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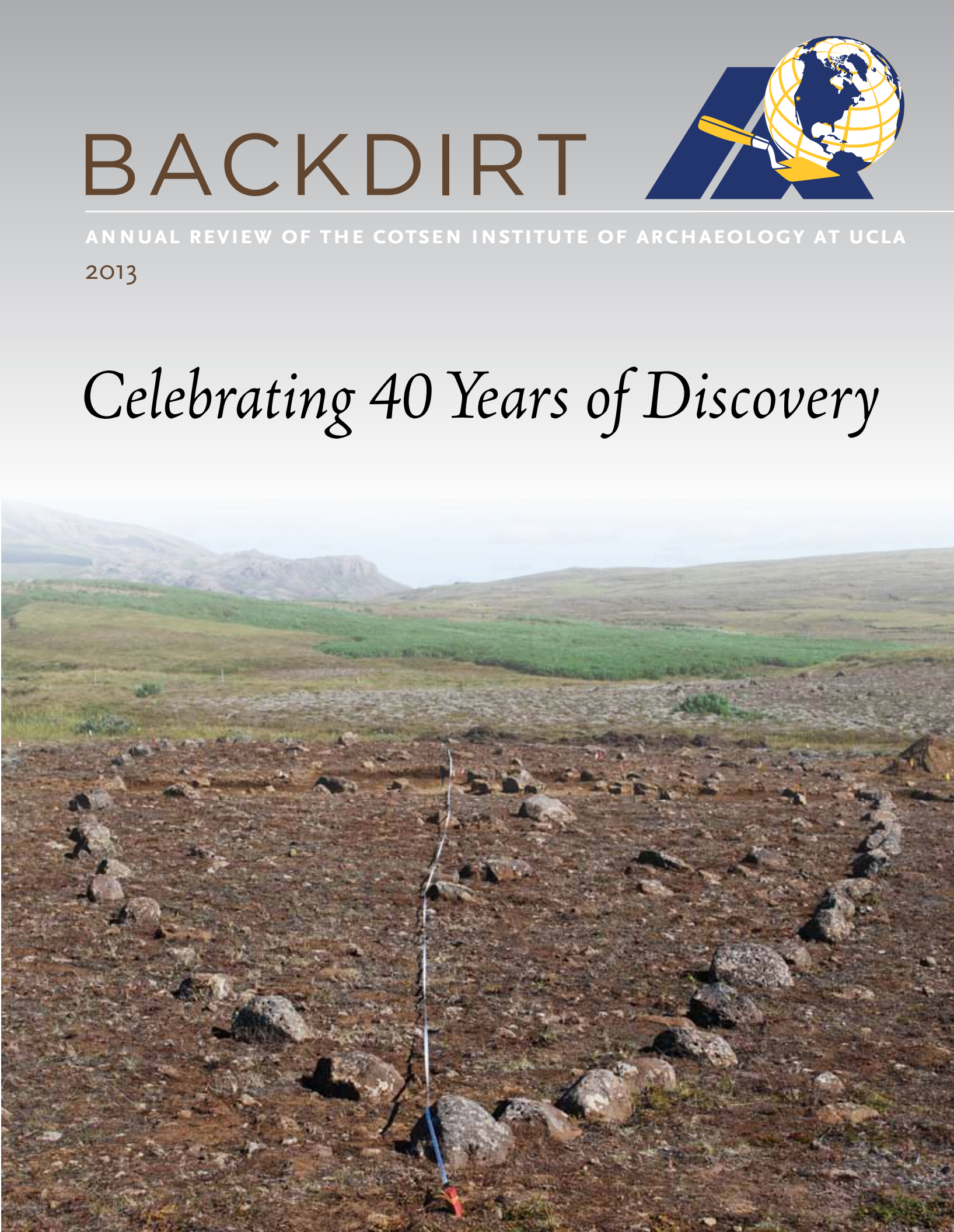
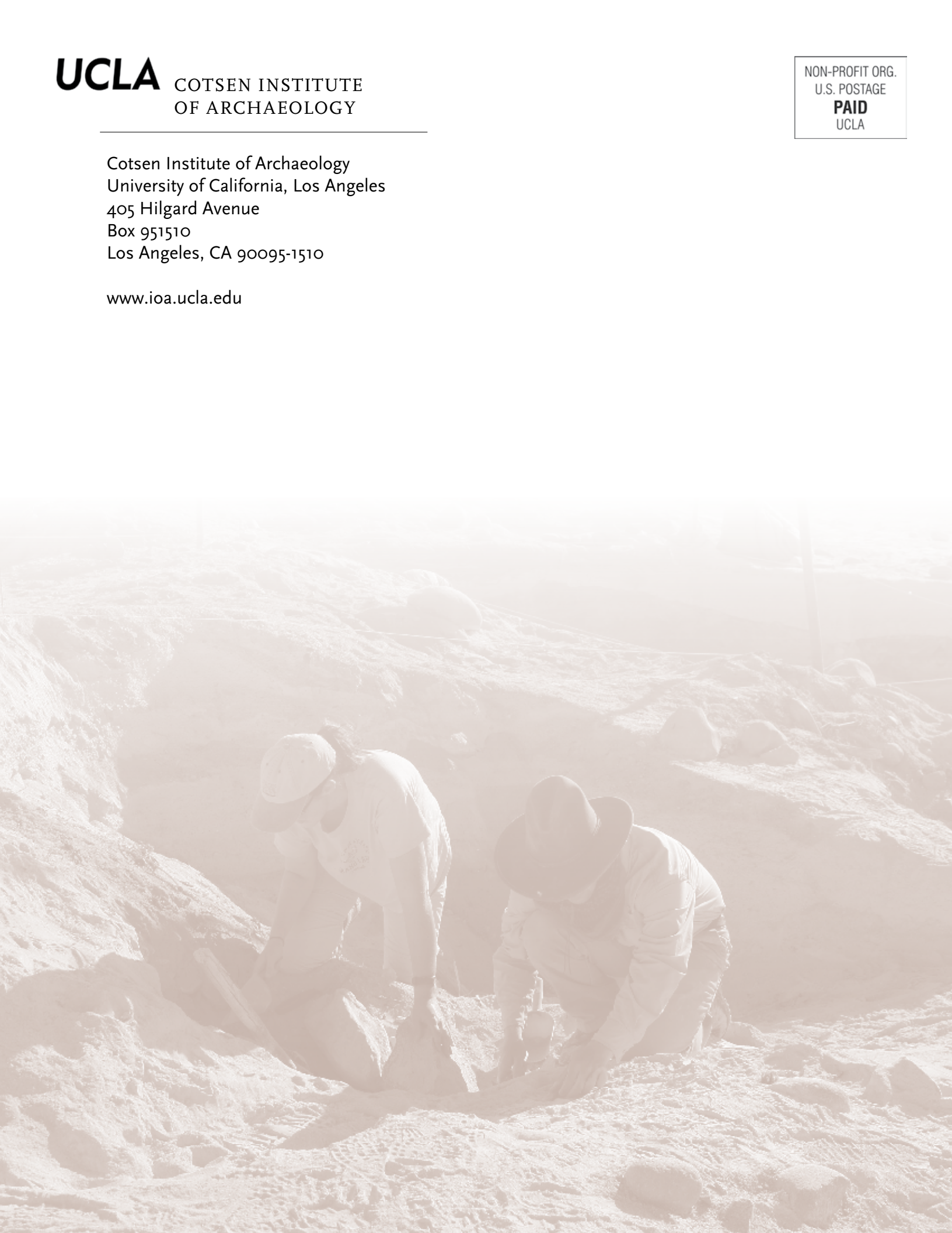
COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

# BACKDIRT



ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA  
2013

*Celebrating 40 Years of Discovery*





# BACKDIRT

ANNUAL REVIEW OF THE COTSEN INSTITUTE OF ARCHAEOLOGY AT UCLA

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Front cover: Stones arranged in the shape of a Viking Age ship discovered in Iceland as part of the Mosfell Archaeological Project. The site is being excavated by Jesse Byock and Davide Zori.

Back cover: Excavation of a recently looted Ramadas cemetery in Peru.  
Photo by Mariana Ladrón de Guevara.



## SPECIAL THANKS

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expresses its deepest gratitude to  
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<sup>1</sup> Those listed provided \$300 or more in support of the Institute.



## Message from the Director of the Institute

This year we celebrate the 40th anniversary of the Cotsen Institute of Archaeology at UCLA. It is with great pride that I read the essays by some of our former directors in this anniversary edition of *Backdirt*. Professors Buccellati, Posnansky, Sackett, and Leventhal all took over at critical periods in the Institute's history. At forty years, we are larger than ever, with more faculty and a greater range of research programs throughout the world. We have the finest set of graduate students in our history, and our support group is more loyal than ever. But, like good scholars of the past, we learn from our former directors that one thing never changes—we are great because of our deeply committed set of faculty, friends, staff, students, and volunteers who value archaeology as both a scholarly discipline and a way of life.

I want to take this opportunity to also thank several generous donors who continue to make it possible for our Institute to flourish. Last year, we received a bequest from the late Joan Silsbee to endow the Silsbee Chair in African Cultural Archaeology. Zaruhi Sara Chitjian endowed a new Armenian program from the Harry and Ovsanna Chitjian Family Foundation. Most recently, Marilyn Beaudry-Corbett and Don Corbett endowed a new chair in Mesoamerican Archaeology. Together with our existing endowments, these funds will help us continue to be the world leader in archaeological research, publications, conservation, and training programs. The next forty years look great!



CHARLES STANISH

Director, Cotsen Institute of Archaeology  
Lloyd Cotsen Chair in Archaeology



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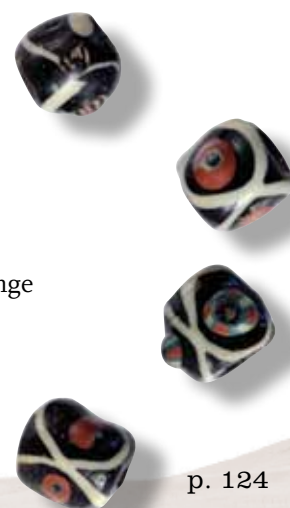
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# The Age of Maturity

GREGORY E. ARESHIAN<sup>1</sup>

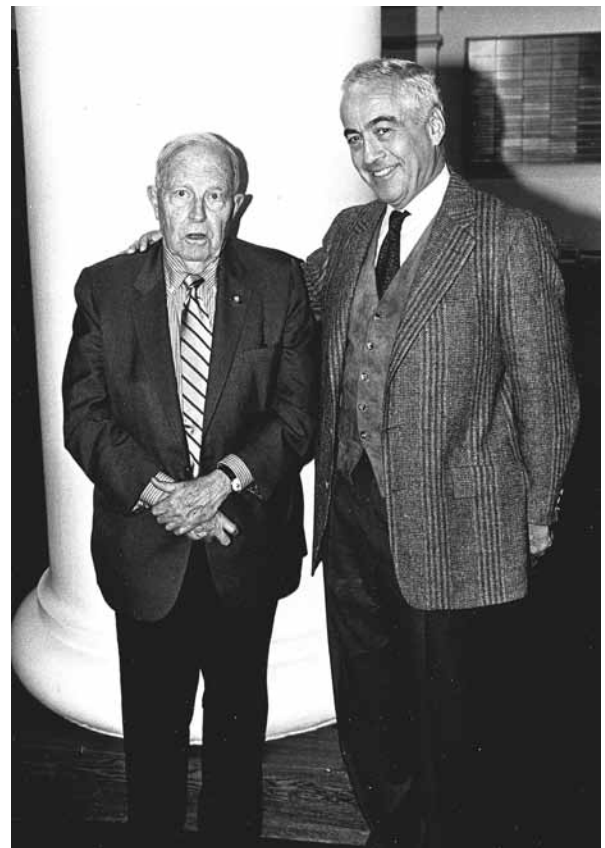
**T**his issue of *Backdirt*, dedicated and devoted to the 40th anniversary of the Cotsen Institute of Archaeology, is an assembly of insights, memories, and perspectives concerning a unique forward-looking institution and the world of archaeology to which it belongs. Forty years of existence is in itself a testimony to the vitality of an organization that was shaped by several generations of distinguished scholars. It is a timespan sufficient to establish a tradition of academic culture that stems from an environment of intellectual diversity. The creation of the Institute was one of multiple transformative outcomes of the implementation of the California 1960 Master Plan for Higher Education created during the tenure of Governor Edmund “Pat” Brown with Clark Kerr, then President of the University of California system and mastermind of the initiative. Stanford University President John L. Hennessy once said that Kerr built “an educational system that is the envy of the rest of the world.”<sup>2</sup>

The transformation and explosive growth of UCLA started under Chancellor Franklin Murphy. It was during the years of his leadership that the idea of an Institute of Archaeology established at UCLA for the University of California system germinated. Yet, it was only during the following early years of the twenty-nine year long chancellorship of Charles E. Young (1968–1997) that the formal executive decision was made.

The events celebrating the 40th anniversary of the Institute that took place on the UCLA campus in April and May of this year opened with the public lecture by the Founding Director of the Institute, Giorgio Buccellati (this volume p. 14). This lecture brought back to life the vibrant and optimistic

environment in which the Institute was created, and outlined the unparalleled intellectual conditions that stipulated in the course of the past 40 years the academic inclination of the Institute toward interdisciplinarity, rather than being constrained by any single field or theoretical approach.

The section that follows contains memoirs of the three out of five directors of the Institute who succeeded Giorgio Buccellati as leaders in institutional building. They describe and assess the gradual process of integration around the Institute of the research efforts by faculty and a number of



Chancellor Franklin Murphy (left) and Lloyd Cotsen (right).

<sup>1</sup> Editor, *Backdirt*.

<sup>2</sup> K. Maclay, Clark Kerr's legacy: 1960 Master Plan transformed higher education, *UC Berkeley News*, 3 December, 2003.



dedicated volunteers, which lead to the subsequent rise in its recognition and the expansion of its donor base. The single most significant sequence of events that built the financial foundations of the Institute was connected to the intimate involvement of Lloyd Cotsen with UCLA archaeological research. His passion for and deep understanding of archaeology combined with his rising confidence in the capacity of the UCLA Institute of Archaeology, have led to the establishment of major endowments that made possible the current strength of the Cotsen Institute. Lloyd Cotsen's generosity was followed by other significant contributions by Charlie Steinmetz, and as the reader learns from the Institute in the News section in this issue of *Backdirt*, two more major targeted donations from Zaruhi Sara Chitjian and Marilyn Beaudry-Corbett are expanding research and graduate teaching in specific areas of Armenian archaeology and ethnography, and in Mesoamerican archaeology respectively.

In the forty years since its inception, the Cotsen Institute's fieldwork spanned over four continents resulting in amazing discoveries in Syria, Peru, Armenia, Turkey, and California, expanding our understanding of ancient civilizations that blossomed in China, India, Greece, Albania, Egypt, Israel, Iceland, Mexico, Tunisia, and reaching even such remote parts of the world as Easter Island. A broad array of synthesizing scholarship was created at the Cotsen Institute through monographic research, seminars, and thematic lectures series throughout the four decades, which is reflected in this issue of *Backdirt*, not only in the sections devoted to the Institute's current research, published books, and academic events, but also in two tour de force pieces particularly related to the 40th Anniversary. First is the interview with Colin Renfrew, covering many central issues in world archaeology (p. 32). The second is the inaugural lecture by the first recipient of the Cotsen Prize for Lifetime Achievement in World Archaeology, Ofer Bar-Yosef, regarding the origins of farming in the Ancient Near East (p. 46).

As in previous issues, this issue also reflects the interest of *Backdirt* in the history of archaeology, and presents the continuous societal engagement of the Cotsen Institute. Articles on the emergence of holistic approaches toward the study of the Quaternary of Africa, issues related to the looting of antiquities,

*This issue of Backdirt, dedicated and devoted to the 40th anniversary of the Cotsen Institute of Archaeology, is an assembly of insights, memories, and perspectives concerning a unique forward-looking institution and the world of archaeology to which it belongs.*

reflections of enthusiasts volunteering at the Institute, and distinguished alumni of the Archaeology Interdepartmental Graduate Program are presented in respective sections.

One must particularly stress that the continuing success of the Institute is based on several essential factors brought to confluence by its powerful institutional design. Its broad and versatile research base imbued with multidisciplinary approaches serves as the critically important source of excellence for the interdepartmental graduate programs in archaeology, and archaeological and ethnographic conservation. No department of major US research universities can provide such a broad array of intellectual opportunities to Ph.D. students as the one created by the synergies of the Cotsen Institute. This combination of interdepartmental research with interdepartmental education achieved at the Cotsen Institute, while it reaches its state of conceptualized maturity, can serve as a successful prototype for future changes in graduate education across the country and the world. \*

## Establishing a New Guinness World Record

Following extensive coverage by most of the world leading media outlets such as CNN, BBC, four issues of the *National Geographic Magazine*, the *New York Times*, and more than 400 others, the discoveries in the famous Areni-1 Cave Complex by the joint project of the UCLA Cotsen Institute and the Institute of Archaeology and Ethnography of the Armenian National Academy of Sciences co-directed by Boris Gasparyan, Gregory Areshian, and Ron Pinhasi continue to win greater accolades. Results from this well-known archaeological site in Armenia were recently showcased in none other than the 2012 edition of *Guinness World Records*. The title awarded is “Oldest Leather Shoe” (also see Kantrim’s news item in this section, p. 10). This represents a hallmark in generating increased exposure to the public, and further garnering general interest in the field of archaeology, as the *Guinness* series itself has set its own record for “best-selling copyrighted title of all time.”

—Brett Kaufman, Cotsen Institute of Archaeology, UCLA



## From Desk Drawer to Top-Drawer: The Cotsen Turns 40

The beginnings of UCLA’s Institute of Archaeology in 1973 hardly signaled greatness. Its annual budget was a paltry \$6,000. Founding Director Giorgio Buccellati had a staff of one: a part-time assistant who worked a few hours a week. The Institute didn’t have a home, just a drawer in Buccellati’s desk.

From these humble beginnings, there grew one of the world’s largest consortia of working archaeologists, including some 30 UCLA professors from 11 different disciplines. They work alongside roughly 60 research associates, primarily freelance archaeologists affiliated with nearby colleges and universities. UCLA’s Cotsen Institute of Archaeology has also become home to one of the world’s preeminent archaeological presses, which publishes some ten titles a year.

In its latest survey, the prestigious National Research Council ranked the Cotsen Institute’s affiliated Archaeology Interdepartmental Graduate Program first in the nation among doctoral programs in the field.

Among the impressive string of major excavations that Cotsen Institute scholars have helped bring to light, are Urkesh, a 300-acre, fourth- to-second millennium B.C.E. city in northeast Syria; the first complete, large-scale gravesite from the Illyrian culture, which was referred to in ancient Greek texts; a cave in Armenia that housed the world’s oldest wine production facility; and perhaps the most lavish archaeological tomb ever excavated in the Americas: the gold-encrusted Moche tombs at Sipan in Peru.

But in 1958, UCLA was only the home of the Southern California Archaeological Survey, which deployed expertise in field archaeology on highway and dam-building projects that were likely to uncover Native American remains or artifacts. To meet the needs of the many students involved in the survey, the anthropology department started offering graduate studies in archaeology in 1969. At the time, UCLA had 20 to 30 professional archaeologists in its orbit, according to Buccellati’s estimates.

