archaeobotany. Most food offerings appeared to be fruits from the palm family (*Arecaceae*), including dates (*Phoenix dactylifera* L.) with their skin preserved, and doum nuts (*Hyphaene thebaica* (L.) Mart.). Next to these, large quantities of imported fruits were found preserved in baskets and ceramic bowls. Among these imported species were almonds (*Prunus dulcis* (Mill.) D. A. Webb)). The identification of almonds was confirmed by Merit Hondelink (who happens to share her first name with the wife of the tomb owner). Interestingly, the almonds occurred together with the tubers—or botanically more accurate, the rhizomes—of tiger nuts (*Cyperus esculentus* L.). These were found in a closed wooden box with a drawer inscribed with Hieratic (cursive Egyptian). It read, "For the soul of the overseer of the work, Kha." The most abundant imported fruits were species of juniper berries (both *Juniperus drupacea* and *J. phoenicea*). Large quantities of the former were found in a basket (Figure 1).

The food in the tomb of Kha invite excitement and challenges.

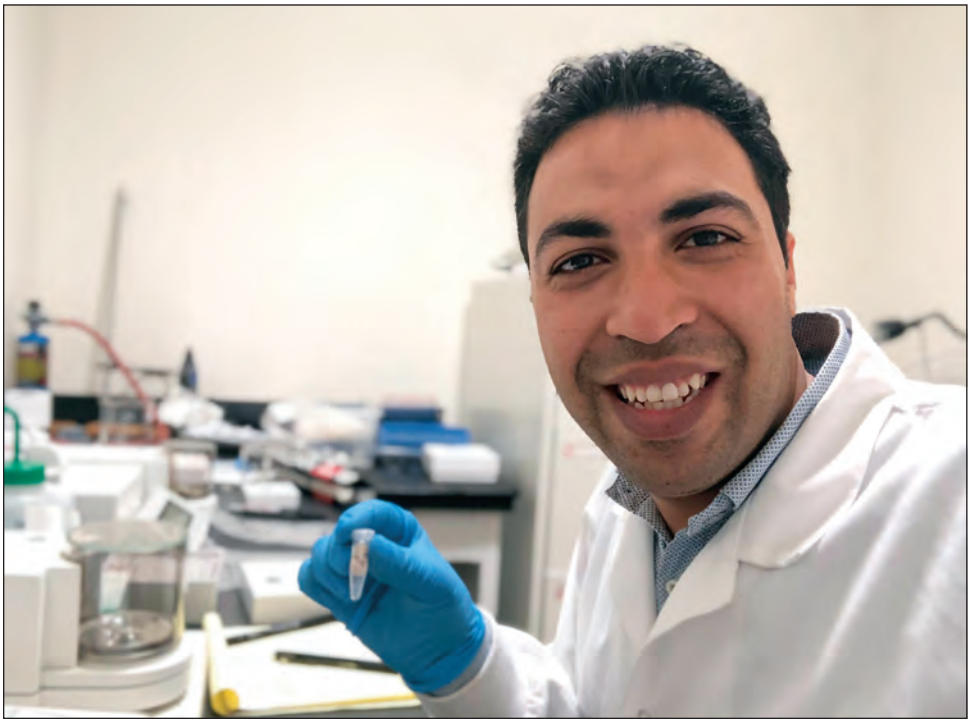

Figure 2. The author at work in the laboratory.

Juniper berries are harvested from conifer trees growing at high altitudes and are foreign to Egypt. Stable isotope experiments on archaeobotanical material that I conducted in Berkeley, under supervision of Christine Hastorf and Todd Dawson, helped me interpret where these food items likely came from. Based on my analysis of juniper berries found by George Reisner in non-elite burials at Deir al-Ballas (dated to 3448–3375 cal BP), performed within the framework of my dissertation research (Figure 2), the fruits were apparently grown in extremely water-stressed conditions ($\delta^{13}C = -19.5 \pm 0.1‰$). This is in sharp contrast with all other food offerings found in the same tomb, which originated from the Nile Valley. Stable isotope analysis can thus differentiate between nonnative fruit species that were grown locally, as an addition to the local agricultural system, and those that continued to be imported from other regions.

This level of preservation comes with challenges and a huge responsibility.

Back in Egypt, I conducted a small ethnographic study on juniper berries by visiting several spice shops and herbariums. The name for the plant in Egyptian Arabic, *'ar'ar sury* (Syrian juniper), suggests import from the Levant, especially Syria and Lebanon. Juniper also grows along the coastal areas of the Aegean Sea, including Crete, the Cyclades, and the Peloponnese, and is attested in mainland Greece since the Paleolithic (Asouti et al. 2015, 2018). This possibility as a source region should thus not be excluded. To establish the exact possible region of origin, I am conducting further analyses.

Figure 3. A covered basket containing cumin (*Cuminum cyminum*), still emitting its smell, from the ancient Egyptian tomb of Kha and Merit. (Museo Egizio S.8415)

The biggest surprise, however, struck me during my last day of archaeobotanical analysis on the tomb of Kha and Merit in Turin. I opened a basket full of cumin (*Cuminum cyminum*) that preserved its smell after thousands of years (Figure 3). While this extreme level of preservation invites excitement, it comes with challenges and a huge responsibility to conduct the best analysis without disturbing the context. Protocols of analysis in the field of archaeobotany often assume that materials were preserved by charring or desiccation and were subsequently retrieved from soils. Desiccated materials that preserve their shape and context, such as a covered basket or a sealed box, do not fit these protocols of analysis. Conducting quantitative methods without disturbing the objects is another challenge. Meanwhile, the materials have high potential for advancing our understanding of ancient foodstuffs and beverages in their cultural settings as well as the reconstruction of paleoecology and long-distance trade and cultural interactions.

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Ancient Cities as a Blueprint for the Future

Monica L. Smith

You might think that ancient and modern cities are very different: after all, we have electricity and the internal combustion engine, and they did not. Yet if you have been lucky enough to travel to Rome, Teotihuacan, or Xi'an, you have already experienced the many ways in which ancient cities were very much like ours. Archaeological and historical evidence illustrates that ancient cities were dense, crowded spaces graced by tall buildings, with community-sized religious structures, wide avenues and plazas, and a food network that went deep into the countryside. Ancient cities, just like ours, were populated by migrants, had different ethnic communities, and were places were people could find diverse forms of employment, education, and entertainment. In my recent book *Cities: The First 6,000 Years*, I explore these questions of ancient and modern urbanism, drawn by the many similarities of ancient and modern cities, and what that means for us as a species moving towards a future of increasingly large settlements.

Ancient and modern cities became large, long-lived settlements despite what might seem to be considerable disadvantages. There was noise and crowding and pollution, there were high prices, large amounts of trash, and close quarters that meant that diseases traveled faster (and were spread to more people)

Ancient urban dwellers were surrounded by strangers, just as you are today

than in dispersed rural settlements. Most of the time, ancient urban dwellers were surrounded by strangers, just as you are today when you walk down a city street or drive on an urban highway surrounded by people that you will probably never see again. In fact, it is a wonder that the concept of urbanism was not a one-time experiment that people afterward found too risky to repeat.

But starting around 6,000 years ago, and despite their disadvantages, cities started to become the dominant type of population center. From the world of small villages that characterized most of the existence of our species, we have since become a world of urban settlements: today more than 50 percent of the world population lives in cities, and that proportion is growing. Nor is any city full: even the most densely crowded settlements on earth—such as Tokyo and Mexico City—are still growing, with edges of suburban habitation stretching out farther and farther into the surrounding hinterland.

How can we use archaeological insights to understand why cities became so counterintuitively popular? Cities were incubators for economic, social, and

Figure 1. Detail from a mosaic floor of the eighth-century church of Saint Stephen in Umm al-Rasas, Jordan, depicting the ancient city of Philadelphia (modern-day Amman). (Alamy BT7YGC)

political interactions that dispersed rural villages could not achieve, even if their inhabitants occasionally gathered together when visiting ritual sites or trade fairs. Seeking to make that festive and entrepreneurial atmosphere permanent, people eventually ceased returning home after pilgrimages and incrementally brought cities into existence. In those dense population centers, people invented many new systems, including writing and coinage. The whole concept of the middle class was new too, resulting in managers and accountants to keep track of all the new upswings in production and consumption, and teachers to guide the next generation of students preparing for professional careers that did not rely on agriculture or other physical labor.

In recent years, urban archaeological investigations have become much more extensive and intensive, enabling us to address questions about the scope and scale of ancient cities. In areas of tropical forest, researchers such as Diane Chase and Arlen Chase have led the way in using LIDAR surveys to peer through jungle vegetation, revealing Maya cities that were much larger than previously known and that had extensive suburbs connected by raised causeways. J. Andrew Dufton has examined how people in ancient Roman cities continually upgraded their residences in a process he calls gentrification. And Lee Mordechai and Jordan Pickett have examined how ancient civic leaders used unpredictable events such as earthquakes as an excuse to build new infrastructure and to engage in redevelopment that suited ever-changing urban needs.

Another thing we can see from the study of ancient cities is that they have always been networked with other cities into a larger phenomenon of economic and social connectivity. In ancient Mesopotamia, there are several candidates for the "first city," including Tell Brak and Uruk, but these sites, and many others, were in contact with other large settlements up and down the Tigris and Euphrates Rivers. When we think of the cities of the Maya, Greeks, Romans, ancient Han Chinese, or any other group, we similarly recognize that many archaeological sites of urban size existed simultaneously.

The urban network effect augmented the pace and intensity of economic activities beyond a single settlement. Cities connected large regions of the ancient world through a type of early globalization through trade, with both ordinary goods and fancy items moving hundreds of kilometers, even in places where travel was wholly on foot, as it was in Mesoamerica and the Andes. For regions where sail power could be used, the scale of production and transport was truly impressive. In the Roman world, for example, pottery

Figure 2. The city of Rome. (Photograph by the author)

kilns turning out decorative tableware could produce 25,000 vessels in a single firing.

The social implications of urban networks also were considerable. Just as today, once a person took up residence in a city, she or he was much more likely to move to another city than back to the countryside. (Although we are prone to romanticizing rural life, for every person who actually moves to the country to take up farming, there are thousands of rural people making a beeline to the city.) In a village, everyone was known from birth; there was little chance to change identities. In a city, by contrast, there were many different groups to which a person could belong: a work group, a religious community, a group based on children or elders or hobbies, and even a group resulting from simply living in a particular neighborhood.

Ancient people had an eye for the attractions and challenges that urban life posed.

As we can see from textual sources, ancient people had an eye for the attractions and challenges that urban life posed. City managers in Mesopotamia, Japan, and ancient India created law codes that set out expectations for urban behavior. Poets everywhere extolled the dubious virtues of city life, in which petty crimes were interspersed with flaunted displays of wealth. Even the way we talk about our own cities resonates with the ancient love–hate perception of the metropolis: the tale of the country mouse and the city mouse associated with the sixth-century BCE author Aesop likely originated on the Indian subcontinent, making a long but densely connected trek halfway across Asia.

Working in India, I have seen the development of urbanism both through the lens of archaeology and as someone who has lived in villages and cities while doing field research. Our investigations, carried out as a joint UCLA-Deccan College partnership with co-director R.K. Mohanty, first focused on the 2,000-year-old city of Sisupalgarh in eastern India. Through surface surveys, geophysical survey, and excavations, we looked at the architecture and artifacts of ordinary domestic life to understand how the ancient city grew and developed. The ubiquity of some artifacts, including low-cost terracotta ornaments and shiny pottery vessels, suggested that people across the socioeconomic spectrum took up urban styles that made them look and act differently from those in rural places.

In recent years, we have expanded the scope of our project to the countryside around Sisupalgarh in an effort to understand human impacts on the ancient environment as they intensified food production and landscape management. We have also gone farther

Figure 3. The city of Teotihuacan. (Photograph by the author)

and farther out into the countryside and taken up residence in villages that are today undergoing a shift as the entire nation of India grows and urbanizes. In villages, we have seen local demographics skew to mostly the very old and the very young, as grandparents and grandchildren watch adults commute to the largest nearby city for work. Worldwide, choices about education and employment have a palpable effect on the entire region, as remittances buy property while also leaving farms short-handed.

The past and present of cities—eloquently told in the humblest sherds of pottery and the grandest monuments of downtown—give us a blueprint of the future. By understanding that the opportunities and constraints of the urban form have been with us from the very beginning, we can confidently say that we have little choice but to move forward in urban environments, because we can imagine no other form of settlement as the basis for surging populations. That is not all bad; after all, cities are places of efficiency and are visible locales for social justice, inclusion, and diversity, which has made them successful and resilient for the past 6,000 years.

Figure 4. *Cities: The First 6,000 Years* (2019) was published in the United States by Viking (Penguin Random House) and in the United Kingdom by Simon and Schuster.

The Undocumented Migration Laboratory: *Hostile Terrain 94*

Jason De León, Nicole Smith, Gabe Canter, and Austin Shipman

In 1994 the United States Border Patrol formally implemented the immigration enforcement strategy known as Prevention Through Deterrence. This was a policy designed to discourage undocumented migrants from crossing the border between Mexico and the United States near urban ports of entry. Closing off these historically much-used crossing points would funnel individuals attempting to cross the border illegally through more remote and less populated regions, where the environment would act as a natural deterrent to movement. Two decades of research has shown that Prevention Through Deterrence has failed to deter migration but has succeeded in shaping border crossings into well-organized and violent social processes with a unique set of material culture and technologies.

Started in 2009, the Undocumented Migration Project is a long-term anthropological analysis of clandestine movement from Latin America into the United States directed by Jason De León. The Undocumented Migration Project uses a combination of ethnographic, archaeological, forensic, and visual anthropological approaches to understand various aspects of unauthorized border crossings. The project examines the many forms of violence and suffering that characterize the process, the distinct experiences of migrant subpopulations—such as women, children, LGBTQ+ individuals, and non-Mexican nationals—and the evolving material culture associated with crossing the border. By combining ethnographic work in Mexico with forensic and archaeological research in Arizona, the Undocumented Migration Project has improved our knowledge of this highly politicized and poorly understood process and demonstrated how an archaeological approach can provide new insights into contemporary social phenomena.

The current exhibitions of the Undocumented Migration Project aim to illuminate the human toll of the Prevention Through Deterrence policy. It was anticipated that the difficulties people would experience while traversing dozens of miles across the hostile terrain of places such as the Sonoran Desert of Arizona would ultimately discourage migrants from attempting the journey. Since the mid-1990s, at least 3,200 people have died while traveling through Arizona, largely from dehydration and hyperthermia. Missing person reports and forensic evidence suggest that many more have died in the region and that their bodies have not been recovered, either because they perished in difficult-to-access locations or because the environment destroyed their remains. Prevention Through Deterrence is still the primary border enforcement strategy used on the border between Mexico and the United States. In recent years, the policy has shifted people toward Texas, where thousands have perished while migrating through unpopulated wilderness.

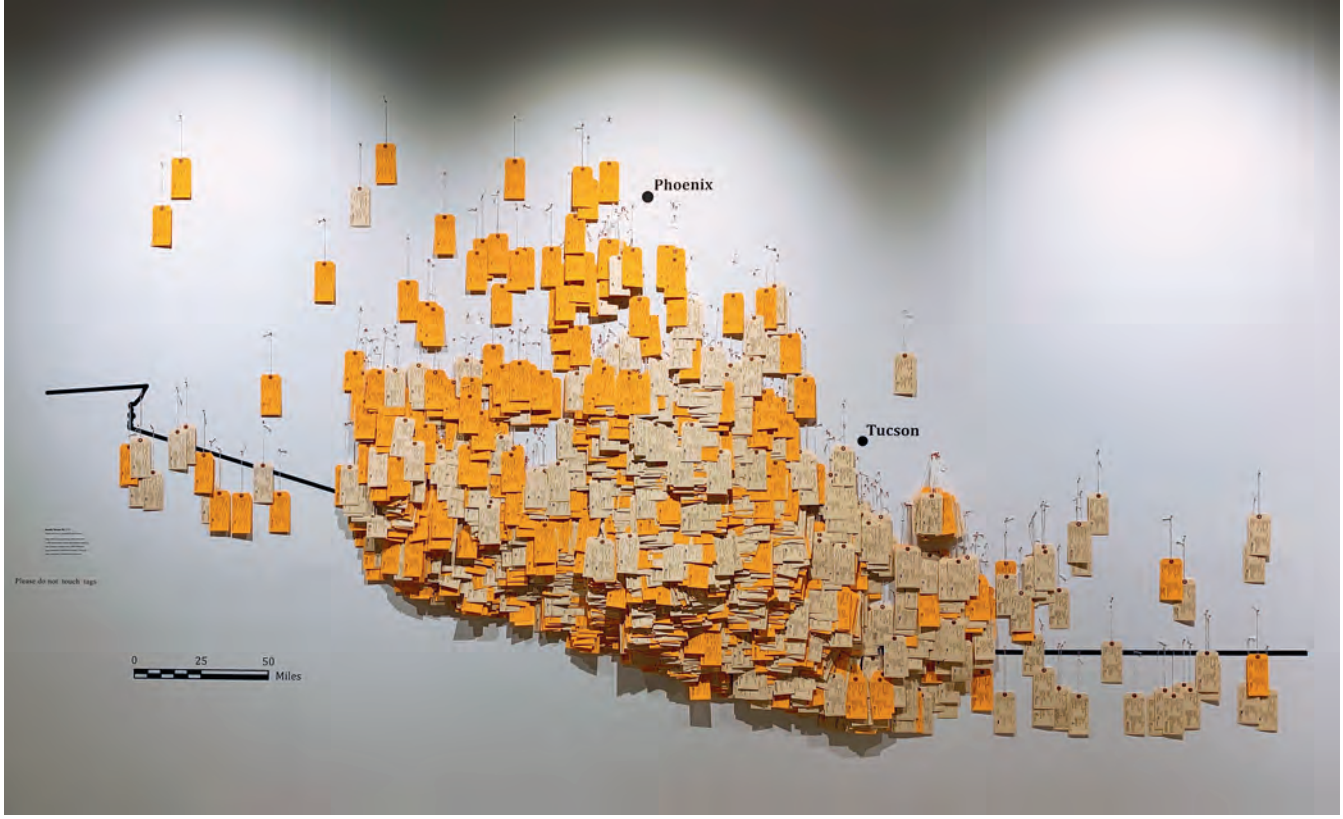

Figure 1. *Hostile Terrain 94* prototype at the Phillips Museum of Art, Franklin & Marshall College, Lancaster, Pennsylvania (January 2019).

Over the course of six months, May through November 2020, the installation *Hostile Terrain 94* will be realized in 150 locations around the globe, including Detroit, Lampedusa, Los Angeles, Mexico City, Miami, New York, Philadelphia, San Pedro Sula, San Salvador, and Seattle.[1] The main focus of the installation will be a map of the border between Mexico and Arizona around 5–7 m (15–20 feet) long, populated with approximately 3,200 handwritten toe tags with information about those who died while migrating (Figure 1). This information includes name (if known), age, sex, cause of death, condition of body, and location. Some toe tags contain QR and augmented-reality codes linking to content and images connected to immigration that can be accessed via cell phone (Figure 2). The most crucial and interactive aspects of the installation are audience members who commit their time and energy to meticulously filling out the death details for all 3,200 toe tags and placing the tags in the exact locations on the map where those individuals were found. *Hostile Terrain 94* is intended to raise awareness about the realities at the border and to memorialize and bear witness to the thousands who have died as a direct result of the Prevention Through Deterrence policy.

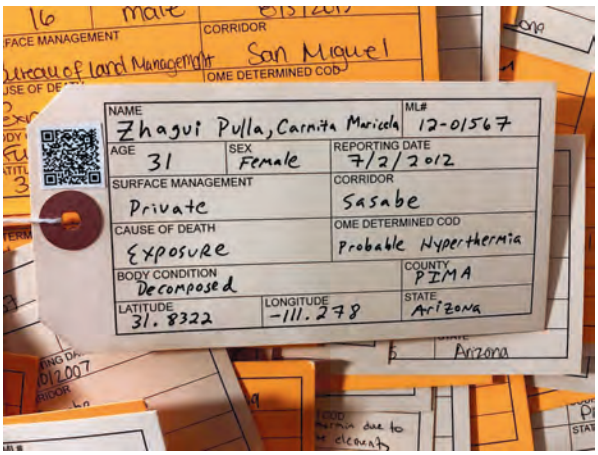

Figure 2. Toe tag for Carmita Maricela Zhagui Pulla. The QR code links to the *Border Trilogy* podcasts of Radiolab (WNYC).

1. The figure 94 refers to both the year that Prevention Through Deterrence started and the year the North American Free Trade Agreement was initiated. The latter resulted in the migration of millions of disenfranchised farmers out of Mexico.

The Scene at the Rock Art Archive

Audrey Kopp and Ed Schoch

Figure 1. An intricately painted, complex Chumash pictograph located in a shamanistic sandstone rock shelter in the San Emigdio Mountains, Kern County, California (Campbell Grant Special Collection number 128, UCLA Rock Art Archive).

Inspired by the foresight of UCLA archaeologist Clement W. Meighan, the UCLA Rock Art Archive has provided a repository for a variety of materials relative to prehistoric and historic rock art since its inception in 1977. The collection started with a focus on items relevant to California, the Great Basin, and the American Southwest but now encompasses information from worldwide sources. It includes books, correspondence, drawings, field notes, films and videos, manuscripts, negatives, newspaper clippings, paintings, periodicals, printed and digital articles, printed and digital photographs, site reports, slides, and the history of the Rock Art Archive itself.

As items arrive, their particulars are entered into a database that will eventually be available via the internet to researchers worldwide. We encourage both professionals and avocational researchers who have relevant research materials to consider donating them to the Rock Art Archive, thus conserving cultural heritage with site records and guidelines for preservation, as well ensuring their own legacies.

Current activities of the Rock Art Archive include entering pertinent information from printed and online articles into the database, a never-ending task, and scanning photographs taken in the 1940s and 1950s by Great Basin archaeologist Robert F. Heizer. During his 30-year career at UC Berkeley, Heizer spearheaded the application of cultural ecology to North American archaeological sites, organized and directed the University of California Archaeological Survey from 1948 to 1960, and coordinated its successor, the Archaeological Research Facility, from 1966 to 1976. Included in the Heizer collection are correspondence, historical newspaper cuttings, rock art site records, and documents related to site protection issues.

Other named collections within the Rock Art Archive include the archive of avocational archaeologist Jim Benton, who was especially interested—and tenacious—in tracking down leads from old miners and cowboys about Indian trails, rock alignments, and petroglyphs in the upper Mojave Desert near his home in Baker, California. Another collection is that of Harry Crosby. Upon hearing about the discovery of the murals of Baja California, Crosby logged more than 1,000 miles in the saddle over harsh and barren terrain to interview isolated ranchers on the peninsula and to discover its amazing rock art. His search for

Figure 2. Multiple pecked designs in Renegade Canyon, a culturally interactive shamanistic locale in the Coso Mountains, Inyo County, California (Ernest Carter Special Collection number 132a, UCLA Rock Art Archive).

and discovery of more than 200 previously unreported rock art sites is documented in his 1975 book *The Cave Paintings of Baja California*. Another highlight is the work of David Gebhard. As an educator, preservationist, and expert in California architectural history, Gebhard led the pivotal effort to define rock art styles and establish their chronological relationships. His work resulted in important typological studies and stylistic analyses of the wide variety of symbols encountered.

Recent donors to the Rock Art Archive include Richard A. Gould, currently serving as a forensic anthropologist. Gould studied human cultural and behavioral adaptations to stress, risk, and uncertainty by working with living societies, among them Australian Aborigines. Another donor was Campbell Grant, an animator, art teacher, and book illustrator. Grant was drawn to the study of Chumash pictographs, and because of his work, the number of recorded Chumash rock art sites grew from about 18 to more than 80. Another recent donor is Gary James, a biologist who is greatly interested in exploring Baja California. After reading about cave painting sites in the Sierra de San Francisco, he made the first of many trips to the painted caves on the peninsula, including many lesser-known sites.

The Rock Art Archive is staffed by director Jo Anne Van Tilburg, volunteers, and work-study students throughout the academic year. On April 23, 2019, at a Friends of Archaeology dinner, volunteers Wendy All, John C. Bretney, Sonia Gottesman, Gordon Hull, Audrey Kopp, and Ed Schoch were honored for their work.

Figure 3. Rock Art Archive volunteers Doug Brotherton (with camera), John Bretney, and Audrey Kopp update site records in Kane Wash, Rodman Mountains, San Bernardino County, California.