“The sense was that we had an unexplored potential,” said the archaeologist, who with his wife,





At the award ceremony of the Cotsen Prize for Lifetime Achievement in World Archaeology, James Phillips (left), Ofer Bar-Yosef (center), and Colin Renfrew (right).

Marilyn Kelly-Buccellati, a visiting professor at the Cotsen Institute, was responsible for the discovery of Urkesh. “We thought that pulling together the individuals active in archaeology would give us more visibility and would allow us to work more closely together.”

Two years after the Institute’s founding, it established a publications unit, the seedling of what grew into the Cotsen Institute of Archaeology Press.

The Institute shuffled from one unsatisfactory space to another until 1990, when the Fowler Museum opened under archaeologist Christopher Donnan, who served as the museum’s founding director. The Institute moved in and has occupied the building’s labyrinthine basement ever since.

In 1998, Lloyd Cotsen, a successful businessman who had fallen in love with Greek archaeology as a graduate student in the 1950s, endowed the Institute with a \$7 million gift. By that time, Cotsen had been participating for decades in the institute’s activities, including archaeological digs and documentation efforts. An additional \$10 million gift pledged in 2006 by Cotsen gave the Institute “the largest *de facto* endowment in the world for the study of archaeology,” said Charles Stanish, the Cotsen’s current director.

In honor of the Institute’s 40th anniversary, Cotsen Institute once again generously endowed the Cotsen Prize for Lifetime Achievement in World Archaeology, which is envisioned as the premiere prize in the field. To be given every three years, it is intended to recognize great scholarship and mentoring.



At the award ceremony, Charles Stanish (left) with Bruce Hector (right).

**“We didn’t even have a room,” founding director Buccellati recently recalled with a laugh, “much less a building. We just had a drawer—in my desk.”**



Acceptance of the award, Lloyd Cotsen (left), Ofer Bar-Yosef (center), Chancellor Gene D. Block (right).



A discussion on the future of archaeology between Patricia Anawalt (left) and Christopher Donnan (right).

**“On this, our 40th anniversary, we’ve reached a plateau of excellence and want to celebrate that,” the Cotsen’s current director Chip Stanish said. “We also want to begin a tradition of honoring great archaeologists from around the world and recognizing the highest achievements in the field.”**



A group photo after the award, Lloyd Cotsen (front center), Ofer Bar-Yosef, Margit Cotsen, Jill Siltan, John K. Papadopoulos (back row left to right).

To celebrate how far it has come, the Cotsen Institute hosted a series of special weeklong programs that began Wednesday, April 24, and ran through Saturday, May 4, 2013. The mix of scholarly and public events brought luminaries from the world of archaeology to campus, and provided access to the Institute’s highly specialized and intriguing laboratories.

Buccellati, Professor Emeritus of History and Near Eastern Languages and Cultures, and Director of the Cotsen Institute’s Mesopotamian Laboratory, opened the celebration with his public lecture on “The History of the Cotsen Institute of Archaeology as a Research Paradigm” (see p. 14 this volume). Carolina Mallol, of the Universidad de La Laguna, Spain, in geography and early history, and the inaugural junior laureate of the Cotsen Prize, presented on the application of microstratigraphy in Paleolithic Eurasia in her talk entitled “What, Where, and When, but Not Why: A Microstratigrapher’s Perspective of Prehistoric Research.”

Ofer Bar-Yosef, a Harvard University Professor Emeritus and the inaugural senior laureate of the Cotsen Prize, delivered the keynote public lecture on Friday evening to a full house. An Israeli-American archaeologist who has led excavations in Egypt,



Israel, the Czech Republic, the Republic of Georgia, and China, Bar-Yosef described the “Origins of Agriculture in the Near East” (see p. 46 this volume).

Further events from this celebratory week included the Graduate Symposium for Students in Conservation and Preservation (ANAGPIC, p. 156 this volume). This academic symposium was hosted by the Institute’s UCLA/Getty Master’s Program in the Conservation of Archaeological and Ethnographic Materials.

Archaeology supporters have always looked forward to Cotsen’s annual Saturday afternoon Open House, a sixteen-year tradition. All eighteen of the Institute’s labs were open to the public for the first time, including the Moche Lab where legendary archaeologist Christopher Donnan worked on artifacts found in Sipan and numerous other Moche tombs; the Old Stone Age Lab, home of James Sackett, the Cotsen Institute’s second director and an authority on Europe’s paleolithic period; and Giorgio Buccellati’s Mesopotamian Lab. The tours attracted families and K–12 students, among other archaeology enthusiasts.

As part of the Saturday Open House, Colin Renfrew, a Senior Fellow, Professor Emeritus, and renowned former director of the McDonald Institute for Archaeological Research at Cambridge University, lectured to attendees. A past visiting lecturer at the Cotsen Institute, Renfrew is known for his work on radiocarbon dating, the prehistory of languages, archaeogenetics, ancient Greek archaeology, and the prevention of looting at archaeological sites. Titled “Before Religion: Excavating the Oldest Maritime Sanctuary in the World,” his talk addressed archaeology on Greece’s Cycladic Islands.

The Inaugural Lloyd Cotsen Prize for Lifetime Achievement in World Archaeology was presented by Lloyd Cotsen himself at a final celebration dinner with UCLA Chancellor Gene D. Block. In all, more than 500 people attended the Institute’s 40th Anniversary festivities.

—Meg Sullivan, UCLA



Scott Waugh (left) and Charlie Steinmetz (right).



A lively discussion between Megan Kissinger (left), Alessandro Duranti (center), and Patricia Anawalt (right).



A leather shoe from Areni-1 Cave Complex, found during the 2008 joint excavations conducted by the Institute of Archaeology of the National Academy of Sciences of the Republic of Armenia and the Cotsen Institute of Archaeology at UCLA, on display at the National Museum of History in Yerevan.

## Armenian Archaeology and Ethnography at the Cotsen Institute: A New UCLA Research Program

This April, a gift and concurrent partnership agreement between UCLA and the Chitjian Foundation in Los Angeles resulted in the creation of a Research Program in Armenian Archaeology and Ethnography. It comprises an archive of historic documents and an ethnographic artifact collection to be housed and managed by the Cotsen Institute of Archaeology.

The Research Program, established by Zaruhi Sara Chitjian, is the first of its kind in the United States, with dedicated physical space for graduate classes and a library. Dr. Gregory E. Areshian, a recognized anthropological historian and archaeologist specializing in the Near East, with many years of experience in Armenia, will serve as its founding director. Located in the Fowler Building as a permanent part of the Cotsen Institute, the Research Program will also house a document archive and ethnographic collection, named after Chitjian's parents, Hampartzoum and Ovsanna Chitjian.

As one of its first initiatives, the Research Program will host an academic conference in the spring of 2014, entitled "Current Practices in Armenian Studies: The Creation and Visibility of New Knowledge," which will assess the state of interdisciplinarity within Armenian Studies as a whole and determine how archaeology and other disciplines can work within a broader framework of knowledge and through a variety of institutional structures.

The Archive and Collection, slated to open in late 2014, will catalog and document the ethnographic components of the Chitjian gift, ranging from an Armenian prayer book—carried by hand out of modern Turkey during the Armenian Genocide through Iran, Syria, France, Cuba, and Mexico—to needle-point textiles featuring the stitches of Malatya and Aleppo, though made in Los Angeles. A permanent research collection of this kind is increasingly valuable in light of recent episodes of destruction of cultural heritage in the Near East. Tracing the aesthetic and historic designs and preferences of Armenian communities throughout the Near Eastern region helps to preserve cultural heritage and locate it to specific villages and areas—a great challenge given the diasporic emigration of Armenians, both before



and after the Genocide that occurred at the collapse of the Ottoman Empire.

The UCLA Institute of Archaeology has a long history of interest in Armenia. In 1974, Director Giorgio Buccellati, along with Dr. Marilyn Kelly-Buccellati and Dr. Ernestine Elster, traveled to the Armenian SSR to initiate a proposed joint project, visiting the excavations of Dr. Gregory Areshian at Mokhrablur, 18 miles west of Yerevan. Though the anticipated joint projects did not materialize during the Soviet period, contacts between the Institute archaeologists and colleagues in Armenia persisted. In the early 1980s, the Director of the Institute of Archaeology and Ethnography of the Armenian National Academy of Sciences, Dr. Babken Arakelian, visited and lectured at UCLA. At the beginning of his academic career in the United States in 1993, Dr. Areshian gave a series of lectures on the archaeology of the Caucasus while teaching in the UCLA Department of History. In 2007, the Cotsen Institute of Archaeology signed a collaboration agreement with the Institute of Archaeology and Ethnography of the Armenian National Academy of Sciences, which was expanded and extended by a new memorandum of understanding signed in 2012. Since 2007, three joint projects have been conducted in Armenia, achieving worldwide recognition with the discoveries at the Areni-1 cave complex.

Chitjian is a member of the Director's Council of the Institute and has been an avid supporter of the Institute's projects in Armenia for the past five years. She has previously funded important projects in archaeology and academia, including a grant to Project Discovery, an NGO supporting archaeologists in Armenia, and the creation of *Aramazd*, the English-language Armenian Journal of Near Eastern Studies. This endowed gift reflects the innovative results that donors can accomplish by incorporating their personal vision into the long-term academic and research goals of the Institute through their continuous involvement and interaction with its researchers, faculty, and staff.

For further information about the program, the archive, and the collection, please write to [emilyuk@ioa.ucla.edu](mailto:emilyuk@ioa.ucla.edu) or visit the Armenian Research Program on the web at [www.ioa.ucla.edu/arp](http://www.ioa.ucla.edu/arp).

—Emily Uyeda Kantrim, Cotsen Institute of Archaeology, UCLA



Marilyn Beaudry-Corbett with ceramics.

## Marilyn Beaudry-Corbett Endowed Chair in Mesoamerican Archaeology

Archaeologist Marilyn Beaudry-Corbett has established the Marilyn Beaudry-Corbett Endowed Chair in Mesoamerican Archaeology, the first chair in this field at UCLA.

A visiting assistant professor and former director of publications for the Cotsen Institute (1993–2002), Beaudry-Corbett is a specialist in Mesoamerica and the production and distribution of archaeological ceramics in Central America. She directs the Cotsen Institute's Ceramics Research Group, which offers practical experience to students and researchers and maintains a dialogue among a large community of ceramic specialists at UCLA and surrounding areas.

Beaudry-Corbett was born and raised in Los Angeles. She received a bachelor's degree in marketing from the University of Southern California (USC), and completed a one-year graduate Management Training Program at Radcliffe before returning to L.A. to earn her master's degree in industrial sociology at USC.

After a long, successful career as head of a large marketing and advertising research corporation, with stints in Chicago, London, and Frankfurt and travel to Tokyo, Hong Kong, and Sydney, she decided to change her profession to archaeology in 1973, tak-

ing UCLA Extension courses and joining the UCLA Friends of Archaeology. She then enrolled in the newly established Interdepartmental Archaeology Graduate Program, where she was one of the first students to earn a master's degree in 1977, followed by a doctorate in 1982. She was awarded a post-doctoral fellowship at the Smithsonian Institution and spent a year as a Fulbright scholar in La Lima, Honduras. In 1987, while teaching a class in ceramic analysis at UCLA, she met her future husband, Don Corbett.

Marilyn Beaudry-Corbett's enthusiasm and dedication to archaeology and the Cotsen Institute will extend into the future with this endowment.

—Don Corbett

## Neolithic Installation Comes to Life in Modern Turkey

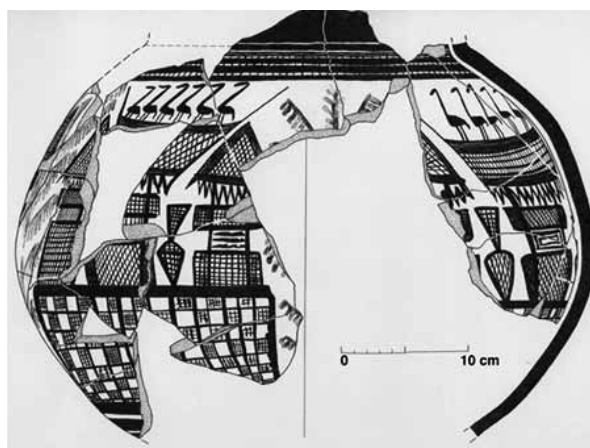
The Kahramanmaraş Museum in southeastern Turkey has opened a new gallery displaying the discoveries made at the nearby Late Neolithic site of Domuztepe. The gallery recreates life in the settlement about eight thousand years ago. Reconstructions of a house and the burial area, known as the “death pit,” give visitors the feel of life in the ancient settlement. The walls of the gallery are decorated with designs taken from the ceramics uncovered at the site.

The Domuztepe Excavations were carried out from 1995 to 2008 in a joint project between University of California, Los Angeles (Professor Elizabeth Carter) and the University of Manchester (Dr. Stuart Campbell) with the cooperation of the Kahramanmaraş Museum. Dr. Çiğdem Atakumen, an alumna of the UCLA Archaeology Interdepartmental Graduate Program, now an Assistant Professor at Middle East Technical University in Ankara, hopes to reopen excavations at the site in the near future. We are delighted and grateful that the Kahramanmaraş Museum staff and its director, Ayşe Ersoy, have mounted such a wonderful display of the finds from our excavations.

—Elizabeth Carter, Department of Near Eastern Languages and Cultures, Cotsen Institute of Archaeology, UCLA



Gallery showing the reconstructed house.



Drawing of pot displayed in case in foreground of gallery above.



The “death pit” reconstruction.



## Jaffa Exhibit Opens in Frankfurt

In connection with the presentation efforts of the Jaffa Cultural Heritage Project, co-directed by Aaron A. Burke (UCLA) and Martin Peilstöcker (Johannes-Gutenberg Universität, Mainz), the exhibition “Jaffa: Tor zum Heiligen Land” (Gate to the Holy Land) opened at the Bibelhaus Museum in Frankfurt, Germany on September 27, 2013. On display in the exhibit, which is curated by Dr. Peilstöcker, are 135 items from excavations in Jaffa by the late Jacob Kaplan, the Israel Antiquities Authority, and the most recent excavations by the Jaffa Cultural Heritage Project, as well as a hoard of gold Fatimid coins found in a Crusader contexts from Apollonia-Arsuf in 2012. Additional features include a reconstructed gate façade of Ramesses II, numerous items from Ottoman and Mandate Jaffa, as well as manuscripts featuring early descriptions of Jaffa. The catalog of the exhibit is published in an edited volume featuring 21 additional articles spanning historical and archaeological subjects relating to Jaffa from the Late Bronze Age to the Ottoman Period (ca. 1500 B.C.E. to 1917 CE) (Peilstöcker, Schefzyk, Burke, eds., *Jaffa: Tor zum Heiligen Land*. Nünnerich-Asmus, Mainz, 2013). The exhibit will run through May 18, 2014, while further venues are being sought for its presentation thereafter.

—Aaron A. Burke, *Department of Near Eastern Languages and Cultures, Cotsen Institute of Archaeology, UCLA*

## The Cotsen Institute of Archaeology Press Goes Digital

Archaeologists working remotely in the field who have a sudden need to check a reference or the latest research on Çatalhöyük or Tiwanaku will soon have a handy resource that is closer than their university library. We are very pleased to announce a major development in the distribution of publications from the Cotsen Institute of Archaeology Press: Digital Downloads! eBooks and individual chapters



will soon be available for purchase on a dedicated website in partnership with Sheridan Books, Inc., which prints some of our hardbound and paperback editions. Scholars and researchers will be able to buy and download chapters relevant to their areas of study for a nominal fee, or purchase full-length eBooks; we expect to be up and running in early 2014, and access information will be available on the Cotsen Institute website ([ioa.ucla.edu](http://ioa.ucla.edu)). This list of available publications, twenty-two in the initial launch, will primarily feature our recently published edited volumes. As for our older books, we are digitizing our out-of-print backlist and posting free pdfs on [eScholarship.org](http://eScholarship.org), the University of California Open-Access research platform. For readers who still want a hard copy, a link to [lulu.com](http://lulu.com) from the eScholarship site will lead customers to a print-on-demand option with very affordable prices. Our full list of books will still be available at the University of New Mexico Press, at [unmpress.com](http://unmpress.com).

—Randi Danforth, *the Cotsen Institute of Archaeology Press*



# The History of the Cotsen Institute of Archaeology as a Research Paradigm<sup>1</sup>

GIORGIO BUCCELLATI<sup>2</sup>

It is the privilege of academia that ideas should be deeply wedded with institutions. Establishing the Institute of Archaeology was, certainly, more than just adding another unit, subdivision, or department within the University structure. It was very much giving shape to an idea. The effort has remained unchanged over the years. This talk will thus chronicle events in order to explain how, through the Institute, we have all become better archaeologists.

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<sup>1</sup> Public lecture delivered at UCLA on April 24, 2013, at the official opening of the events celebrating the 40th anniversary of the Cotsen Institute of Archaeology. The text retains the style of an oral presentation.

<sup>2</sup> Founding Director of the Cotsen Institute of Archaeology at UCLA.

**I**T IS NOT OFTEN that we can be personal about an institution, except perhaps on special occasions, like an anniversary.

Which is, of course, our case tonight. But the Institute has always been personal. Since its inception, the Institute was an *idea*, well more than an



institution. So, let me take you on a *personal* journey: our intellectual history.

I do not mean it as an anecdotal *chronicle*, a plain recounting of events and personalities—although there will be some of that. I mean it more as a *history* that aims towards a deeper *disclosure*. I want to share with you the *shaping of a vision*, one that had profound intellectual roots, and has, from those roots, blossomed into a luxuriant tree. It reflects the sentiment of an intellectual search, inevitably autobiographical in the details, for which I trust in your indulgence.

I call it a “research paradigm.” By that I mean that the Institute was, on the intellectual level, what *research* is, on a personal level, for all of us, individually and jointly. Research is not aimless vagabonding. It is very much goal-oriented. In a similar way, the Institute did not start just because there was a slot to fill, a department that was missing in a bureaucratic checkerboard.

Definitely not. The Institute started because many sensed it as a valid intellectual goal.

## GESTATION

It is, you know well, our fortieth anniversary: the Institute came into existence in 1973.

But, let me begin . . . before the beginning. Do you know how long the gestation period of the Institute was? No less than *eight* years.

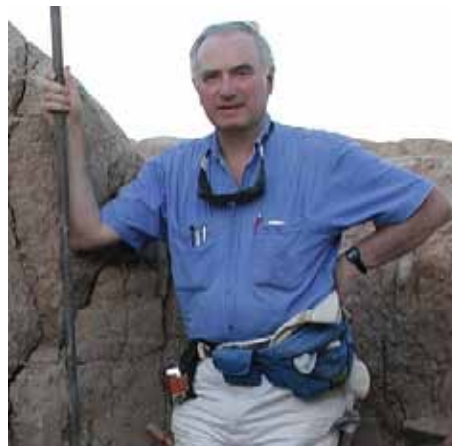
We can set the start date of that process at November 29, 1965. That was the date of the first draft of a proposal for the establishment of an Archaeology Interdepartmental Graduate Program. I had just arrived at UCLA two months before, fresh from my Ph.D. in Chicago, and was immediately co-opted into that exciting project. Spearheaded by Clem Meighan, it took three and half more years, and three more proposals, for the program to be agreed upon and approved, on March 27, 1969, with Clem serving as its first chair. I succeeded him in 1971.

Involvement in this process turned out to be, for me, like an apprenticeship in . . . midwifery! I got to know not only about archaeology, but specifically about *archaeologists* at UCLA. There were two major . . . (let us say) *persuasions*, split along divisional lines: the social sciences (essentially Anthropology) and the humanities. It happened that I was institutionally, but also temperamentally, in both,

since I held a dual appointment in History and in Near Eastern Languages. And I developed a close personal relationship with some of the key players—the senior stars: Clem Meighan, Henry “Nick” Nicholson, and Wally Goldschmidt on the social sciences side, Marija Gimbutas and Pierre Delougaz on the humanities side; and the junior colleagues: Jim Sackett and Jim Hill on one side, David Packard on the other. There was, shall we say, a powerful converging of diverse but equally deep-seated convictions, a converging that was so colored by personality as to develop into an effervescent, not to say conflictual, dynamism (as Jim Sackett undoubtedly remembers well . . .).

Identifying a commonality of interests turned out to be my challenge. I took it up with the enthusiasm of youth and inexperience. And therein I actually found a source of strength. I came more and more to see the Institute not as a ground for political compromise, but rather as the arena for a constructive confrontation of complementarities. The Institute was to be an *idea* as much as (in fact, more than) an institution. It seemed to me that sharpening diverse points of view, rather than watering them down, would create a robust and lively collegiality, one, it has been said, of *men and women who think otherwise*.

If this approach was *possible*, it was because there was a fundamental mutual respect, one that could identify strengths alongside weaknesses. And if this approach was eventually *successful*, not just conceptually but also in fact academically and institutionally, it was because, as such, and seen in this light, it called for *little* funding. Which—you guessed it—made it appealing to the administration!



Giorgio Buccellati, Founding Director of the Cotsen Institute of Archaeology.

But I am far from downplaying the role of the administration in the establishment of the Institute. UCLA Chancellor Franklin Murphy had a strong personal interest in the prospect, and was actually pushing for its realization. He genuinely shared the intellectual vision. And with his charm and influence in Sacramento and on the UC Board of Regents, he reached out from the top, as I was trying to do from the bottom, to the stars in our firmament. His enthusiasm was shared by Vice-Chancellor Elwin “Sven” Svenson and by the Executive Vice-Chancellor, David Saxon.

From the establishment of the graduate program in 1969, four more years passed, for a total of eight years since archaeologists first set out to achieve institutional definition at UCLA. The Institute was finally approved by the UC Regents, and on July 3, 1973, I was asked to serve as the Institute’s first director.

## MIGRATIONS

The main selling point remained the intellectual excellence that (we believed) was already ours, and only needed the added strength of institutional interaction. We did not start out with “things,” but only with people and a common idea. My office at the time was in the History Department, on the 8th floor of Bunche Hall: physically, the Institute was truly, for several months thereafter, a drawer in that office. From Bunche, we migrated first to Math Sciences (I had a small office there next to the mainframe computer, the only computer at the time—and the Institute was given a larger room upstairs), then to Kinsey Hall. For the final move to the Fowler Building in 1990, we are indebted to Chris Donnan, who, in the design phase of the building, proposed that the ground floor be reserved for the Institute, and to Merrick Posnansky, who defined how the space was to be organized. While I am stressing the intellectual dimension of the Institute as an idea, it was abundantly clear that, in the first seventeen years, we felt like a soul without a body. But collegiality had shown its vitality, and the acquisition of this new body was indeed a validation of the soul behind it.

## PUBLICATIONS

There was one exception, that is, one entity that came full-fledged within the Institute: the *Archaeo-*

*logical Survey*. It had been established by the Department of Anthropology, and it had its own quarters in the basement of Haines Hall. It was, in effect, an autonomous entity, with its own publication series, and it remained such for several years to come.

But it contributed in one important respect to the development of the Institute in its wider sense: the publication arm of the Archaeological Survey became, effectively, the Institute’s publication unit, which grew over the decades into what today is the Cotsen Institute of Archaeology Press.

Setting up this publication unit of the Institute was a development that could take place with the very limited budgets at our disposal. You must know that in the 1970s, “desktop publishing” did not refer to computer software, but to a production and marketing set-up that took advantage of “advanced” *typewriters*, of cost-effective offset printing that made it possible to have small print runs, and of judicious advertising aimed at what was in any case a very restricted market. Ernestine Elster was our first Director of Publications, and in the first year (1976) we published as many as four volumes of the new series *Monumenta Archaeologica*. Appropriately, volumes 1 and 2 were authored respectively by representatives of the two foundationally different strands of our Institute, Marija Gimbutas and Clem Meighan, who, just as significantly, also served together as the associate editors of the series.

It is amusing, and instructive, to recall a memo I received on April 7, 1982, in which the administration stated that a letter I had written “persuaded [them] that a word processing system would be a cost effective solution to several problems in the Institute of Archaeology. Your estimates of cost savings are probably conservative.” In 1982, there were no PCs, no Macs. Our first computer, entirely devoted to publications, was a CP/M computer—something you probably have never even heard of.

## PROGRAMS

Then there were other aspects that I could develop without true budgetary allocations. The first was the organization of *joint projects with the faculty*. One consisted of thematic courses in the form of seminars in which two or more colleagues took part. There was a memorable one on style that Jim Sackett and I offered together, through which we developed not only a close personal friendship but also the



most lively interaction between anthropological and humanist sensitivities.

Another aspect was the participation in *joint field projects*; thus, both Clem Meighan and Wally Goldschmidt joined Marilyn Kelly-Buccellati and me during our first excavations seasons at Terqa in Eastern Syria.

Finally, there was *public outreach*. In December 1965, just one month after the first proposal for a graduate program in archaeology was laid out, the UCLA Friends of Archaeology had been established, and in subsequent years they created a strong base of support, which was indicative of the great interest archaeology could stimulate in the community. It was with their help that a vigorous program of public lectures could be maintained.

There was also adult education through UCLA Extension. At first there were regular courses that the Institute organized. (I did one on the role of the individual in ancient societies, with a final roundtable discussion in which the then-Secretary of State of California, Jerry Brown, took part, commenting on our topic from the point of view of contemporary politics.) Beyond individual courses, we set up a certificate program that would improve a structured approach to the field and opportunities for our graduate students to have additional teaching practice in the classroom.

A new support group was also set up: the *Fellows of the Institute*. They took on a larger financial commitment, which was initially to help especially in providing subsidies to publications. And the friend and mentor who was helping me in defining this approach to fundraising was the one who was happily to become the very eponym of our new construct: Lloyd Cotsen.

## LLOYD COTSEN

Truly, a friend and a mentor.

What I have learned from Lloyd has been to look for substance. A memorable period we spent together was on the occasion of a trip I took as a Guggenheim Fellow to study the nomads of the Syrian steppe. When I invited him to join me, I said that this was an offer he could not refuse. And he didn't, of course. For an entire month we traveled from the Tigris to the Mediterranean coast: Lloyd and my son Federico were the official photographers. We studied the people and the landscape, and

visited countless sites. Everywhere, we engaged in long conversations about the customs, the geography, the stratigraphy: the *substance* of those conversations was quite archaeological. The trip took place shortly before Lloyd's marriage to Margit: and thus our conversations revolved also around the *substance* of family and love and friendship.

And you see now why and how *the* Cotsen Institute is all about substance. Through the beautiful synergy with Chip Stanish and Gregory Areshian you see how much of Lloyd there is, besides his name, in this Institute, which is ever a living venture, so much more than an institutional construct. I see his inimitable grin behind all of them—the latest being the Lloyd Cotsen Prize for Lifetime Achievement in World Archaeology. The point I have been making—that the Institute is in the first place an idea—takes on an even sharper definition now that it is the *Cotsen* Institute. The name is not an extrinsic badge, because *his* commitment has been and is to nurture, without intruding.

## THE INTELLECTUAL ENVIRONMENT

In this respect, becoming *the* Cotsen has been the culmination of a process, the validation of the trends that had set the whole thing in motion. Let me dwell now for a moment on what seems to me to have been the intellectual engine behind our Institute, as it morphed from a pre-Cotsen to a Cotsen status.

The years when the Institute came into existence were those when the self-consciousness of archaeology was developing in ways altogether new, with the claim that it was a “*new* archaeology,” “losing its innocence,” shedding its nature as an “undisciplined discipline.” A great interest in *theory* sprung up, to the point where it could become an end in itself, with a posture of great dependence on various philosophical schools, not to say fads.

So it is appropriate to ask: where were we on *that* theoretical map? I would say that we were not on that theoretical map *per se*. Not because of lack of interest and involvement. But because we were on a *different* theoretical map. One that more broadly charted deeper and more lasting concerns. Upstream of what came to be called the “New Archaeology” and, later, upstream of post-processualism, there was the more basic concern of a search for meaning. It was rooted in the more fundamental distinction between the social sciences and the

humanities, a divide that called for bridging and integration. To take seriously this challenge meant that we could by no means be “innocent” of theory! There were, in fact, sophisticated, if less litigious and less verbose, confrontations with the substance of theory understood as a delineation of parameters and standards that would help make sense of the data in a clearly arguable manner. We were bringing a quiet but rigorous measure of method, of discipline, and, yes, of theory to our common concern to embrace cultures that were separated from our human experience by a loss of continuity, cultures that had effectively become broken human traditions, without any live, competent interpreters.

This is not the place or the moment to delve into this matter, other than for painting the picture of the Institute as that intellectual construct to which I was referring. If we did not become identified with a particular school of archaeological theory, it was because our frame of reference was wider, more encompassing—and rightly so.

### A THEORY OF INFERENCE

Let me suggest a relatively simple way to describe the situation as I see it. We may say that the *narrower* theoretical schools came to focus more and more on a *theory of inference*. Borrowing heavily from other disciplines, and relinquishing the focus on archaeology as such, theory came to mean more and more the imposition of models that, yes, illuminated the data, but the data that were selected with the model in mind. A theory of inference meant aiming for higher and higher levels of explanation, which led to impressive reconstructions of social organization and the like. This meant becoming sensitive to and dependent on generalized systems of principles, that had a broad theoretical validity, and like a magnifying lens could unveil unsuspected patterns and correlations in the data. Inference is indeed an extremely powerful tool, and the theoretical scaffolding that was built to strengthen it was just as valuable. But it might lead to an undesirable short-circuit.

To explain this, let me suggest a parallel—with linguistics. Some forty years before the surge of theoretical interest within archaeology, in the 1920s, the discipline of general linguistics was developed,

and it turned out to have a profound impact on philosophy, rather than the other way around. It, too, explored and expounded generalized systems of principles that offered a powerful new way of looking, inferentially, at the concreteness of natural languages. In archaeology, on the other hand, no such general theory did really develop, especially not one that would focus on the building blocks of archaeological analysis—emplacement, deposition, stratigraphy. It was as if the linguists had *short-circuited* phonology, morphology, and syntax to go directly to semantics, semiotics, and style.

### A THEORY OF OBSERVATION

What was ignored, in the theoretical push within archaeology that started in the 1960s, was what I would call a *theory of observation*. The *theory of inference* had taken over, and there developed, as it were, a theoretical paralysis vis-à-vis observation. This disregard of observation, it seems to me, turned out to be the Achilles’ heel of this early archaeological theory and its several epigons. A theory of inference is indeed of central importance, but not if it disregards the basic foundations of a theory of observation.<sup>3</sup>

But back to the Institute. We never went into an epigonic mood not because we were a-theoretical, but because we had a wider net of interests. I dwell on this because it is not accidental that the two phenomena coincided in time: the start of the Institute and the profound transformation within the discipline. It all goes back to the emphasis I placed on the *idea* of the Institute. The merit of the Institute was, I believe, to keep the interaction of broad and yet poignant sensitivities alive. Especially, to keep the centrality of the effort to attribute meaning at the primary level, that of observation. Clem may have objected to Marija’s theoretical framework, and Marija may in turn have been impatient with Clem’s, but they both respected each other’s great concern with a fully articulate assessment of the *excavation data*. If a theory of observation may properly be developed, it is on those grounds, on that sensitivity.

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3 A full-fledged approach to a theory of excavation, i.e., of emplacement, deposition, and stratigraphy, might be proposed as a signature of the Cotsen Institute. For my part, I am developing this theory in a book to appear for Cambridge University Press in 2014, for which I have proposed the title of *A Critique of Archaeological Reason*.



## THE TECHNICAL SCAFFOLDING

In this light we may also look for a moment at the *technical* side. Let me mention two aspects at the two ends of the chronological spectrum: radiocarbon dating and conservation.

If there ever was a Nobel Prize winner in archaeology, it was Willard Libby, who had come to UCLA in 1959, one year before being awarded the prize for his discovery of carbon dating. He retired three years after the establishment of the Institute, but he had had time to lend his support for the creation of the Institute: his interest in archaeology dated back to his years in Chicago where he had used dated material from the Oriental Institute for his experiments. It was his one-time research associate, Rainer Berger, who continued the association of the Institute of Geophysics with our Institute.

As for *conservation*, you all know that the new master's program administered jointly with the Getty has opened a door on an immensely rich potential, at the highest professional level.

The perspective I wish to take here is that in this respect as well, the Institute has aimed at integrating the technical dimension within the wider intellectual scope of archaeology. My interaction has been with faculty and students in both fields, and uniformly I have experienced this more holistic dimension of their preparation and their professional personas, never restricted to that of merely technical experts.

## BACKDIRT

The all-encompassing *geographical spread* of our faculty, our students, our research projects, and our publications is a testimony to this dimension. *Backdirt* has become the window that showcases the immense reach of the Institute's interests. It was Tim Seymour who first proposed the name to Merrick Posnansky. And it is beautifully emblematic. It says that we are ever close to the reality of the soil, of the data as we retrieve them from the ground. And it speaks to the caring concern with which we attend to what has been exposed, giving it a new voice and protecting it as a document. That *Backdirt* covers, literally, all corners of the earth; that, in so doing, it offers a brightly lit stage for our many ventures—all of this is very much in keeping with the intellectual posture I have been describing. The number of projects from all over the world that are housed in the

Institute is so great and varied that I cannot review them here or even list them. I wish rather to stress, once more, the way in which the Institute remains a cohesive intellectual home, and not just a collection of pieces.

The Institute has remained, in fact it has become more and more a home that nurtures thought. You might say: well, isn't this true wherever there develops a conversation among scholars? Why do we need an institutional setting that frames the conversation? To appreciate the answer you have to come to the twice-weekly meetings—the Wednesday Pizza Talks and the Friday Seminars. The degree of faculty and student participation and real interaction is enviable—and, indeed, envied. It is the Institute at its best, an intellectual home—and I have been trying to clarify to myself, “what is it that makes it so?” I would say, and see what you think of it, that we have here the setting where a *comfortable critique* can unfold. Yes, that is how I would characterize it: a *comfortable* place for an ongoing discourse, and for a constructive critique. I do not use the word comfort in the sense of superficial ease, but rather as referring to a known environment, physical and human, where we can present and debate ideas. Where we can all *grow*.

It is of course the goal of the university as a whole. The university itself should be an idea. For the Institute we can claim it as a reality. We are indeed a *living seminar*, in the etymological sense of the word, a place where seeds can grow. Which speaks to the level of integration between students and faculty. The element of *comfort* I stressed is perhaps especially apparent in this regard: we learn from each other more easily when defenses are shed, when trust develops. That is when a constructive critique, instead of a defeatist criticism, becomes the best tool for intellectual growth; when debate is positive even when it is negative. . . .

## CONTINUITY

If we include the gestation period, we can say that the Institute is almost half a century old, and in my presentation I have referred only to the formative period, with which I was more directly involved. But the beautiful thing about it is that I have, in fact, never ceased to be *directly* involved. With Marilyn, we have such a rich interaction with our more recent colleagues and friends, too many to name, and yet

too personal to subsume in a generic collective: we re-live the atmosphere of the early days. The Cotsen Institute still beckons as a frontier, with the unique dynamics of live exchanges. The students are truly our youngest colleagues. And that defines another important characteristic of the Institute, the synergy not only across fields, but also across ages. The corridors, the labs, as much as the classrooms are the places where we meet, the young and—well—us, the “old,” all equally integrated in the spirit of a common quest. There is reciprocal empowerment when respect is at the root of difference. There is a vibrancy in the halls of the Cotsen Institute, the vibrancy you feel pulsate in a living organism.

The human chemistry that makes this possible does not just happen. It is all of us, isn't it? My talk is choral in the specific sense that it includes all of you here now, as well as those who have gone before us. I have mentioned by name some of the early protagonists of our story, and you will allow me to include the rest of you *unnamed* in the choral dimension of this evening. Except for Chip, who has masterfully shepherded the leap forward into the Cotsen era, and now for Gregory, who has added his quiet and determined savoir-faire: with their top-level scholarship and immense human richness they are making it possible for me to present to you such a bright and optimistic picture which I feel is, indeed, factual and realistic.

## TWO VIGNETTES

Let me close with two vignettes, in two different archaeological settings.

First, an ancient Babylonian text. It is a late text by Mesopotamian standards, written around 1100 B.C.E., and it describes with irony and wit various aspects of the human situation. At one point it depicts, we might say, an ancient would-be archaeologist:

*Go up on any of the ancient tells and walk  
about,  
see the skulls of people from ages ago and from  
yesteryear:  
can you tell the difference?*

“Archaeology has been with us, you see, ever since humans left traces for other humans to find. This bond across centuries is rooted in the awareness of what a human trace is: culture as evidenced

by material remains. The instant recognition of a common past does not need scholarly support. But sorting out the *differences* does, and this is where archaeology as a discipline begins.”<sup>4</sup> We, today, *can* tell the difference. Our old Mesopotamian friend could not.

As for the second vignette. Only last week, Marilyn and I took part in a very intense and extremely interesting National Geographic conference in Guatemala devoted to a “dialog,” as the title of the conference stated, between the Maya and other civilizations. The last session was unforgettable. There were some twenty archaeologists, and we all went to Tikal. There, sitting at the very top of Temple IV, overlooking the crown of the jungle canopy and the cusps of the other temples jutting out from under the treetops, gazing at the far horizons of what had been the hinterland of a thriving city—there, the question was posed as to the continuity of Maya civilization. Guatemala rightly calls itself the heart of the Maya world. Is this heart still pulsing? Did it ever stop?

In so many different ways, that is the question that haunts us humans, that waits for a reasoned answer from archaeology. Are we *in balance with our past*? What is its relevance for us now? And for the future?

What is unique about archaeology, and distinguishes us, for instance, from history, is the dimension not only of remoteness, but of *brokenness*. Do the traditions we extract from the ground survive only as fossils, are they only *broken* traditions? Or aren't we really unleashing strands of a once live tradition, to make it live again as we re-embed it in *our* sensitivity? Can we both define patterns, *qua* social scientists, and re-appropriate experience, *qua* humanists?

This is precisely, I feel, the research paradigm of the Cotsen Institute. The technical term is “hermeneutics,” which means that we *interpret* the past not on the basis of a fantastic whim, but rather through a reasoned discourse that holds itself to well-defined and arguable standards. A reasoned discourse that sees the fossil as it once was, a carrier of life. And as it still is: a carrier of meaning. ✱

4 G. Buccellati, “An Archaeologist on Mars,” in S. Gitin, J. E. Wright, and J. P. Dessel, eds., *Confronting the Past: Archaeological and Historical Essays on Ancient Israel in Honor of William G. Dever* (Winona Lake, IN: Eisenbrauns, 2006), p. 17.