The Sum of All Parts: Collaborative Research in the Armenian Laboratory

Kristine Martirosyan-Olshansky

During the second half of the academic year, under new directorship, the Armenian Laboratory opened its doors to undergraduate students interested in learning about various aspects of archaeological research and gaining hands-on experience working with archaeological data. The primary work of the Armenian Laboratory remains the Masis Blur Archaeological Project, a collaboration between the Institute of Archaeology and Ethnography in Armenia and the Cotsen Institute of Archaeology (see *Backdirt* 2013:142–46). Both the laboratory and the research project were fortunate to have several undergraduate research participants (Figure 1), nearly all of whom returned to the laboratory at the start of the 2019–2020 academic year. Erica Brown (Anthropology), Natalie Diaz (Anthropology and Philosophy), Madison Elder (History), Zachary Ferguson (Anthropology), and Johnathon Henderson (Statistics and Geography) volunteered their time and energy to the analysis, categorization, and cataloging of archaeological materials from the Masis Blur Neolithic settlement (7000–6400 cal BP).

Madison and Zachary learned how to perform classification and typology analysis of chipped stone tools by working on the obsidian assemblage. Natalie organized the photo archive of the bone tools and has begun to create a basic typology to determine abundance of certain tools and to trace diachronic changes in tool types. Erica chose to learn about field methodology and processes involved in field research by digitizing and transcribing the numerous field notebooks generated by the project. Johnathon compiled the

Figure 1. Armenian Laboratory volunteers work on various aspects of the database for the Masis Blur Archaeological Project. Pictured are Madison Elder (top left), Johnathon Henderson (top right), Erica Brown (bottom left), and Natalie Diaz (bottom right).

Figure 2. The author excavates a large deposit of finely ground multicolored pigments in Trench M10/13 at the Masis Blur Neolithic settlement in Armenia.

available material on Masis Blur into a GIS database for efficient visualization of spatial and temporal data, as well as spatial analysis within the site. Erica and Natalie continued their work through their summer break.

The work of these student volunteers represents the first stages of a recent undertaking to create a digital database for the Masis Blur Archaeological Project, which will allow for long-distance collaborative research by various members of the research team. Reflecting on their time spent in the Armenian Laboratory, Erica noted that transcribing the notebooks "afforded [me the] opportunity to learn more about the day-to-day life of archaeologists working in the field as well as . . . valuable insight into their thought processes. Reading in detail about the excavation process has been incredibly fascinating and informative, and has reinforced my desire to study archaeology."

Zachary, who is interested in pursuing lithic studies in his graduate program, noted that "working with Kristine on the Masis Blur lithic assemblage was an incredible experience. Anyone that has the opportunity to view these lithics will be astounded by the beauty of the obsidian materials, as well as the craftsmanship of the blades. What I found most impressive of this assembly, however, were not the still sharp and perfectly symmetrical flakes and blades, but rather I was impressed by the imperfect blades, the overshot and plunging flakes, and the material with inclusions and fractures. By analyzing these types of lithics, we could see the brilliance of these ancient people as they improvised and innovated to deal with the unexpected."

Madison said, "As a history major, I am constantly introduced to new research, and now I have firsthand experience of how archaeological information contributes to that. It made me think about how I could include archaeology in my own research." Johnathon pointed out that his work has been "a fascinating yet challenging experience. I have been [able] to explore and build a skill set in my area of expertise (geography) while learning from an expert archaeologist about her field of study. It is exciting to be able to bring the technology of GIS to help Kristine both analyze and visualize her findings in a way that even a nonexpert like me could understand the results of her fieldwork in Armenia."

All volunteers commented on the broad and diverse research to which they were introduced either through conversations with faculty and graduate students or through Pizza Talk presentations. All archaeological knowledge is the product of time, effort, and energy contributed by individuals, and our project has benefited greatly from the work of our volunteer students. We hope the skills they learned in the process of complex collaborative research will serve them in navigating their future studies and professional objectives.

Another project of the Armenian Laboratory is a collaboration with Vanesa Muros, director of the new Experimental and Archaeological Sciences Laboratory (Room A419), on identifying pigments from the Masis Blur settlement. Pigments were unearthed as small lumps throughout the settlement, as a finely powdered multicolor concentration spread over a 3 × 1.5 m area in one of the excavation units (Figure 2), and as residual remains on grinding stones of various sizes. We aim to identify the composition of the pigments, identify their origins, and understand the contexts of their acquisition and use at the Neolithic settlement. (More on this project can be found in the report of the Experimental and Archaeological Sciences Laboratory in this issue of *Backdirt*.)

The Experimental and Archaeological Sciences Laboratory

Vanessa Muros

Figure 1. The Experimental and Archaeological Sciences Laboratory houses an electric potter's wheel and kiln for pottery production experiments.

This fall marks the opening of a new laboratory at the Cotsen Institute: the Experimental and Archaeological Sciences Laboratory. It was established in the second half of 2018 in what used to be the European Archaeology Laboratory (Room A419) and is currently under my direction. The Experimental and Archaeological Sciences Laboratory is a collaborative research space dedicated to the study of ancient materials and technology through the use of replication experiments and scientific analysis. The goal of the laboratory is to assist students, faculty, and Cotsen affiliates with archaeological research projects, as well as to offer a resource for laboratory-based courses.

The new space houses basic equipment for sampling and analysis of archaeological materials. Two potter's wheels—a traditional kick wheel and a high-end electric wheel—as well as a small electric kiln were purchased for experimental pottery production (Figure 1). The kiln can also be used for experimentation with other pyrotechnological materials, such as faience. Sample preparation equipment for polishing and grinding petrographic thin sections and mounted samples is available, along with a selection of microscopes for sample examination (Figure 2). The laboratory also has access to several portable x-ray fluorescence (pXRF) spectrometers for elemental analysis of artifacts and samples. Plans are in place to expand the capabilities of the space to include equipment such as a fume hood to allow for chemical-based sample preparation and testing.

A project currently under way focuses on the identification of pigments from the Neolithic settlement of Masis Blur (7000–6400 cal BP) in modern Armenia in collaboration with Kristine Martirosyan-Olshansky, director of the Armenian Laboratory at the Cotsen Institute (see *Backdirt* 2013:142–46, *Backdirt* 2016:71, and the issue of *Backdirt* in hand).[1] The first part of the project aims to identify the composition of the pigments using techniques such as polarized light microscopy and pXRF (Figure 3). After identification, the work will shift to determining how these pigments, and the spaces they were found in, were used and where the materials came from. This will help us better understand craft specialization and long-distance trade activities at Masis Blur.

1. https://ioa.ucla.edu/labs/armenian-lab.

Figure 2. Two polarized light microscopes and a metallographic microscope (center) are available for the examination of samples.

Another project that took place in the lab was conducted by Fumie Iizuka (University of California–Merced and Tokyo Metropolitan University), whose research looks at the origins of pottery in eastern and northeastern Asia, with a focus on the islands at the southern end of the Japanese Archipelago. Using cross-polarized light microscopy, Fumie examined thin sections prepared from Incipient Jomon–period vessels found at the site of Sankakuyama on Tanegashima Island to compare the pottery with sediments from local sources and neighboring islands. Her research aims to answer questions about pottery production, procurement of raw materials, and trade. (More on this project can be found in her report in this issue of *Backdirt*.)

The vision for the Experimental and Archaeological Sciences Laboratory is to grow it into a research space for the study of past cultures and materials through experimentation and STEAM (science, technology, engineering, arts, and mathematics) education. The laboratory welcomes new projects and collaborations, and those interested in using the space are encouraged to contact the author. Additional information can readily be found at www.ioa.ucla.edu/labs/experimental/.

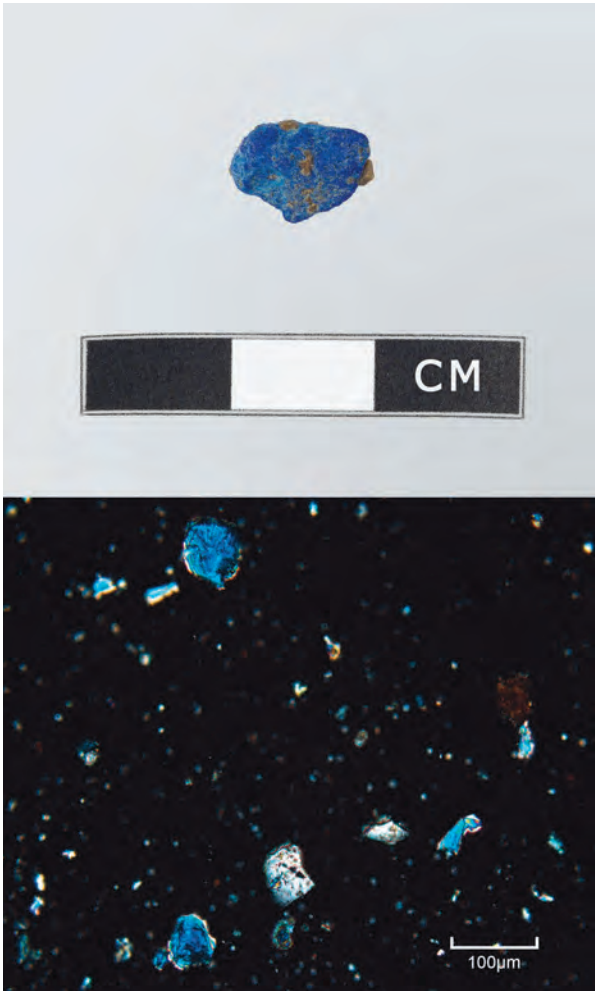

Figure 3. A blue mineral excavated from Masis Blur (top) was identified as azurite—$Cu_3(CO3)_2(OH)_2$—using a combination of analytical techniques, including polarized light microscopy (bottom). (Photographs by Kristine Martirosyan-Olshansky and Chrysanthe Pantages)

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. Here is one of the exciting and noteworthy classes offered this year by Cotsen affiliates.

The Post-Woolsey Fire Survey in the Santa Monica Mountains

Thomas A. Wake, Reuven Sinensky, and Barbara Tejada

After the catastrophic Woolsey Fire in the Santa Monica Mountains in early November 2018, UCLA made public its intention to assist in recovery efforts as best it could. With that in mind, and having conducted archaeological research and enjoyed hiking and camping in the range with friends and family, Thomas Wake contacted Barbara Tejada, archaeologist for the California State Parks Angeles District, to enquire about possible ways to assist the agency. The Woolsey Fire burned almost 75 percent of Santa Monica Mountains National Recreation Area and approximately 90 percent of Malibu Creek State Park and Leo Carrillo State Park (Figure 1). It was decided that an archaeological survey of selected portions of the two most affected state parks, Malibu Creek and Leo Carrillo, would be the most effective use of the resources UCLA could provide: people, skills, and education.

In December Wake proposed to offer a field survey class through the Department of Anthropology, to be conducted in cooperation with California State Parks. The proposal included a syllabus, a request for a graduate student teaching assistant, and a request for funding for transportation to the field. With departmental support, the request was forwarded to the office of Dean Darnell Hunt, where it received rapid and enthusiastic approval. The class was scheduled for Fridays during the spring quarter of 2019—the first regular archaeological field class taught at UCLA since 2003.

The class started Friday, April 4, with an orientation visit to Malibu Creek State Park, a meeting with Barbara Tejada, and a visit to a previously recorded archaeological site to observe the kinds of surface artifacts the class would be searching for. Fifteen students enrolled in the class; archaeology graduate student Reuven Sinensky served as teaching assistant. For the next eight Fridays, the class left campus around 9:00 a.m., met with Tejada, and returned around 6:00 p.m., depending on traffic.

We began our survey efforts in Malibu Creek State Park, in the area served by the Lost Cabin Trail, uphill and east from where the television series M*A*S*H was filmed between 1972 and 1983. The rocky landscape was significantly fire-scarred, with skeletons of chaparral plants scattered about and high surface visibility. The heavy winter rains had resulted in considerable erosion and an incredible super-bloom of fire-following flowers. We detected, mapped, and recorded three previously unknown archaeological sites that first day. Walking cross-country in the Santa Monica Mountains is not easy.

While site detection was important, site mapping and recording were central to the class. All students learned how to fill out

Figure 1. The fire-scape at lower Nicholas Flat. (Photograph by Thomas A. Wake)

standard state of California site recording forms (DPR 523a-l series). Students were also instructed in topographic map reading, orienteering, and GPS site mapping. Over the quarter, Sinensky spent time with each student, instructing them on use of the Trimble Geo 7X GPS mapping device with a Tempest antenna, used in the field courtesy of Greg Schachner. We tried to maintain straight and regularly spaced lines on pedestrian survey transects, and we all learned how terrain can affect relative accuracy (Figure 2). When a site was detected, defined by the presence of artifacts visible on the surface, students fanned out and pinned flags where artifacts were located, providing a boundary that could then be mapped. Diagnostic artifacts and features such as rock alignments, fence lines, middens, and roasting pits were photographed and mapped.

The class spent four Fridays in Malibu Creek State Park. We found eight previously unrecorded archaeological sites, six prehistoric and two historic. The prehistoric sites are all relatively small scatters of stone flakes and shatter, with a few diagnostic artifacts such as biface and *mano* fragments. One of the highlights in this work was the discovery of a low stone retaining wall, remains of a wooden structure, and a scatter of historical artifacts right at the location of a single isolated structure visible as a small black square on a 1925 map of the area (Figure 3). We seemed to have found the eponymous Lost Cabin.

Figure 2. Students stand ready to walk a pedestrian survey transect. (Photograph by Thomas A. Wake)

Figure 3. The Lost Cabin. Note the stone alignment in the foreground. (Photograph by Barbara Tejada)

Selected Classes

The Post-Woolsey Fire Survey

Figure 4. The remains of a yucca roasting pit. (Photograph by Thomas A. Wake)

We then shifted survey efforts to Nicholas Flat, in the uplands of Leo Carrillo State Park. Wake led an archaeological field class there in the summer of 2000 and has visited the area many times with friends and family since. Spending six days at the flat, the class documented 11 previously unrecorded sites, including two large prehistoric sites containing features such as middens, flaked and ground stone tools, and apparent yucca roasting pits or ovens. The larger, more diverse sites included a variety of chipped stone artifacts, mostly flakes with a few biface fragments, made of chert, chalcedony, fine-grained volcanic rocks, and fused shale.

While crossing a large meadow that had grown up thickly after the winter rains, the class virtually stumbled across two large stone features. Both consisted of a stone-lined, filled pit approximately 2 m in diameter and at least 1 m deep, with an adjacent pile of fist- to head-size cobbles, some larger. We quickly convinced ourselves that these features represent large, possibly communal yucca roasting pits. After consulting Google Earth, it became apparent that these features could be seen in post-fire imagery of the meadow. The ovens are visible from space.

Several of the sites recorded at Nicholas Flat preserved flat milling stones and shaped or heavily used *manos* consistent with the Topanga culture or the Milling Stone Horizon, dating to approximately 5,000 to 6,000 years ago. Chipped stone artifacts associated with these sites were primarily made of quartzite and fine-grained volcanic stone, with few cherts or silicates, if any.

The class also recorded one large historic artifact scatter with ceramics, glass, stove parts, and shell casings in upper Nicholas Flat and

a large 1940s- to 1970s-era trash dump and shooting gallery in a side canyon to the north of Nicholas Flat. Noteworthy at this site were many glass bottles bearing labels or embossing of long-gone local dairies, soft drinks, markets, and other brands. We even found a scorched 1926 silver dollar, now in possession of California State Parks.

The class intensively surveyed selected parts of Malibu Creek State Park and Nicholas Flat, documenting eight and 11 previously unrecorded archaeological sites, respectively, resulting in a total of 19 new records. Four of these sites appear to be early to mid-twentieth-century cabin sites and trash dumps, while 15 are prehistoric, ranging in age from 6,000 to 500 years ago. Both Nicholas Flat and the Lost Cabin Trail area were seriously scorched by the intense Woolsey Fire, which burned nearly every living thing. We saw forests of charred, skeletal trees and brush everywhere we looked. Some places, such as the northern bounding ridge and valley of Nicholas Flat, had burned so intensely that nothing was left standing, creating an eerie, dusty, eroded moonscape. Every day of survey we found charred carcasses or bones of deer, cottontail rabbits, wood rats, and small rodents, and occasionally those of rattlesnakes, gopher snakes, alligator lizards, and legless lizards.

Yet across the fire-scarred landscape we also saw many signs of renewal and rejuvenation. We came across horned lizards, fence lizards, alligator lizards, gopher snakes, and western chorus frogs. Fire-following birds, including yellow-rumped warblers and black-headed grosbeaks, provided a lovely chorus. Many if not most of the brush skeletons were sending out new growth from their bases, as is typical of fire-adapted coastal sage scrub and oak chaparral habitats throughout California. The heavy winter rains combined with fire-following plants produced a spectacular super-bloom of wildflowers, many not seen in such abundance in years. The diversity and numbers of wildflowers in bloom encountered by the class were simply stunning (Figure 5). Several hundred thousand of the millions of painted lady butterflies that had migrated north through southern California in late March had descended on the post-Woolsey Fire super-bloom, fed there, and subsequently laid their eggs. For several weeks, as we walked along trails and across the recovering landscape, we were greeted by clouds of butterflies. Most Fridays we were treated to an almost overwhelming perfume of wildflowers in the canyons.

Figure 5. A field of Catalina mariposa lilies (*Calochortus catalinae*) at Nicholas Flat. (Photograph by Thomas A. Wake)

The course was a resounding success. Working closely with Barbara Tejada provided both students and instructors valuable perspectives on how California State Parks conducts archaeology and manages cultural resources. Field survey is often the first step in academic, agency, or cultural resource management archaeological projects in California and almost everywhere else. The students learned basic and valuable field archaeology skills that will benefit them if they choose to pursue a career in archaeology. And we found the Lost Cabin!

Finally, we would like to acknowledge Darnell Hunt, dean of the Division of Social Sciences, for his financial support, and thank our students Brenda Aguilar, Danilo Azevedo, Jack Berner, Sarah Bertman, Maddy Biebel, Chelsea Blair, James Darcey, Zach Ferguson, Marcela Goeller, Yareli Lopez, Chris Mayo, Jorge Peralta, Elijah Renteria, Doris Vidas, and Christina Villagrana, for their dedication and hard work.

Alumnae 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 section in *Backdirt*, we ask those who graduated half a decade ago to reflect upon their adventures since leaving UCLA.

Endeavors and Challenges in Albania

Esmeralda Agolli[1]

Figure 1. Students of the senior-level course in sociocultural anthropology during the academic year 2017–2018.

IT IS WITH MUCH ENTHUSIASM that I write a few words about my professional endeavors since the completion of my graduate studies in 2014. My transition from graduate school started rather smoothly with the offer of a faculty position in anthropological archaeology at the University of Tirana, in my motherland, Albania. This offer was even more attractive given the fact that the school had just established the Department of Archaeology and Culture Heritage, the first such program in the country. Interestingly, however, in an environment in which I had anticipated giving my best, I have experienced a rather rough ride, full of challenges, setbacks, and victories.

I was assigned a particularly intense teaching load in the department, covering bachelor- and master-level courses in cultural anthropology and research methods in archaeology. Five years into this constant responsibility, I can say with confidence that my dedication to teaching has allowed me to develop and promote an innovative teaching methodology, focused on the cultivation of critical thinking, academic writing, and strategies of data collection. In an environment that still struggles to overcome traditional methodologies, these new avenues are proving to be productive. In their feedback, students say that our discussions in the classroom, the requirements to formulate research projects and annotated bibliographies, and interviews and other types of data collection have all benefited them significantly in the learning process (Figure 1). I recently submitted an article in which I reflect on this experience and discuss to what extent teaching anthropology benefits the understanding of crucial issues regarding racism, diversity, gender, and patriarchal ways of life (Agolli forthcoming).

In the summer of 2015, with the support of the Cotsen Institute—particularly former director Charles Stanish—and in close collaboration with Lorenc Bejko of the University of Tirana, we started an interdisciplinary research initiative. This entailed a fieldwork project that focused on a key process in human history: the dynamics of social complexity, how it developed, and how it compared at the regional and intraregional scale. The project in Albania focused on two sites, Tren and Bisht Pallë, where previous

1. PhD Archaeology, UCLA, 2014.

Figure 2. Students receive instruction on excavation techniques near the cave settlement of Tren, Albania.

explorations showed great potential to address our research questions. The collection and assessment of data at both sites was intertwined with field schools, which gave undergraduate and graduate students the opportunity to become familiar with field techniques and data assessment (Figures 2 and 3). Scientific and interdisciplinary research, and education and training in archaeology were the main outcomes of our project. In addition to plans for future research, the project has resulted in three articles that discuss

Around the country, we have collected data in 265 villages.

settlement patterns during late prehistory in Albania and the transition of pottery production from hand-built to wheel-thrown (Agolli 2017, 2019; Agolli et al. forthcoming).

Another research project that I have recently taken to heart focuses on the ethnoarchaeology of burials and mortuary rituals as practiced in rural Albania. The research objective is to investigate to what extent mortuary rituals in rural Albania facilitate our understanding of the burial customs we encounter in the archaeological context. In this project I deal with rural communities in which kinship and patriarchal ties are highly influential. Every action that accompanies the death of an individual, from notification of the death to the last commemoration, is carefully recorded. I follow a research outline that divides mortuary rites into three phases: pre-funeral, funeral, and post-funeral. I record the character of the actions, to what degree

Figure 3. High school students with Peace Corps mentors visit excavations inside the cave of Tren.

Figure 4. The author (left) interviews an inhabitant of the village of Perlat (center) in the Mirditë district of Albania.

Figure 5. Students interview villagers in Kallmet, in the Lezhë district.

Figure 6. A student interviews Franga Lazar Hiles, a professional mourner (*vajtojcë*) in the village of Kallmet, in the Lezhë district.

they involve different objects and materials, and how these change over time. This research does not infer direct parallels with an archaeological context; rather it aims to highlight matters that have the potential to help explain the meaning behind certain kinds of materiality.

Around the country, we have collected data in 265 villages, systematically investigating village cemeteries and recording around 760 interviews (Figures 4–7). This has resulted in a rather a colorful collection that allows quantitative, qualitative, and comparative analysis at the regional and intraregional scale. Dynamics in the cultural and religious spheres have been intriguing. Further analysis will offer a better understanding of such matters. In 2019, I presented preliminary reports on this research at Freie Universität Berlin in Germany and Süleyman Demirel University in Isparta, Turkey.

Another interesting activity that has kept me busy is the Humanities Forum at the Faculty of History and Philology at Tirana University. My friend and colleague Gentiana Kera, who is acting as deputy chancellor of Tirana University, and I created a discussion platform that, since 2017, invites individuals and organizations to share perspectives on their work, careers, and ongoing challenges. The most notable meetings were those with the American ambassador, the director of the National Art Gallery (Figure 8), and members of the chairing committee of the Authority for Information of the Intelligence Files of Communism (Figure 9). Most of the discussions were very lively and enabled both colleagues and students to explore new venues of collaboration and self-promotion.

Upon completion of my graduate studies, I had anticipated a career path that would involve research in which I had gained extensive expertise over many years. In fact, returning to my home country soon made me realize that beyond these immediate objectives, I had to reshape my career orientation toward issues and topics that were much more sensitive in the academic environment and education than in the narrow focus of my research. In the past years I have been involved in projects that promote the importance of culture heritage in Albania. My colleague Francesco Iacono and I organized a workshop in 2018 on preservation strategies of the communist legacy in Albania. I have put a serious effort into stressing the importance of innovative scientific and interdisciplinary research in our academic institutions. Albanian universities are seriously struggling to deliver a visionary agenda that promotes scientific research as an

Figure 7. A mother mourns her son in the village of Pilur, in the Vlora district.

indispensable part of daily activity. I have published opinions regarding these topics in the daily Albanian newspaper *Panorama* (Agolli 2018a, 2018b). I must express that even if plans and career did not go to that narrow path I had originally anticipated, the past five years have been full of inspiration and hope for a more promising future.

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Figure 8. Participants in a Humanities Forum at the Faculty of History and Philology at Tirana University, Albania, in discussion with Artan Shabania, director of the Albanian National Art Gallery (far right).

Figure 9. The author (left) leads a discussion with members of the Authority for Information of the Intelligence Files of Communism during a Humanities Forum at the Faculty of History and Philology at Tirana University.

From Egypt to St. Louis: My Five-Year Journey since Graduating

Anne Austin[1]

Figure 1. Anne Austin investigates scattered human remains in Deir al-Medina, Egypt.