# The Institute: Background and Early Years

JAMES SACKETT<sup>1</sup>

**W**HEN I CAME TO LOS ANGELES in 1962, field archaeology at UCLA was thriving thanks to the Southern California Archaeological Survey, developed by Clement Meighan (of whom more later). It was near the close of the California's great era of building highways, dams, and reservoirs, which called for large-scale archaeological projects and big, reasonably well-paid, crews. The early, still financially rewarding halcyon days of contract archaeology soon followed. All this meant that any UCLA student, including those from departments other than Anthropology, had plentiful opportunity to learn to dig and make money at the same time. This often sufficed to pay the remarkably inexpensive university fees of those days and to afford semi-decent housing (at the time, most of Venice and much of Santa Monica remained un-yuppified, and the stretch of Wilshire Boulevard between Westwood and Beverly Hills was lined with cheap wooden apartment buildings.)

Once the public projects began to wane, so did the Survey—at least in terms of the financial resources it could provide students. Nonetheless, our better candidates could still look forward to a career in academe, and UCLA itself continued to enrich their intellectual background by adding many new archaeologists to the faculty. (This was due in no small part to President Clark Kerr's remarkably enlightened leadership and expansion of the University of California during the years 1956–67.) This new and young blood also helped promote an intellectual restlessness among archaeologists. Some

came to question the distinction Giorgio Buccellati drew in previous pages in far more sophisticated terms between what might be called a humanistic versus a scientific approach to the past. But, in my view, equally important is the fact that archaeologists were always a minority in their home department, often second-rate citizens whose goals were considered something of a diversion to its main intellectual thrust. (At Harvard, where I did my graduate work, some referred to archaeologists as the “international playboys of science”; once at UCLA, I came to realize that the distinguished anthropologist Walter Goldschmidt seemingly believed he was complimenting me by saying: “Sackett, you’re too smart to be an archaeologist.”)

As the growing number of UCLA archaeologists began to approach critical mass, it became



Jim Sackett as head of the Southern California Archaeological Survey.

<sup>1</sup> Cotsen Institute of Archaeology, UCLA.

obvious that we needed to form some sort of independent ecumenical union in which archaeology played a core, rather than secondary, role: in other words, as Giorgio elegantly puts it, a comfortable place for an ongoing discourse if not ongoing agreement among our professional counterparts elsewhere on campus. Now, all this took place rather long ago, and my memory risks failing to give credit where credit is due. But I suspect that three quite diverse individuals took the lead. One, of course, was Buccellati, a newly arrived professor who had already thought long and hard on the subject of archaeological ecumenicalism, no doubt stimulated by his graduate career at the University of Chicago, where the academic boundaries between fields and departments—especially those housing archaeologists—had always been quite fluid. The second was a senior professor, Meighan, sadly lost to us more than a decade ago. He was the most active, versatile, and enthusiastic fieldworker I have ever known, despite having suffered severe combat wounds in the Pacific War when still a teenager. Though trained as an Anthropologist (among other things, he was an expert on California ethnography), he embraced no theoretical stand in archaeology apart from what might be called an essentially natural historian's respect for archaeological, ethnographic, and ethnohistoric data as such. He regarded speculation with antipathy, philosophical posturing with aversion. Clem also possessed the key virtue of knowing his way through the labyrinths of the Academic Senate and the Administration Building. The third figure was probably me, like Giorgio a relatively newcomer to UCLA. I am harder to classify, probably less dedicated than the other two, in fact something of an intellectual libertine, who could as easily have become an historian of science or an ethnographer of European peasant culture than enter any field of archaeology (despite having had considerable experience in the trade). But no doubt my ultimate, if largely accidental, immersion in an arcane field of French archaeology was an advantage, as the quite different academic joints scholars draw across intellectual life in that country fostered my awareness of the artificiality of the boundaries that organize an American university curriculum.

Happily, Giorgio's essay pre-empts my need to chronicle most of the names, dates, and events that make up the substance of the Institute's story. Hence I am free to allow myself a looser sally of memories

and opinions. Two benchmarks mark the Institute's beginning in my memory. One (probably in the late 1960s) was a large, and very well attended, seminar Giorgio and I gave which archaeologists from as many different departments as possible were invited to make presentations. The topic was style, which we knew was an issue that none of them could avoid and which therefore reflected something of the mindsets of archaeology's different subfields. The seminar enlightened us all and, equally important, introduced campus archaeologists to one another. The second benchmark was the establishment in 1969 of the Archaeology Interdepartmental Graduate Program (grandfather of our present-day Archaeology Program) by Clem, who was followed two years later by Giorgio and in turn by me. Much about it was exciting, such as our frequent debates (and confrontations) with our archaeological colleagues elsewhere on the campus. And much was fun and challenging, especially introductory seminars I often taught, which were greatly enlivened by archaeology students drawn from other departments, many of whom were bewildered at the beginning but by the end often became their most eclectic, perceptive members. Yet it took the Program a long time to resolve some basic problems. One was that a couple of professors, dissatisfied with their own departments, attempted to take it over as their own fiefdom. Another, partially due to the first, entrance requirements were slack, and many of our students were simply unqualified to tackle an advanced academic degree. Then too, we suffered a constant attrition of our most promising candidates to Anthropology, who could offer them teaching fellowships and grants—neither of which it was in our power to give. Yet despite the shadows which lay over the Program in its early days, we still had some major successes. Three notable examples remain with the Institute today: Jo Anne van Tilburg, head of the Rock Art Archive, Ernestine Elster, head of our Mediterranean laboratory, and Marilyn Beaudry-Corbett, a ceramics technology specialist who later succeeded Ernestine Elster as Director of Publications.

In 1973, Giorgio Buccellati achieved his goal of establishing the Institute of Archaeology, of which he served as Director until 1981. Again, I need not repeat his account of the exciting era of UCLA archaeology it inaugurated, but will instead jump several years later to my own brief tenure in the job (1981–1984).



I found the job satisfying and frustrating in about equal measure. As for the first, the former Archaeological Survey had simply been incorporated into the Institute as a semi-autonomous entity under Clem's leadership. An active research program continued under its Chief Archaeologist (a position now long extinct), which at least offered archaeological students extensive field experience if not much financial aid. The Survey's modest publication program also continued, beginning its evolution under Ernestine Elster's directorship toward to the Institute's current CIOA Press. Perhaps of greatest immediate importance at the time, however, was the Institute's public outreach program, whose intellectual scope and audience surpassed anything seen in recent years. One aspect involved science education in public schools, which a group of our volunteers systematically visited to instruct kids in the basics of stone tool technology. Most important, however, was our extensive series of well-attended public lectures. This achievement will be discussed in the pages that follow by Helle Girey, whose article succeeds in every respect save one—that it takes reading between the lines to discover that Helle has perhaps been unsurpassed as a dedicated, loyal member of the Institute community. Unfortunately, we shall never again see her program as it once was, in part because the Institute's notion of public outreach has itself changed and in part because the reservoir from which it once drew its core supporters—the University Extension—has been forced to severely curtail its original rich curriculum designed to present human history and achievement to a cultivated public at an affordable expense.

It was largely from this same reservoir that was recruited the once extremely active Friends of Archaeology, which provided our most enthusiastic supporters and volunteers. Its members were to be found working in all of our laboratories and excavations, and often took the initiative to organize their own field trips. (They had in fact created themselves during an archaeological excursion to the eastern Mediterranean in 1966, electing the late Sandy Elster—Ernestine's husband—to be their first president.)

The frustrations of my job were, as to be expected, largely material. We had no money. Small private grants, the heroic efforts of volunteers, and an inadequately small staff were hardly enough to keep us viable. (It bears noting that ambitious

research projects comparable in magnitude and importance to those we have today were as common then as now, but as a rule were funded by outside agencies and administered by our home departments.) Apart from being inadequately staffed, the Institute occupied an assortment of shabby rooms scattered over Kinsey Hall (one of the four original buildings at UCLA), few of which met even the elementary requirements for use as laboratories. Our solution was to begin by midnight scrounging of pre-World War II lab benches and cabinets that had been discarded on loading docks throughout the campus. These were liberated by a series of night-time raiding parties, which several students found exciting and—to tell the truth—I became rather fond of playing the role of Fagin to my gang.

Still, the future looked grim. We simply could not continue without money from the Administration, and none was supposedly to be had. (A puckish dean explained to me that he only had enough of it to fund mathematicians and philosophers: the reason being that the first needed only pencils, paper, and wastebaskets, and the second could usually forgo the wastebaskets.) But the truth lay elsewhere. For by then some had become converted to Giorgio's vision and were willing to entertain the possibility of giving the Institute substantial, if comparably modest, University support.

The opportunity came in early 1984. This was when Jim Hill, a celebrated younger archaeologist who was to play a key role in campus archaeological affairs, and I proposed a deal to the Chancellor's office. We asked that an ad hoc Chancellor's special committee be named, with the power to resolve the Institute's quandary for better or worse. A two- or three-day hearing was held in which archaeologists from both UCLA and some other institutions, along with members of the Administration, debated the Institute's trials and achievements. Jim and I proposed that a list of goals be drawn up which we should be able to meet in three year' time provided the University underwrote our efforts with a grant of \$40,000. To this we added two key provisos. First, that were we to fail to meet these goals, we would voluntarily dissolve the Institute. Second, that a fresh start could best be obtained were a new Director be appointed, preferably Merrick Posnansky.

Happily, our proposal was accepted, and so it is time to turn the story over to Merrick himself. ★

# Confirming the Promise: The Institute from 1984–87

MERRICK POSNANSKY<sup>1</sup>

**I**N 1984, THE INSTITUTE OF ARCHAEOLOGY was given a three-year lease of life with a mandate to make itself relevant not only for the archaeologists at UCLA and the university as a whole, but also for the interested public in Southern California. James Sackett had obtained a special additional budget of \$40,000 to help finance Institute activities and events. In taking over the helm, I was impressed by how much the first two directors, Giorgio Buccellati and Jim Sackett, had accomplished with so few resources, and by the support they had garnered both on the campus and within the community.

As the new director in 1984, I set as priorities (1) the professionalization of the operation of the Institute, (2) greater outreach to the broader southern California community, and (3) securing the support of the Friends of Archaeology (FoA) and students of the Institute by providing additional and improved services. The Institute at that time consisted of non-contiguous rooms on two floors of Kinsey Hall (now the Humanities Building) as well as some sub-basement rooms for student use, storage space, and the archaeology section of the Museum of Cultural History (now the Fowler Museum). Several of our doctoral students served as part-time curators

of that collection. Archaeologists from at least eight different departments occupied rooms in seven different buildings. One storage room was shared with *African Arts*, whose main office was in Bunche Hall. There was neither an assigned seminar room nor a hall for public lectures.

Computers were expensive in 1984 and the university did not furnish them. We immediately purchased two, at a cost of over \$8,000 each, which had far less memory than those costing a tenth of the price today. One computer went to the Archaeological Survey (later renamed the California Field Center) to improve its efficiency. Volunteers, who received only a small portion of a Full Time Equivalent position (FTE) in order to qualify for parking space, performed many of the Institute jobs. Ernestine Elster was appointed Director of Publications and placed on a half-time salary. The publication process, involving the preparation of camera-ready plates, was very slow; Institute publications were not very attractive, with largely black-and-white plates and figures and simple covers, and they were few in number. The process changed in 1987 when the Institute applied for a grant from the National Endowment for the Humanities (NEH) that facilitated the purchase of more computers. After intensive discussions, we were fortunate in 1984–85 to be able to stabilize

<sup>1</sup> Departments of History and Anthropology; Cotsen Institute of Archaeology, UCLA; Director of the Institute, 1 July 1984–20 November 1987.

the finances of the Publications Division when the UCLA Central Administration largely cleared our debt, which was due to unsold stock.

In order to serve a wider audience, Public Programs became a separate division with a budget that, though limited, allowed for planning and meant that our program did not depend solely on securing short-term archaeological visitors. Over a three-year period, Helle Girey superbly organized 93 public lectures, seminars, and special lectures. In retrospect, this was probably far too many: four public lectures per quarter is probably a realistic maximum that satisfies the public interest. But it demonstrated our desire to serve as many interests groups as possible and created exposure for the Institute among the global archaeology community. With the help of volunteers, Girey arranged receptions at the close of each public lecture, normally convened on the same day of the week to ensure consistency. The Institute sought to involve as many constituencies as possible. Many of the most successful lectures were held in cooperation with UCLA Extension, whose Coordinator of Special Programs, Elizabeth Brooks, was an enthusiastic sponsor of one-day Saturday programs on Caribbean, Indian Ocean, and historical archaeology, which were not part of the regular Certificate Program in Archaeology. Particularly successful was an eight-lecture series *New Frontiers In Archaeology* and a course on *The Emergence of the Maya* that was the precursor of the later (now discontinued) Maya weekends. David Whitely, the Chief Archaeologist of the Institute, gave courses on Central American archaeology that attracted large audiences, and many of his students helped him during the summer on excavations in Guatemala. Extension also held open houses on Archaeology that served as an interface between the FoA support group, the Certificate in Archaeology students, the Graduate Program, and volunteers in the laboratories and field.

Though the Maya, Ancient Egypt, and Archaeoastronomy were the most popular subjects for talks, the Institute had a mission to introduce the public to branches of archaeology that were not covered in UCLA Extension or were generally unfamiliar. Visitors were invited to speak on such areas and topics as new scientific methods, Australian and Indian Archaeology, Africa, and the Pacific. This proved a vehicle for involving the FoA in the work of the Institute. An attempt was made to strengthen the

FoA by merging it with the Fellows and becoming more evangelistic in developing community support. Special premiums were offered for various levels of membership and a promotional film "Invitation to Adventure" was produced. Though membership grew by only 10 percent, the activity gave participants a feeling of being part of an exciting community, and certainly helped the Institute justify its existence when the UCLA Review committee conducted its evaluation in 1987. The need to keep the broader community informed led to the creation of a newsletter, *Backdirt*, similar to the newsletters of other Organized Research Units on campus, which provided news on research initiatives and student and faculty successes.

One problem was that the Institute had no building of its own, though we were always fortunate in obtaining suitable rooms in the North Campus. Initially, I had hoped that the Institute would be responsible for laboratories used for scientific examination or reconstruction of archaeological material. Such is the case in many similar institutes overseas in which ceramics are restored, soils analyzed, metals conserved, and so forth, but there simply wasn't sufficient space in Kinsey. We did obtain one laboratory where lab techniques could be taught and in which we held the first joint week-long course with the Getty Conservation Institute (GCI), on Conservation in Field Archaeology, in 1987. This initiative led the Institute to its eventual fruitful cooperation with the GCI, which has now blossomed into a joint master's degree program.

We were fortunate that the Museum of Cultural History, at that time located in Haines Hall, was seeking funds to create a new museum in a custom-designed building. The director, Chris Donnan, was interested in having the Institute occupy the first floor, alas, partly below ground, as there were close relations between many archaeologists and the material housed within the museum. Periodic meetings were held to plan the configuration of the building and the Institute needed to obtain \$1.26 million from the State to supplement the funds raised by the Museum. A special day-long meeting for Sacramento legislators was held at the Institute, at which we explained our needs. Much to our relief,



the State representatives liked our pitch, based on our achievements and promises for the future, and approved the necessary funds. Though an attractive plan was mooted for more laboratories and space for an eventual expansion of the Institute, it was finally agreed that space should largely be allocated on the basis of the size that each specialist occupied before the move. The new Institute presented a window of opportunity, and even in the planning stage it helped bring the faculty closer together to envision the benefits of having most researchers in one building. The graduate programs and the Institute merged into one unit rather than having two separate administrative bodies.

Students were particularly encouraged to participate in the work of the Institute. Many gained their first field experience with the Archaeological Survey. In 1980 the Masters Program acquired a common room, and in 1982 it formed an Archaeological Society (of which I was the faculty advisor) that could receive ASUCLA funds. For a time they published *The Archaeological Record*. Some of the funds were used to provide food for lunchtime meetings that eventually morphed into the regular Wednesday Pizza Talks. The FoA annually helped to provide students with small grants for fieldwork and travel. In 1985, Ivor Noël Hume came to UCLA as a Regent's Professor and provided an endowment to establish a fund for Historical Archaeology. Attempts to raise funds to establish a modest endowment for Classical Archaeology unfortunately proved unsuccessful.

In 1987, I retired from the directorship as I was due to take up a Fulbright position for a year in Ghana in 1988; however, I stayed on until Professor Timothy Earle could take up the duties of new Director in late November. Like Moses, I somehow regretted that I had seen the Promised Land, being the new building in the Fowler, but because of construction delays the Institute was not able to move and assemble there for another year. I regretted, too, that our attempts to expand our Friends organization had been only partly successful, but was pleased that the gap between archaeologists in the Anthropology department and those in the rest of the University seemed to be disappearing. Like many of my colleagues, I was pleased that we were attracting more promising young applicants into our doctoral program, which previously had drawn many

older, post-career applicants. Though I personally continued my field research in West Africa, I was disappointed that I had been unable to develop an Institute research field program. We attempted one on Malta but lacked support from fellow archaeologists, and perhaps we put too much trust in graduate participants to cope in an area in which none of us had familiarity. Nevertheless, I was proud that Institute archaeologists were entering into new areas and expanding our global reach, which has been a continuing priority since Giorgio Buccellati's inspired initiative in 1973: the founding of the Institute. ✱

# The Growth of the Cotsen Institute: The Intersection of the Past and the Future

RICHARD M. LEVENTHAL<sup>1</sup>

**I**T WAS MY GREAT PLEASURE AND HONOR to be the director of the Cotsen Institute of Archaeology for about ten years from 1994 to 2002. During that time, the Institute went through a number of changes but also, most importantly, became a real physical and intellectual focus for the archaeologists, other interested faculty, students, and the interested public from across the Los Angeles community.

When I arrived on campus, I remember being taken through a partially constructed Fowler Museum by Chris Donnan along with retired Chancellor Franklin Murphy. We were able to walk through the basement and see the rough outlines of the future labs and offices. Although we could all begin to get a sense of this new gathering place for archaeologists, it was impossible to comprehend the future of this space and the Institute.

The UCLA Institute of Archaeology has a long history with gradual growth and development over the past forty years. All of the directors before and after me have identified new paths and directions for this research center. My tenure within the Institute is clearly marked by the impact of Lloyd Cotsen. In 2001 he made a transformational gift to UCLA to endow the Institute and to support students and the ongoing research throughout the world. At the moment of this first gift, we wanted to recognize his



Renaming of the Institute after Mr. Lloyd Cotsen in 2001; from left to right: Richard Leventhal, Sarah P. Morris, Brian Copenhaver, Chancellor Albert Carnesale, Lloyd Cotsen.

interest and generosity and we renamed the institute for him: the Cotsen Institute of Archaeology at UCLA. More recently, in 2006, he made a second major gift that vaults the Institute into the upper echelons of archaeological research centers throughout the world.

There are many archaeological research centers in universities across the globe, but the Cotsen Institute is different. I like to believe that I had a small part in creating the Institute and highlighting those differences that set it apart.

The Cotsen Institute of Archaeology was never conceived as just a research center for archaeologists but was always connected to the Los Angeles com-

<sup>1</sup> Penn Cultural Heritage Center; University of Pennsylvania Department of Anthropology; Penn Museum.