I AM CURRENTLY AN ASSISTANT professor of anthropology and archaeology at the University of Missouri–St. Louis. My research focuses on the intersection between ancient Egyptian texts and human remains. Using my interdisciplinary training from UCLA, I have explored how these two disparate data sets inform us about ancient Egyptian health and health-care practices. I began conducting this research for my dissertation starting in 2012, when I joined the project of the *Institut français d'archéologie orientale* at Deir al-Medina, Egypt, as a bioarchaeologist. Deir al-Medina is the village of the workmen who cut and decorated royal tombs during the Egyptian New Kingdom (approximately 1500–1070 BCE). Despite excavations at the site in the first half of the twentieth century, researchers left the human remains unstudied. My research has focused on inventorying, analyzing, and rehousing the human remains for future study. My dissertation integrated my bioarchaeological research with analyses of daily life texts from Deir al-Medina. This work revealed the state, communal, and familiar models of care available to the villagers. I was able to take this dualistic approach because of the unique opportunities and support I received at UCLA when pursuing my interests in both bioarchaeology and Egyptology.

I finished my graduate education in September 2014 and immediately began a three-year appointment as a postdoctoral fellow at Stanford University. There I began my next research project, focusing on the traditions of tattooing in ancient Egypt. This grew out of my discovery of several tattooed mummies at Deir al-Medina with some of the only known figural tattoos from Pharaonic history. This research upended century-old assumptions about tattooing that often posited it as strictly a Nubian tradition aimed to emphasize women as fertile, erotic bodies designed to

1. PhD Archaeology, UCLA, 2014.

Figure 2. The ancient village of Deir al-Medina at night..

please the male gaze. Instead, we identified deep religious values to the tattoos, which might have allowed women to be active magicians, healers, or priestesses within their communities.

Researchers left the human remains unstudied.

During this time, I also joined a multidisciplinary team interested in explaining the deep divide between archaeological data creation and reuse. While archaeologists produce an increasingly large amount of data in the field, these data are rarely reused by others. Consider, for example, the numerous Munsell colors you have recorded in your career. How often are those reevaluated and reinterpreted by other archaeologists? We received a three-year grant from the National Endowment for the Humanities to investigate how the practices used to create archaeological data can allow or inhibit eventual reuse.

After finishing my postdoctoral appointment at Stanford, I was hired at the University of Missouri–

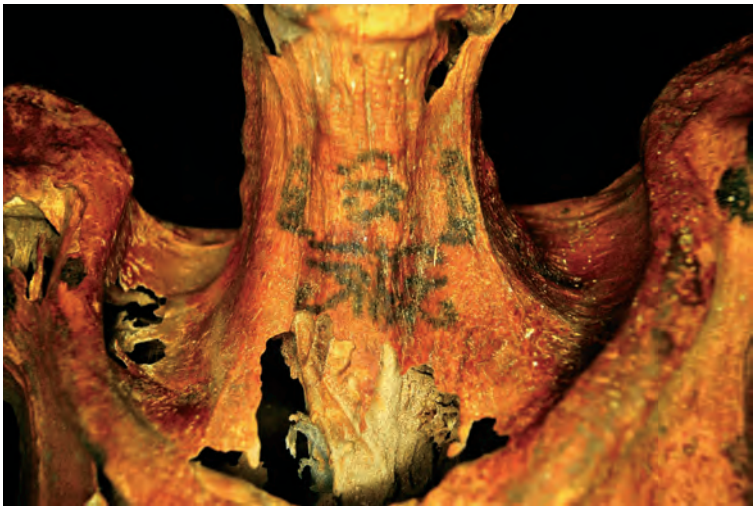

Figure 3. Tattoos on the neck of a mummy found at Deir al-Medina.

St. Louis as a faculty member in the Anthropology Department during the 2017–2018 academic year. This offered an ideal opportunity for me to stay in academia and be closer to my family. My position was made tenure track beginning January 2019. Saving the best for last, my largest accomplishment has been raising my son, Gus, whom my wife gave birth to in October 2015. He kept me distracted and sane during the many years of job uncertainty. He is currently an inquisitive, talkative toddler, and I look forward to the many adventures we will share in St. Louis, Egypt, and beyond.

I went from completing my dissertation to a professorship without unemployment.

This short summary shows that I have had a relatively smooth professional trajectory since finishing at UCLA. I went from completing my dissertation to a postdoctoral appointment to an assistant professorship without unemployment and at institutions that maximized my happiness. But this gives the misleading impression that I was not faced with the continuous crisis of job uncertainty over the past five years. To end with a more fair assessment, I would like to share the many positions for which I was rejected. During my active job search from 2014 to 2018, my application was denied by the University of Memphis, Washington University in St. Louis, Stanford University, Cornell University, the University of California–Santa Cruz, the University of California–Berkeley, Bradley University, Columbia University, the Illinois Institute of Technology, the University of Illinois, Lindenwood University, Missouri State University, Notre Dame University, the University of Oregon, the University of Pennsylvania, the University of British Columbia, and Washington University in St. Louis (again). This list likely misses several applications for which I never received a rejection note. No doubt, those positions are now filled.

Figure 4. Ghada Darwish uses infrared to identify tattoos on a mummy at Deir al-Medina.

Figure 5. Anne Austin with her wife, Jen, and son, Gus, in front of their house in St. Louis.

Bridging Past Connections with Current Collaborations

Brittany Dolph Dinneen[1]

CULTIVATING A LOVE FOR cultural heritage as an undergraduate student focusing on anthropology and archaeology, I worked for many years toward admittance into the UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials. I did not, however, anticipate where the program and subsequent early professional work would take me: to archaeological projects and collections in Greece, Jordan, and Azerbaijan, to university, local, regional, and national museums, and to my current role as assistant conservator at the Michael C. Carlos Museum on the Atlanta campus of Emory University (Figure 1).

As I write this, I am working on the site of the American Excavations at Samothrace in Greece (Figure 2). Director Bonna Wescoat, an Emory University colleague, invited the participation of Carlos Museum conservators during this season for the treatment of finds and related technical questions. In reflecting on past opportunities, I cannot help but recall my first summer doing archaeological site work at the Ancient Methone Archaeological Project, across the northern Aegean Sea, under the auspices of the Cotsen Institute and now completing its final study seasons. Much of my archaeological conservation knowledge was practically solidified at Methone under the supervision of fellow conservator and researcher Vanessa Muros.

Figure 1. Brittany Dolph Dinneen consolidates the surface of a cuneiform tablet in preparation for the reopening of the Morgens West Galleries of Ancient Near Eastern Art at the Michael C. Carlos Museum, Emory University. (Photograph courtesy of Emory Photo/Video)

Effective and resourceful preventive maintenance becomes increasingly vital.

Initially I came to the Michael C. Carlos Museum as a recipient of the Mellon Advanced Fellowship in Object Conservation. The position has given me a number of opportunities in all aspects of conservation work, threads of which continue to shape my work at Emory University. I started overseeing our integrated pest management program in the museum but have since expanded to assisting with monitoring and modifying existing microclimates in galleries and

1. MA Conservation, UCLA, 2014.

Figure 2. Brittany Dolph Dinneen (right) and conservation intern Tess Hamilton discuss the joining of fragments of a black gloss vessel at the American Excavations at Samothrace, Greece. (Photograph by Amanda Ball)

object storage.. Because museums are often exhibition-driven, conservators may be limited in how they can distribute treatment time. As our profession recognizes the negative impact this has on underfunded collections, effective and resourceful preventive maintenance becomes increasingly vital as a way to distribute attention more equitably, and I am eager to continue this work.

Another one of my roles has been lead conservator for an exhibition of coiled Native American basketry, as well as working on the reinstallation of our Ancient Near Eastern Galleries. The latter work led to research I am currently undertaking on a novel application of agarose gel mixture to the desalination of archaeological ceramics, foundational work of which was undertaken by Cindi Lee Scott in her 2012 thesis for the UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials.

While treatment often drives the type of research museum conservators undertake, university museum work both allows and encourages us to conduct technical art research as well. I have enjoyed undertaking the technical study of West African Kono helmet masks, a project that was launched by the work of an Emory undergraduate student but has grown to incorporate masks in other collections. I am fortunate to collaborate with African art scholar Susan Gagliardi, who has published on the ethics of investigating other West African helmet masks associated with power, together with Ellen Pearlstein and Robin O'Hern, another 2012 graduate of the UCLA/Getty MA program. We are currently working toward posting some preliminary results in an essay on the website of the Art Institute of Chicago.

University museum work allows and encourages us to conduct technical art research.

Pearlstein and Ioanna Kakoulli provided excellent preparation through our course work on the technical study of African collections. I was in fact able to apply many of the analytical and treatment techniques I learned at UCLA to the Disney-Tishman Collection at the Smithsonian National Museum of African Art, in contribution to a Kress Fellowship project started by Alexis North, another 2014 graduate of the UCLA/Getty MA program. Treatment included basic stabilization and filling of losses with sympathetic materials when appropriate, while examination and analytical techniques included multispectral imaging, x-radiography, fiber identification, and polarized light microscopy. Moreover, I had access to conservation scientists at the Museum Conservation Institute, who executed and helped interpret results of Fourier transform infrared spectroscopy and x-ray diffraction. Courses from the archaeology program, as well as from the Materi-

als Science and Engineering Department, prepared us for collaboration with professionals from these and many other fields.

I frequently use a handheld XRF spectrometer for a range of applications, from qualitative characterization to quantitative sourcing (Figure 3). Conducting semi-quantitative research on sandstone samples in the XRF analysis course taught by Christian Fischer showed me the importance of being intimately familiar with your instrument and its parameters, the challenges posed by the physical and chemical structure of a given sample, and the analytical methodologies utilized to produce the spectrum. Awareness of these factors has been crucial as I worked in Azerbaijan to acquire elemental composition for sets of obsidian samples at the Naxçivan Archaeological Project, working with archaeologist Hilary Gopnik, a former professor at Emory University, and archaeological scientist Robert Tykot from the University of South Florida. We hope to propose possible geological sources for the samples, which will provide invaluable data about Bronze Age trade in the southern Caucasus region.

I was in fact able to apply many analytical and treatment techniques.

Collaborations have not stopped with archaeology. Working with Renée Stein, the chief of conservation at the Michael C. Carlos Museum, and John Malko, a nuclear physicist at Emory University, I experimented with the use of computed tomography to quantitatively identify cultural heritage materials. Recently we presented a poster on our results at the annual meeting of the American Institute for Conservation. Similar investigations before and after have aimed to identify materials commonly lodged in human bodies following accidents—such as plastic, glass, and metal—but our project approached the issue more broadly to include a range of organic materials such as wood, dried leaves, seeds, paper, parchment, and leather, as well as ceramic, stone, and faience. Though preliminary in scope, our research suggested that in many cases, it may be possible to broadly classify materials in computed tomography scans that have no visually identifiable form, for example, charms in mummy bundles.

Figure 3. Brittany Dolph Dinneen uses a handheld XRF spectroscopy instrument to investigate the composition of a copper alloy cauldron found by the Naxçivan Archaeological Project, Azerbaijan. (Photograph by Kellen Hope)

The technically and culturally broad multidisciplinary curriculum delivered by the UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials provides a unique foundation that has enabled me to pursue incredibly varied conservation work and technical studies. I am grateful that my time at the Cotsen Institute allowed me to explore art and archaeological conservation topics and forge connections that benefit me to this day. I cannot imagine that I would be where I am now without these scholars and experiences.

Life after the Cotsen

Elizabeth Drolet[1]

FINISHING MY DEGREE AT the Cotsen Institute was an exciting time, but also a time to reflect on what I hoped to do with my career over the long term. After many years working to prepare myself for graduate school, I finally finished with a degree in hand. I was left pondering my professional career goals and the best course to achieve them. I initially set out to expand the breadth of my experience, hoping to work with a range of materials and develop my understanding of complex treatments. During the first year following graduation, I assisted the Fowler Museum at UCLA in the preparation of its fiftieth anniversary exhibit, creating condition reports and treating a large number of objects for display, including beadwork, Maori feather cloaks, and carved wooden Sepik figures. Over the course of the summer, I worked with a team from the Los Angeles County Museum of Art to conserve the Watts Towers and mentored recent high school graduates, giving them an introduction to art conservation. I also worked with UCLA undergraduates to restore the mural *The Black Experience* in the Ackerman student union building, which had been heavily damaged during previous renovations. The mural had been covered for many years, and we worked to repair the damage so it could again be presented for public viewing. These projects, while worlds apart in terms of the artworks themselves, gave me a chance to work with students and participate in public outreach, which I was surprised to find tremendously rewarding.

I then took a full-time position as an assistant conservator at the Natural History Museum of Los Angeles County. There I had the chance to work on a wide range of historic materials from the near and more distant past of Los Angeles and California. I helped maintain the large collections, install and remove rotating and traveling exhibits, and coordinate with the many museum departments on issues of storage, pest management, and emergency preparedness. The museum has a wonderful array of collections, and my projects there included everything from treatments of colonial-era Spanish armor and a full-size painted wooden stagecoach to large-scale moves of objects to improve storage.

After four years of work in museums around the Los Angeles area, I started missing my first love and what initially brought me to conservation: archaeological fieldwork. While I had always assumed that my path would take me to a career position in a museum or similar institution, I found that the reality of spending extended periods in the field conflicted with the day-to-day demands of a museum. So in 2016 I took a leap and left the museum to start my own private practice. Running my own business gives me the flexibility to create my own schedule and to embark on projects I find personally fulfilling. I now divide my time between private work for clients and institutions around Southern California and fieldwork abroad. I have had the pleasure of working for such diverse clients as the UCLA Library Special Collections, the City of Los Angeles Public Art Division, and the Museum of Riverside. I have worked extensively on native Southern California basketry, painted wooden objects, and archaeological ceramics.

> Tombos has deep shaft tombs, heavy insect activity, and the periodic influx of moisture.

Since 2016 I have worked as the site conservator for the Tombos Archaeological Project, codirected by fellow Cotsen alumni Stuart Tyson Smith, now at the University of California–Santa Barbara, and Michele Buzon, now at Purdue University. The site is located near the Third Cataract in the River Nile, in northern Sudan. Work in recent seasons has focused on a colonial Egyptian New Kingdom cemetery in the town of Tombos and a Nubian Kerma-period cemetery in the nearby town of Abu Fatima. The two sites are located

1. MA Conservation, UCLA, 2012.

Figure 1. Elizabeth Drolet (right) and Stuart Tyson Smith (PhD Archaeology, UCLA, 1993) discuss the excavation of a newly opened burial chamber in a shaft tomb at the site of Tombos, northern Sudan, in 2016.

only miles apart but have vastly different states of preservation and create challenges for their excavation. Tombos has deep shaft tombs, heavy insect activity, and the periodic influx of moisture, although the burial chambers have in some cases protected the enclosed materials and a wide array of metals, ceramics, and wooden objects have survived intact. Abu Fatima has shallow pit burials but a largely arid burial environment, which has resulted in the excellent preservation of many organic materials, including leather

I had not anticipated how much it meant to people to see art and artifacts respected.

and rawhide objects, plant materials, and wood. My work for the past three seasons has focused largely on the laboratory excavation of a wooden toiletry box with open-work polychrome decoration, which was block-lifted in a previous season and set aside for further excavation by a trained conservator. The project has been tremendously rewarding, offering challenging problems with each new discovery. Working with and getting to know the team and members of the community of Tombos are among my favorite parts of the job, and I have become very fond of Sudanese food and culture.

Although I never would have predicted that my career path would lead me to where I am today, I am tremendously grateful that it did. Art conservation is admittedly a challenging field in which to forge a career and make a living. When I started at the Cotsen Institute, I was inspired to do the most I could to

Figure 2. Elizabeth Drolet works on the laboratory excavation and stabilization of a polychrome painted box excavated at Tombos.

safeguard cultural objects for future generations. My training and connections at the Cotsen Institute have enabled me to do just that, in ways that I predicted and in ways that have completely surprised me. As I have progressed with my career, I have been moved by the strong responses to my conservation work. I had not anticipated how much it meant to people to see art and artifacts cleaned, cared for, and respected; whether a treasured family heirloom, a public artwork that people casually pass each day, or an archaeological object of national pride. These heartfelt acknowledgments have made me honored to be entrusted with the most fragile and fugitive components of our collective cultural heritage.

An Update

Ayesha Fuentes[1]

Figure 1. Ayesha Fuentes buys conservation supplies in Khartoum, Sudan, January 2015.

AFTER FINISHING THE UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials in 2014, I initiated and published various research projects in close collaboration with my colleagues and mentors at the Department of Culture in Thimphu, Bhutan. I also participated as an on-site conservator in a bioarchaeological project in northern Sudan (Figure 1). Before moving to London in the fall of 2016 to pursue a PhD under supervision of Christian Luczanits, I worked at the Fowler Museum as an assistant conservator, display fabricator, and mount maker. I am now in my third year as a doctoral researcher at the School of Oriental and African Studies (SOAS), University of London, in the Department of History of Art and Archaeology. My main focus is the study of the history and current use of human remains in Tibetan ritual objects (Figure 2) from a technical and material cultural perspective. My research is made possible by the generous support of a SOAS Overseas Research Studentship and will be further supported by a Neil Kreitman Scholarship, also from SOAS.

As part of my research I have been working with European and American museums and their collections of Tibetan objects. In 2017 and 2018 I did a year of fieldwork across the Himalayas—from Ladakh to Xining and south to the Kathmandu Valley—conducting interviews, documenting the functions of these objects, and investigating their sources, production techniques, and circulation patterns. This project engaged with monks and nuns, lay practitioners, shopkeepers, academics, yogis, and others through images of the objects held in collections. This resulted in many personal narratives in a variety of intellectual, ritual, and social vocabularies. Craftsmen were particularly knowledgeable about the technical details of the objects and often shared valuable observations about their circulation and patronage. This fieldwork created several opportunities for participation and observation during public rituals, improved my skills in Tibetan and Chinese, and led to a greatly increased familiarity with the human and natural geography of Himalayan communities (Figure 3).

> I discussed handling, display, and interpretation of Tibetan tantric ritual objects.

After writing up my initial findings, I presented a lecture with the title "Cultural Technology and the Material Strategies of Tibetan Ritual Objects" at the International Association for Tibetan Studies triennial seminar in Paris in July 2019. I also conducted a workshop at the British Museum in advance of an upcoming exhibition about South Asian and Tibetan ritual objects. During this workshop, I discussed handling, display, and interpretation of Tibetan tantric ritual objects made with human remains with curators, collections care specialists, and cultural historians. I have since been invited to conduct similar workshops and further consultations at the Pitt-Rivers Museum

1. MA Conservation, UCLA, 2014.

Figure 2. A damaged skull cup with accumulated grime and other evidence of use during a ritual dance (chams). This is one of many objects from the Wellcome Collection (object number A20948) studied by Fuentes during her doctoral research at SOAS.

in Oxford and the Musée Guimet in Paris. These and other museums have contacted me about the interpretation and display of these objects, often while reviewing their policies on human remains. Many of the policies of European and American institutions are based on assumptions about the relationship between the body and the mind that are different from those illustrated by these objects, in which human bones are used as vessels and musical instruments to communicate Buddhist teachings and facilitate nonattachment to ego. Rather than an individual identity with personal or social relationships, human remains in this form of Tibetan material culture more often represent accumulated merit and specialized ritual materials, designed to be utilized by accomplished practitioners. This distinction is important for the interpretation of these instruments as cultural objects.

My written work has been published in the *Bulletin of the Australian Institute for the Conservation of Cultural Material*, *Material Religion*, and the *Bulletin of the School of Oriental and African Studies*. During my final year at SOAS I plan to stay in London in order to revise and finish my dissertation thesis by the submission deadline in September 2020. After that I hope to continue working with my hands, researching the materiality of religion and contributing to the documentation of cultural technology as a conservator and a historian.

Finally, I would like to thank my mentors at the UCLA/Getty MA program and especially Jill Silton at the Cotsen Institute of Archaeology for her general inspiration as well as sharing her knowledge and experience of the Tibetan cultural landscape. More information is readily available at my website: www.ayeshafuentes.com.

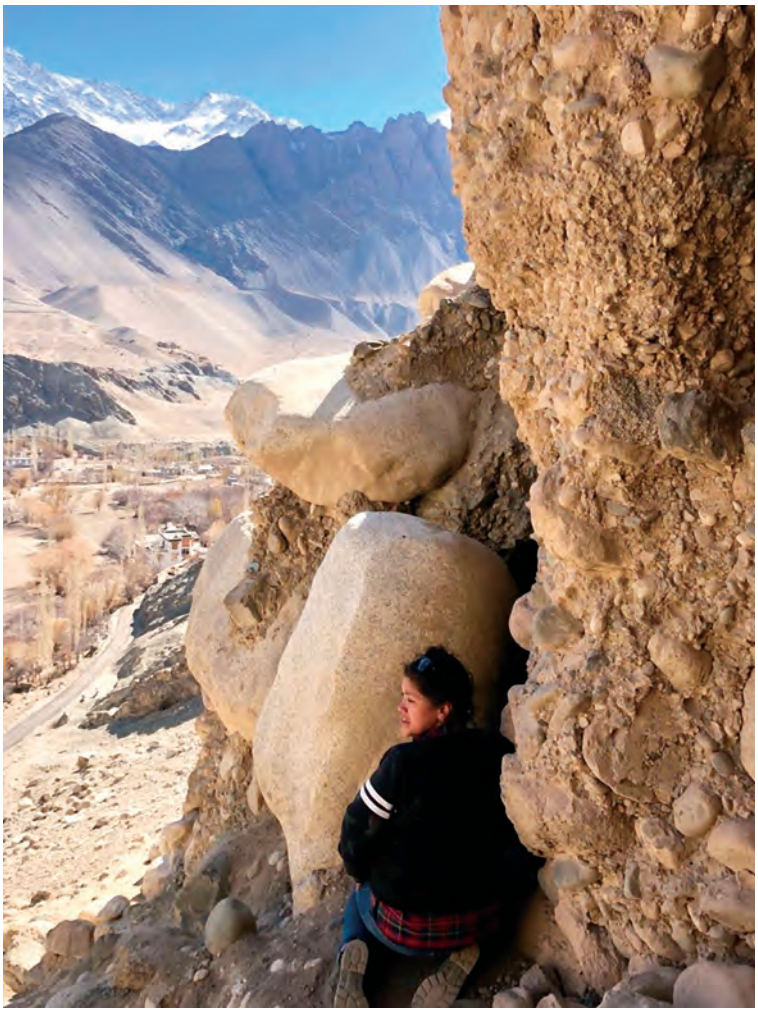

Figure 3. Ayesha Fuentes investigates the painted caves of Saspol, Ladakh, India, April 2018.

Moving Forward by Circling Back: My Path Since Graduation

Caitlin Mahony[1]

IN THE SUMMER MONTHS at the Smithsonian National Museum of the American Indian, the conservation laboratory is a flurry of activity, with summer interns rushing to absorb as many insights and techniques as they can before they leave, and fellows work diligently on their two-year research projects. As a new permanent staff member, I appreciate being in a position with a long-term view and knowing that I will have ample time to get to know the collection and pursue research questions.

Throughout my career in conservation,the National Museum of the American Indian has been a place I have found myself returning to. I was a preprogram intern there before attending UCLA. In the fall following my graduation, I returned there as a two-year Andrew W. Mellon Fellow. During my fellowship, I gained invaluable experience on exhibition planning, artifact treatment, and technical study. I was able to work on a variety of archaeological, historic, and contemporary objects. My research project targeted a group of more than 200 Tlingit baskets from Alaska that suffered from failing repairs. I worked with the late Tlingit weaver and indigenous scientist Teri Rofkar to outline a protocol of care for these objects encompassing aspects of technical study, stabilization, and partnerships with community (Figure 1).

After finishing at the National Museum of the American Indian, I moved on to the Walters Art Museum in Baltimore with a Samuel H. Kress Fellowship. This fellowship was narrower in scope, though no less ambitious. My sole task was to find a way to reconstruct a seventeenth-century enameled Chinese porcelain lantern that had been shattered in the 1930s while in the collection. It had remained in storage in hundreds of pieces for more than half a century. Through patience and creative problem solving, I assembled the delicate porcelain pieces using Paraloid B-72 rather than epoxy. Its thermoplastic properties allowed joins to be heated after setting and be massaged into better alignment, accomodating the springing that had occurred during the break.

My research project targeted a group of more than 200 Tlingit baskets.