*The Cotsen Institute of Archaeology was never conceived as just a research center for archaeologists but was always connected to the Los Angeles community and its broad interest in our ancient past.*

munity and its broad interest in our ancient past. Public lectures, open community classes, archaeology evenings, tours and other public gatherings were an important part of the Cotsen Institute and its identity. We also spent some time and energy thinking about a digital future for the dissemination of archaeological data and interpretations. The dissemination of information about the human past is a critical part of all archaeology today and the Cotsen Institute was always a leader in these ventures.

Another major part of my time at the Cotsen Institute was focused on bringing scholars to UCLA as long-term visiting faculty or more short-term for advanced seminars. Wonderful scholars such as Steve Rosen, Colin Renfrew, and Emma Blake visited the Cotsen Institute and participated in many of the daily research, intellectual, and public programs at UCLA. In addition, many conferences brought scholars to Los Angeles for short but intense interactions with archaeologists and students on campus. Subject areas for these conferences were very broad including the protection and preservation of cultural heritage to new approaches to the study and interpretation of the ancient Mediterranean world.

The primary goal for these activities was to develop an expanding and ever-changing intellectual community. This was the perfect environment for new research, new interpretations. In addition, it created the perfect structure for an active graduate program for students from across the UCLA campus.

Just before I left for the School of American Research (SAR) in Santa Fe, we finalized the development of the Program in Conservation. This program was the result of a long-term discussion with the Getty Trust about the need for such a conservation program on the West Coast. But this was also the result of an assessment of the future of archaeological field research. No longer can field projects, in any part of the world, simply survey and excavate without working extensively to preserve and develop the site and associated artifacts. The ancient world is a destination for tourists throughout the world today. In addition, that ancient world is used to frame and structure the cultures and peoples of the modern world. Archaeologists need to be trained to work within this new and more complex environment.

Of course, the Cotsen Institute of Archaeology was and is an archaeological research center and I recall active field programs at many ancient sites throughout the world in countries including Egypt, Belize, Turkey, China, the United States, Mexico, Peru, Bolivia, Nicaragua, Greece, Italy, Albania, and many other locations. The Cotsen Institute supported and helped the development of many of these projects.

Finally, it must be recognized that the Cotsen Institute is really a wonderful and strong gathering of researchers, students, and the many volunteers and members of the interested public. It was not the directors or even Lloyd Cotsen who made the Institute. Rather it was and continues to be the people who work in the Institute, who visit the Institute, who research in the Institute, and who study in the Institute. ✱



# Forty Years of Service to the Public

HELLE GIREY<sup>1</sup>

**A**RCHAEOLOGY HAS TWO FACES: the behind-the-scenes research phase of work in the field, laboratories, museums, archives, and libraries, and the public dissemination of this data through publications, lectures, and exhibits. At the Cotsen Institute of Archaeology, every effort is made to complete the work from the first shovelful of dirt to the dissemination of the finds and theories to the public via mass media.

Although the Institute began in 1973, my involvement started in 1984, just prior to the Olympic Games in Los Angeles. A symposium entitled “The Archaeology of Olympics” was organized at the Institute by Wendy Rashke (UCR), with Ernestine Elster (UCLA) and Terisa Menard. I was approached to help with registration of participants—little did I know where that would lead!

Later that summer, Jim Sackett (the director of the Institute at that time) asked if I would like to organize the Public Lecture Series. My new-found enthusiasm for anything archaeological, and my naïveté, made this unpaid position irresistible. Merrick Posnansky became the new director of the Institute in the fall of 1984, and he inherited me as a volunteer public-lecture organizer, and someone to share his limited office space.

In 1984, the Institute was still scattered throughout the campus and we had no permanent venue for our lectures. Dissemination of information about lectures was through the Friends of Archaeology (FoA, the support group of the Institute) newsletter, which we painstakingly created on typewriters. Remember: no computers in those days! There was no budget for the lectures and the funds were put together piecemeal from cosponsoring departments, \$50–100 at a time. Merrick and I realized that I could not get to speak to anyone with decision-making powers regarding co-sponsoring if I introduced myself as a volunteer at the Institute. This is when I received the title—Director of Public Programs at the Institute of Archaeology—which I have been holding ever since, even when I served as the Graduate Student Affairs Officer for the UCLA Archaeology Interdepartmental Program (IDP). Using our own wonderful faculty and visiting scholars who happened to be in Southern California, we made up our roster of speakers. Winter months and snow brought out many archaeologists from the East Coast. Receptions after lectures consisted of block cheese cut into pieces at home, accompanied by crackers and inexpensive wine.

The visiting archaeologists were generous with their time, and once the program got off the ground, we would have three or four lectures per quarter. Well-known names appeared on our speakers

<sup>1</sup> Cotsen Institute of Archaeology, UCLA.



Maya Weekend 1996, dancers from Guatemala.



Maya Weekend 2000, marimba players from Guatemala.

list, and we began to feel that to be somebody in archaeology, you had to be invited to lecture at the Institute! We hosted scholars like Luigi Luca Cavalli-Sforza (Stanford), Colin Renfrew (Cambridge), Tom Dillehay (University of Kentucky), Paul Mellars (Cambridge), Jean Clottes (International Committee on Rock Art), Ivor Noël Hume (Colonial Williamsburg Foundation), Zahi Hawass (Supreme Council of Antiquities, Egypt), and numerous others.

In 1991, the new space was allocated to the Institute in its future home in the Fowler Building, with Tim Earle at the helm of the Institute, and we finally had a lecture hall, the Lenart Auditorium, that seated 325 people. Instead of random topics for the lectures, an effort was made to follow a plan covering all continents, many cultures, and different time periods, as well as important archaeological topics not taught at UCLA at that time, including new developments in research technology. This was a tall order, but as our selection of speakers grew, we were able to make choices to fit into this plan. Our attendance seemed to be 75–300, depending on the popularity of the topic and speaker. Looking at the attendance more closely, it became apparent that our core audience was about 50, the rest were attracted to very specific topics. There were people who only attended Underwater Archaeology lectures, some came only to Early Man lectures, then others who preferred Rock Art, Egypt, Classical World, or Maya, and so on.

Taking that into consideration, we probably had an overall attendance among the general public of 750–1,000 people per year. In 1994, the public lecture series was on solid ground and we decided to move to bigger things. Richard Leventhal, a Mayanist, was by then the director of the Institute, and the Maya Weekend was born. Up to that time, our lectures were free to the public, but Maya Weekend was by pre-registration and fees were charged for the 1½ day conference, and separately for the banquet. This meant housing and transporting eleven speakers. Each year a different theme was covered, with a truly impressive roster of Maya archaeologists. Saturday lunch was provided and Sunday culminated in a wonderful reception with marimba music and dancing. I am dwelling on the details to show the work that was involved in this endeavor, with the part-time staff of one—me. This was achievable only with the help of a large number of willing, dedicated,

tireless, and enthusiastic volunteers and supporters—both graduate students and FoA members.

The two main people in this category were Lady Harrington, and later, Jill Silton. Both were team players, no job was below their dignity, and this is what made the hard work actually fun. Before public lectures, we often had to clean up the auditorium from half-eaten lunches that the undergraduates generously left under their chairs.

On the theme of supporters, I would like to acknowledge stalwart FoA members like Mercedes Duque, Kay Hullett, Marillyn Holmes, John Holz, Don Corbett, and Marilyn Beaudry-Corbett, who helped with receptions and other events. The popularity of the Maya Weekend grew every year, but had to end after ten years, as our Mayanist, Richard Leventhal, left UCLA.

The other popular public event, the Open House of the Institute, was inaugurated in the spring of 1997 and is still going strong as of this issue. In the beginning, it was part of the evening lecture, preceded by three hours of opening the doors to the general public. In 2006, Charlie Steinmetz, a valued member of our support group, suggested that we move the Open House to Saturday afternoon, so that families with school-age children could attend. Charlie provided the Big Yellow Bus program that brought elementary students (later junior and senior high school students) from inner-city schools to our Open House. For our latest Open House in 2013, we proudly showed off sixteen laboratories and archives, a children's activity room, and demonstrations of flint-knapping and flotation (separating miniature finds from soil in the outdoor amphitheater). Our small, crowded laboratories were filled with curious and enthusiastic visitors, all promising to return next year and to bring friends. This year's lecture was by Colin Renfrew, a distinguished Cambridge University archaeologist whose association with UCLA goes back several decades.

Charles Stanish became the director of the Institute ten years ago, with plans for the growth of the Institute to a level of national prominence. For this, money was needed to attract outstanding faculty and students. Believing the Institute had proven itself worthy, Lloyd Cotsen provided a generous endowment for all aspects of Institute operations. The self-organized FoA was revamped to meet the

UCLA requirements for a support group and was separated from our still-thriving group of volunteers. The membership structure of FoA was changed, with different support categories available for people to choose from, and a new Institute Listserv was created so that everyone who was interested could receive free electronic announcements of public events. With generous donations from a number of members, plans were made to attract new members by offering new incentives to the various categories of members. The most successful plan was to offer dinner-lectures three times a year, mostly by our faculty, and thereby introduce the research that is done in various parts of the world by UCLA faculty. The group started off small, and we would dress up our seminar room with candles and flowers and cater dinners for 35–40 people. As the group grew, we moved to the Faculty Center, where we presently hold dinners for up to 80 people.

The top category of donors, the Director's Council, provides the chance to join one of our archaeologist-led private tours to their area of specialization. So far the trips organized by the Cotsen Institute have gone to Chile, Armenia, Turkey, Uzbekistan, Egypt, Russia, and Greece.

The Cotsen Institute of Archaeology is an exciting place, where changes are constantly brewing with new faculty, new projects, and new graduate students. We can look on with pride as our Ph.D. recipients make contributions to archaeology in diverse parts of the world. Every year, the Institute holds a reception during the annual meetings of the Society for American Archaeology, affording an opportunity to meet with the former students, guest lecturers, colleagues, and faculty that have moved away from UCLA. I have had the privilege of organizing this event for many years, and every year I realize how many friends I have made in my long association with the Cotsen Institute.

The evolution of the Institute continues, following the law of evolution where only the fittest survive. We are still a work in progress: it will be exciting to see where the Institute is in ten years! ★



# A World of Archaeology

## An Interview with Colin Renfrew<sup>1</sup> on the Occasion of the 40th Anniversary of the Cotsen Institute of Archaeology

GREGORY ARESHIAN<sup>2</sup> AND BRETT KAUFMAN<sup>3</sup>

**GA:** We are so very happy to have you, Professor Renfrew, and it's a true pleasure and honor for us to have this conversation, which I am sure will be one of the most memorable and important interviews that we published in recent years, and probably for a couple of years to come.

**CR:** Very kind of you to say so, and I am very happy to be back here at UCLA again. I have very happy memories of UCLA over the years.

**GA:** If I may, I will just recall how I got acquainted with your first works. Your lecture tomorrow will be devoted to your new discoveries on a Cycladic island in the Aegean, but, surprisingly, my first acquaintance of your work came from your very first area of interest that again were the Cyclades.

**CR:** Yes.

**GA:** It was the beginning of 1973 and I was in graduate school in Leningrad, which before that was St. Petersburg, and now is again St. Petersburg. It was the Institute of Archaeology of the Academy of Sciences of the USSR, and the Hermitage and the

Institute had, and still has, quite a nice library. We used to receive there from Western Europe and the U.S. most of the recent publications in archaeology, and that is how I saw your volume, *The Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium B.C.*

**CR:** You've got the title exactly right. That's correct.

**GA:** Thank you. What surprised me most was the title, *The Emergence of Civilization*—because we were very much traditionally accustomed to perceiving this *ex Oriente lux* concept that identified the emergence of civilization with Sumer and Egypt as foundational to our perception of archaeology, which you also noticed and mentioned many times in your works and presentations. But when I saw your title, a thought immediately flashed through my mind: is it possible that there were multiple primary centers of emergence of civilization? So that was a great impulse that I got from your book.

**CR:** I think it remains one of the great themes of archaeology and anthropology. We are talking about the emergence of complex society or whatever one wants to call it. I had spent quite a few years criticizing some of the details of the work of Gordon Childe, who of course had a very clear idea that what happened in the Aegean and what happened in Europe was just a reflection of what happened in the

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Interviewing Renfrew in Jim Sackett's Old Stone Age Lab.

Near East through the diffusion of culture from the Near East. I came to realize that that really wasn't correct in many ways, and of course the radiocarbon revolution, as far as Europe is concerned, confirmed that point. But I was very much impressed by Childe's work and remain so. It is still some of the most challenging work. So as you probably remember, I dedicated *The Emergence of Civilization* to the memory of Gordon Childe.

**GA:** Yes, it was very impressive. I felt it was both a reflection of your deepest respect and the first challenge to the idea of this unilinear trajectory of the growth of humankind and human civilization that was still very much foundational and expounded and presented in Childe's works. And two other things that I noticed very much and appreciated in your first big monograph were that you stressed the importance of the regional and local environments for the growth of dynamics. That is essentially why it is so foundational to us, because we certainly cannot now view or even conceive of the same paths of growth of society and civilization, for example looking at the way they grew in Mesopotamia, and let's say the mountains of the Near East, although both are very close in terms of their immediate mutual proximity, but still we should consider two different trajectories.

**CR:** I think that is completely correct. And as you say, in the Aegean we have one pattern that applies in the southern Aegean, with all the maritime interactions in a true Mediterranean climate, but in the north Aegean it's a very different story, really. That of course applies elsewhere, obviously. If you're looking at Peru: coastal Peru is different from inland Peru. And so the lesson I think applies very widely.

**GA:** What I read throughout all of your works was the freedom of your thought.

**CR:** Ah well, I have sometimes been criticized for the excessive freedom of my thought! As you know, although I was a very good friend of Marija Gimbutas—we worked together at Sitagroi and had a magnificent time, and indeed I stayed with her at her home in Topanga Canyon on my first visit to UCLA. We had different freedoms of thought where it related to the Indo-European languages. She had one very clear view, and I gradually formulated a view that was rather different. So we had to disagree on that theme.

**GA:** Yes, and I guess that there are still a number of scholars who disagree with you.

**CR:** That was certainly the case, and indeed it remains the case. I think that the majority of historical linguists still would follow the notion that the

Indo-European languages began in the steppelands, which was something that Marija Gimbutas wrote about, although of course the idea was much earlier. It began a century earlier. The notion that seems so logical to me is that Indo-European speech, or proto-Indo-European speech, came to Europe with the coming of farming, and therefore from Anatolia. When I was thinking about European prehistory that seemed logical, so I developed that idea. And though there are quite a lot of linguists, that is to say phylogenetic linguists, who would agree with that view now—and some of the molecular genetic evidence can be interpreted to support that view also—there is no doubt that the traditional linguists of the old school, the Indogermanistik school, won't hear a word of it and think it's all nonsense.

**GA:** But now, I think that with the expansion of our views in archaeology strengthening its connections with the natural and social sciences and humanities, we are opening a very broad field for the creation of new anthropological models that can be of very significant interpretive value.

**CR:** I think that's right. I think part of the interest of these things is that they can apply to any part of the world. If we are looking at the archaeology of the Americas, of the New World, then it is very interesting to see how such models may work there. That is something that Gordon Childe didn't do at all. He didn't look seriously at the Americas. So the attempt can be made to apply similar models in the Americas, and certainly in China, where there is so much to be said now that Chinese archaeology is beginning to open up to what one might call anthropological thinking. I think that there is really an enormous potential for more coherent application of those models. Although there is a difficulty that I think we will always experience: that you have to know the archaeology of the region quite well before you can deal with it. It's very difficult to know quite well two different regions, separated in space. If you want to compare three or four regions, you really can't do it. Bruce Trigger tried that in his great work, which is very valuable. But he in the end rather took the easy way out and chose places where there were written texts to support him. And for that reason he missed out on the Indus Valley civilization, which is very

peculiar in many ways and doesn't fit into the same boxes, the same categories, as many others. I think that by denying himself the Indus Valley case, he oversimplified the situation.

**GA:** Continuing on this subject, in the last twenty years, we've had an explosive expansion of the global scope of archaeology, of methods, of theories. The rise of new schools of archaeology outside the Anglophone world is happening, such as you just mentioned in China. How are we going to create more intellectual value in the process of that growth? We certainly have great achievements but how can we reveal more meaning, making this world archaeology more meaningful? Both intellectually to the academic community, and to the general public? What are your thoughts on that subject?

**CR:** Well, we have one thing that certainly works in our favor, namely the techniques of archaeology. The methodological techniques, including the scientific techniques, are applicable everywhere. They are not really very much based on prior assumptions about how culture changes. You can do radiocarbon dating here, you can do it there. You can do phytolith analysis here, you can do it there. You can look at shells [or] whatever field of archaeological science. You look at DNA here and there. It's true that the interpretations of the DNA analysis may depend to some extent on pre-assumptions. But that is one component that is applicable across the board. That I think is really leading the way. That's where for instance in China, Chinese archaeologists have been learning a good deal from the West—not denying that they are developing their own specialisms too. They find it possible to do that without developing too many of the values, in an anthropological sense, of the West. But then, as you say, what the stories, the broad themes are, is something that Western anthropology has to some extent set the pace with. That's not surprising.

But as you say, local areas have their own perspectives. It is going to be very refreshing when anthropologists and archaeologists from southern Africa are making most of the running in the interpretations in that area. It's true that in China they are now doing so, but I think Chinese archaeology is still finding its own feet in terms of what the big stories are. At an earlier stage, of course, they had inspiration from Marx, to some extent they still do.



But the stages that Marx propounded were formulated over 150 years ago and clearly they need revision even if you do wish to follow them. So I think Chinese archaeologists are beginning to realize they have a wonderful freedom in that respect. So do Australian archaeologists. But to some extent, the pace of archaeology is still in some continents largely influenced by the Western tradition—the American-European tradition. What's very interesting I think is how that is changing in those areas. For example in Mexico, where Mexican archaeology is very well developed, and though there has been a lot of excellent work largely by U.S. archaeologists in Mexico, there is also wonderful work done by native Mexicans. Mexican archaeology is perfectly able to stand on its own two feet and formulate its own theories, which they have done. Chinese archaeology now is clearly ready to stand on its own two feet. I'm very interested in this meeting that is going to happen in Shanghai in August, where they have an agenda that expresses the problems very much in the language of contemporary Western archaeology. They are really taking these on board, and they will develop it in their own ways. So, just as it is clearly possible in Mexico, it is possible in China. You would wish that it would be possible in India, but though I think Indian archaeology is technically very competent, I'm not sure that the broader synthetic writing in Indian archaeology is equally well developed. So your question will be really interesting in the next 20–30 years to see how these different regions of the world develop their own perspectives.

Of course it's very interesting in Russia now, in the former Soviet Union, not only in Russia but the countries that were part of the Soviet Union. These scholars are now formulating their own theories. They're obviously very sophisticated people who know the literature. They have grown up in a theoretical mixture that contained remnants of pre-communist European archaeological thought and traditions of Marxist archaeology together with percolations from British and American social and cultural anthropology. But I imagine that they are really rather free now to develop fresh ways of thinking, unless they succumb to the new pressures from nationalistic political ideologies. I'm not sure to what extent they still feel obliged to pay some respect to Marx. I think in China it may still be tactful to pay some respect to Marx, and yet I think there is

the freedom now to write a new story. That is going to be very exciting when it's no longer a dominant tradition of basically a North American and European—almost an Anglo-American tradition—but of course there is also French archaeology, German archaeology, Scandinavian archaeology, to reckon with. So I think it's going to be very exciting. And that's going to happen in the next twenty or thirty years.

**BK:** How do you view the role of ethnicity in archaeology, both in terms of applications of research to past populations, as well as the colonial impact of studies in ethno-cultural history on contemporary identities?

**CR:** I to some extent see them as separate issues, partly because ethnicity is not easy to define. If we had a very serious seminar on it, we would both agree that it is not easy to define. We'd both agree that the analysis of ethnicity, in the sense of recognizing ethnicity in the early past, several thousand years ago, is a very different issue from recognizing ethnicity in the present time. And that is partly because, very understandably, ethnicity has surfaced in particular ways in the post-colonial world. So, ethnicity is associated rightly in many minds with the liberation of some groups from the dominance of colonial thinking. That would be true, say, of the Australian aborigines. It is interesting to bear in mind which groups in the modern world we can still learn from in terms of lifeways which come directly inherited from much earlier worlds. We still have much to learn from the folk traditions, and the continuing traditions, of Australian aboriginal cultures, though they were much devastated by the colonial impact.

In North America it is clearly highly sensitive, because the Native North American groups—in Canada as well as the United States—naturally have agendas with which one can readily sympathize because they were undoubtedly disadvantaged in the colonial and post-colonial process. And it looks different in Africa, or when you look at these various ethnic groups in Siberia, and so on. So there is a whole series of questions which I think are very difficult to wrap up under one heading.

When we are talking about what the role of ethnicity should be in the sense of contemporary



Renfrew speaking with Cotsen IDP graduate students and the editor of *Backdirt*.

groups making progress, I think it's wonderful that more and more people coming from a non-European, non-colonial background are really working on their own archaeology. It's always interesting to listen to aboriginal Australian archaeologists doing their work. It's interesting to listen to North American Indian archaeologists doing their work, but we don't yet actually hear from very many of either of those groups. You have to look hard. There are still voices that are not listened to enough. African archaeologists are now becoming influential I think in a very significant way (see Posnansky, this volume, p. 24), so that's all positive. But I don't think really a sufficient degree of emancipation has been achieved when we are talking about the intellectual contribution to contemporary archaeology made by people who can say they belong to backgrounds which are not in the European, and in that sense the North American-European tradition.

When we turn to ethnicity in the past, it's interesting how very much it's related to language.

Indeed if you look at a world ethnographic atlas today, the ethnographic atlas is largely more or less defined by language. Not by material culture at all. It's based on what language this group speaks. That usually determines the name that's assigned to them: sometimes by themselves, by the ethnonym that the group has traditionally given itself. But more often the ethnonym is an externally imposed ethnonym. Sometimes imposed by colonialists, sometimes by other ethnic groups, often in a disparaging way. But the crux is language. So this leads us very much to the issues of language and archaeology. Certainly there are difficult issues. For instance if you read about the archaeology of Italy in the Iron Age, there is one school of thought that thinks that ethnicity (in terms of self-awareness and organizing oneself by political groups—ethnicity in that sense) is actually something that first came about in the Iron Age. That seems a slightly strange idea to me. You can see that in Australia or New Guinea there are very many language groups, and that must have been so for a long time, and so their self-identity

presumably must have been associated with linguistic differences. So to go back to the question of what ethnicity is—it is perhaps largely a question of self-identity. But we have left out the issue entirely of lines of descent, and of groups to which we used to apply the term “race” —genetically differentiated groups, distinguished by skin-color, other factors of that kind. We have left that out of this conversation because it’s not fashionable to talk about it, but it’s still very much on people’s minds.

**GA:** It’s still around, it will be around.

**CR:** There are differences that we can see and that we can recognize. Then, of course, the word *ethnicity* becomes completely trivialized. Because one of the main uses of the term “ethnic” in modern English is to talk about “ethnic foods,” and there you are just talking about different cookery traditions. Of course there are grand cookery traditions, and I am not trivializing the significance of cookery traditions. But ethnicity is more than just different restaurants! It remains a very complex issue, and that is partly because there are many different issues wrapped up in that terminology. You in your question already distinguished two dimensions: ethnicity in the modern world, ethnicity in prehistory. There are a lot of different questions all wrapped up together there, which relate to the issue of identity. Identity is much easier to talk about. I think we’re clearer about identity. Identity, too, has so many dimensions. You’ve got gender identity, you’ve got power groups, you’ve got ethnicity. I think that it’s a big bundle of questions that can’t be summarized under just one or two headings.

**BK:** Absolutely. It wasn’t meant to be an easy question.

**CR:** Right. It wasn’t an easy question—it isn’t.

**BK:** I often wondered to what extent the Greek term *ethnos*, from which the term ethnicity is derived, is applicable to any given cultural situation. There are many cultures, both in the past and present that derive, or at least think they derive, their cultural heritage from Ancient Greece. Perhaps the term *ethnos* is relevant to them, but is it not possible that the term is completely irrelevant to a group that does not claim cultural affiliation with Greek cultural heritage?

**CR:** The Ancient Greeks, say in the sixth century B.C.E., had some communities organized in cities on the basis of commonality of origin and dialect, or *poleis*, and of course *polis* leads on to “political” so there’s that whole world there. But there were some areas that were not divided into city states but were broader areas, and those were the ones that the Greeks called the *ethne* (plural of *ethnos*). The Greeks, of course, when they used the term *ethnos*, were not talking usually about barbarians, which they weren’t really so interested in. They were talking about different groups of Greeks, that is, Greek speakers. They actually use the term *ethnos* to talk about those which were not organized in terms of city states, which was really the main way that Greece was organized. So it’s another big story there when you look at it in the Greek dimension.

**GA:** So that’s another important perspective because maybe ethnicity was identified with dialects rather than with language in the Greek case.

**CR:** That’s certainly right, yes. That’s more complicated again because you had traditions of descent in Greece: the Dorians, the Ionians, and so on, and those were the terms applied to the dialects. Those were partly referring to dialects, as well as to the prevailing traditions. That is something that doesn’t really overlap with the *ethne* or with the *poleis* of Ancient Greece. In the Greek case it’s quite complicated.

**GA:** Furthermore we see a continuous evolution of that ethno-political-cultural-linguistic process, because that concept of Greeks as *Hellenes* comes later when the larger cultural identity is being recognized and sometimes conceptualized by intellectual and political elites.

**CR:** That’s right. Very often it is external events that help to focus these things. So it does seem to be the case that it was the unification of the Greeks in response to the Persian Wars, to repel the Persian invaders, which was to a large extent what brought Greece together politically. Of course there was a Greek cultural awareness long before that. The Olympic Games, for example, began some time before the Persians invaded Greece. So there was clearly a sense of being Greek because it was



a requirement to be Greek in order to perform in the Olympic Games. Even Alexander the Great was held in doubt because he was a Macedonian. But he resolved that and he was not excluded. So you are right. Even if you are looking at a particular case such as Ancient Greece, it is actually very difficult to come to a simplified conclusion.

**BK:** Regarding the political connection to identity, to ethnicity, Eratosthenes said that the Romans and Carthaginians could hardly be considered barbarians because of their excellent constitutions, whereas many Greeks could almost be considered barbarians due to their inferior political systems.

**CR:** I didn't know that remark—that is very interesting.

**GA:** Let's for a second return to what I consider the most fascinating part of your enormous intellectual legacy. When I read your works in a consecutive way, not focusing on specific subjects, I have the feeling that the greatest driving force of your research was not your broadest education or knowledge, but your curiosity.

**CR:** I am sure that's right. Things are interesting and certainly some of the most interesting things are the things we don't know. Finding them out is a wonderful experience.

**GA:** Yes. That is how I trace your intellectual path from the interest in the Cyclades to the interest in the sources of obsidian, which is absolutely clear. Following your pioneering study, it also became an essential area of research for all the continuing work that is blossoming now more than thirty years later in Near Eastern archaeology: the sourcing of obsidian. It also moved to the archaeology of the Americas, and to other parts of the world. So that was very impressive how from the research in the Cyclades you moved to obsidian.

**CR:** You are certainly right that what I have done has not really been inspired by any grand program, as it were, but I became fascinated by archaeology and by a number of issues and chose the Cyclades for research because it was clearly an area with very rich material which had not been revisited for some

time. You're quite right that it is a series of cases of happenstance: I was working in the Cyclades and it was clear that the obsidian of Melos had a major role. And there were all kind of inferences drawn about Melian obsidian in the Western Mediterranean, and it turned out not to be Melian obsidian at all! So that was something that needed investigating. Then I had the very good fortune [of] working with Joe Cann and John Dixon, my geologist colleagues, and it was Joe Cann who pointed out that through trace-element analysis one might be able to source the obsidian, and that turned out to be a very successful initial program, which as you say is developing continually all the time, and that work goes on. So that was a piece of very good fortune. I realized partially through that experience that we were establishing long-distance trade routes. We were seeing obsidian being traded down from central Anatolia to Jericho in Pre-Pottery Neolithic A times. The whole issue of connectedness, of long-distance connections, set me thinking. So I wrote that paper called "Trade as Action at a Distance" for a symposium at the School of American Research in Santa Fe. The notion of connectedness, of establishing flows of connection, and those flows of connection establishing stronger contacts which then become political contacts—some of those ideas were in my mind when I wrote *The Emergence of Civilization*, and used a systems model, a good model of thinking for a locally working system. Then later on I came to think of peer-polity interaction; I became very tired of the diffusionist assumptions and managed to find a more concrete alternative model—which doesn't really say very much that's new but it sets a coherent framework. You can talk of peer polity, and you can apply the peer-polity interaction model in any part of the world, and it turns out to be quite a powerful model, which may be valid in many cases. So I think your analysis is a sound one.

In a similar way, I was working in prehistoric Greece, and when I found the shrine at Phylakopi in Melos, I had to talk about the development of religious thinking. Because this was a Late Bronze Age shrine, and it could be argued, I think securely, that it was a religious center. Then I remember being told by a very distinguished archaeologist, Christopher Hawkes, that what I was saying about continuity couldn't possibly be true. Did I not know that the Greeks were Indo-Europeans, and that there was an

Indo-European invasion? And how could it be that Greek religious thought would have developed without hiatus through that? It was that remark which made me think, “Now wait a moment, there is a lot of vagueness about these Indo-European notions.” It made me think there must be a different explanation for the Indo-European languages and their dispersal, which allows for a much deeper time depth, and a much longer continuity. So it was long before I met Marija Gimbutas that I became skeptical. Gordon Childe wrote his book *The Aryans* published in 1926, and I became very critical of that book because I thought the evidence wasn’t terribly persuasive. That’s why when I came to UCLA in 1967 I soon disagreed with Marija, because she was to a large extent following in the footsteps of Gordon Childe, and I wasn’t sure that the footsteps were correctly placed.

**GA:** Let’s return to the subject of your research in prehistoric religion. Would you clarify my uncertainty? I had an indirect thought that maybe your interest in cognitive archaeology arose from your study of prehistoric religion. It is correct or no?

**CR:** I don’t think it is correct. I am very interested in prehistoric religion, but I became interested in cognitive archaeology rather earlier. I must say I became more interested in it about the time of Lew Binford’s book *New Perspectives in Archaeology* in 1968.

**GA:** It was a collection of papers edited by Lew Binford and his then-wife Sally.

**CR:** It was the publication of one of the first big meetings of the New Archaeology. And in his introduction he quoted Christopher Hawkes. I already knew the paper by Hawkes, who spoke of a ladder of inference. He said that the technological questions, you can comment on those, they are easy, and the environmental ones are less easy, and the social ones are very difficult. When you come to issues which we would now call cognitive—what they thought and what they believed—that is very difficult indeed. I found that to be a rather provoking comment. Indeed it’s clearly in a sense not the case. If you go to Egypt, and see the pyramids of Egypt, what are they doing there? Well, they’re not subsistence pro-

duction, they’re not advancing technology. They are a product of a framework of thought.

I went back to Cambridge in 1981—and gave my inaugural lecture there in 1982. It was called “Towards an Archaeology of Mind.” That was really my first effort in the field of cognitive archaeology. The example I chose, which I think still is a very interesting example, is the Indus Valley weights. Because in the Indus Valley civilization, you have these very beautiful stone cubes. The archaeologists who excavated them in the 1930s very soon realized—they used modern weighing devices—that they were multiples (in terms of weight), and that therefore there was a system of weighing involved there. That seemed to me a very interesting example of how by using straightforward archaeological techniques—context first of all, and chronology, and then simply modern techniques of weighing—you can establish they had a weight system. And what were they using the weights for? Well, they weren’t just playing around with weights. They were presumably using them to measure quantities of commodities. The notion of commodity becomes relevant when you can measure it. (It’s true that in the Americas they often used measures of volume—quantities of grain measured by volume rather than by weight.) This was an example of how you could really do, in a formal way, some good cognitive archaeology. There was nothing woolly about it—you could really demonstrate there was a system of measurement going on. Indeed also measurement of length, the so-called megalithic yard, is a very good example. Another is planning. If you look at a town plan, you can see it’s been planned before it happened. Or you can see different patterns that look as if they have just come about by gradual expansion. So these are all dimensions of cognitive archaeology. Again, you are quite right in what you say that it has sometimes been a piece of archaeological good fortune that has led me on to the next subject. So I really began to take a serious interest in prehistoric religion when I excavated the shrine at Phylakopi on Melos. I had to ask “what’s really going on here?” I had to find some way of dealing with prehistoric religion. It was at that point that I really became interested. But the cognitive archaeology—which is the same thing really as the archaeology of mind—that started a bit earlier.

**GA:** That's very interesting. Now, if I may, I am most curious to ask about your most recent research. Specifically, I followed recently your interest in Trans-Eurasian connections. Not only your most recent publications, but your presentations and lectures that are now available on YouTube.

**CR:** That's nice, technology is catching up with us.

**GA:** My impression was that the most thought-provoking issue in your lecture is the distinction that you are making between the system of Silk Roads themselves and the vast expanses of the steppes to the north, which were occupied by nomadic pastoralists. We probably can continue this line of thought discussing the systemic connections of trade routes and models of interactions, although those were connecting very different sociocultural and political systems, like empires, nomads, and sedentary agriculturists. With regard to that, could you expand a little bit more on that distinction? I am specifically interested in your thoughts regarding this topic because I have been teaching a class here concerning the "Silk Roads" with Lothar von Falkenhausen and Vyacheslav Ivanov, and we now try to put together a book which will probably be the most interdisciplinary with regard to this subject.

**CR:** How fascinating.

**GA:** So I am curious to learn about the kinds of distinctions that you are making in your lectures.

**CR:** I am sure you know much more about the Silk Road than I do, certainly when you work together with these other leading scholars. I am not at all a specialist. But first of all much of what I feel about the Silk Road came from the experience of going to Xinjiang province in China—the former Chinese Turkestan—some years ago. It's always a wonderful experience to see the sites on the ground, and to have a feeling for what pioneering archaeologists like Aurel Stein were doing in the early years of the twentieth century. I must admit also, I have been fascinated, as other people have been, by the circumstance of Aurel Stein and colleagues, when they investigated the Dunhuang manuscripts, which as you know date from about the eighth century C.E. They're not particularly old by prehistoric standards. These pioneers found excellent examples of what were soon recognized as what are today called the Tokharian languages A and B, and it was soon shown definitively that these are Indo-European languages. Well, that's a very exciting story, which has a particular fascination. But it has at the same time led to some distortion I think in the understanding of some people who've become excessively fascinated by supposed links and have formulated extravagant theories of how the Tokharians got there and when. The greater interest is to understand how the populations of Xinjiang province developed. It clearly became an important region on the Silk Road. As you will know better than I do, there are many lines of travel—but most of the main Silk Roads do indeed pass through Xinjiang province, although I know there are some that can go further south. But it's also interesting that the archaeology of Xinjiang province so far doesn't go back much further than 2000 B.C.E., with the very early cemetery in the Taklamakan desert at Xiaohe which was discovered earlier on by Sven Hedin and Folke Bergman and then rediscovered by Idris Abdursul and his colleagues. Those people were nomads but they were also to some extent farmers. So that is one theme that is very interesting. But it is important to realize I think—and this was a remark I made at that conference—that really the Silk Road and nomad pastoralism don't necessarily have that much to do with each other. The steppes are the great province



Renfrew with members of the Cotsen Institute's Friends of Archaeology.



for the nomad pastoralists that we speak of so much. And of course nomad pastoralism, as we understand it today, didn't really develop very strongly until a little before 1000 B.C.E. when the horse was being used very widely—

**GA: —In warfare—**

**CR:** —In warfare, that's right. And so a lot of the earlier ideas about the great significance of the horse in earlier prehistory no longer work. They are absolutely pillars of faith for some of the Indogermanist people we were speaking of. But I think that doesn't make sense any more. The first time you see the horse significantly in the Mycenaean world is around 1600 B.C.E., on the Mycenaean Shaft Graves, and the first time you see the horse in Egypt is just a little bit before that. These are horses pulling chariots, and you scarcely see a horse rider before about 1200 B.C.E., and then that's about when the Scythians and their predecessors really get going. So these are stories that in my view have been intertwined too much. The prehistory of the steppelands is a fascinating question and there is much more to say about it. And the prehistory of the Silk Road is to some extent a different question. As a generalization it would be fair to say that the Silk Road or Silk Roads run to the south of the steppelands, often across very arid environments, and the steppe nomads are doing their stuff well to the north of the Silk Road. But then there are other fascinating questions, for instance the question of the origins of millet. You find millet, which is presumably of Chinese origin, in prehistoric contexts in Europe, really quite early, about 3000 B.C.E. or something like that in Bulgaria and that part of the world. These are hinting at contacts long before the Silk Road (in the sense that the Silk Road was for silk). Of course, if we are talking about the prehistory of "the Silk Road," it may go back well before silk. So there is a question of nomenclature there.

**GA: Absolutely.**

**CR:** So the whole question again has to be unscrambled a little. It's been quite spuriously scrambled together by becoming a central part in the Indo-European question—another very interesting question. So I think somebody like Elizabeth Wayland Barber who has written very well about those

textiles, and quite rightly compared them—there aren't so many well-preserved textiles of the ancient world—with textiles of the European Bronze and Iron Ages. But I think she may have been too quick to accept that there might be a direct link, as there have been others who have used her work to say, "Oh look, it proves the Tokharians came from Iron Age Europe" or something like that. I think that is simplistic in the extreme, and I just don't accept that at all.

**GA: The first millennium B.C.E. is very fascinating from the standpoint of these direct contacts.**

**CR:** It's fascinating. And the question of when the first silk occurs in Europe is fascinating too. I'm not totally aware of the latest thinking but I was at a conference in Stuttgart just earlier this year where some of the wonderful burials near the Fürstentum, the Fürstengräber in the Stuttgart area [were discussed]—there is wonderful wealth there. And some people think these show early Oriental connections. I am cautious about that. But there is so much to learn about that time. And of course we know still so little about the Iranian plateau where there is much to learn. That is really one of the wonderfully exciting things about archaeology. There is so much new material that one knows is going to emerge. I was in Turkmenistan a couple of years ago looking at some of the wonderful excavations there by Victor Sarianidi. Really, there is so much to learn.