After the Walters Art Museum, I temporarily joined the conservation team working on renovation of the Northwest Coast Indian Hall at the American Museum of Natural History. However, my time there was cut short after accepting the opportunity to be an assistant conservator in the Objects Conservation Department at the Metropolitan Museum of Art. There I was charged with the care and study of objects from Africa, Oceania, and the Americas. For two years I was involved with several significant exhibitions, including *Golden Kingdoms: Luxury and Legacy in the Ancient Americas*. One highlight of that exhibition was the opportunity to collaborate with curator Joanne Pillsbury, conservator Deborah Schorsch, and scientist Federico Carò on a technical study of six rare Peruvian metalworks from lending institutions using X-radiography, digital microscopy, and X-ray fluorescence spectroscopy (Figure 2). I also

1. MA Conservation, UCLA, 2014.

Figure 1. Caitlin Mahony (left) and Teri Rofkar discuss the condition and future care of a group of Tlingit baskets.

was involved in the exhibition *Art of Native America: The Charles and Valerie Diker Collection*. This exhibition highlighted a newly received gift of more than 100 objects. I was responsible for establishing their documentation and care within the institution. One aspect of this work included a partnership with Yup'ik artist Chuna McIntyre to review newly arrived Yup'ik dance masks and ornaments, and to guide their treatment and documentation. My time at the Metropolitan Museum of Art provided immense growth and professional development, ultimately opening the door for me to return to the National Museum of the American Indian as a senior objects conservator.

I arrived back at the Smithsonian in June 2019. In my short time here, I have managed conservation treatments on a number of items that will be returned to the Akimel O'odham and Piipaash communities, on extended long-term loan to the Huhugam Heritage Center (Chandler, Arizona), after renovation of the permanent gallery of the center. For an upcoming exhibition, I spent several weeks traveling across the Midwest to examine paintings by Oscar Howe in private collections. In the near future I will continue working on object treatments for upcoming loans and will visit the Makah reservation in Washington to assist with a home care workshop for cultural heritage.

Figure 2. Caitlin Mahony (right) and Federico Carò of the Department of Scientific Research of the Metropolitan Museum of Art discuss areas of an ancient Peruvian metal mask to be analyzed with X-ray fluorescence spectroscopy.

Building an Academic Career on a Cotsen Foundation

Catherine E. Pratt [1]

I am happy to report that my first book is completed.

SINCE MY GRADUATION in 2014, I have looked back on my time at the Cotsen Institute with extreme pleasure and nostalgia. As I teach graduate classes at the University of Western Ontario, where I am an assistant professor, I reflect on my own time as a graduate student and how well the program at the Cotsen Institute prepared me for my current role. I strive to provide the high standards within a supportive environment that I received to my own graduate students as they learn how to thrive in an academic or related field. I am fortunate to be able to teach a number of courses, ranging from Greek art and archaeology to Egyptian art and architecture to the relations between Greece and the East. If I did not have the diverse and robust background provided by my education at UCLA, I surely would not be able to provide such a wide range of courses to my students.

I am thankful to have received my degree at the Cotsen Institute for multiple reasons. It not only prepared me for the rigors of the academic world, but it also provided long-lasting support through resources, mentors, and friends. I took a relatively straight route to my current position, starting as a lecturer in 2013 and moving to a full-time position in 2018. Within those years, I also held a 2015 postdoctoral fellowship with the Hellenic Republic State Scholarships Foundation at the University of Athens and was a fellow at the Harvard Center for Hellenic Studies in Washington, DC, in 2017.

In general, my research and teaching focus on the agriculture, trade, and cultural economies of the eastern and western Mediterranean, from the Bronze Age to the Classical period. To understand historical transformations in these areas better, I focus specifically on patterns in pottery distribution, production, and consumption over the *longue durée*. I am happy to report that my first book, *Oil, Wine, and the Cultural Economy of Ancient Greece: From the Bronze Age to the Archaic Era*, is completed and will be published by Cambridge University Press in the fall of 2020. This study is the first to explore how oil and wine became increasingly entangled in Greek culture as dependencies developed between people and these two commodities during the first millennium BCE. The monograph also bridges the long-standing scholarly divide between Aegean prehistory and Classical archaeology and is thus able to see continuities in new and exciting ways. Despite significant fluctuations in climate and sociopolitical stability, including the so-called Dark Age, we can see that Mediterranean communities remained resilient and maintained shared values surrounding the production and exchange of oil and wine. Furthermore, my work on oil and wine in pre-Classical Greece has proven relevant to current issues pertaining to agriculture and climate change, which I am pursuing through two venues. The first is Environmental Entanglements: Climate and *Physis* in the Ancient World, a colloquium I organized in September 2019. The event included a keynote presentation by Ian Hodder of Stanford University. The second is a long-term multidisciplinary and collaborative project involving vineyard owners in California and Canada who face climate-related problems similar to those experienced by ancient Mediterranean societies.

I have also continued a robust program of archaeological fieldwork. In 2015 and 2016 I worked at the Mycenaean citadel of Pylos in the southwest Peloponnese, Greece, where a University of Cincinnati team led by Jack Davis and Sheri Stocker discovered the so-called Griffin Warrior Tomb, an elaborate shaft grave

1. PhD Archaeology, UCLA, 2014.

Figure 1. The author in Palaikastro, Crete, 2015.

filled with bronze weapons, gold jewelry, and a vast array of seal stones (see *Backdirt* 2018:14–17). It was quite the event. The summer of 2015 I also worked at the Minoan settlement of Palaikastro under the direction of Carl Knappett of the University of Toronto. There we uncovered substantial evidence for post-palatial feasting at a large house just outside town.

A hiatus in my fieldwork was created when we welcomed our daughter, Stella, into the world on May 28, 2017. She has since become a partner in the field! In 2018 I began my own project at the Athenian Agora under the auspices of the American School of Classical Studies in Athens. There I am studying the earliest amphorae discovered in the agora excavations to understand better the first uses of the agora space and the early economic networks of Athens in the Archaic period. This project is ongoing and will likely proceed for another two years.

Finally, I am a codirector of the Bays of East Attica Regional Survey (BEARS) along with Sarah C. Murray of the University of Toronto. This project is a five-year survey of the Bay of Porto Raphti on the coast of eastern Attica, Greece. We are very thankful to the Canadian Institute in Greece, which supports the permit, along with the Greek Ephorate and a generous Social Sciences and Humanities Research Council grant. The survey is the first foreign archaeological project with two female directors. In 2019 we held our first season, which included students from both Canada and the United States. The four weeks of work produced unprecedented results that impact long-standing questions for Bronze Age, Classical, and Hellenistic occupation of the area. Excavations in the northern area of the bay in the 1950s produced a significant chamber tomb cemetery dated to the Late Bronze Age

Figure 2. The BEARS logo (note UCLA's colors).

Figure 3. The BEARS team on-site in 2019. The author is standing third from the left.

post-palatial era. No settlement, however, was ever found. This summer, our survey produced convincing evidence that the corresponding settlement for this cemetery is located on a large island in the middle of the bay. The Bay of Porto Raphti is also home to two Classical Attic *demes* (municipalities), Steiria and Prasiai, and a Hellenistic Ptolemaic fortress on the peninsula of Koroni. In 2019 we focused on the peninsula and were able to discern multiple occupation eras of the area, including the Late Archaic, Classical, and Early Hellenistic Periods. This is contrary to the idea that the region was not inhabited before construction of the Late Hellenistic fortress. Finally, on the Pounta Peninsula, which juts into the middle of the bay, the material collected—including more than 7,000 obsidian lithics—suggests that most activity here dates to the Final Neolithic and Early Bronze Age. While there is much to do in the next four years of survey and study, the first season of BEARS indicates that the Bay of Porto Raphti is rich in archaeological material. As I embark on new adventures, such as a tenure-track position and a new field project, I feel confident and excited to share this story with my Cotsen family.

Report from the Chair of the Archaeology Program

Greg Schachner

I AM HONORED TO OFFER my first report as chair of the Interdepartmental Degree Program in Archaeology. In many ways this report is simply an accounting of the successes of our excellent students and my predecessor, John Papadopoulos, who stepped down as chair after nine years of service on July 1, 2019. So first, a hearty thank you to John for his service and his timely responses to way too many of my questions over the past six months. May your email inbox remain lighter.

Since John's last report, four students have completed their degrees. Hsiu-ping Lee (Fall 2018, "Erlitou and Its Neighbors: Contextualizing Interregional Interaction in the Central Yellow River Region in Ancient China") is now a postdoctoral scholar at the Institute of History and Philology at Academia Sinica in Taiwan. Jacob Bongers (Spring 2019, "Mortuary Practice, Imperial Conquest, and Sociopolitical Change in the Middle Chincha Valley, Peru [ca. AD 1200–1650]") began a four-year position as a senior research associate at the University of East Anglia. Roselyn Campbell (Spring 2019, "Kill Thy Neighbor: Violence, Power, and Human Sacrifice in Ancient Egypt") is nearby as a research associate with the Scholars Program in the Getty Research Institute. Rachel Moy (Spring 2019, "Fluid Typologies: A Critical Examination of Ceramic Methods from Mai Adrasha, Ethiopia") completed a term as a research associate at the Cotsen Institute, working on the Shire Project, and recently became a project manager with GMV Syncromatics, a software company that provides cloud-based, real-time passenger information systems for transit agencies, including the Los Angeles Department of Transportation and the Los Angeles County Metropolitan Transit Authority. Jacob, Rose, and Rachel joined us at the end-of-year celebration on June 13, along with Marcus Thomson, who graduated from the Department of Geography with a dissertation that incorporated archaeological data (Figure 1).

Our continuing students have been successful on a number of fronts, receiving prestigious fellowships and grants from UCLA and other sources. These include the Charles E. and Sue K. Young Graduate Fellowship (Jacob Damm), Graduate Research Mentorships (Camille Acosta, Kellie Roddy, and Rachel Wood), Graduate Summer Research Mentorships (Maryan Ragheb, Baisakhi Sengupta, Zichan Wang, and Rachel Wood), and a Dissertation Year Fellowship (Adam DiBattista) from UCLA. Anna Bishop received a grant from the Rust Family Foundation and a Casa Herrera Residency at the University of Texas–Austin. Jacob Damm was awarded an Educational and Cultural Affairs Junior Research Fellowship from the W. F. Albright Institute of Archaeological Research and a Platt Excavation Fellowship from the American Schools of Oriental Research. Georgi Kyorlenski was a John Carter Brown Library Associates Fellow at

Figure 1. End-of-year and hooding celebrations at the roof of the Fowler Museum, June 13, 2019. From left to right: Willeke Wendrich (director), Greg Schachner (chair), and freshly minted doctors Rachel Moy, Jacob Bongers, Marcus Thomson (Department of Geography), and Roselyn Campbell.

Brown and a Newberry Library Short-Term Fellow. In the fall of 2019, Georgi was awarded the prestigious Fulbright-Hays Doctoral Dissertation Research Award for his research in Peru. Vera Rondano received the Arnold Rubin Award from the Fowler Museum and the International Institute Fieldwork Fellowship Award and will spend the 2019–2020 academic year on a Predoctoral Art History Fellowship at the Metropolitan Museum of Art. These awards, as well as the extensive list of conference and research grants that many of our students have received, attest to their successes in a range of genres of archaeological research.

We welcome an incoming cohort of three students. Edward Cleofe, a returning Southern California native, will pursue research on the colonial period in the Philippines and South America with Stephen Acabado. Carly Pope hails from Georgia and arrives with an MA degree from University College London. She will study ceramic technology in Central America under the supervision of Richard Lesure and Tom Wake. Matei Tichindelean, born in Transylvania, Romania, but coming to us from Arizona, arrives with two MAs, one from the University of Liverpool and another from Indiana University, Bloomington. He will study the ancient Egyptian rural economy under Kara Cooney and Willeke Wendrich.

I look forward to a productive academic year, which represents the fiftieth anniversary of the founding of the Archaeology Interdepartmental Degree Program in 1969. A total of six students had enrolled in the program by the end of the inaugural 1969–1970 academic year, including Ernestine Elster, the current director of the Mediterranean Laboratory. We are planning a number of events to honor this momentous occasion, and I look forward to hearing from alumni and current students as we revisit our past and look to the future.

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

Glenn Wharton

I AM DELIGHTED TO PRESENT my first report for *Backdirt* as the new Lore and Gerald Cunard Chair of the UCLA/Getty Program in the Conservation of Archaeological and Ethnographic Materials. When I arrived last summer, I received a warm welcome at the Cotsen Institute from its director Willeke Wendrich and its chair Greg Schachner. Former interim chair William Roy coached me on the broader landscape of UCLA, while the founding chair and now distinguished professor emeritus David Scott provided a wealth of knowledge about the history of the program. Current faculty also helped me settle in, each with their own special insights. I also appreciate the help of student affairs officer Shaharoh Chism, chief administrative officer Teresa Sanchez, and the other committed staff members of the Cotsen Institute.

Going forward, my primary goal is to maintain the past success of the program by producing a new generation of conservation scholars and leaders in the field. A key aspect of our future endeavors is to make the program, and hence the field of conservation as a whole, more diverse and inclusive. This is both a pipeline issue, for which we need to identify and nurture underrepresented undergraduates with interests in the field, as well as a role model issue, for which we need to provide a more diverse range of scholars and practitioners the opportunity to do research and teach within the program.

A related focus will be on community engagement in conservation. Building on my own work to develop a participatory model for conservation in rural Hawai‘i, I look forward to working with community members with stakes in the conservation and display of cultural heritage. From my own experiences in Hawai‘i and elsewhere, I have witnessed how the perspectives of those from outside conservation can lead to more considered research through shared participation. The conservation process impacts narratives about the past, so it is imperative to share conservation authority with those who have a stake in how the past is known.

Prior to coming to UCLA, I was involved in very different sorts of scholarship and practice, including experiences that have their own kind of relevance to concerns at the Cotsen Institute. As a time-based media conservator at the Museum of Modern Art in New York, I was engaged with conserving video, audio, software, and performance art. I employed digital technologies such as linked data to share artist concerns with the public, and I published on artist relationships with their creative production. I look forward to continuing my work with artists by inviting them to speak and to work in residence to reflect on issues facing the conservation of material culture, such

Figure 1. Glenn Wharton removes the paint from a statue of King Kamehameha I in Hawai'i.

as social inclusion, illicit trade, destruction of monuments in civil conflicts, and impending losses caused by climate change. These are not small matters. They invite, even compel, new approaches from wherever we can find them.

Implementing these plans will take financial and institutional support. I began my tenure by establishing regular meetings with Michelle Jacobson, director of development at the Cotsen Institute, as well as development staff in the Social Science Division. I look forward to identifying individuals and foundations that are willing and able to support our shared enterprise. Another priority is to seek further linkages and collaboration with the Getty Conservation Institute, the Getty Museum, and the Getty Foundation. For instance, we are in communication about the exciting new initiative Ancient Worlds Now: A Future for the Past. There is great potential for the combined forces of the Getty Trust and UCLA to preserve archaeological heritage and empower both professionals and community members in an international context.

Thanks to the hard work of Ioanna Kakouli and her colleagues, the new PhD program in the conservation of material culture is now a reality. This fall we accepted our first four PhD students, along with five students in the UCLA/Getty MA program. Combined with the six students who are currently off on third-year internships, we now have 15 graduate students in the Interdepartmental Degree Program. I am pleased to say that the incoming class of students arrived with impressive backgrounds, focused interests, and strong ideas about the conservation field. I look forward to facilitating their research within the program.

At the start of the academic year there were a few personnel changes in our program. We lost Vanessa Muros, who managed the conservation training laboratories at the Getty Villa since the early days of the program. Fortunately she only moved across the hall to become director of the Archaeological Science and Experiments Laboratory (Room A419). She remains a close friend of the program and has been instrumental in guiding William Shelley, our new staff research associate and laboratory manager, as he settles into his position. We are doubly fortunate in that William recently worked in antiquities conservation at the

Report from the Chair of the UCLA/Getty Interdepartmental Program

(continued)

Getty Conservation Institute and is familiar with our laboratories in the Getty Villa, along with many of the institutions from which we routinely borrow artifacts for teaching and student research.

Our faculty have been busy. Ioanna Kakoulli was appointed adjunct professor at the University of Cyprus and is working on research collaborations between Cyprus University of Technology and UCLA. She recently finished her work as associate editor for conservation on the *Encyclopedia of Archaeological Sciences* and has recently published multiple papers on the chemical analysis and production technology of archaeological glass, wall paintings, and pigments.

Ellen Pearlstein continues managing the Andrew W. Mellon Opportunity for Diversity in Conservation summer workshops for underrepresented undergraduates and recent post-baccalaureates. She is also working on a grant, funded by the Institute of Museum and Library Services, with the title Continuing Conservation Research Challenges: The Impact of Cleaning and the Preservation and Restoration of Color on Historic Taxidermy, in collaboration with the American Museum of Natural History, the Institute for the Preservation of Cultural Heritage at Yale, and the Getty Conservation Institute. Her recent publications include research on pigments used on Andean artifacts, research on Spanish colonial featherwork, and her work with the Agua Caliente Cultural Museum in Palm Springs, California.

Christian Fischer has been pursuing his research on ancient Khmer stone material culture through different projects in collaboration with the Cleveland Museum of Art and the École française d'extrême-orient. Together with graduate students in the archaeology program he is also studying the petrography of ancient ceramics from Albania and Ethiopia, and advices students affiliated with the Archaeomaterials Group on various research projects. Christian has recently published several papers on Cambodian stone sculptures, blue-and-white porcelain, obsidian, and pigment identification in wall paintings.

As an update on our former faculty, emeritus professor David Scott has returned to the United Kingdom. In addition to articles, he just published his ninth book, *Metallography in Art and Archaeology*. He continues to teach short courses on metallography and the microstructure of ancient and historic metals and has recently lectured at the University of Oxford, the University of Durham, and the University of Padua. Our former acting chair Bill Roy reports that he is happily retired in Everett, Washington, where he enjoys his family and dogs, as well as the return to his ongoing research on the rise of the genre system in American popular music in the first half of the twentieth century. I wish the two of them happy quasi-retirements, and I thank them for all they have done to establish and build the program.

In addition to gathering input from staff, students, and faculty, I have held meetings with alumni of the program. They offered me many thoughts about how better to prepare those who will be coming after them. I invite others to contact me with ideas about the interdepartmental program and the role that material culture conservation has or should have in a world facing environmental destruction, social inequality, and racism. I remain convinced that conservation, with its eye on the past and its working for the future, has a significant role to play.

Incoming Graduate Students

Willeke Wendrich

EDWARD CLEOFE was born and raised in Los Angeles and Orange County. He earned a BA in anthropology from Brown University in 2015. Since graduating, he has worked for youth-serving nonprofits in Seattle, Washington. Edward is interested in exploring the archaeology of the Philippines, with a focus on ritual and burial deposit composition and spatial distribution. His previous research includes zooarchaeological and osteological work in northwest Alaska and analysis of the spatial organization of several houses as a National Science Foundation Research Experience for Undergraduates awardee with the Ifugao Archaeological Project (UCLA). Thematically, Edward's work centers on exploring the intimate experiences of those navigating Spanish colonialisms and emergent capitalism. Through its comparative scope, his research aims to situate these intimate histories in transnational and global historical contexts to explore how individuals negotiate the diverse variations of colonization and capitalism. At the Cotsen Institute, Edward will explore the possibilities of comparative research in the archipelago of the Spanish East Indies and the "vertical archipelago" of the Viceroyalty of Peru during the early modern period. Edward is deeply interested in public engagement, particularly projects that introduce archaeology to young people to open up conversations about who, why, and how narratives of the past are produced.

LAUREN CONWAY received her BA in anthropology on the archaeology track from Barnard College of Columbia University in 2018. She became interested in conservation as an undergraduate while excavating at Hadrian's Villa, a large Roman archaeological complex near Tivoli, Italy. Lauren later participated in a Balkan Heritage Foundation workshop on the conservation of Greek and Roman pottery and Roman glass, reconstructing vessels from archaeological sites. She worked as an intern with the Columbia University Libraries Conservation Laboratory, the Paintings Laboratory at the New York Historical Society, the Objects Laboratory in the Anthropology Department of the American Museum of Natural History, and as a paper conservator in a private practice. Through these internships she encountered a wide range of objects, including carved mountain goat horn, nineteenth-century oil paintings, and a book bound in a walnut shell. At the American Museum of Natural History, Lauren assisted the consultation of native advisers and treated small objects as part of renovation of the Northwest Coast Hall in the museum. She collaborated with the tribal council of Picuris Pueblo in New Mexico for her senior thesis, which centers on the reopening of the tribal museum. During her time at UCLA, Lauren hopes to continue working with indigenous communities and gain more experience performing onsite archaeological conservation.

CHRISTIAN de BRER has an MA from the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials, where he concentrated his efforts on the long-term preservation of organic materials in regional museum collections. Since 2011 he has overseen all conservation-related activities at the Fowler Museum at UCLA. Chris has published articles on a variety of subjects, including the deterioration of artificially mummified human remains from Chile, cultural representation in conservation decision making, magnets as mounting devices for artwork, and pesticide residues on organic objects in museum collections. His areas of focus include the characterization of materials and stabilization treatments for objects from non-Western cultures as well as the mitigation of display and storeroom environments for the preventive care of museum collections. The most recent projects for which Chris received grants involve collaboration with regional Mexican institutions in Tepic, Guadalajara, and Campeche to compare their ancient Mexican pottery with similar vessels in collections in Southern California.

TAMARA DISSI obtained a BA in art history from the University of California–Berkeley in 2016. Her participation in the conservation of the Temple of Winged Lions in Petra, Jordan, in 2015 solidified her intention to pursue archaeological conservation. Since graduating, she has held several positions related to conservation. She served as a Conservation Intern for Broadening Access, funded by the Andrew W. Mellon Foundation, at both the Smithsonian American Art Museum and the Freer-Sackler Gallery in Washington, D.C. At these institutions, she worked in the paintings, paper, and objects laboratories on a variety of artwork. In addition, she worked as a conservation technician with Manthey Fine Art Conservation. Tamara has a particular interest in the art and archaeology of the Near East and hopes to engage with conservation research and outreach abroad.

JENNIFER McGOUGH earned her BA in archaeology, with minors in anthropology and the history of art, from Cornell University in 2014. In 2015 she obtained her MSt in archaeology, with a concentration on environmental archaeology, at the University of Oxford. She also completed her master's thesis, which compiled existing research on the domestication of cows, fowl, and pigs in China and explored the development of regional domesticity. During research excavating indigenous sites in upstate New York, Jennifer worked closely with members of the Cayuga Nation. She also received a research scholarship to participate in excavation of the Neolithic Yangguanzhai settlement near Xi'An, China. Following her graduate work, Jennifer expanded into the field of conservation. She has worked most extensively with the Fowler Museum, where she had the opportunity to treat ethnographic objects, including Guatemalan masks, African water vessels, and Australian bark paintings. She also worked with Los Angeles conservators on contemporary sculptures and modern art, as well as abroad on Roman pottery and historical Italian manuscripts. At the Fowler Museum, Jennifer developed her skills as a mount maker; she has fabricated several mounts for large traveling exhibitions such as *Striking Iron*, an exhibit on African blacksmithing. Her time in Los Angeles also led her to the position of regional liaison for the Emerging Conservation Professionals Network of the American Institute for Conservation, where she has organized events for and fielded questions from rising professionals in the field. She hopes to continue to help foster the conservation community as she begins her studies with the UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials.

MOUPI MUKHOPADHYAY is from India. Upon obtaining a BE in mechanical engineering from M. S. Ramaiah Institute of Technology, Bengaluru, she proceeded to earn an MS in materials science and engineering at UCLA. During this time, she joined the archaeomaterials group and developed an interest in analytical methods used in the conservation of archaeological and ethnographic materials. Frequently attending the weekly Pizza Talks at the Cotsen Institute of Archaeology deepened her appreciation for archaeology and conservation. This, combined with a long-standing interest in Asian art and religion, led her to pursue an MA in Buddhist art history and conservation at the Courtauld Institute of Art, London. Volunteering at the Ancient Materials, Technology and Conservation Co-operative, based in Sittingbourne, Kent, helped her gain experience in the analysis of archaeological materials, on-site preventive conservation measures, and conservation management, as well as public engagement through workshops for children on ancient wall paintings. In both her master's theses, Moupi focused on investigating the photophysical and chemical properties of organic pigments, and she is interested in applying scientific techniques toward understanding the nature of heritage materials to inform better conservation practice. Through her research at UCLA, she aims to develop a better understanding of the materials and technology of the creation of South Indian wall paintings.