**GA: So much to learn. I worked for one field season in Turkmenistan when I was a graduate student, and later visited scores of archaeological sites in Central Asia.**

**CR:** That must have been a wonderful experience.

**GA: Yes, absolutely.**

**BK: Over the past few decades, there has been what often seems like a polarization in the field between what we call Processual and Post-Processual archaeology. However, over the past few years it feels like there has been a détente, or a slight cooling off. How do you see the future of archaeology in terms of the bridging of these two fields, of the universal and the particular?**

**CR:** You certainly transformed the question by representing it as between the universal and the particular, which is a very interesting perspective.

**BK:** That is how I would begin to define Processual versus Post-Processual.

**CR:** But you see, though I am quite critical of the Post-Processual archaeologists, I do think they have expanded the areas we talk about very usefully. So I think we have a lot to thank them for. They have in the main been the group who has written most rigorously, for instance, about gender archaeology in a useful way, and in various other dimensions of archaeology. But though they claim to be imbued in the specifics of the particular case—and that is what they sometimes say is the hallmark of their work—and proclaim that they reject universalist explanations, in reality nearly all of their statements are flamboyantly universalist. Many Post-Processualist archaeologists make overwhelming, overarching generalist statements in a most, as I say, flamboyant manner, which actually sits not at all easily or well with their claim to be deeply immersed in the particular, and avoiding the facility, or the thinness, the spuriousness, of facile universal generalization. So I see a real paradox there, a real weakness, a real failing, a fault in the sense of a geological fault. They are riven by this problem that on the one hand they say they are doing this wonderful, detailed, thick description, but on the other hand they come out with generalizations which can be every bit as facile as the ones which led Kent Flannery—who's not in their brigade—to say “leapin’ lizards, Mr. Science,” when he was sending up the Processual formulae that he thought sometimes in themselves were rather trivial. That's a complicated answer, but there was an assumption in the end of your question.

**BK:** There was an assumption. The assumption is that I think there has been a bridging.

**CR:** Certainly I think that is so. I think Processual archaeology has learnt a lot from the boldness of so-called Post-Processual, or interpretationist archaeology, to move into areas which the Processual archaeologists were sometimes not very progressive

in going into. So I think that is one of their main contributions. But the thinking of some interpretationist archaeologists is avowedly subjective—there is no harm in it being subjective—but it's also sometimes rather uncritical. And I would go on to say, sometimes arrogantly uncritical because it doesn't recognize that it's uncritical of itself! I think that all archaeology needs a methodology. That of course was what the initial Processual archaeology really introduced. It introduced the aspiration of making statements which were susceptible to be taken apart and analyzed, and if possible tested, though testing is of course not an easy procedure in many sciences. So we don't have to get overwhelmed by testability. But the notion of some rigor, and some theoretical coherence, that still seems to me a really fine objective. I think it's a fine objective if one can find ways of analysis that you can apply widely. I mean if you find some technique, say of sediment analysis, you can apply it here, you can apply it there. That takes it forward. Archaeology should have methodologies of its own which are applicable in different areas. It's not just archaeological science that is bringing in scientists in their white lab coats who are going to shake their test tubes or whatever, or bring their magnetometers to bear and give you hard data. What we all want (not just the archaeological scientists) is hard data also. Of course one of the most significant advances in archaeology in the past thirty or forty years has been systematic site survey, by walking the ground but also by other methods. That can be rigorous and reproducible, and so I think that's very strong. But as you say, the two sides of that debate, I think they just got rather tired of the argument. I mean, people would stand up and make abusive remarks about Processual archaeology, and then there would be some abusive remarks in the opposite direction, and it didn't really get very far. Ian Hodder and I were both in Cambridge in some of those early days, and had some quite amusing, very good-natured debates together. But in the end we just got slightly tired of that debate and just moved on. And he indeed has moved on from that particular polemical position. So I think there are probably more interesting polemics to be had now in other directions. That one has quietly simmered down, as you rightly said.

**GA:** I would like to ask you to expand on a subject I didn't think we would discuss, the subject of archaeological methodology, which came up in your response to the preceding question. To me it's the centrally important issue of analyzing, defining, and sharpening our focus on multiple aspects of methodology in archaeology. What we have now in Anglo-American archaeology is a situation, created partially because of the little-coordinated aggressive expansion of the areas of research, and databases, and thinking without adequate justification, and partially because of more than two anti-methodological decades of this conflict between Processualists and Post-Processualists, which makes me concerned and even in some cases upset, because I see various, quite often small-minded theories from different parts of social sciences selectively dragged into archaeology, most often by Ph.D. students—because those writing a Ph.D. must have a theoretical framework—who just cherry-pick a theory and then try to choose from the archaeological data to accommodate those data to the theory. That kind of voluntaristic infusion of theory into an ocean of data is quite groundless, and very often worthless at best, or deceptive at worst. So where would you put the limit between archaeology as a very specific area of knowledge, with its specific system of studying remains of tangible products of human activity, and the archaeology where the archaeologist has a broader function of acting like an anthropologist, sociologist, historian, philologist, linguist, folklorist, art historian, environmental researcher, biologist, or geologist with regard to the interpretation of his or her material? Where is that border? Obviously we know that nothing can be absolute, but where is that approximate borderline between archaeology as the specialized study of very specific systems of objects, and archaeology as broadly expanding a system of knowledge connected from natural sciences to humanities?

**CR:** I certainly begin by saying I see no border and I have a great deal of sympathy with what you say about cherry-picking a theory and then cherry-picking data to go with a theory which wraps up and makes what passes as a very fine dissertation which adds nothing much to knowledge. But that actually doesn't worry me very much because there is no harm in that guy getting his Ph.D. —the world isn't disadvantaged because he or she has got their

Ph.D. I think that in the end, for a lot of things, time chooses, and time sifts. There is no great harm in having a dozen Ph.D. dissertations on the shelf, and at the end of the day, only one is really worth republishing ten years later. I think that is what happens with the advance of knowledge. I share your impatience with “theoretical” jargon for jargon's sake and fancy “methodology” for fancy methodology's sake. And as you rightly say, each student feels they have to have a new approach usually with a very fancy name so they can make their name for that—but that is a sort of social procedure in the discipline which doesn't seem to me terribly damaging, although it may be mildly tiresome. There are those who think of archaeology as some very well-defined method, and then there are others who will speak about history or the grander scope of history. The people who are most qualified to talk about the implications of what their research has unearthed are the people who have done the unearthing. So I think it makes very good sense for the popularizers to be as much as possible the people who really know what they are talking about.

I see sometimes, for instance—and I know your question wasn't about television popularization—but I get very irritated when I see presenters on television who are talking about a subject about which they are actually rather substantially ignorant. I can identify a few of those in Britain. You have some quite senior presenters who love to rush around the world talking about this or that, when they have really no sense of the problem. Or the other case is when some young person, probably one of the graduate students you were speaking of, who has now got a Ph.D., who is young and good-looking, whether female or male, and they rush around, being photographed getting in and out of motorcars or aircraft and supposedly doing research. Well, it's only worth listening to them if they really have some knowledge of what they're talking about. I'd much rather hear the exact opposite of that, symbolized for me by Sir David Attenborough. He is such a well-informed naturalist and makes the most wonderful programs—and indeed is well-informed in anthropology, too—so I would draw a contrast there. So I think the best minds ought to try and think about the broader cultural and philosophical implications of archaeology, which are clearly very profound and



universally important if we're talking about human-kind—the process of becoming human, what is it to be human—these are all questions to which archaeology can provide an answer. The archaeologist should be boldly answering these questions. As concerns the people who are a bit too pleased with their own statistical procedures or whatever may be the latest theoretical or methodological fad, I think time will deal with them. Unless they have got something really interesting to say about their own thoughts and insights or arising from their own excavations or fieldwork, then time will pass them by.

**GA:** My last question. We are here on the occasion of the fortieth anniversary of our Institute. You have been closely connected to UCLA for most of your academic life—

**CR:** —For more than 40 years. I first came here in 1967—

**GA:** —Before the Institute was established in 1973.

**CR:** Yes, that's right.

**GA:** Exactly. You maintained those connections. Some years more or less intensively, but you visited us many times. I will just break this last part of the interview into two specific questions. My first question is, how would you evaluate these forty years of the Institute? The second question is, what are your most remarkable memories of your contacts with the people at UCLA, and with the Institute, and from your times here?

**CR:** Well! Those are two big questions. Let's deal with the first one. I think it's been a very exciting time throughout. You asked me what I think of what has happened. I think it's very important that a major research institution in archaeology should be actively involved with different parts of the world. We touched on this earlier. I think it's very difficult to form a view of what world archaeology is, or indeed what that would mean, unless you have scholars working together from different parts of the world. That's what the Cotsen Institute does. It may be easier with regard to the Paleolithic period,

but it's not so easy even there. One has to be able to compare what is happening in China, with what's happening in Peru, with what's happening in Mesopotamia. As we were saying earlier, very few people can do that. I mean Robert Adams was the first person to do it seriously, I think, with his book, *The Evolution of Urban Society*, from all those years ago, and he is still an inspiring figure today.

**GA:** It's still an inspiring book.

**CR:** It is.

**GA:** I read it two or three times, and I still return to certain parts.

**CR:** When we come on to the second part of your question, actually I have very warm memories of sitting with Bob Adams in a seminar in this very building just a couple years ago which was terrific. So I think that's really part of the strength of the Cotsen Institute, that it has interests in many directions. I'm sure it's helpful that Lloyd Cotsen himself is interested in Greece, has worked with Jack Caskey in the prehistoric archaeology of Greece, and I think it's also helpful that the Institute has had connections with other departments which are not formally part of the Institute as I understand it. I mean, in the early days, I was teaching here and sharing classes with Marija Gimbutas—this is before the Institute was formally founded. That was a very good experience because she was a person with wonderful drive, and enthusiasm, and dynamism, and got so many things going. That would be one component of that. Here we are sitting in Jim Sackett's laboratory now, and there is Jim who has been working in the Paleolithic, primarily of France, so consistently for so many years. So that's a terrific thing. Then I think it's very important that there is a connection with Giorgio and Marilyn Buccellati and their own wonderful work at Tell Mozan. It's very important that the Institute should be associated with excavations in Mesopotamia, or Syria in their case, and in the Greek world, and in Peru—it's wonderful all these dynamic things happening in Peru.

But also in the local archaeology. I have had wonderful experiences with enthusiasts of the Chumash. I've been to Santa Cruz Island with Jeanne Arnold and have seen something of that. So it's the diversity

of archaeology which I think the Cotsen Institute, like other major centers of archaeology, is rightly involved with and exemplifies. That is no doubt why it's helpful that it's associated with the Fowler Museum, because the museum keeps on having to generate new exhibitions and has connections in various directions. Of course there are collections here in the Fowler Museum, which were acquired some time ago, but are important collections. So I think these are the things which give the Cotsen Institute its dynamism. It is very welcome that we are here today to hear Ofer Bar-Yosef's lecture (see Bar-Yosef, this volume, p. 46). His own field is obviously Western Asia, and he is talking about the origins of agriculture in Western Asia. We were talking about Lothar von Falkenhausen. It's just excellent that such a distinguished early historian of Chinese culture and archaeology is here. These ultimately are the great strengths of the Institute. That it has these connections with different areas including, of course, the archaeology of North America. That's very important.

As for personal recollections, one recent one would indeed be taking part in that seminar with Chip Stanish and Bob Adams, that was just a few years ago. I remember very clearly on my first visit in 1967, being taken by Clem Meighan to see some shell middens somewhere on the coast here, and I very much enjoyed that. Then of course there is no doubt that one great experience, when I first came here, was Lew Binford teaching here. That was when I really got to know Lew Binford well for the first time. He was a terrifically challenging figure. I remember, for instance, going out to a barbecue or reception—I was staying with Marija Gimbutas at Topanga Canyon—and Lew was there holding court. And they certainly didn't reach the same wavelength, but that was a great experience. Of course, it was through my collaboration with Marija that our excavation took place in northern Greece at Sitagroi, which we haven't discussed in our conversation, and that was a very good experience. There I got to know Gene Sterud very well through that connection. In fact, when I was here in 1967, I worked with Gene Sterud on one or two articles on Close Proximity Analysis. And of course that is when I first met Ernestine Elster, who has been a very good friend ever since.

**GA:** It was the beginning of your friendship.

**CR:** That's right. It was indeed because she was in one of those classes: that's when I first met her. She participated in our Sitagroi excavations and later took on much of the responsibility for their publication. So out of that I have all kinds of extraordinary memories. She and her husband Sandy were very interested in American politics, and I remember staying with them at the time of the Watergate hearings. We were watching the tough-minded Senator Sam Ervin, who chaired the hearings. I was sitting there with Sandy right at the beginning of the day, about 6:00 in the morning, because they were being broadcast live from Washington. And at the end of the day we'd come in and hear the replay of the second part of the hearings. That was a real education in some of the real strengths of American politics, the fact that things can't easily be hidden, although slow in coming through, but transparency made them come through. So I regard the Watergate hearings as one of the great demonstrations of American politics functioning well. I'm not sure it always functions so well at the present time, but we need not get into that. That was a wonderful experience with Sandy and Ernestine. So there are quite a lot of memories coming through my mind, as well as recollections of some very good conferences here of one kind or another.

**GA:** Many thanks, Professor Renfrew, for this insightful interview. I'm sure that the readers of *Backdirt* will very much appreciate it. \*

Lecture by the First Laureate of the Cotsen Prize  
for Lifetime Achievement in World Archaeology

# The Origins of Agriculture in the Near East

OFER BAR-YOSEF<sup>1</sup>

**T**hank you, Mr. Cotsen and Director Stanish, for the opportunity to deliver another lecture at this wonderful institute. I believe that the Cotsen Institute is almost the only institute for archaeology in the United States that resembles other institutes of archaeology that we know across countries in the Old World. In this country, we are all members of departments of anthropology due to the history of the American academic world, and often we are the minority within each department. Thus, this institute is mostly unique and of greatest importance on the scale of North America. I could elaborate on this subject, but I must start by expressing my gratitude for your awarding me the inaugural Cotsen Prize for Lifetime Achievement in World Archaeology. Now, I turn to the matter of my lecture.

The subject I present this time concerns the origins of agriculture, so most of my lecture will be concentrated on the time when it all began. Everyone knows that the origins of agriculture took place in different places in the world. In my personal version, there are no more than five centers of independent emergence of agriculture worldwide, and actually maybe only three. One center was in the Near East/the Middle East/the Levant, two in China, and two in Meso- and South America. All other suggested

centers were, in my view, the result of the diffusion of ideas and techniques, and migrations of farmers. The reason we can use the Levant as a model is because by now there has been more than a hundred years of research in a small region, currently incorporating parts of Turkey, Iraq, Syria, Lebanon, Jordan, Israel, the West Bank, and the Sinai Peninsula of Egypt. The Levant has also benefited from the fact that many different schools of archaeology worked and are still working in this area. There are no comparable situations anywhere else in the world. Ask yourself: where in the world do you have locals and schools from the United Kingdom, United States of America, France, Germany, Denmark, Holland, Poland, Japan, Spain—and I can keep going—working in the same area? This means that the database of the Levant is the best in world, as are the interactions among the schools and the scholars, and the diversity of publications means that at least the evidence is well established. However, as we all know academic research also benefits from disagreements and different interpretations of the data.

The most basic questions we ask about the origin of agro-pastoral societies are simple: Where did it happen and when? The other question, which is the focus of many debates, is “why did it happen?” I will leave the answer to the “why” question until the end of my lecture but will provide you during the talk with a few hints regarding my opinion. So let us first discuss the “where” and “when.” Originally, the

<sup>1</sup> Harvard University. Public lecture delivered at UCLA on May 3, 2013, on the occasion of Prof. Bar-Yosef's acceptance of the inaugural Cotsen Prize for Lifetime Achievement in World Archaeology.

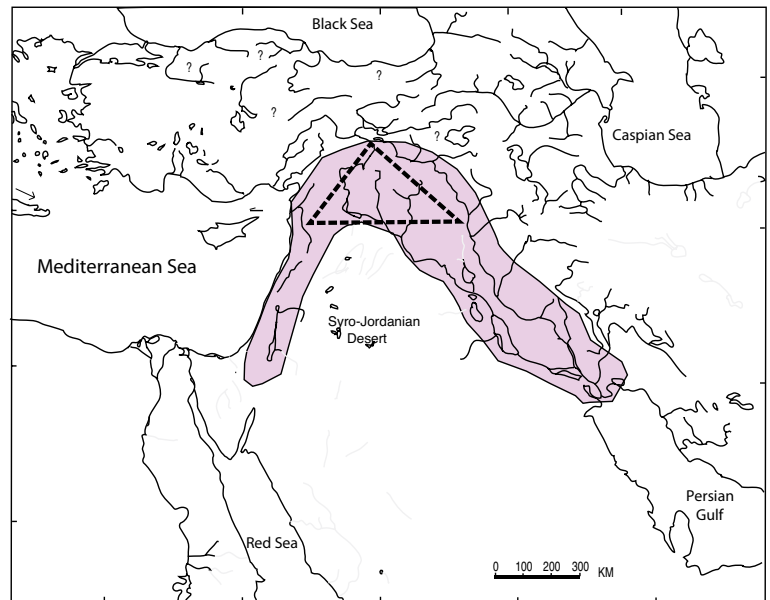


first farmers must have been hunters-gatherers like their ancestors. Suddenly they changed their way of life and started cultivating, which means that they became farmers. Within 11,000 or 10,000 years, the change brought us to where we are right now. So the question is “how did hunters-gatherers in the Levant cause the Neolithic Revolution?”

Paleolithic research has demonstrated that low densities of foragers occupied the world until the end of the Late Glacial Maximum (hereafter LGM), which was a dramatically cold and dry period that lasted from about 24,000 to 20/19,000 years ago. Immediately with the improved conditions after the LGM, humans start expanding into many different regions, including migrations to the Americas. The steadily warming climate and the increase in rainfall—which started around 20/19,000 BP (Before Present) and were temporarily interrupted during the Younger Dryas (12,800–11,700 BP, hereafter YD), which was another cold period but a much shorter one—led to an increase in the number of foragers. During several millennia, sedentary, semi-sedentary, and mobile foragers inhabited all ecological niches in the Near East and in particular in the Levant and the Taurus-Zagros foothills. This resulted in the formation of a “relative demographic pressure.” Not surprisingly, as not all the archaeological evidence concerning the spatial distribution of sites and their dense occupations in the Levant is published, you may sometimes find scholars who believe that there was no “demographic pressure.”

A possible second phase in the conditions of the local foragers is the debated role of the YD that lasted a few centuries. There has been a lot of scientific research that addresses the nature of the cold and dry YD across the globe but especially in the northern hemisphere. However, there is little doubt that at the end of the YD we see in the northern Levant, or the “apex of the Fertile Crescent,” the first villages with evidence of cultivation. Their number increased rapidly along the “western” and “eastern” wings (the Levant and the Zagros foothills) during the first millennium of the Holocene.

The behavioral nature of humans, as we know, is that they like to experiment. Apparently, hunters-gatherers, several thousands of years before they became permanent successful sedentary farmers, were already conducting some experiments with plant cultivation. One example from the LGM age is the waterlogged site Ohalo I, exposed in Israel on



**The Fertile Crescent and the Golden Triangle.**

the shores of Lake Kinneret (Sea of Galilee). It was a small camp where the remains of several huts were exposed. A grinding stone was discovered in one of them and when tested produced evidence of starches preserved in the mini-cracks of this object, revealing the remains of cereals. The ground plant material, which was later completely carbonized, was evidence for making the world’s first pita-like bread, some 21/20,000 years ago. In addition, the site produced 100,000 seeds and fruits, and more plants that I believe will be published soon. Apparently one can suggest that grains of cereals, although in small number, are indicators for “trial and error” by the foragers who camped at Ohalo I. We should remember that hunters-gatherers, like all human beings, try new things from time to time, and eventually some of these new techniques succeed. Trial and error is part of our behavioral package as humans.