CARLY POPE was born and raised in Atlanta, Georgia. She earned her BA, with honors, in art and archaeology from Princeton University in 2016. Her senior thesis, on the topic of early pottery in Latin America, received the Frederick Barnard White Thesis Award. She presented her research at the annual meetings of both the Archaeological Institute of America and the Society for American Archaeology. She continued her education at University College London, where she obtained an MA in archaeology, with distinction. For her master's thesis, she worked with Elizabeth Graham and Patrick Quinn to perform an analysis of pottery used in salt processing by the Maya of coastal Belize. During this time, she presented at the Graduate Archaeology at Oxford Conference and at the Society for American Archaeology Conference (twice), and she organized a master's research conference at University College London. While her research focuses on the pottery of Central America, she has also participated in excavations at a Byzantine and Roman port in Thrace, Greece, at a medieval pilgrim cemetery in the Basque area of Spain, at a Middle Kingdom amethyst mine in the Eastern Desert near of Aswan, Egypt, and at a Maya town site in Yucatan, Mexico. Carly is looking forward to working with Tom Wake on pottery from Bocas del Torro, Panama, and addressing questions concerning economic structures and exchange in the pre-Columbian Caribbean.

JAIME FIDEL RUIZ-ROBLES earned his BS in physics from the Autonomous University of San Luis Potosí, Mexico, in 2016. After graduation he published his research on the synthesis of novel mesoscopic hollow gold particles and their optical properties. In two other publications he discussed his work on the physicochemical properties of two-dimensional RNA and DNA condensed structures. Next Jaime obtained a MSc degree in materials chemistry at UCLA, under the supervision of William Gelbart and Jeffrey Zink. His research, aided by a National Science Foundation Graduate Fellowship, focused on two original projects centered on the synthesis and in vitro study of mesoporous silica nanosystems enveloped in plant virus capsids as a capping agent for cargo delivery. This novel approach intertwined the fields of inorganic material studies and physical virology. Since college, Jaime's goal has been to work on the conservation of cultural heritage. After earning his BS he therefore proposed a thesis project on the deacidification of books, using a thermodynamic process and the synthesis of rod-like alumina-silicate clays that are already utilized in conservation. Jaime is also interested in applying his knowledge in materials science and instrument techniques in the synthesis and characterization of nanomaterials to be applied for the preservation of different types of wall paintings, among other applications in conservation.

Incoming Graduate Students

(continued)

ELIZABETH SALMON was born and raised in San Diego, California. She earned her BA in 2014 from Vassar College, where she focused on anthropology and Asian studies. She was subsequently named a Critical Language Scholar by the U.S. Department of State, which allowed her to study Hindi in Jaipur, Rajasthan, India. She has since been involved with conservation projects that strive to preserve the material culture of India and strengthen an intercontinental dialogue that benefits conservation practices. In India she worked at the Leon Levy Foundation Centre for Conservation in Nagaur and the Mehrangarh Museum in Jodhpur, both in Rajasthan. Later, as a Language Fellow at the American Institute of Indian Studies in Jaipur, Elizabeth studied the care of regional collections to understand the research needs of local conservators. With further support from the Critical Language Scholarship, she organized an event at the San Diego Museum of Art to promote conservation of artwork from India and to share her passion with her home community. Most recently, Elizabeth worked as a research associate at the National Center for Preservation Technology and Training, where she aimed to develop a response protocol for cultural sites threatened by their proximity to crude oil transportation routes. In her doctoral research she plans to look at traditional ecological knowledge and draw on her work in India to develop preventive care measures that are accessible, sustainable, and culturally relevant.

ISABEL SCHNEIDER graduated with a BFA in studio art and a minor in film studies from the University of Georgia in 2012. She then moved to New York, where she curated art exhibits, served as assistant director of an art gallery, and helped launch an arts-focused nonprofit. In 2014 she began a yearlong teaching fellowship in Be'er Sheva, Israel, where she taught English while also studying Hebrew and Middle Eastern culture. There she developed a fascination with archaeology and heritage preservation. As she explored careers that would allow her to combine her passions for history, art, science, and community engagement, she continued teaching at an international school in Fez, Morocco, and learning about North African traditional arts. In 2016 Isabel returned to Israel to study with the International Conservation Center, gaining hands-on experience in conservation and archaeology on field assignments throughout the country. Following this she was an intern at the Fine Arts Conservation Department of the Israel Antiquities Authority for several months, primarily treating ancient mosaics and coordinating youth engagement opportunities. She also worked for a private wall-painting restoration company. For the last three years, Isabel has been employed at the William Breman Jewish Heritage Museum as both a development coordinator and the project manager for an online exhibition related to the Holocaust. She is interested in exploring comprehensive approaches to conservation that examine not only the treatment of objects but also the community outreach vital to making heritage accessible and appreciated.

MATEI TICHINDELEAN was born in Transylvania, Romania. After receiving BAs in Classical civilizations and German studies from the University of Arizona, he received an MA in Egyptology from the University of Liverpool. His MA thesis, under the supervision of Ian Shaw and Steven Snape, focused on the Egyptian army and the technological and social changes that occurred after the introduction of the chariot. He earned his second master's degree at Indiana University, Bloomington, where his thesis combined three-dimensional modeling and recording techniques to recontextualize Egyptian Amarna-period statuary. Matei has had a variety of archaeological experiences, including working on the South Asasif Conservation Project and the Tausert Temple Project, both in Luxor, Egypt; survey projects in the American Southwest; and a Roman settlement excavation in Transylvania. His current interest is the study of ancient Egyptian peripheral populations and their contribution to the Egyptian economy.

CÉLINE WAHSMUTH earned a BA in Classical archaeology, with minors in ancient Greek and studio art, from DePauw University in 2016. Her interest in the material culture of ancient civilizations led her to seek a brief volunteer position with a conservator at the Athenian Agora in 2014. Captivated by the work, she gained a spot as an intern with the Conservation Department of the Pennsylvania Museum of Archaeology and Anthropology in 2015. Over the course of two years, she achieved a strong foundation in conservation treatment and documentation techniques. She further developed these skills through projects with the Objects Conservation Department at the Cleveland Museum of Art and with private conservators in the Seattle area. Céline's experience has allowed her to treat a variety of objects, ranging from a painted Egyptian limestone tomb chapel and a porcupine quill box to outdoor sculpture made of Forton (an artificial casting material). She participated in the Ancient Panel Paintings: Examination, Analysis, and Research project at the Getty Museum, where she executed a number of multiband imaging techniques. Through online blog posts and staffing the Artifact Laboratory, a public-facing conservation space, Céline has worked to engage the community at large on issues of conservation and stewardship. As a member of the Education and Training Committee of the American Institute for Conservation, she is excited to engage with the professional community while beginning her studies with the UCLA/Getty MA Program in the Conservation of Archaeological and Ethnographic Materials.

Five Cycles of Lothar:
Generations Gather to Honor the Sixtieth Birthday of Professor von Falkenhausen

Anniversaries of eminent scholars are great opportunities for reassessing the state of the field and pushing forward into new realms of discussion. On June 5–6, 2019, dozens of scholars from all over the world gathered at UCLA to honor one such eminent scholar, Lothar von Falkenhausen, for a workshop and symposium named The Art and Archaeology of Ritual and Economy in East Asia. As technology disseminates and inspires further innovations on increasingly global scales, so has the influence of von Falkenhausen advanced the fields of archaeology and East Asian studies, and furthered the careers and lives of those who are fortunate to be his students, colleagues, and friends. Acknowledging this legacy and using it to reach new heights was the aim of the event, which was organized in honor of von Falkenhausen's sixtieth birthday. Sixtieth anniversaries are of course significant, particularly in East Asian contexts, where they mark the completion of the fifth cycle of a 12-year zodiac. This event, therefore, celebrated a return to the year of von Falkenhausen's birth for the sixth time.

The title of the event highlighted the multiple disciplines and topics that von Falkenhausen's broad career embodies. He is both a professor in the Department of Art History at UCLA and a core faculty member in the Cotsen Institute. From bells for ceremonial music to the production of salt, he has grappled with numerous inquiries into ritual and economy, as well as the intersection of the two, in early East Asia. Wu Hung (University of Chicago) likened von Falkenhausen's research approach to that of the seminal historian of early China Wang Guowei (1877–1927), who pioneered the dual evidence method of analysis, which gave full weight to both traditional historical documents preserved at court and the growing body of excavated texts appearing in graves and pits, the same inscribed artifacts that were to engender the field of Chinese archaeology. Von Falkenhausen, Hung explained, embraces not just a dual approach but a multi-evidence approach, one that treats artifacts not just as materials but as evidence, and that

Figure 1. Participants in the workshop (left to right): Wen Chenghao, Lin Kueichen, Li Shuicheng, Ellen Hsieh, Rowan Flad, Fu Yue, Pang Xiaoxia, David Schaberg, Jaang Li, David Cohen, Wang Mingke, Enno Giele, Martha Demas, Neville Agnew, Agnes Lin, Lai Guolong, Li Min, Alain Thote, Ye Wa, Wu Hung, Kristine Martirosyan-Olshansky, Ran Boytner, Willeke Wendrich, Lothar von Falkenhausen, Jack Davey, Kazuo Miyamoto, Bryan Miller, Yangjin Pak, Minku Kim, Richard Ehrich, Katherine Brunson, Ynigzi Xu, Zhang Hanmo, Kirie Stromberg, Rhi Juhyuang, Rahim Shayegan, Meng Fanzhi, Lee Sungjoo, Miao Zhe, Jill Silton, Monica Smith, and Steven Ammerman.

Figure 2. Von Falkenhausen in his early days of Chinese archaeology, on excavation in China in 1979. 1: Xiao Shixing 肖世星 (Liaoyang Museum, Liaoning); 3: Han Gang 韩刚 (Zhucheng County Museum); 4: Zhang Xiucheng 张秀成 (Beijing University Foreign Affairs Office); 6: Li Shuicheng 李水城 (Beijing University College of Archaeology and Culture); 7: Xia Jingfeng 夏竟峰 (New Jersey); 8: Yang Yang 杨阳 (Lu Xun Museum); 9: Meng Xianyu 孟宪珉 (National Cultural Relics Bureau); 10: An Jiayao 安家瑶 (Institute of Archaeology, Chinese Academy of Social Sciences); 11: Chen Ren 陈韧 (Beijing University School Branch); 12: Lorraine Spiess (Canada); 13: Li Yangsong 陈韧 (Beijing University History Department); 14: Zhao Chaohong 赵朝红 (Beijing University Archaeology Department and History Department); 15: Zhang Xin 张辛 (Beijing University College of Archaeology and Culture); 16: Tong Weihua 佟伟华 (National Museum of China); 17: Jeffrey Y. T. Kao (United States); 18: Ma Jianhua 马建华 (Jilin Provincial Cultural Relics Bureau); 19: Yin Jinan 尹吉男 (Central Academy of Fine Arts); 20: Nie Xinmin 聂新民 (First Emperor of Qin Terracotta Warriors Museum); 21: Wang Qing 王青 (*Economic Daily News*); 22: Guan Xuejun 关学军 (Atlanta, Georgia); 24: Xia Chaoxiong 夏朝雄 (Beijing University History Department); 28: Bo Xiaoying 薄小莹 (Beijing University History Department); 29: Francoise Vaucamps (Canada); 30: Aurora Testa (Italy); 31: Lothar von Falkenhausen (University of California–Los Angeles); 32: Yang Xiaoneng 杨小能 (United States); 33: Zhou Qingming 周庆明 (Washington, D.C.); 35: Feng Shi 冯时 (Institute of Archaeology, Chinese Academy of Social Sciences); 36: Wang Xun 王迅 (Beijing University College of Archaeology and Culture); 37: Nan Yuquan 南玉泉 (Chinese University of Government and Law); 38: Sagawa Masahiro 佐川正敏 (Japan); and 39: Gu Fengxin 谷丰信 (Japan). Individuals 2, 5, 23, 25-27, and 34 remain unidentified. (Photograph and caption courtesy of Li Shuicheng)

Figure 3. Von Falkenhausen in 1999 with students in the field at the Zhongba dragon kiln site (Ganjingzhen, Zhong County, Chongqing). Left to right: Rowan Flad, Li Xiaobo 李小波, Lothar von Falkenhausen, Chen Pochan 陈伯镇, a local villager and potter, and Li Shuicheng 李水城. (Photograph by Rowan Flad)

incorporates numerous sources of evidence, from historical records to buried artifacts. This approach is exemplified best by his award-winning book *Chinese Society in the Age of Confucius* (The Cotsen Institute of Archaeology Press, 2006). Kazuo Miyamoto (Kyushu University, Japan) and Alain Thote (École pratique des hautes études, France), longtime colleagues of von Falkenhausen's, praised the interdisciplinary examinations in the book and reflected on its broad impact.

The more than two dozen talks given during the two-day event presented, as von Falkenhausen observed, a whole range of counternarratives that pushed beyond the boundaries of accepted models and their respective disciplines. As David Schaberg, dean of humanities, remarked, much of this work by von Falkenhausen's students and colleagues is a reflection of how he has continually crossed borders to break borders. Miao Zhe (Zhejiang University, China), who was long a journalist before becoming an academic, admitted that he divides his career into pre- and post-Lothar periods, according to the time they first interacted in 2012. "My scholarship tended to concentrate on events and individuals, but Lothar pushed me beyond such historical approaches to use material culture and anthropological structuralist approaches to art history and analyses of Chinese pictorial art."

Studies by participating scholars covered materials not only from China but also from Japan, Korea, Mongolia, Central Asia, and Southeast Asia. They addressed modes of transmission of technologies and ideologies, and how societies react to and engage with them; the roles of belief systems and social politics entwined in ritual practices; and the multifaceted landscapes of communities, manifested physically as well as through practice. The collection of research and researchers was indeed a representation of von Falkenhausen's community of practice. Yet his commitment to rigor and care covers more than sources and analyses of evidence. It also extends to the people with whom he interacts in his intellectual endeavors. Yan Yunxiang, director of the Center for Chinese Studies at UCLA, portrayed von Falkenhausen as one who epitomizes authenticity, in his research and in his personality. "He is honest, he is blunt, he is reliable." From his time as a student—at institutions in Japan, China, Korea, and the United States—to his time of having students of his own, he has generated a community of critical introspection and unfailing support.

"What was clear from all the talks," remarked Anke Hein, "is how many people Lothar has touched, not only academically and professionally but how they feel close to him, with a connection that goes beyond the academic." Those he has advised, students and others, have gone on to research and teaching all over the world, attesting to his global influence. The community associated with and surrounding von Falkenhausen has vast extensions and many homes, especially his own. What Schaberg referred to as the Southern California Salon was instantly recognized by all in attendance. From his own home,

amid an unparalleled collection of publications on early China, von Falkenhausen has doled out open invitations to established professors and aspiring students alike, recurrently facilitating connections among people, sometimes for wine and hors d'oeuvres, sometimes for Trader Joe's-inspired meals, and often for Lothar's own cooking, which has ranged over the years from traditional German dishes to tofu turkey on Thanksgiving. Another of his colleagues, Rhi Juhyuang (Seoul National University), compared entering the library living room to entering that of the brilliant busy Sherlock Holmes: "He had a violin (and not a radio) in his parlor." Through large dinners and small gatherings alike, Schaberg continued, von Falkenhausen offers a grand experience, both intellectual and social. The so-called salon has been but one center of inspiration and support—a library, a refuge, a home—through which von Falkenhausen has touched the lives of so many scholars. It was thus fitting that, in the spirit of his continued giving, von Falkenhausen gave away some pieces of art, including ceramic sculptures and scroll paintings, at the dinner in his honor.

Lothar von Falkenhausen continues to make enormous contributions to the many scholarly fields with which he engages. He has influenced and continues to influence a great number of people in both scholarly and wider societal circles. This influence is felt and appreciated most immensely by his ever-growing circles of colleagues and students. So a good way to honor and celebrate this is to continue to push archaeological,

Figure 4. Scholars at the symposium while Miao Zhe poses a question.

Figure 5. Lothar von Falkenhausen and some of his academic progeny at the event dinner at the Napa Valley Grille in Westwood, Los Angeles. Left to right: Lai Guolong, Ye Wa, Lothar von Falkenhausen, Rowan Flad, and Bryan Miller.

Figure 6. A flying dragon calligraphy scroll from the Lothar von Falkenhausen salon, given away as a gift during the event dinner.

Five Cycles of Lothar (continued)

historical, and art historical research to new heights by standing on the shoulders of this giant. After all, we are like dwarfs sitting on the shoulders of giants, able to see farther only because they lift us to new heights. To continue to honor him, most of those gathered at the event will contribute to a Festschrift that will examine the intersections of ritual and economy in various cases of East Asia. As von Falkenhausen astutely reminded those in attendance, we must avoid temptations of particularizing situations, even if there are particularizing historical events at times. This sentiment is manifest in his own research, which has focused on rigorously examining local case studies in considering broader questions, not with the intention of constructing universal models but rather in an effort to illustrate and make sense of the broader patterns of practice in early China. By embracing von Falkenhausen's implied realities of comparisons, the Festschrift resulting from the workshop will provide a trove of contributions to world art and archaeology executed through East Asian case studies.

Willeke Wendrich, director of the Cotsen Institute, drew upon Chinese and other cultural traditions that emphasize 60 years as a fullness of life to highlight the fullness of von Falkenhausen's own life and the lives he imbues. Von Falkenhausen summed up his gratitude with a statement to all those gathered: "Thank you for your presence in my life." We thank him for his immeasurable presence and continued influence in ours.

ACKNOWLEDGMENTS

The event was spearheaded by his former students Rowan Flad (Harvard University), Anke Hein (University of Oxford), and Bryan Miller (University of Michigan), who were joined by professors Lee Hui-shu, Li Min, and Yan Yunxiang at UCLA for fund-raising and orchestration of the two-day event, assisted by current UCLA undergraduate and graduate students. Extensive support came from the Henry Luce Foundation and the Chiang Ching-Kou Foundation, as well as from the College of Humanities, the Center for Chinese Studies, the East Asian Library, and the Cotsen Institute of Archaeology—a testament to the broad influence and impact of the intellectual endeavors of von Falkenhausen.

— *Rowan Flad, Anke Hein, and Bryan Miller*

Egypt in LA Event Brings Scholars to the Public

The promise of fascinating insights into ancient Egypt drew a large audience to Room 314 of Royce Hall on Saturday, October 5, 2019. As part of the Egypt in LA event, three UCLA faculty members—Kathlyn Cooney, Jonathan Winnerman, and Willeke Wendrich—were joined by five additional Egyptologists for an afternoon of engaging presentations and discussion, with the program title Women in Ancient Egypt: Power, Placentas, and Tattoos. Featured were six editors of the *UCLA Encyclopedia of Egyptology*, a prestigious online resource with in-depth articles on ancient Egypt, and three faculty members of the Department of Near Eastern Languages and Cultures at UCLA.

After a welcome by David Schaberg, the dean of the Humanities Division (Figure 1), Kathlyn Cooney, chair of the Department of Near Eastern Languages and Cultures, led off the event with insights on women and power in ancient Egypt. Her presentation touched on the ways women in ancient Egypt negotiated their limited leadership roles and how questions about their social inequality still touch us today. She was followed by presentations by

Figure 1. Dean David Schaberg opens the public part of the Egypt in LA event on Saturday, October 5, 2019.

editors of the *UCLA Encyclopedia of Egyptology*. Tanja Pommerening of the University of Mainz, Germany, presented "Ancient Egyptian Concepts of Female Anatomy." She explained that no existing ancient Egyptian texts describe the anatomy of women in detail but that it is possible to reconstruct treatments of female bodily experiences from a wide range of sources. The lecture of Anne Austin of the University of Missouri–St. Louis, an alumna of the Cotsen Institute, had the title "Tattooing in Ancient Egypt: New Discoveries." In this presentation she shared her insights on the human remains of several individuals from Deir el-Medina, including an extensively tattooed mummy found in 2014.

Next, Andréas Stauder (Ernestine Elster lecturer) of the École pratique des hautes études, Paris, presented "On the Verge of Writing: Egypt in the Late Fourth Millennium." He examined writing from a new perspective, abandoning categorical definitions and underlying assumptions that writing was invented in early Egypt to meet the economic, bureaucratic and organizational needs of the burgeoning state. "The Power of Ancient Egyptian Images" was presented by Rune Nyord of Emory College. Nyord delved into what ancient Egyptians thought about images, including portraits that were idealized or that even borrowed features from other people.

Egypt in LA (continued)

Figure 2. Editors of the *UCLA Encyclopedia of Egyptology* discuss strategies to expand entries and update the digital technology.

The lecture "Royal Agency and Visual Address: Tomb Facades at Qubbat al-Hawa" offered the insights of Julie Stauder-Porchet (Ernestine Elster lecturer) of the Université de Genève. She discussed how extensively inscribed facades in Aswan addressed passersby, not only through the words inscribed in hieroglyphs, which few could read, but also through their overall visual impact.

Before the final lecture by Willeke Wendrich, Jonathan Winnerman presented "Misdirected Violence in Ancient Egypt? Ethnicity, Gender, and the State." He analyzed how the inclusion of native Egyptians among prominent portrayals of the king smiting stereotyped foreigners and of violence against foreigners can be linked to violence against one's own population. In her animated lecture "Placentas, Sieves, and the Ancestors," Wendrich emphasized that "we cannot understand ancient Egyptian phenomena without looking carefully at the time and place where they were first encountered."

The lectures were followed by a reception on the balcony of Royce Hall overlooking the central court to provide all participants a chance to interact informally. "It was very exciting to hear how different approaches to social history and the particular role of women bring to light an unexpected image of ancient society," Wendrich commented on the presentations. "Using varied source materials, methods, and theories, the speakers teased out for us what life in ancient Egypt was like for women and men of all social ranks. The engagement of the audience was very gratifying. For them, it was a chance to see that Egyptological scholarship can be quite accessible."

The events on Saturday were preceded, on Friday and Saturday morning, by an editorial board meeting of the *UCLA Encyclopedia of Egyptology* (Figure 2). The editors met to discuss strategies for a campaign to expand the entries, which are archived in eScholarship, and to update the digital technology. This ongoing effort will greatly benefit the encyclopedia, which has been more than a decade in the making. Freely accessible to the public, articles cover language, religion, history, art, and a wide variety of other topics concerning this significant ancient civiliza-

Figure 3. Before the behind-the-scenes tour of the conservation laboratories at the Getty Villa, Monday, October 7, 2019.

tion. The editor in chief is Willeke Wendrich, director of the Cotsen Institute of Archaeology and holder of the Joan Silsbee Chair of African Cultural Archaeology.

On Monday, October 7, the meetings and lectures were complemented with a behind-the-scenes tour of the conservation laboratories at the Getty Villa (Figure 3), with a special appearance by the curator of the museum. The event provided an exceptional opportunity for those interested in learning about the technical aspects of the conservation of antiquities. It was led by conservator of antiquities Marie Svoboda, who is actively involved in the planning and installation of special exhibitions and loans, international collaborations, and various in-depth studies involving conservation and technical research. She is currently working with 42 institutions on a collaborative endeavor called Ancient Panel Painting: Examination, Analysis, and Research, which focuses on the technical study of Romano-Egyptian funerary mummy portraits.

The group was joined by Glenn Wharton, a recent addition to the UCLA faculty as a professor in the Department of Art History and chair of the Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials. This program is jointly housed in the Getty Villa and the Cotsen Institute. Wharton stated that "the Getty Conservation Institute was instrumental in establishing our program. They constructed state-of-the-art conservation laboratories for our teaching and student work on artifacts. In addition, they provided an endowment that helps support our students. One of my primary goals as the new chair of the program is to work closely with our colleagues at the Getty Conservation Institute and UCLA to develop collaborative initiatives in conservation, teaching, research, and broader service to the field."

The public events for Egypt in LA were organized by Michelle Jacobson, director of development for the Cotsen Institute, and were partially funded by the Friends of the Cotsen Institute and the Ernestine Elster Endowed Lecture Fund.

The editors of the *UCLA Encyclopedia of Egyptology* are Willeke Wendrich, UCLA (editor in chief); John Baines, University of Oxford (senior editorial advisor); Elizabeth Frood, University of Oxford (editor); Anne Austin, University of Missouri–St. Louis (area editor, individual and society); Jacco Dieleman (area editor, religion); Wolfram Grajetzki, University College London (area editor, time and history); Juan Carlos Moreno Garcia, Université Charles-de-Gaulle (area editor, economy); Mohamed Ismail Khaled, University of Würzburg (area editor, geography); Rune Nyord, Emory University (area editor, Egyptology); Tanja Pommerening, Johannes Gutenberg Universität Mainz (area editor, domains of knowledge); Andréas Stauder, École pratique des hautes études, Université de Paris (area editor, language); and Julie Stauder-Porchet, Swiss National Science Foundation Université de Genève (area editor, language).

Friday Seminars

Figure 1. Elizabeth Brite (left) and Monica Smith (right) pose with UCLA graduate students Steven Ammerman, Eden Franz, and Baisakhi Sengupta after the Friday Seminar presentation on "The Plant–People Relationship in Ancient Central Asia."

The 2018–2019 Friday Seminars again brought scholars from across disciplines and methodologies to UCLA to present exciting new research projects. In the fall quarter, Levent Atici of the University of Nevada–Las Vegas began with a presentation titled "The Origins and Spread of Agriculture in SW Asia: A Zooarchaeological Perspective from Anatolia." This talk combined the results of zooarchaeological research at Körtik Tepe (Pre-Pottery Neolithic, tenth millennium BCE) and Ugurlu Höyük (Neolithic, seventh millennium BCE), representing two distinct points on the animal exploitation continuum. Atici offered new insights into the origins and dispersal of domesticated animals in Southwest Asia and adjacent areas. For the second seminar of the quarter, students and faculty affiliated with the Cotsen Institute engaged in an ethics panel workshop led by Stephen Acabado, John Papadopoulos, Willeke Wendrich, and Lothar von Falkenhausen. This workshop focused on the importance of what is coming out of the ground and what happens to it afterward. The following questions were among the topics discussed: Who is responsible for ancient artifacts and what are they responsible for? What relationship should there be between public and private stakeholders? How do other countries handle issues regarding cultural heritage? We continued with a talk by Isabel Rivera-Collazo of the University of California–San Diego with the title "No es lo mismo llamar al diablo que verlo venir: Climate Change, Changing Weather, and Archaeological Heritage as Seen from Puerto Rico." Rivera-Collazo shared her experiences of working with archaeological heritage and climate change research in Puerto Rico before, during, and after a catastrophic year of hurricanes and winter storms. Finally, Chip Colwell, senior curator of anthropology at the Denver Museum of Nature and Science, discussed "Plundered Skulls and Stolen Spirts: Why the Repatriation Wars Matter." Colwell's presentation revealed why repatriation law has become an imperfect but necessary tool to resolve the collision of worldviews between scientists and Native Americans.

During the winter, Stacie King of Indiana University–Bloomington gave the first talk, on "The Tyranny of Ethnonyms in Multiethnic Worlds." King critiqued the predominance of ethnonyms within archaeology, focusing on Nejapa, Oaxaca. Using material culture from indigenous groups of this region, she suggested that the way colonialism was experienced in Oaxaca from 1350 to 1650 differed sharply among groups. Subsequently, Ruth Tringham of Berkeley joined us for an inspirational talk titled "Giving Voices—without

Words—to Prehistorical People," which explored how archaeologists present data. Arguing that vocalizing the past with misleading certainty actually obscures our understanding of it, she presented research on prehistoric peoples using innovative technologies. These included interpretive sound recordings and videos aimed to create an autonomous sensory meridian response to examine how we can limit culture bias when studying the past. In her talk "Ancient Town of Edfu from the Old Kingdom to the Early New Kingdom: New Discoveries of the 2017 and 2018 Seasons," Nadine Moeller of the University of Chicago presented her excavation work—codirected with Gregory Marouard, also of the University of Chicago—at the Old Kingdom settlement site about 20 m (60 feet) west of the Ptolemaic Temple of Horus at Edfu, Upper Egypt. The findings included architectural elements and clay seals, among other artifacts, which suggest the presence of a large, centralized administrative center. Finishing up the fall quarter, Lisa Kealhofer of Santa Clara University discussed "Land Use and Political Economy: Niche Construction in the Gordion Region, Turkey." She used niche construction theory to interpret data from the Gordion region of Anatolia to suggest that the changing environment did not correlate with agricultural intensification, which was rather a result of political centralization.

To start off the spring quarter, Alexander Ahrens of the German Archaeological Institute presented "The Wadi Shu'aib Archaeological Survey Project: First Results from Field Research 2016–2018." As Ahrens explained, the Wadi Shu'aib Archaeological Survey Project concentrates on a thorough survey of all archaeological and historical sites in Wadi Shu'aib, from the Neolithic to the Ottoman period, ranging from immediately south of the city of as-Salt down to the city of Shuna South (Shuna as-Janubiyyah), at the mouth of the wadi in the Jordan Valley. In a talk cosponsored by the Program on Central Asia, Elizabeth Brite of Purdue University then gave a talk on "The Plant–People Relationship in Ancient Central Asia." Continuing the paleoethnobotanic conversation, Christine Hastorf of Berkeley gave an exciting seminar titled "Intimate Plants: Constructing Past Identities through People's Relationships with Their Food." Her research explored how intimate relationships between humans and plants convinced our ancestors to settle down and care for them. Justin Dunnavant of the University of California–Santa Cruz then spoke about "Historical Ecology of Slavery in the Danish West Indies." In a noteworthy project, Dunnavant has crafted a historical ecology of the African diaspora through an analysis of slavery in the Danish West Indies. Drawing from an array of archaeological, historical, and environmental data, he argued that the development of plantation slavery elicited lasting ecological changes as colonial planters developed exploitative monocrop agricultural systems and as enslaved Africans made a life in the Caribbean. For the final Friday seminar of the year, Linda Reynard of Harvard expanded our theoretical and scientific understanding of the potential of hydrogen and oxygen isotope ratios in collagen from humans and animals in a fascinating talk titled "New Isotopic Tools for Diets and Environments: A Mediterranean Case Study."

Figure 2. Justin Dunnavant presents the Friday Seminar talk "Historical Ecology of Slavery in the Danish West Indies."

— *Jordan Galczynski, Danielle Heinz, Jeffrey Newman, Robyn Price, Amr Shahat, and Kirie Stromberg*

Pizza Talks

The Pizza Talks of the 2018–2019 academic year again provided weekly opportunities for students, faculty, and the general public to hear from scholars specializing in diverse topics, ranging from Egyptian jewelry mines to Korean Three Kingdoms–period burials.

Travis Stanton of the University of California–Riverside began the fall Pizza Talks in the Americas by discussing "Processions and Community Boundaries among the Northern Lowland Maya." After this we traveled across the globe to Egypt, where Alain Zivie, director of the French Archaeological Mission of the Bubasteion at Saqqara, works on elite tombs. Zivie's talk, "The Bubasteion and Its New Kingdom Tombs at Saqqara: Results and Challenges," focused on a region characterized by New Kingdom (1550–712 BCE) tombs of high officials, including the wet nurse of King Tutankhamun and likely the artist Thutmose, known for creating the famous bust of Queen Nefertiti. Salim Faraji, California State University–Dominguez Hills, then gave a talk titled "Meroitic Kush and Rome: The Politics of Temple Piety and Religious Identities." Following that, Cathy Lynne Costin of California State University–Northridge presented new research on "Decoding Andean Formative Iconography: Didactic Images, Esoteric Knowledge, and the Emergence of Complexity on the North Coast of Peru." In this she suggested that a larger portion of North Coast Formative ceramic iconography reflects the consumption of therapeutic and psychoactive substances than is generally acknowledged in recent scholarship. In "Digging Ancient Egyptian Jewelry Mines," Kate Liszka of California State University–San Bernardino discussed recent archaeological work at the ancient Egyptian amethyst mine at Wadi al-Hudi in the Eastern Desert of Egypt. Next, Kenichiro Tsukamoto of the University of California–Riverside gave a talk on "Politics in Ancient Maya Plazas." He examined how power relations and ideologies emerged from practices and engagements with materiality through the construction of plazas and the theatrical performances that took place there from around 300 BCE to 900 CE. Finally, Sonya Lee of the University of Southern California finished off the quarter with a presentation on "Restoration of Dazu Rock Carvings: An Ecological Perspective."

The winter Pizza Talks proved equally stimulating, beginning with Felipe Rojas Silva of Brown University and a discussion about "The Challenges of Studying the Agricultural Landscapes of Petra." Subsequently, Mary Anne Tafuri of La Sapienza University in Rome noted the cultural and social importance of food in her presentation "Early Globalization? Isotopic Evidence of Food Practices in Prehistoric Italy." In a talk on "Epigraphy in the Block Yard at Tell Edfu: Problems and Results," Jonathan Winnerman (UCLA) considered epigraphic methodology. Savino Di Lernia, also of La Sapienza University, presented "Climate Change, Cultural Heritage, and Human Social Trajectories: An Archaeological Perspective from Holocene Central Sahara." This provided a synthesis of the main Holocene climactic and environmental variations in the central Sahara, focusing on the Tadrart Acacus and Messak region. Next, Gregson Schachner, chair of the Interdepartmental Program in Archaeology at the Cotsen Institute, and his graduate student Reuven Sinensky presented the only talk on the Americas of the quarter: "Long-term Settlement Histories and Early Village Formation in the Northern Southwest." Leigh Liberman of Claremont McKenna College then discussed the importance of context in a presentation titled "All the Small Things: Artifacts in Urban Context," after which Christopher Donnan (UCLA) presented his work on "La Mina: A Looted Moche Tomb." In an exploration of "Uncertainty and Ethics," Jonathan Ashley-Smith of the Getty Conservation Institute considered the inevitability of prediction in conservation activities. Next, Avinoam Shalem of Columbia University challenged art historians with the question of the earliest and the first

Figure 1. Kate Liszka and her team in the ancient amethyst mine in Wadi al-Hudi in the Eastern Desert of Egypt.

in-sequence work of art in a talk titled "In the Beginning There Was the Carved Lion-Man from Swabia: On Histories about the Fuss about the 'First.'" For the last talk of the quarter, Ivan Vasilev of the Balkan Heritage Foundation drew our attention to "Bulgarian Archaeology: A Century in Review," in which he covered the achievements and discoveries of Bulgarian archaeologists while introducing the great possibilities for research in the country.

Along with the spring came another fascinating round of presentations. Hans Barnard (UCLA), Danny Zborover of the Institute for Field Research, and Vanessa Muros (UCLA) started off with a talk titled "Corral Redondo, Peru: 75 Years Later." Sonia Zarrillo, postdoctoral fellow at the Cotsen Institute, then gave a talk on "Adventures in Paleoethnobotany: Short Grass Plains of North America to the Andes of South America." The next week, Kathleen Lynch of the University of Cincinnati brought our attention to "Athenian Pottery in the Persian Empire," elucidating what imported Greek pottery meant in the context of the Achaemenid Empire, with a special focus on Gordion in central Turkey. In his talk "Survey in the Dunes: New Discoveries from an Old Archaeological Project in Sistan, Afghanistan," Mitchell Allen, president of Scholarly Roadside Service, offered a brief survey of the Helmand Sistan Project, the only multidisciplinary, long-term, comprehensive survey and excavation project ever conducted in the southwest corner of Afghanistan. Stella Nair (UCLA) shared her recent research on "Inca Architecture and the Erasure of Women." She was followed by Ann Marie Yasin of the University of Southern California, whose talk "Temporalities of Reuse: Monumental, Social, and Somatic Time in Adapted Buildings" investigated correlations between architectural restoration and notions of continuity and change in first- to sixth-century Rome. Penultimately, UCLA graduate student Roxanne Radpour presented "Novel Imaging Spectroscopy Applications for the Study of Ancient Cypriot Monumental Paintings." Wrapping up the year, Sungjoo Lee of Kyungpook National University in South Korea introduced "Approaches to the Spatial Organizations of Ancient Cemeteries: GIS Recording and Analyzing of the Three Kingdoms–Period Burials in Korea," focusing on the evolution of burial distribution patterns.

— *Camille Acosta, Sergio Alarcon Robledo, Nicholas Brown, and Louise Deglin*

Wep-waut in Westwood 2019: Egypt in Africa

The culmination of seminar ANNEA C165, Egyptian Archaeology, under the careful guidance of Willeke Wendrich, provides undergraduate students with the opportunity to present their research projects to their peers, faculty, families, and the general public during the Wep-waut in Westwood, Ancient Egypt at UCLA event. The latest iteration of this event took place on Sunday, June 2, 2019, in Room 314 of Royce Hall. Wendrich opened the event with the story of Wep-waut (pronounced *wep-wah-oot*), one of the oldest gods in the ancient Egyptian pantheon, depicted as a jackal. His name means "Opener of the Ways," a fitting emblem for an event that creates opportunities for undergraduate students to explore independent research projects in Egyptology and Egyptian archaeology, as well as to gain experience in public speaking. Research is carried out during the quarter within the framework of the course, and the Wep-waut in Westwood event is dedicated to showcasing undergraduate research and presentations. Wendrich prompted the discussion by remarking that Egypt is indeed in Africa and is only one of the many cultures that have thrived there as one of a rich cultural mosaic. The opening was followed by six student presentations and one faculty presentation by Jonathan Winnerman, lecturer in Egyptology at UCLA.

Jenna Richards presented "Queenship in Ancient Egypt and Nubia," depicting the power and importance of queens in Egypt and Nubia. She drew particular attention to their crowns and royal regalia. Marah Uy illuminated the audience with "Kingship in East Africa," in which she presented stories of powerful kingships in Nubia and Kush and noted that Egypt was only one of many powerful kingdoms and seats of kingship that dominated the ancient countries in northeastern Africa. Nirinjan Khalsa followed with "Fine Fabrics of Ancient Lives: Textiles in Egypt and Nubia." She observed that the climate in Nubia favored cotton production but the local population continued to use spinning practices similar to those of their Egyptian neighbors, who specialized in linen production; these practices were less productive when implemented on Nubian cotton. This study may serve to show the strength of connections with the north and the endurance of traditional craft technologies.

After the coffee break, I read "The Scent of Trade: Incense Trade between Egypt and Punt," in which I revealed the strength and longevity of the incense trade between Egypt on the one hand and Ethiopia and Somalia on the other. I briefly examined the importance of incense in the belief systems of ancient Egypt. Arielle Sperber then investigated tattoo practices in her presentation "Anachrony and Analogy: Exploring Shifting Understandings of Ancient Egypt," noting the deep symbolic meaning of tattoos and their likely connection to religious activities. This contrasts with earlier archaeological interpretations that consigned them to lower-class members of society. Candise Vogel completed the student presentations with "The Bovids of Omo Valley," a compelling argument for the introduction of cattle from East Africa into Egypt. She argued against the more commonplace interpretation that they were likely introduced from the Near East. Following each presentation, some time was reserved for questions, to allow the audience to ask for clarifications or more information on individual presentations.

The final presentation, "Ma'at: Between Orientalism and Kemeticism," was by Jonathan

Figure 1. Three of the Meroitic royal pyramids (third–first centuries BCE) at Jebel Barkal, near Karima in northern Sudan.

Winnerman. He observed that while appreciation of ancient Egyptian culture is vital, the current tendency among certain members of western cultures to reappropriate symbols and images of this ancient society may create a distorted impression of what the culture was truly like. Such reappropriation may inadvertently replicate the damaging effects of Orientalism. Wendrich closed the event with a special thanks to all who attended. The 2019 Wep-waut in Westwood event focused on pertinent academic discourse and provided undergraduate students a unique opportunity to prepare and present their research findings to an engaged audience, which was in turn afforded a glimpse into the distinct process of archaeological inquiry and interpretation.

— Doris Vidas

Figure 2. A linen pleated tunic dated to the Egyptian Middle Kingdom (around 1975–1640 BCE), kept in Museo Egizio, Turin.

An Interview with Greg Schachner, Chair of the Archaeology Program

Kirie Stromberg

Figure 1. Greg Schachner, chair of the Interdepartmental Archaeology Degree Program.

Kirie Stromberg: *We are so happy to have you as our new chair. How long have you been associated with the Cotsen Institute?*

Greg Schachner: I have been here since 2007. I was very lucky and was hired straight out of graduate school, so I have been associated with the Cotsen Institute since the beginning of my academic career.

KS: *What did you write your dissertation about prior to coming to here?*

GS: My dissertation at Arizona State University was on population circulation and mobility on a regional level in the Zuni area of western New Mexico.

KS: *Where are you from originally?*

GS: Connecticut, the eastern part, sadly the economically struggling part!

KS: *What made you interested in the Southwest?*

GS: I went to the University of Virginia as an undergraduate student and worked with Steve Plog, who specializes in the Southwest. I was a chemistry major, but I went to a field school in Arizona, mostly because Arizona did not charge out-of-state tuition during the summer, so it was cheap. It was the first time I had ever been in a state away from the Atlantic Ocean, and it was kind of transformative.

KS: *What made a chemistry major decide to go to a field school in Arizona?*

GS: I had already taken a couple archaeology classes at that point. I did not feel like I would fit in with chemistry, as I never envisioned myself in a laboratory, so I was looking for things to get me outdoors. I kind of stumbled into archaeology.

KS: *Do you feel like your background in chemistry influenced your approach to archaeology?*

GS: Yes, I have always had an interest in archaeological chemistry. There is a fair amount of neutron activation analysis data on ceramics in my dissertation and subsequent work. Lately, my chemistry background has been helpful in understanding the role of radio carbon dating in my research.

KS: *What most interests you in your current research?*

GS: I have three projects going on. Most projects in the Southwest are pretty small. The Southwest used to be the place where everyone would go to for a field school, but that seems not so much the case anymore. First, I am working on a project on the Hopi reservation, along with Wes Bernardini of the University of Redlands and the Hopi Cultural Preservation Office. The latter is part of the tribal government and responsible for both cultural heritage issues and consultation with archaeologists and agencies off the reservation. That project has been driven by a couple of different objectives. Some of it consists of goals that the tribe

Figure 2. The field crew in El Malpais National Conservation Area.

is interested in working on, such as documentation of known sites in order to have a baseline set of information. There has been no academic archaeology on the reservation since Harvard University was working there in the 1930s, so basically any information we find is new, which is rare for the Southwest. My collaborators and I are currently working on a book that will summarize the archaeology of the area incorporating archaeological and Hopi perspectives.

Then I am working on a project funded by the National Science Foundation together with Matt Peeples of Arizona State University and Paul Reed of Archaeology Southwest in Tucson. The fieldwork was near El Malpais National Monument in western New Mexico. That project uses sociological theories of identity formation to look at shifts in regional identity and interaction from the Chaco period, so about 1,000 years ago, to the post-Chaco period, about 700 years ago. I also have continuing projects in Petrified Forest National Park, where Anthropology graduate student Reuven Sinensky is also working. There we focus on different periods of village formation and some of the earliest large villages in the northern Southwest.

KS: *With all this going on, we are fortunate that you can lend your time to leading us here. How do you envision your role as chair of the Cotsen Institute?*

GS: Luckily, the Interdepartmental Degree Program is already in really good shape given the longtime leadership of John Papadopoulos. The way I see it, I am here to listen to the students. I do not so much have a set of prescriptions for what we need to do, but I want to understand what the students hope to see developing. I am planning to hold some town hall meetings once the year has started. Some issues are curriculum related, but some are related to the job market and funding. I know that it is not easy to live in Los Angeles on the stipend of a graduate student.

The way I see it, I am here to listen to the students.

KS: *We students are all certainly grateful to have gotten a raise this year!*

GS: Yes, we are fortunate that we have the ability to address that issue, which is often difficult on North Campus. I really see my role as an extra adviser and support system for you guys.

KS: *As you have been here since 2007, what are some of your reflections on the development of the Cotsen Institute over the past years?*

GS: I came in right when the recession started to hit, and that moment marked a big change for UCLA.

At the Cotsen Institute we felt very lucky that we were still able to bring in more resources for the institute after that time, which was not true across campus. Since then enrollments have also increased significantly; this has not changed graduate enrollment so much, but undergraduate enrollments have changed radically.

It has been a tough time for archaeology in general given that the amount of funding that is. At the Cotsen Institute we have access to resources that enable us to continue fieldwork, and we have a big advantage in that sense. I am interested in continuing to make efforts in public outreach and am happy to see that students have taken so much initiative in this.

KS: *Can you think of individuals who have served as models of leadership for you throughout your career? Advisers or others?*

GS: I was lucky enough to have a really strong graduate mentor in Keith Kintigh, who recently retired. Keith is a southwestern archaeologist, a former president of the Society for American Archaeology who directed various institutions at Arizona State University and founded The Digital Archaeological Record. Keith has always been a builder, and I got to watch that firsthand while in graduate school. He has been a really successful graduate student mentor. He has quite a few mentees who won Society for American Archaeology dissertation prizes, and I have always modeled the way I interact with students after him. Then Peggy Nelson is probably the other person who helped me a lot. I worked for her in the field and was a teaching assistant for her multiple times. She was my role model for teaching undergraduates and in the field.

KS: *What do you enjoy doing in your free time? Do you have any favorite hobbies?*

GS: I have two kids, a girl and a boy, so I have neither a life nor hobbies! My first child was born right when I arrived at UCLA. Fun fact**:** I missed my first faculty meeting because it was the day that my daughter was born.

KS: *How do you achieve work–life balance as an academic and parent?*

GS: For me it is important to keep my job and the other parts of my life separate. This is not always easy, and there are of course a lot of discussions in academic circles now about how hard it can be, especially for women scholars early in their careers. There is an unfortunate "leakage" of women PhDs**:** there are more women getting PhDs than men, but once you get further along the tenure track it equals out.

KS: *As a woman PhD student, I certainly hear that. Continuing down that line, what do you see as the role of archaeology at this moment in American society?*

GS: For me it remains what archaeology has always done. It may be a cliché, but the main contribution of archaeology is the long-term perspective. Even history often does not have as long-term a perspective as archaeology can offer. Historians may deal with problems that took place long ago, but over a short period of time. Climate change, migration—these longer-term issues are what our discipline can address.

The main contribution of archaeology is the long-term perspective.

Of course, we also need to consider how contemporary circumstances and technologies are different. Archaeologists of the contemporary period, like Jason De León, are asking what role archaeology can play in current debates in migration. As Jason shows in his research, materiality is impactful. Our role in trying to provide the empirical basis for understanding the way the world works is important. We can help elucidate why ideas about ancient aliens founding pyramids have racist origins, for example. We can show why modern stories have political implications. We have become better at confronting these issues. Nowadays you see more and more "archaeological frauds" classes. We are pushing students to ask how we should evaluate evidence and critically think about arguments.

KS: *It seems more and more important to emphasize critical thinking in the era of "fake news."*

GS: For sure. If you look at Amazon, most of the top-selling books about archaeology are unfortunately still pseudo-archaeology.

KS: *Can you relate some particularly memorable experiences that you have had in the field?*

GS: For me, fieldwork has always been—and a lot of archaeologists may not want to admit this—kind of an escape. I sometimes have regrets about the appear-

Figure 3. Morning snow in Petrified Forest National Park, with Greg Schachner doing survey work in the background. (Photograph by Reuven Sinensky)

ance of things like cell phones and really miss being somewhere out of communication for a long period of time. That just does not happen anymore. One of my distinct memories is first getting here and taking undergraduate students to Petrified Forest National Park. We were out recording a site and a student starts texting someone at lunch. I was flabbergasted that you could maintain that kind of communication, even out there.

I have also been fortunate for almost 20 years now to have worked with Hopi colleagues in different capacities. For me, this has been a whole new second or third education and really changed the way I think about how archaeology should be done, what is actually important about the past, and what is important about places in the present. It has been eye-opening and actively changed how I have done things. I have not excavated in 15 years, which has been a conscious decision. Of course, I am fortunate enough to work somewhere where we can do a lot of work from the surface.

KS: *So what is actually important about the past?*

GS: Archaeological sites are not just repositories of data. They are also meaningful to modern people. They have symbolic value for all kinds of peoples all around the world. Coming from my science background, I used to see everything as value-neutral data and did not think I had to think about the messy political stuff. That is one part of it. The other part of it is having an expansive view of the world, envisioning what it could have been like to live on a landscape where people were fairly mobile. Even farmers move long ways and have knowledge of distant places, knowledge not necessarily marked by human activity, often without archaeological remains. The way archaeology is constructed is not always useful for thinking in these terms. Hopi elders and colleagues in the preservation office have helped me think along these lines, something that has changed how I think of archaeology now.

KS: *For a final fun question, if you were not an archaeologist, what would you be?*

GS: I have always been interested in so many different things and feel like I could be happy doing lots of things. One difficult thing about an academic career is that the products you build lack physical form, though you might get a book in your hands occasionally. I am attracted to the idea of building something tangible.

An Interview with Glenn Wharton, Chair of the Conservation Program

Kirie Stromberg

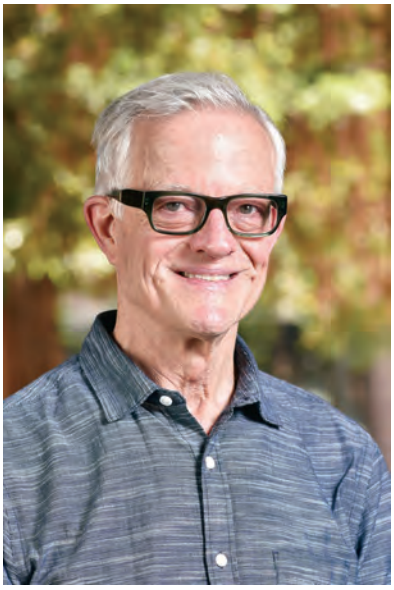

Figure 1. Glenn Wharton, chair of the UCLA/Getty Interdepartmental Conservation Degree Program.

Kirie Stromberg: *A very warm welcome to the Cotsen Institute. Prior to coming here to serve as the Lore and Gerald Cunard Chair of the UCLA/Getty Program in the Conservation of Archaeological and Ethnographic Materials, you have had a fascinating career, conserving not only archaeological materials but also contemporary art. To jump right in, what do you think archaeologists could stand to learn from contemporary artists?*

Glenn Wharton: I have learned so much from working with artists over recent years. Talking to those closest to the production of a work of art allows me to understand the role of creativity and what we call artist intention, a problematic term to be sure, but something that allows us to consider how an artist might want their work displayed or used by the public. In archaeology and conservation, we often collaborate with communities who are the inheritors of the cultural materials that we are working on. I think that having a direct connection to the creative process and makers of objects is essential to understanding archaeological materials.

KS: *Conversely, what do you think contemporary artists could stand to learn from archaeologists and conservators?*

GW: I have learned that many artists today are not trained in history or prehistory and do not necessarily feel a deep connection to the past. Archaeology and history offer so much to think about in terms of continuity, so much that might more deeply inform their own manipulation of materials and development of ideas.

KS: *What made you want to become a conservator?*

GW: That is a long story. I will tell you in an abbreviated version. I was at the University of California–Santa Barbara as an undergraduate student when a friend invited me to an Episcopal monastery in the Santa Barbara hills for a weekend retreat. My friend told me that the monks do not speak and to prepare for a silent weekend. One of the monks at this monastery had a studio where he painted Russian icons. I poked my head into his studio, and to my surprise he said, "Come on in!" I was shocked that he spoke in the first place, and once I came in, I could not get him to stop talking about how he had done research into medieval technologies for preparing wooden supports and for grinding earth pigments, mixing them with egg yolk, and creating egg tempera. I was fascinated, so he asked me if I wanted to learn. I started going there every weekend to learn to paint Russian icons. One day someone donated a whole collection of Russian icons to the church. They were sent to his studio to be conserved, and he asked if I could be his assistant.

Figure 2. Glenn Wharton selects paint colors based on feathers of native Hawai'ian birds.

Of course I accepted. I got to thinking, this could be an interesting career! I did some research and learned that there was indeed a profession called art conservation, and I eventually secured an internship in antiquities conservation at the Getty Conservation Institute. We all come to this field in mysterious ways. A number of years later, after receiving my MA, I returned to Los Angeles to work for the Los Angeles County Museum of Art and the Getty Conservation Institute as a research fellow.

KS: *What a fascinating story. What did your path look like after leaving the West Coast?*

GW: After working in museums for a number of years, I set up a private practice. I was the first objects conservator in private practice in Los Angeles, so I received a number of referrals from both the Los Angeles County Museum of Art and the Getty Conservation Institute. As it turned out, the Museum of Contemporary Art downtown became my best client, so I started gaining expertise in the modern materials and technologies employed in art. I worked on excavations in Cyprus and Turkey during the summers, eventually becoming the conservation director at the Kaman-Kalehöyük project. In 1998 I decided to close my private conservation practice in order to pursue a

Having a direct connection to the makers of objects is essential.

PhD at the Institute of Archaeology at University College London, with the idea of hopefully one day becoming a professor in the Cotsen Institute. I did apply for the position of assistant professor of archaeological conservation in 2004, and I was offered the position. But at that time I had moved to New York, and the Museum of Modern Art had approached me about being their time-based media conservator. So I had a bit of a crisis of identity: Do I go home to do archaeological conservation or do I stay in New York to be a time-based media conservator? It was a difficult decision, but at that moment in my life, the idea of living in New York and being able to work in new conceptual media, software-based art, and

performance art seemed such a great challenge that I decided to accept the offer from the Museum of Modern Art. In 2019 I was lucky enough to have a position here offered to me a second time, and I jumped at it. I am thrilled to be here.

KS: *Did you like living in New York? How do you feel about being in Los Angeles? And what do you like to do here in your free time?*

GW: I love New York. That said, Los Angeles is alive in a way that it was not in the 1980s and 1990s. It is culturally much more exciting now—the museums, the art performance scene. There is nothing happening in New York that I cannot find in Los Angeles. I enjoy going to museums, concerts, jazz, classical music. I think maybe because I have been in New York City for 20 years, what I really love to do these days is be out in nature. I hike and bike on the weekends. I am a competitive swimmer, so being able to swim in outdoor swimming pools is a real draw. I joined the Bruin Masters Swim Club on day one, and I am in the pool at 5:45 every morning during the week.

> I realized that this was just a very different way of thinking about conservation.

KS: *What drew you to the UCLA/Getty Conservation Program (beyond the amazing weather)?*

GW: First of all, since it was founded, the conservation program at the Cotsen Institute has become renowned as one of the best graduate conservation programs in the world. It is exciting in that it really has a niche: it is the only program in the United States that specializes in archaeological and ethnographic materials. To come into a well-established program with such a strong reputation and many graduates out there in the world working in various fields was appealing to me, as I knew I could come into a strong program and help make it even stronger. I am very excited about working with PhD students, and this is now one of only two conservation programs in the United States that offer PhD degrees.

KS: *We archaeology students are also excited to now have PhD counterparts in conservation and to learn from their expertise. Coming from the archaeology side of things, I am curious to know what conservation means to you.*

GW: I think of conservation as a big tent, with professionals who specialize in different aspects of the work and the research that we do, in everything from technical imaging and material analysis to stabilization and reconstructive techniques at the bench. But this big tent also includes people who are connected with material culture: artists and communities whose objects are represented in museums, for example. I do not think that you can have one side without the other. Conservation also includes scholars from allied disciplines like archaeology, anthropology, art history, chemistry, material science, and software engineering. That is the people side of conservation.

More philosophically, it is the effort to move things from the past into the future while taking into consideration the layered meanings with which objects have been imbedded in time and place. It is also about grappling with questions of authenticity—cultural and material—and engaging both theoretically and materially with objects from the past and the narratives constructed around them, which requires all of the above expertise.

KS: *Can you say a little bit about what experiences formulated this interest in not only the practice but also the theory of conservation?*

GW: I will be teaching a course on the history and philosophy of conservation, involving how it evolved not only in the Western world but in other cultures and places as well. Something that informed my thinking was a trip through China in 1989, organized by the American Institute for Conservation. The trip was through northwestern China, and the idea was to meet with conservators at various archaeological sites. We kept being shown into what I would call replication studios, and we kept meeting really well-trained craftspeople who were creating objects using original materials and technologies. There was a lacquer studio, a scroll painting studio, a bronze casting studio. Initially we said that we wanted to meet the people conserving *excavated* objects instead. But our colleagues said no—this is conservation. There are people in Beijing who perform physical work on ancient materials.

In retrospect, I realized that this was just a very different way of thinking about conservation. What they were doing was keeping *craft* alive. They were preserving craft traditions through apprenticeship. This was a way of conceiving conservation that I had

never been exposed to. And since then I have learned from various people from indigenous communities and other traditions around the world who think of conservation in other, diverse ways.

KS: *How has your own academic research influenced your approach to diversity and multivocality in conservation?*

GW: My PhD dissertation was focused on developing a participatory model for conservation. I was asked by the state of Hawai'i to perform technical analysis and develop a proposal for treating an outdoor sculpture, the sculpture of King Kamehameha I. It was in fact the first figurative sculpture in Hawai'i, made of cast brass. Originally gold-leafed, it had been painted and exposed to a subtropical environment for more than 100 years, so it was in bad condition. I was told by the state that there was paint on it, and my job was to strip the paint off and re-gild it.

The statue is located in a very small rural community in the northwest corner of the Big Island. When I got out there, people came out asking what I was doing. I said I was sent by Honolulu to perform analysis and figure out how to conserve the sculpture. I was working, and one woman came up to me and said, "Well whatever you do, do not take the paint off!" I am glad that I had the wherewithal to ask why. She said, "Why? We paint him so we can relate to him as a human being. We honor him with gifts. We have a parade every Kamehameha Day. He is the center of our community."

I proposed to the state that the community be involved in investigating how to conserve the sculpture. They said, "Absolutely not!" They said that if I did so, people in the community would never agree, that it would stir up all sorts of native Hawai'ian feelings, and that such would be a dangerous path to take. That is when I closed my conservation practice to obtain a PhD, researching how communities could effectively engage in the conservation process.

KS: *That is a big decision to have made. Where did you go from there?*

GW: I decided to undertake PhD research at the Institute of Archaeology at University College London because there were scholars there asking questions about who owns the past and the values embedded in archaeological processes. I figured it would be a good place to test the theory and practice in conservation. I realized that conservators are trained as material scientists, and in history, archaeology, anthropology, but that they are not trained to work with communities. At that point I still did not have the skills or knowledge. New research methodologies needed to be employed, such as ethnography and community empowerment along the lines of Paulo Freire and others.

> What they were doing was keeping *craft* alive.

Fortunately, after getting some promises for grant money, the state allowed me to move forward. I undertook a three-year project working with artists, community members, elders, and others in the community to participate in the research and allow them to decide how to conserve the sculpture. They decided that they wanted a community vote. So they voted to have the sculpture repainted, after conservation. We stripped the paint off, dealt with corrosion and cracks, and then repainted it using colors that they selected. I chose a paint system that was designed to withstand moisture, airborne chlorides, and the intense subtropical sun. Community members were there with me on the scaffolding. It was really a group project. This also allowed me to write about the experience that I had from an ethnographic perspective.

KS: *I am glad King Kamehameha got to keep his color. Finally, I am also glad we are lucky enough to have you back in California. How does it feel?*

GW: It feels like coming home. I grew up in California, so coming to the Cotsen Institute feels like I have returned home, both geographically and in a disciplinary way. I took a step away from archaeological conservation to work with contemporary art in New York about 16 years ago, but now I am back and so pleased to be here!

An Interview with Professor Sarah Beckmann

Kirie Stromberg

Figure 1. Sarah Beckmann, assistant professor in the Department of Classics.

Kirie Stromberg: *First of all, congratulations on your appointment to the Department of Classics and welcome to the Cotsen Institute! How did you first become interested in classics?*

Sarah Beckmann: Both of my parents are medical doctors, and at first I thought I was going to follow in their footsteps. I have, however, always loved learning languages. I took some German and Spanish in high school, and when I got to college I decided to take Latin. Latin was my first exposure to the subject, and I realized that I loved the Classical world—the mythology but also the art and architecture. Then I studied abroad in Rome during my junior year. That was what truly inspired me. There was something about the city; a place where the ancient and medieval and modern are all intermingled, where the old and the new are juxtaposed. I was hooked.

KS: *Are you originally from a city like Rome? How do you think your upbringing influenced your academic focus?*

SB: I am from a small town in Minnesota, a place called Faribault, about an hour south of Minneapolis, near Carleton and St. Olaf. I went to college at Carleton, but I dreamed about being in New York. I loved my experience at Carleton, but I wanted to travel and study abroad. You can study classics in the U.S., but the Romans were never here! Archaeology was a chance to encounter something totally different, something completely outside my midwestern comfort zone. My studies took me abroad, forced me to see different cultures and speak new languages, and to live in really big cities for the first time.

KS: *You study ancient Roman architecture and statuary. What about your work inspires you most these days?*

SB: I want to understand the entire domestic assemblage. What was inside people's homes and what was it used for? What I am really interested in is the Roman elite ethos. In the Roman aristocratic mindset, having a villa was a sign that you had made it. Everyone dreamed of their country oasis. While this is interpreted as a uniquely Roman thing, the archaeological record shows a proliferation of Late Antique villas far into the western half of the Roman world, in the Iberian Peninsula, in France, and in Britain. Archaeologists who have excavated in the past century date many of these architectural finds to the late fourth century CE. This does not quite fit with our traditional understanding of Roman decline. So I am re-approaching these excavated sites. I want to get to the original impetus for building them: Why exactly was the villa built? Perhaps it connected people with a vision of being Roman or elite, a status that was not initially accessible to everyone. It is about getting to that "why" question and seeing how we can use the material record to contribute to historical questions about what defines Late Antiquity.

KS: *So building villas was a kind of "keeping up with the Joneses," perhaps?*

SB: That was a huge part of it. You also see amazing regional variations. These variations are due to natural things like climate and resources, but another factor was that the late Roman world was much more locally oriented than we think. Once you have a state, you have this idea that everything feeds directly into the state system. If you look at the material culture, however, you can bring attention to local variation and the great diversity that is easy to sweep over if you are doing a broad historical survey. This all builds on the work that I have done with statuary in villas. Now I want to go bigger, to answer larger historical questions with archaeological methods. Eventually, once my book is done, I would like to return to certain areas, especially in southwestern France where some villas have not yet been excavated. I want to study them as

Having a villa was a sign that you had made it.

rural nodes. Who was working on them and how were peasants living? While much of my work focuses on the elite, these questions might help me eventually access more subaltern voices.

KS: You have excavated in Greece, Italy, and France. Do you have any particularly memorable anecdotes from your time working abroad?

SB: The first time that I excavated in France, I was working at the Roman harbors of Narbonne. I had just started speaking French. I really wanted to dig there, and there were a few Franco-American projects, but at that point my written French was much better than my spoken French. I found a project, and as I was the only American, it was really tough at first. Luckily I became close with a French girl also working on the project. We were excavating a collapsed wall with fresco fragments and had to move painfully slow. I will never forget learning French alongside her while excavating slowly in the heat, wondering when we would get to take a break and eat next. In the end it was a very rewarding experience. The first time I excavated was in Greece, where I really wanted to be in the field. When I arrived, however, they assumed that I wanted to be in the museum, and they told me that I would get one week in the field and then afterwards would be working in the museum washing ceramics. I pushed back and got to spend half of my time in the field and half in the museum. I think a lot of people

Figure 2. Sarah with her daughter, Sally, in the fourth-century CE House of the Fountains in Conimbriga, a Roman settlement just north of the modern city of Coimbra, Portugal.

do not realize how much gender stereotypes remain enforced and institutionalized. Sexism is still very much present in the field.

KS: *Definitely. There is a stereotype of Classical studies as being a stuffy field for old white men. How does your past and current work challenge this stereotype and encourage women in classics?*

SB: In the twenty-first century, I think that we can use the diversity of the ancient Roman world itself as a jumping-off point for encouraging a vision of diversity in the field. There was a point in time in which a Roman in Algeria was just as Roman as someone in Britain, who was just as Roman as someone in Ephesus. This brings us to the question: What did it mean to be Roman? What is Roman? How big was the Roman world and how can we understand its diversity better? It is easier to show diversity through material culture. I think that we archaeologists luck out in that sense. In the field of classics, we are beginning to ask some tough questions and hold ourselves

accountable for those stereotypes. For starters, we are trying to change the face of the field by thinking about the skill sets that we encourage. This is in part to attract students who are maybe not interested in ancient languages or who did not have the chance to take them in high school. If you now choose classics as your major, there are different tracks. There are the ancient languages but also others that get you to work with texts in translation or material culture. This might seem small, but it does make classics more than just languages. It also gets at stereotypes about who gets to work with those texts. So things are beginning to change, but slowly, and it is hard. Classics has not been at the forefront of social justice in the humanities, but we are working hard to be an ally and conscious of the need to do so. This brings me to one of my major interests, which is using archaeology to talk about history. Ancient history, even more than archaeology, is a male-dominated field. I cannot think of any famous female ancient historians off the top of my head. I see my contribution as poking at what historians are supposed to look at and look like.

Classics has not been at the forefront of social justice.

KS: *Thank you for that, and we are lucky to have you as a new female professor at the Cotsen Institute. What drew you to working at UCLA in particular?*

SB: I was in Los Angeles and teaching in an adjunct position for the Department of Art History at UCLA and also for the Department of Classics at LMU. I knew that I loved it here, having grown up in the Midwest. Who would not love being near the ocean in this Mediterranean climate? More seriously, as a Classical archaeologist, it can be difficult to find the right place to work. You can work in classics or art history or anthropology, but I think that the Cotsen Institute is an ideal place. I wanted to be somewhere similar to the graduate program of the University of Pennsylvania, where I graduated. Somewhere focused on archaeological methodologies, where I could interact with colleagues from art history, religious studies, classics, and history. I think that combining faculty from different departments with a common methodological approach leads to fascinating discussions and critiques. I was attracted to the Cotsen Institute because of this, to the ability to have a home in classics but still work with people first and foremost focused on archaeology.

KS: *What do you like to do when you are not interacting with colleagues at the Cotsen Institute or in Dodd Hall, the home of the Department of Classics?*

SB: I had a baby girl last October, so she is my main hobby at the moment! This summer was exciting because she and my husband came with me to Europe to do research on museum collections, and it was fun to show myself that I could do the mom-scholar thing after all. I also enjoy yoga and running. I like ashtanga and hot yoga, but when I was pregnant, I did prenatal yoga and found it really helpful. I also like cooking and knitting, a hobby that I developed while working on my dissertation, when I needed something to do with my hands. Sadly, Southern California is a little warm for knitted apparel.

KS: *Congratulations on the new member of your family! Finally, seeing as you have simultaneously succeeded in doing both the mom-scholar thing and obtaining a new academic position, do you have any advice for recent PhDs on the market?*

SB: When I first finished my dissertation, I had a few interviews but did not secure a postdoctoral position. Of course I was bummed, but you need to remain proactive. I found teaching gigs and kept sending people emails. I think that finding ways to be and continue to stay visible, even if you are not a postdoc, is really important. I presented lectures at conferences and kept looking for opportunities. It is challenging to finish, go through all that work, and not find something right away. You can feel pretty dejected. Ultimately, it is key to keep moving: anything that keeps you in the game and makes you meet people and get practice teaching. Research is a big thing, but you have to have experience in teaching too. If you are at a big university, you are going to teach; if you are at a liberal arts college, you are going to teach as well. Developing courses also builds confidence. Another part is reaching out, asking for help. Be confident. Keep in touch. I had a good committee, and even after I finished, I never felt abandoned, but I had to maintain those relationships and doing so definitely paid off.

An Interview with Professor Jason De León

Kirie Stromberg

Figure 1. Jason De León.
(Photograph by Michael Wells)

Kirie Stromberg: *I know that you just finished moving to Los Angeles and have already started teaching, so thank you for taking the time out of your busy schedule to meet. And of course, we are happy to have you at UCLA and the Cotsen Institute. I hear that you were also an undergraduate student at UCLA.*

Jason De León: Yes, I was here as an undergraduate student. I worked at Jeanne Arnold's Channel Islands Laboratory as a work-study student for two years. It still has the same furniture—I can sit in the same chair that I used to sit in as a student! There is a sense of continuity. A lot of people who were there then are still here today.

KS: *Did you grow up in California?*

JDL: I grew up in Long Beach, so I am a local.

KS: *How did you know you wanted to study archaeology from your freshman year? (I definitely did not.)*

JDL: When I was seven or eight years old, I already wanted to be an archaeologist. I did not know exactly what archaeology was, other than by watching *Indiana Jones* or through family visits to Teotihuacán, but I always knew I was interested. When I came to UCLA, I was a declared anthropology major, so I started taking archaeology classes. Not that I was taking them well—I dropped out two or three times and even failed the introduction to archaeology classes. The class was in the Lenart Auditorium, which is where I will be teaching soon. Funny how things work out.

It was not until after graduation that I started thinking about immigration.

KS: *Where did you go after graduating?*

JDL: I spent some time here working in Tom Wake's bone lab. Then I went to graduate school at Pennsylvania State University. My dissertation was on obsidian stone tools from the ancient Olmec site of San Lorenzo. My interest in that topic had actually developed out of a quarter that I spent in Mexico with Richard Lesure during my senior year.

KS: *Was your interest in Mesoamerica connected at all to your own heritage? (My interest in Chinese archaeology is.)*

JDL: I grew up visiting my dad's family in Mexico, and I think that had a lot to do with it. I grew up in a bilingual household, also speaking Spanish. This has definitely facilitated the work that I wanted to do. Later, my interest in immigration issues arose from this too, especially having grown up partly in South Texas. My mom is from the Philippines and so I grew up in a whole household of immigrants. But it was not until after my graduation that I started thinking about immigration and borders as a research topic. In

Figure 2. Jason at work in the field. (Photograph by Michael Wells)

retrospect it made perfect sense, as these issues were all utterly familiar, but I had never considered making them my career.

KS: *How exactly does your current research address borders and immigration?*

JDL: I study the social process of clandestine migration from Latin America to the United States, and I do that through a range of approaches. I work by doing ethnography, by interviewing people and

> People leave behind a footprint when they migrate.

observing them, and through forensic work, in which I try to understand how bodies decompose in the Arizona desert. When I started thinking about border crossings, I had the realization that people—as they always have done through the history of our species—leave behind a footprint when they migrate, an ephemeral one but a footprint nonetheless. I thought: Why can I not use archaeology to document this process? I have tried to use archaeology to understand what this process looks like, what its traces are, to ask how these traces connect to the narratives of the people themselves. I put archaeology in conversation with ethnography, and I spend a lot of time thinking about "the visual" in anthropology through photography and multimedia work.

KS: *That is such difficult, important, innovative work, and a far cry from a dissertation on Olmec lithics!*

JDL: Yes, during my first real trip to Mexico to work with Richard Lesure, I was already becoming interested in the stories of the *people* I worked with, the working-class men and women paid to dig ditches. Throughout the years, I have only become more and more interested in these people and their stories. By the time I was getting ready to graduate, I was already sick of lithics and knew I wanted to keep thinking about immigration. I got a job as a lecturer at the University of Washington for two years. I had been hired to teach courses in cultural anthropology and archaeology, but I told them I wanted to do ethnographic research on migration. Truth be told, I had no idea what it was going to look like or what would be involved. At that point I thought I was done with archaeology and had wasted my 20s working on a thing I was now walking away from. Though later I realized that I could combine my interest in archaeology with contemporary social phenomena. The archaeological training I got at the Cotsen Institute and at Pennsylvania State University really informs the anthropology that I do, whether ethnographic or visual. My focus on materiality, landscape, memory all dates back to this early training. For a long time, people thought that I was someone who just picked up the stuff migrants leave behind. That makes a good headline, but it does not capture the nuance of everything that we are doing. Archaeology is a crucial tool to understanding both the deep past and contemporary issues.

KS: *Would you characterize what you do as ethnoarchaeology or something different?*

JDL: I would not call it ethnoarchaeology; ethnoarchaeology implies analogy. It might be better characterized as "archaeology of the contemporary."

And even then, I only use that phrase when I need to be explicit about the archaeological component. The anthropology that I do runs the gamut, and some days it is archaeological, some days forensic, some days ethnographic.

KS: *Does doing the "archaeology of the contemporary" make you think differently about the archaeology of the past?*

JDL: It makes me more skeptical. I have always worried about the limitations of archaeological inference. Focusing on contemporary peoples drives home the fact that we miss so much through studying materials alone. I used to think archaeology was a kind of truth-finding mission, though now I realize even more how the material record is skewed in all sorts of ways. Objects do not lie, but they do not tell the whole story either!

As much as I have gotten skeptical about the archaeology of the past, I have also asked myself: If we are going to do this thing, how do we do it better? I am a co-principal investigator on a project in southern Arizona in a mining town called Ruby, occupied from the 1860s to 1940s, about nine miles from the border. We will start digging there this summer and run a field school. The place is famous as a ghost town, part of the story of western expansion and rugged American ideals. But few people know that more than 90 percent of the people there, working in a town of 5,000 inhabitants, were Chinese, Japanese, or Mexican immigrants. These stories have been completely lost in favor of the white settler narrative. We will also find out if I can still dig a hole properly.

KS: *It definitely seems like you are interested in shaking up entrenched notions of what archaeology can be, of American history. Is this part of the social purpose of our discipline, in your opinion? What do you see as the social purpose of archaeology? And how do you plan to further that purpose at the Cotsen Institute?*

JDL: First, I think that in my work I try to show the diversity of the discipline. We work in an interdisciplinary world now. The academy has not caught up to this, but students do not see divisions. Art, social science, hard science—I try putting it all together, and it works.

Public outreach through exhibitions has also become a crucial part of everything that we do. Anthropology and archaeology are probably the most crucial disciplines that we have in understanding ourselves and the past. I think about research as a way to educate the public, to engage with the public, and to get them to think about things differently. Every day we are inundated with stories about immigration, and it is easy to become desensitized by this flood of information. Can archaeology and forensic science be tools to force us to think about immigration in a different way and engage more directly?

Figure 3. A migrant rest stop in the Sonoran Desert of Arizona, where people change their clothes and dispose of consumables before being picked up in a vehicle. (Photograph by Michael Wells)

Figure 4. Central American migrants in Salto de Agua, Chiapas, Mexico, watch a freight train known as *la bestia*. Many people ride on top of such trains to get across Mexico and avoid detection by immigration enforcement officers. (Photograph by Michael Wells)

Sometimes I get push-back. People say: Well, what you are doing is not archaeology; it is picking up migrant trash. Even I was trained to think that archaeology is all about old stuff, that it is apolitical, that it does not engage with difficult topics. I do not think that we live in a world anymore where we can say this with a straight face. As far as I am concerned, one of the huge draws for me to come to UCLA is to be at the Cotsen Institute, where what I do is accepted by an archaeological community. When I was in a more traditional department, at the University of Michigan, I never got to be an "archaeologist." For me, coming back to the Cotsen Institute is about being back where I was raised intellectually, but also about working in a space where there is more openness. This has gotten me way more excited about archaeology than I have been in the recent past.

> Objects do not lie, but they do not tell the whole story either.

KS: *I also feel much more able to pursue my interdisciplinary interests here at the Cotsen Institute than I would elsewhere. What do you think needs to change about the traditional archaeological establishment?*

JDL: I have been thinking for the longest time that we were having trouble justifying our existence. I think about when I was a grad student doing a proposal for the National Science Foundation. There is a "broader impact" section, where you have to write something about how what you do will positively impact society. I was told: Put in that you are going to give a talk in your community, maybe translate it into the local language, something boilerplate. When the funding crunch happened and resources became more scarce, the National Science Foundation would start to ask: Does this work really have a broader impact? What flew 20 years ago does not fly now. People can tell whether people are truly committed to the issues. The discipline is realizing that if we do not justify our existence to the public, we are going to be phased out!

I feel optimistic about the field right now, because our hand is being forced. Boundaries between disciplines are blurring and people are starting to say, Why can I not do it all? This kind of attitude is something that I want to serve as a role model for, especially for undergraduate students. I want to tell them: Do what you want—as long as you can do it well.

KS: *Speaking of role models, who have been the role models in your career?*

JDL: First there was my eleventh-grade art history teacher, a guy named Rick Vandruff, who taught me advanced placement art history in Long Beach. He saw that I worked well when I actually applied myself, that I did not when I was not engaged. He recognized that I was interested in archaeology and spun the class to be about ancient art. He said: You can go to college and actually do this! I think about him all the time when I work with students. Without his encouragement, I do not know what I would have done. Tragically, he died of brain cancer six or seven years ago. He impacted a lot of students and was an incredible role model for folks.

Then there was Jeanne Arnold, in whose laboratory I worked as a freshman. I went in to interview to work for her hungover, with a green mohawk, and I probably stank. I do not know why she saw something in me, but for some reason she was like: Sure, I will hire you! She really took a chance on me, and getting into her laboratory was a life-changing experience. She nurtured me, helped me think about graduate school, and she had all these amazing students working in her laboratory who also mentored me as well. Without those graduate students and that space, I would not even have graduated from college!

Then there were Richard Lesure and Wendy Teeter in the Fowler Museum, and of course Tom Wake. I think about all these folks when I engage with students. When I was working at the University of Washington I said to myself, I would not be here without the help of all these people along the way, so I want to give back, especially to undergraduate students. Historically, my laboratory has had between five and 10 undergraduate students at a time, and I think that I have collected two more these past weeks. All of this comes full circle from the mentorship I got as a student at the Cotsen Institute. It feels great to finally be able to give back.

Figure 5. The border between Mexico and the United States across Imperial Beach, California. (Photograph by Michael Wells)

KS: *It is great that you are able to devote so much time to undergraduate mentorship. Selfishly, I would also like to ask, is there any general advice you have for graduate students?*

JDL: Breadth is important. When I mentor graduate students, the first thing I ask is: What are your interests? What do you want to be doing? Not just dissertation-wise, but how do we bridge the gap between your scholarship and your identity? I try to help graduate students connect all the parts of themselves so they do not have to sacrifice one part for another. A lot of my graduate students are interested in art but tend to see art as wholly separate from their academic work. I have been a musician for 25 years now, but when I was playing and making records and touring, I was told that it was a distraction, that my interest in songwriting was not part of my academic portfolio. It was not until later that I saw that these things all make me a better archaeologist. Being well-rounded not only makes you a happier individual, but ultimately it also makes you a much more interesting scholar. Find good mentors who can help you bring your interests together, and surround yourself with people who support you. We want you to have multiple arrows in your quiver. That is what will set you apart.

KS: *Thank you for that. What do you do when you are not here teaching, mentoring, working in your laboratory, and writing?*

JDL: I have two small kids, and they keep me busy with guitar lessons and playing drums and being goofy. Photography is also a hobby and part of my work. Honestly though, while I do play music still off and on, I am now so dedicated to my work that many of my hobbies have been replaced by work, in a positive way. For example, in 2020 we have this global pop-up exhibition happening called *Hostile Terrain 94*, about migrant deaths. It is in 150 locations right now, currently on five continents, the sixth to launch in May 2020. I currently live and breathe this exhibition work.

Finally, I also want to say how excited I am to spend more time at the Cotsen Institute. I have known Marillyn Holmes for 20 years. She left a little note on my desk saying "Welcome home!" in August. I am truly thrilled to be back.

An Interview with Development Officer Michelle Jacobson

Kirie Stromberg

Figure 1. Michelle Jacobson as a student in Uxmal, Yucatán (Mexico).

Kirie Stromberg: *We are so glad to have you here. Can you tell us a little bit about your journey to the Cotsen Institute?*

Michelle Jacobson: Being at the Cotsen Institute feels like coming full circle. I came to UCLA as an undergraduate with a major in anthropology and was studying to be an archaeologist. To make a long story short, I got my MA in anthropology and then decided to make the transition to obtain an MBA in arts management. Then I got married, had three children, and owned a restaurant. While I owned the restaurant, I got involved in a lot of volunteer work and served on the boards of several nonprofit organizations. When I started looking for my next career move, volunteer work felt so fulfilling that I wondered if I could turn this into my full-time job. I started out as the executive assistant to the director at the Southern California Institute of Architecture and ended up as director of the Alumni Relationship Department doing fund-raising. My ultimate goal, however, was to go back to UCLA and do fund-raising there. I started working at UCLA in 1999. The first year I worked at the School of the Arts and Architecture. I then became director of the Medical Alumni Association and worked in the Center for the Health Sciences, and now I am happy to be at the Cotsen Institute.

For my sixth birthday I asked for a shovel.

KS: *It is great (and unique) that you have a background in both fund-raising and archaeology. How did you first become interested in archaeology?*

MJ: I was born in Chicago, and my family moved to a small northern suburb called Hoffman Estates when this was being built. The developers had cut down a cornfield, and we lived near the edge. Back then, you could not put a shovel in the ground without finding arrowheads. We would play for hours in the cornfields. For my sixth birthday I asked for a shovel, and I have wanted to dig ever since.

KS: *It makes sense that you ended up studying archaeology then. What kind of archaeology did you study?*

MJ: I took the archaeology track in the Department of Anthropology at UCLA as an undergraduate, and as a graduate student, Clement Meighan was my adviser. I did fieldwork in the Great Basin, and my MA research was in Guatemala. I got a grant to work with the University of Kansas on the first digital inventory of the general Archive of the Americas, which is part of the central archive in Guatemala City. This was a colonial archive. When I came back, I realized that I was more interested in policy and public engagement than in pursuing an academic career.

Our donors have expertise in so many different areas.

KS: *I imagine that your diverse background enables you to see the Cotsen Institute from all sides and to have meaningful conversations with everyone, from our faculty to our donors.*

MJ: Definitely. Our donors have expertise in so many different areas, and they always inspire me to learn more.

KS: *What do you enjoy doing when you are not in the Cotsen Institute?*

MJ: I love mid-century-modern decorative arts and collect mid-twentieth-century dinnerware. Fun fact: I could probably have a dinner party for 200 people and not need to rent any plates, although they may be all different shapes and sizes. I also enjoy exploring downtown Los Angeles. I have midwestern roots, but I moved to Los Angeles when I was 13 years old. My husband, who is in the in the Humanities Division, and I often go downtown and investigate the architecture of early Los Angeles, from the 1910s through the 1930s and 1940s. Oh, and I am a member of a book club. So I read a lot!

KS: *What is your vision for the future of the Cotsen Institute?*

MJ: Thanks to the generous gifts and vision of Lloyd Cotsen, the Cotsen Institute has been able to grow into a world-renowned institution. We have grown so much that we are now entering a new phase and need to grow again. Our current priority is further developing the laboratories, like the zooarchaeology, the paleoethnobotany, the experimental archaeology, and the digital archaeology laboratories. We want to make sure that these laboratories will be here in perpetuity for our students and faculty. Furthermore, student support, as well as funding for fieldwork and faculty research, needs to expand significantly. Archaeology has been one of my passions since my childhood, so I am honored to be here as the Cotsen Institute continues to be one of the most exciting centers for archaeology and conservation in the world. I am especially excited about the arrival of Glenn Wharton, the new chair of the UCLA/Getty Interdepartmental Program in the Conservation of Archaeological and Ethnographic Materials, and the launch of the doctoral degree curriculum in conservation. The degree programs offered by the Cotsen Institute are among the few national courses with a sole focus on archaeological and ethnographic materials. The fact that these are housed in the same institute provides wonderful opportunities to enhance the crucial collaboration between archaeology, conservation, and community outreach.

Figure 2. Michelle in the seminar room of the Cotsen Institute.

OBITUARY

James Robert Sackett (1933–2019)

Figure 1. Jim Sackett (right), his colleague François Bordes (left), and local archaeologist Jean Gaussen (middle) discuss Solvieux at the site in the 1970s.

ON DECEMBER 21, 2019, the Cotsen Institute lost one of its founding fathers, James Robert (Jim) Sackett. Jim was instrumental in founding the Institute of Archaeology at UCLA in 1973 and in its renaming as the Cotsen Institute of Archaeology in 2001, after the generous gift of Lloyd Cotsen.

Jim was born in 1933 in the Midwest, obtained a BA from Lawrence College (1955, magna cum laude), and earned a PhD in archaeology from Harvard University in 1965. In 1962 he joined the Department of Anthropology at UCLA as acting instructor. He accepted a position as assistant professor at the same department after finishing his dissertation. In Los Angeles he became active in the Southern California Archaeological Survey, at the time directed by Clement Meighan and hosted by UCLA. This organization worked mostly along the California coast between San Diego and Santa Barbara, as well as in the San Fernando Valley. It provided participating students with not only field experience but also a modest income. Jim ultimately replaced Clement as director, sponsored a project near Chico, and collaborated in the creation of *4-Butte-1: A Lesson in Archaeology*, a film about the excavation of a Maidu village[1].

Under the inspiring leadership of Giorgio Buccellati, Clement and Jim helped found the Institute of Archaeology in July 1973 to promote archaeological research at UCLA, publish the results through its own press, and strengthen the archaeology graduate program. Among the first graduates were Marilyn Beaudry-Corbett, Ernestine S. Elster, and Jo Anne Van Tilburg. Jim served as chair of the Department of Anthropology from 1976 to 1979 and was promoted to full professor in 1981. From 1982 to 1984 he served as director of the Institute of Archaeology, succeeding inaugural director Giorgio Buccellati and followed by Merrick Posnansky. Two of the main achievements of Jim's directorship were a significant grant from UCLA for the Institute of Archaeology, and the appointment of Helle Girey to develop the public outreach program, which included lectures and film screenings, designed to inform the public about archaeology in general and the Institute of Archaeology in particular.

Jim's own research focused on the European Old Stone Age (Upper Paleolithic), and he became famous in that field for his open-air excavations in Solvieux (Périgord, France), as opposed to the usual cave or rock shelter projects of the period. This joint UCLA–University of Bordeaux project, which Jim directed from 1967 to 1974, encompassed the meticulous excavation of a large horizontal exposure of around 2,000 m^2 and has been hailed for its daring, unprecedented scale of work. Jim was commended for his vision and his audacity in bringing power equipment onto a French Paleolithic site to study such a large area.

1. https://www.youtube.com/watch?v=tgHfdNePjsk

Figure 2. Jim in the 1980s, around the time he was director of the Institute of Archaeology.

As director of the European Archaeology Laboratory at the Cotsen Institute, his tour de force was publication of the excavations at Solvieux in 1999. The 420 pages of this publication (Monumenta Archaeologica 19, Institute of Archaeology Press) recorded 11 distinct archaeological levels and more than 5,000 retouched tools. Jim's main theoretical interest was style. His chapter "Style, Function and Artifact Variability in Palaeolithic Assemblages" (1973) and his article "The Meaning of Style in Archaeology: A General Model" (1977) are required readings that invariably give rise to lively debates. Walter Goldschmidt was probably right when he remarked, "Sackett, you are too smart to be an archaeologist."

Besides his control of the data, Jim's depth of insight had a great impact on our understanding of archaeological theory and methods. The years in which the Institute of Archaeology was established were marked by a new awareness for this dimension of archaeology. Jim brought a flair all his own to the debate, with a profound sensitivity for the humanistic dimension while working solidly within the framework of the social sciences. This approach found a formal home in several memorable joint seminars with faculty from across campus, the most significant being the one on style, where his ideas and opinions contributed greatly to the debate which is central to what a good seminar should be.

Until his death, Jim ran an active laboratory within the Cotsen Institute, where he worked to refine his research and thoughts. Anyone who walked into his office or met him in the corridor could be assured of

Figure 3. Jim with his wife, Mary, in 2016.

Figure 4. Jim (middle), with Ernestine S. Elster (left) and Helle Girey (right), at the reception concluding the Cotsen Institute of Archaeology open house in 2018.

an interesting, lively conversation. Apart from archaeology and style, among his favorite subjects were his father's printing press, his famous brothers, music (including his own skills on the flute and bagpipes), and Navajo blankets.

Jim will be sorely missed by his colleagues and friends, and obviously most by his wife, Mary, and his children and grandchildren.

OBITUARY

John Janusek (1963–2019)

Charles Stanish

MY ESTEEMED COLLEAGUE and friend John Janusek of Vanderbilt University passed away far too soon in October 2019. John was an amazing scholar and human being. I first met him in 1987 when I was a postdoctoral researcher at the University of Illinois at Chicago, where John was a bright and energetic undergraduate student. He was born in Chicago Heights, Illinois, in the far southern suburbs of Chicago, a couple of miles from the Indiana border. John's hard work and passion for archaeology quickly distinguished him from other students. He went on for his PhD at the University of Chicago, where I had the privilege of serving on his doctoral committee. He and I worked at the site of Lukurmata in Bolivia in 1988, when he was a graduate student. He went on to start a long-term research program in the area—one that is ongoing to the present day. John quickly rose to prominence in the field, ultimately earning his well-deserved position at Vanderbilt. He presented many lectures at the Cotsen Institute and was featured in a number of publications of the Cotsen Institute Press.

John had many intellectual strengths, as his Vanderbilt colleagues tell us below. One of his great personal strengths was his ability to run a large-scale and long-term research program in the southern Titicaca Basin in the circum-Tiwanaku region of Bolivia. John welcomed any and all to his project. He was famous for his gregarious behavior, love of life, and passion for all things altiplano and Titicaca Basin archaeology. The extraordinary outpouring of support for him in social media is as beautiful as it is sad. It is particularly touching to see how many students John selflessly helped over the years. John will be deeply missed as both a scholar and human being. The entire Cotsen family's heart goes out to his family and friends, particularly his spouse, Anna Guengerich.

THE FOLLOWING IS FROM the beautiful message sent out by Beth Conklin, Tom Dillehay, Tiffiny Tung, and Steve Wernke, John's colleagues from Vanderbilt University:

We write to share the tragic news that John Janusek died unexpectedly on October 22, 2019. We are in shock, grieving the loss of this brilliant archaeologist, professor, colleague, and friend, whose life enriched the academic world and the life of each of us and our community immeasurably. We extend our deepest love and condolences to John's wife, Anna Guengerich, and his mother, Carol Janusek, his brother, Mike Janusek, and other relatives.

John was a dear friend to many of us, and we know that our Andean community will never be the same. We all have learned much from him, not only in Andean archaeology, but also in how to host a proper fiesta, correctly hold your coca leaves, brew—and drink—a tasty beer, and be a supportive friend and colleague. He will be dearly missed. In the days ahead we hope we can all support each other as we mourn his passing, share memories, and think about his legacy and ongoing impact in Andean studies and anthropology, and in our daily lives.

John was a broad, deep, holistic, and creative scholar of the pre-Hispanic Andes, urbanism, political ecology, iconography, ritual, materiality, and the history of beer and brewing. John was an associate professor of anthropology at Vanderbilt University in Nashville, Tennessee. His large-scale, long-term research projects at the sites of Khonkho Wankane and Iruhito in the southern Lake Titicaca Basin of Bolivia have profoundly influenced a generation of Andeanist archaeologists. Among his many ongoing research initiatives is a trans-disciplinary project in collaboration with Andy Roddick (McMaster University), Carlos Lémuz (Sociedad de Arqueología de La Paz), and Victor Plaza (Sociedad de Arqueología de La Paz) in the eastern Lake Titicaca basin and Andean valleys. He was also engaged in a multiyear, interre-

John Janusek (center) at the bar during the eighty-fourth annual meeting of the Society for American Archaeology, Albuquerque, April 10–14, 2019.

gional study of monoliths and stone sourcing at Tiwanaku and in the Middle Horizon, with Ryan Williams (Field Museum), and Anna Guengerich.

Along the way, John was always deeply committed to the host communities of his projects, and he will remain a part of them forever through ties of compadrazgo and other forms of ritual kinship. He was a devoted participant in Andean community life and celebrations. In 2007, he served as the preste sponsor of the Entrada Folklórica a Devoción a Apóstol Santiago (Festival of Saint James Procession) in the community of Qhunqhu Liquiliqui.

John was a beloved colleague and a perennial favorite professor among students and others who worked with him in the field in Bolivia. John's spirit, passion, and love for the Andes and Andean spiritual ecologies lives on in his students and colleagues who have collaborated and learned from him, whether in excavation units, classrooms, conferences, chats over beer, or through reading his words on a page. He was a true intellectual, driven by his roving curiosity, deep scholarly engagement, and commitment to the highest ideals of humanistic and scientific inquiry. He passed those ideals on to the many students who had the privilege of working with him in the classroom, field, and laboratory.

John was a very whole, multidimensional, joyful person with many passions and hobbies. Raised in a musical family in the Chicago area—his father was a high school band instructor—John was an inordinately talented musician who could play everything from brass instruments to guitar and bass. At any given time he was an active player in at least one band during his years in Nashville. One of his entries into archaeology was through beer can collecting, a hobby that began early in his life as he found some old cans in vacant lots near his home. Can collecting became a lifelong passion, and he is a nationally renowned expert on the history of beer and beer cans in the collectors community. Many of us have been fortunate to hear his tales about particular beer cans as he would pull them from his expansive, meticulously curated wall displays while we imbibed our own pints together.

Although so many of us knew John for his outgoing personality, exuberance, and enthusiasm, he had struggled for many years with depression. In a moment when dark overtook the light, he ended his life with suicide. The pain of losing him attunes us anew to recognize suffering in the people around us and reach out to support them. John Wayne Janusek was born on September 20, 1963, to John F. Janusek and Carol Janusek in Chicago Heights, Illinois. He is survived by his wife Anna Guengerich, his mother Carol Janusek, and his brother Mike Janusek, his nephew Andrew Janusek, and his and Anna's much-loved hairless Peruvian dog, Kish Kish. The family is most grateful for the outpouring of love and sympathy from around the world. For those who wish to help others facing this challenge, donations may be made in John's honor to the National Alliance on Mental Illness, https://www.nami.org/, and the Tennessee Suicide Prevention Network, http://tspn.org/.

FROM THE PUBLISHER'S DESK

— Randi Danforth

THIS PAST YEAR, the Cotsen Institute Press published a groundbreaking study of early Athens authored by a Greek archaeologist whose dissertation on the subject garnered much interest in the scholarly world. She revised her dissertation into *Early Athens: Settlements and Cemeteries in the Submycenaean, Geometric, and Archaic Periods.* Essential features of this comprehensive book are detailed maps of 13 different areas of Athens, also available online in scalable and searchable formats, and a gazetteer with data on each site. A campaign to provide several Greek institutions with copies of the book successfully inspired the participation of generous donors of the Cotsen Institute.

With our usual global reach, we are working on some exciting new publications, forthcoming in 2020.

Ordering Information:

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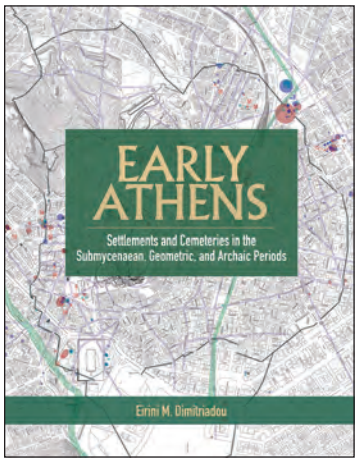
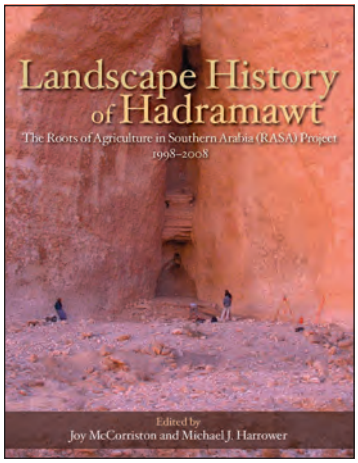


Early Athens
Settlements and Cemeteries in the Submycenaean, Geometric, and Archaic Periods

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.

Forthcoming



Landscape History of Hadramawt
The Roots of Agriculture in Southern Arabia (RASA) Project 1998–2008

Edited by Joy McCorriston and Michael J. Harrower

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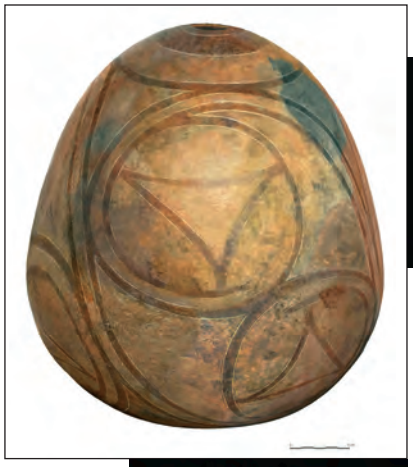

Paso de la Amada

An Early Mesoamerican Ceremonial Center

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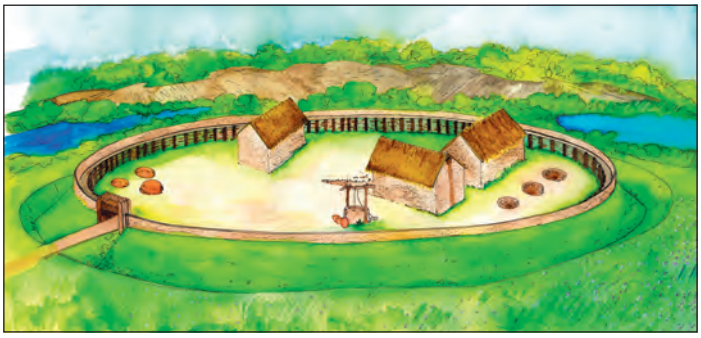
A study of one of the earliest sedentary, pottery-using settlements in Mesoamerica (with the earliest known Mesoamerican ballcourt).



Bikeri

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Edited by William A. Parkinson, Attila Gyucha, and Richard W. Yerkes

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By Javier Fonseca Santa Cruz and Brian S. Bauer

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The Archaeology of Political Organization

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By Barbara L. Stark

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