When new villages were established, they also sowed the seeds of social hierarchy. The earliest farmers invested communal energy in the building of sacred localities such as Göbekli Tepe. Next, a class of mobile specialists arose, artisans who developed expertise and kept moving from one village to another. Finally, long-distance exchange systems emerged, whether it was with obsidian, marine shells, chlorite bowls, or other commodities. Territorial expansion from spinning-off communities led

Hunters-gatherers, like all human beings, try new things from time to time, and eventually some of these new techniques succeed. Trial and error is part of our behavioral package as humans.

to the occupation of new places including islands such as Cyprus, which was colonized by Levantine farmers from Anatolia. Others moved into Europe as well as Mesopotamia and later into the Indus Valley. Farmers, having more surviving babies, always need more land. That's the principal of human dispersal during the Holocene.

In this context, we need to briefly mention the climate, a subject that in recent years has caught the attention of the media and politicians everywhere in the world. During the Terminal Pleistocene of the Levant, we see that after the LGM the climate became warmer and rainier. Then came the crisis of the Younger Dryas, generally a cold period though the nature of its fluctuations—which lasted 1,300–700 years—are debated. The record of the Holocene that lasted by now almost 12,000 years also presents several climatic fluctuations but was more stable than the Terminal Pleistocene. However, minor climatic fluctuations, as we can see today, may have had great impacts, triggering the major Paleolithic climatic crisis, due to the increasing densities of populations and the agro-pastoral economy.

After the cold period of the LGM, there was an advantageous increase of precipitation and warming in the semi-arid areas (the Syro-Arabian desert, the Sinai Desert, the Nile Valley). This stimulated the expansion of two different hunting-and-gathering

groups. Several groups that we call Geometric Kebaran expanded southward while others, known as Mushabian and Ramonian, migrated from north-east Africa into Sinai and then (sometime between 17,500 and 14,500 years BP) further into the Negev.

Sometime after 15,000 years BP, archaeologists identify the Natufian culture as part of the local cultural evolution. Another hypothesis, not yet in the literature, views the Natufian as the result of the Ramonian invasion. This hypothesis is plausible because there is no direct continuity in the Levant that would explain why the Natufian culture suddenly emerged. The evidence for the “relative demographic pressure” is demonstrated by aerial views of a very large aggregation site in Jordan dated to 18,000–20,000 years ago, occupied first by the Kebaran and then by the Geometric Kebaran. The survey around the Azraq basin has shown that in a small area of about 300 square kilometers there are many sites from one single period, during and after the LGM. Their dwelling habitations were brush huts, found in Kharaneh IV, in Jordan, or ‘Ein Gev and Ohalo II in Israel. So, as expected, among foragers there are great similarities in constructing temporary habitations.

Up to now in this lecture, I have been using BP (Before Present) dates calibrated through the application of dendrochronology. Henceforth the chronology of the Levant during the later and historical periods will be given in B.C.E. dates.

Before moving to the issue of emergence of cultivation and farming, I'd like to succinctly summarize the Terminal Pleistocene. Levantine hunters-gatherers were organized in a territorial tribal system. Each had their own individual tradition characterized by their burial practices and their way of making and shaping their stone tools. They had aggregation sites that can be identified archaeologically. Their social and spatial organization was a precursor of the future settlement patterns of Neolithic farming societies in the region, as they carried the traditions from their predecessors in this area.

The most famous culture of this period is called the Natufian culture, first identified by Dorothy Garrod in Shukba cave in Palestine in 1928. Today's data show the distribution of Natufian sites almost all over the Levant. But there is a great lacuna, a major gap in our data covering southeastern Turkey and part of northern Syria. The reason is that in south-

eastern Turkey, though it would be hard to believe that foragers did not inhabit this area, surveys have rarely recovered sites with microlithic artifacts. Too often surveyors would notice hand axes but wouldn't recognize microliths because they were searching mainly for pottery fragments.

The main discovery made by Dorothy Garrod eighty years ago of relevance to the topic of this lecture is the recognition of the Natufian culture as a unique phenomenon. Today we have a wealth of information concerning their hamlets and rounded dwellings, some four hundred skeletons (complete or partial), and head and body decorations made from *Dentalium* shells collected mostly from the Mediterranean, as well as bone beads.

The Natufians lived not only in caves, or on terraces in front of the caves, but also in small villages, the largest of which is the site of Eynan (Ain Malaha) in the northern Jordan Valley. Most houses were rounded, partially dug into ground, 3–4 meters in diameter with one hearth, often in the center. However, one building attracted a lot of attention, as it was larger than the average, with a series of post holes known only from this context, thus indicating the support for the roof. It had two hearths and a large quantity of objects, stone artifacts, half of a human skull and more. We can consider it as the forerunner of the later “kiva”-type building uncovered in early Neolithic villages. There is no evidence that the Natufians used bricks or wattle-and-daub for their walls. Most were constructed as brush huts on top of stone wall foundations. This is an important observation because Neolithic farmers began building using mud bricks. This difference in energy expenditure is critical for understanding social evolution and will be discussed below.

Among the outstanding finds at this site is a large, deep mortar, about 70 centimeters high, shaped of basalt. Just ask yourself, “how long it takes to bring or select a big rock of basalt and shape this kind of mortar by stone tools? How many days or weeks must someone go on pecking at it with other rocks?” Once we understand the amount of this investment, we have a glimpse into Natufian daily life as a complex society of hunters-gatherers, among whom there were probably certain artisans, people with the skills to make different kinds of objects. In addition, Eynan produced the first clear evidence for the domestication of dogs: a burial of an adult accompanied by a puppy dog was discovered.

Another joint burial was uncovered on Hayonim Terrace on the other side of the Galilee, by the same excavator, F. Valla. Important discoveries were also made at the site of Wadi Hemme 27, excavated by Phillip Edwards of La Trobe University, which exposed rounded houses where a group of “goblet-shaped” mortars were found, as well as a large slab incised in a multi-line meander pattern.

In sum, the Natufians were a sedentary or semi-sedentary society within the Mediterranean vegetation belt with ephemeral, seasonal camp sites in the semi-steppic Irano-Turanian belt. Undoubtedly we need to gain a better understanding of what Natufian societies used to be before we dive into the issues of the Neolithic Revolution because this major transition in subsistence changed many aspects of the prehistoric societies in the Near East. As predicted by several scholars, the evidence today indicates that the northern part of the Levant, meaning southeastern Turkey and especially northern Syria, is where plant cultivation was first established. If this conclusion is correct, then what we lack, especially in southeastern Turkey, is the knowledge of who were the foragers contemporary to the Natufians that occupied this area ca. 14,500–12,000 years BP.

The best earliest evidence for cultivation was retrieved at the site of Tell Qaramel, excavated by R. Mazurowski from University of Warsaw, as shown by the detailed archaeobotanical studies by G. Willcox. Studies of the earliest Neolithic suffer from a terminological conundrum. Based on her excavations at Jericho, Kathleen Kenyon called the lower sequence of deposits Pre-Pottery Neolithic A (abbreviated as PPNA), which now, following the excavations at Mureybet by J. Cauvin, are called Khiamian and Mureybetian. The Khiamian was defined in the southern Levant but its deposits are meager in comparison to Tell Mureybet and the so-called Sultanian occupies most of the time slot of the PPNA. I think that the radiocarbon dates and the plant evidence from Tell Qaramel and some of the other sites in the northern Levant clearly indicate that it is in this region that people became annual cultivators, ensuring their food supplies.

Excavations at Tell Qaramel exposed rounded houses, and several of those built on stone foundations were probably storage facilities as known from southern sites, such as Dhra. The Tell of Mureybet, on the banks of the Euphrates River, today under the



waters of Assad Lake in Syria, allowed W. van Zeist to conduct the first study of early Neolithic plant remains. These two sites and others of later times (mainly the PPNB), demonstrate that cultivating year after year resulted in the genetic change of wild cereals into the domesticated varieties.

Cultivating farmers also began taming some of their wild game animals. The pigs were among the earliest, because, as evidence suggests, they also were the first to be shipped to Cyprus. Goats and sheep were second and then the cattle. These animals, once tended, domesticated, and herded, could have been moved further south, east, west, and in different directions. The Cypriote finds clearly indicate that they were transported on sea vessels to the island, with the addition of fallow deer for the fun of hunting. Cats, dogs, and of course mice also found their ways along those paths.

Here I would like to stress that the process of plant cultivation and animal-tending started in a particular “core area” as referred to by Lev-Yadun and his colleagues in Israel, previously named as “The Golden Triangle” by Olivier Aurenche and Stefan Kozłowski, and all the efforts of several of my colleagues—especially, but not only, archaeobotanists—to deny the importance of a “core area” as the geographic source of new inventions are futile. Their objections are based on the observation that combinations of four or five different species (such as wheat, barley, oatmeal, and rye) emerged in different sites. What they tend to ignore are the social relationships maintained by means of long-distance communications across the Fertile Crescent. I assume that the same scholars would object also to locating the beginning of the Industrial Revolution in England within a particular area because they would ignore its social context. Unfortunately, the issue of communication between individuals and groups living permanently or seasonally in villages and temporary camps is hardly discussed in the Near Eastern literature. When we interpret the archaeological evidence as representing “interactions spheres,” we should tell the audience how in real life people were in touch with each other, not only intra- but also inter-village. For example, how did the “down the line” transport of obsidian cores and blanks take place? Apparently people could walk

from one place to another or use small boats and rafts to travel on the rivers such as the Euphrates and the Tigris and their tributaries.

Among the most prominent PPNA villages in northern Syria were Tell Qaramel (west of the Euphrates valley) and Tell ‘Abr, and Jerf el Ahmar located in the valley and by now the latter is under the waters of a new dam. This is almost the only site where continuous occupation from the PPNA, meaning (9500–8500 BCE) through the PPNB (8500–6500/6000 B.C.E.) was attested. Danielle Stordeur, the excavator, exposed among the houses, two superimposed “kivas.” Similar structures were uncovered at Mureybet and recently in south Jordan at Faynan 16. These special underground buildings reflect a specific social system within the communities of early farmers. The relative wealth of inhabitants of these settlements is indicated by imports from 300 km away of soapstone bowls made in the Tigris valley area. In addition, there are objects that bear what looks like a simple pictographic writing system. We do not know whether it is a real “writing system” or just some kinds of symbols for ownership used by local people. Soapstone bowls of the same PPNA age were found at Tell ‘Abr together with a flat pebble with a series of engravings that are as yet inexplicable.

But perhaps the most striking site that was probably built towards the middle or the end of PPNA, most likely around 9200 B.C.E., is that of Göbekli Tepe, which lies on a hill not far from Şanlıurfa. The discovery of the site of Göbekli Tepe helped change our view of the Neolithic Revolution in the northern Levant, the apex of the Fertile Crescent. The site is built on a hill overlooking the valley of the Balikh. On a clear day, one can see the hills that separate this valley from the Khabur, where another major, as-yet unexcavated site, that of Karahan, is found. The excavations of Klaus Schmidt at Göbekli Tepe exposed a series of stratified shrines or temples where T-shaped pillars served to support the roofs. The lower buildings are circular or polygonal in plan and the upper ones rectangular. Thus, these unique structures followed the chronological sequence of domestic architecture in PPNA and PPNB villages. Domestic dwellings were also recognized in this site, where dwelt the people who served the temples and maintained the buildings and possibly the artisans who continued to carve new pillars or fix the fallen ones.

The unique features are those T-shaped pillars, which probably supported wooden roofs. They were all quarried on the hill next door where some unfinished ones can still be seen. The tallest pillars are ca. 5.5 meters high and all of them are decorated by carvings or deeply incised figures, mostly of animals, such as fox, boar, lion, ox, reptiles, insects (such as scorpions), birds (such as ducks) and—rarely—human heads. Some animal sculptures are embedded in the walls of the enclosures. When the buildings went out of use, perhaps becoming impure, they were refilled by the local inhabitants, who used garbage and quarried rocks for the purpose. This fill is full of animal bones, stone artifacts, and debitage. Faunal analysis indicates that the majority of the bones were from wild game animals. However, J. Peters, the zooarchaeologist, found that the ratio for example among the cattle bones is 1 cow per 5 bulls. In the farming village at the foot-hill of Göbekli—Gürcetepe—the ratio was 5 cows per 1 bull. The tradition attested at all Near Eastern temples through different periods was to sacrifice the males and rarely the females.

The question of who toiled during the construction of Göbekli Tepe is critical. We should remember that there were other sites with T-shaped pillars, such as Sefer, Karahan, Hamzan, and Nevali Çori, within an area estimated as 10–12,000 square kilometers. Needless to say, other PPN sites were found in this general area. Thus we can attribute the buildings at Göbekli to a large population of early farmers who were able to supply the food and manpower for constructing these temples. We can use the hierarchy apparent among the sites and the size of the territory to suggest an early experimentation with a sociopolitical organization such as a chiefdom that lasted several centuries.

An important aspect of the Neolithic Revolution is the intricate relationship between the early farmers and their neighbors, those who remained foragers either by choice or out of necessity. In the northern Levant, groups of complex hunters-gatherers living in permanent or semi-permanent villages like Hallan Çemi and Körük Tepe were producing soapstone (chlorite) bowls to exchange with the farmers for grain or other foodstuffs such as herd animals. The two groups were living within a short distance of each other, which allowed them easily to meet from time to time. Archaeobotanical evidence from Körük Tepe and Hallan Çemi shows

An important aspect of the Neolithic Revolution is the intricate relationship between the early farmers and their neighbors, those who remained foragers either by choice or out of necessity.

that their inhabitants did not conduct full-scale farming. Hallan Çemi is unfortunately already submerged due to another dam built on a tributary of the Tigris River, while Körük Tepe was spared. The site, where rounded buildings have been uncovered, is extremely rich in chlorite cups, small decorative objects, and numerous burials. These chlorite objects were traded by the community of Körük Tepe with farming communities such as Tell 'Abr and Jerf et Ahmar during the PPN.

A somewhat similar situation persisted during the PPN in the south, but we first need to see how PPN farming communities developed in that region, which was on the receiving end of the innovations. Most of the PPN and PPNB sites excavated in the southern Levant are much smaller, and sometimes are known only from soundings. But because there are so many of them, we can synthesize the information into a generalized picture. At Jericho, Kathleen Kenyon dug a trench and discovered a tower built of undressed stones with a single staircase of twenty-two steps spiraling to the top. Its corridor is rather narrow, built for the use of small people like me. Near the tower, rounded structures were found, which are considered to be tanning tanks or public storage. Twelve kilometers northward, two more PPN sites—Gilgal and Netiv Hagdud—were discovered. The plans of the buildings there are rounded and oval, and the walls were built of mud-bricks, generally of plano-convex

section as in Jericho. Some of the bricks were fired, but most are unbaked. In order to make such bricks, one has dig for the clay. However, because the small basin where Gilgal and Netiv Hagdud are located was heavily inhabited by Epi-Paleolithic foragers, the PPNA-era digging for clay damaged earlier sites. Thus, in one of the buildings at Netiv Hagdud we found an entire assemblage of Geometric Kebaran industry containing all its distinctive features—artifacts, cores, microliths—that were ultimately incorporated in the contents of this PPNA building.

A major cultural change to be noted is that female figurines are found for the first time since the Late Natufian. Thus a change in ideology as expressed by the figurines is one of the markers of the PPNA pan-Levantine culture, also noted by J. Cauvin. Among the stone finds we discovered a flat, well-polished oval basalt cobble with a meandering incision between two sets of horizontal lines. Is this a map of the Jordan River, which meanders all the way from Lake Kinneret to the Dead Sea? A similar pattern was found on an object retrieved in Wadi Feynan 16.

There are two PPNA sites—Dhra', located near the Dead Sea where a storage facility was reconstructed, and Wadi Feynan in today's more desert environment. The latter was a village where a "kiva"-type building with a bench running around the walls was uncovered. These buildings, as mentioned above, mark the cultural similarities of PPNA social entities from north to south. Then there was a change in the domestic architecture in the villages, from rounded-oval plans to square and rectangular. The causes of that change are not known but buildings of the second type allowed the construction of a second floor.

We also note clear signs of social hierarchy. At the site of Çayönü, where almost 6,000 square meters were excavated, there are settlement areas with bigger and smaller houses and at the edge a plastered building, possibly (based on comparable pattern uncovered at Nevalı Çori) the local shrine or temple. Another site in northern Syria, Ja'ade, produced a rounded building with colored decoration on the plastered wall, a phenomenon to develop later at Çatalhöyük. A somewhat different example of exclusively PPNB buildings is found at Bouqras, showing distinct compounds with arrays of joined

rooms. When excavated, the floors were found to be clean. This resembles what occurred in the Neolithic sites in Turkey, as we mentioned above with regard to Göbekli Tepe: buildings that stopped being used for their initial purpose were refilled with garbage and debris. This pattern may remind us of an ethnographically attested ritual burning of tents after the death of their occupants in hunter-gatherer bands.

The largest PPNB site in the south is Ain Ghazal located in Amman, the capital of Jordan. The site was split up on either side of the main highway. There are some rounded-plan buildings whose function within the site is unknown. But most of the structures are represented by different kinds of rectangular and squarish buildings. The most impressive finds discovered at this site are plaster statues buried perhaps near a temple or communal shrine. The statues had frames constructed of reeds, wrapped in cloth, then covered with plaster and, finally, painted. When you look at them carefully, you have to ask yourself, do they represent males or females? The second question concerning several statues is why they have two heads on one big body? The people of this large village also practiced skull removal. Several of the skulls were plastered; similar finds have been made at Jericho, Beisamoun, Ramad, Aswad, Kfar Ha Horesh, and elsewhere.

Functionally specialized sites include Kfar Ha Horesh near Nazareth. The so-called buildings there actually form a very large single structure in which the plaster floor covered numerous burials. A simple case for interpretation is Nahal Hemar cave, which was used as storage for certain paraphernalia, probably for ceremonies that took place outdoors near this wadi in the Judean desert. One of the interesting finds from that site is a piece of headgear, with some small beads attached to it. The stone mask, which was found broken, is not only one of its kind: others from the southern Judean hills were plundered and sold, and several are now in museums. The mask from Nahal Hemar is shaped from a piece of limestone and is about 28 centimeters long with many holes all around. Several small figurines made of bones were covered with bits of plaster, red ochre, and sometimes with a kind of copper mineral from the area of the Judean desert.

We also need to discuss the formation of the social group of mobile artisans who during the early Neolithic period moved from one place to another. This social-professional phenomenon is known

from later periods when metalworkers moved from one village to another. One of the most important sources of the obsidian in this area is Kaltepe, where they knapped special blades. Each core produced a few blades. The common ones were elongated blades that were detached from “naviform” cores. Their products are found mainly in different PPNB sites and some in caches, like the sixty blades uncovered at Motza, most of which originated from a single core. The technique of detaching long flat blades from naviform cores is a skill that had to be learned and constantly practiced.

Finally, we need to review a different kind of interaction sphere between farmers and the foragers who inhabited the deserts. The two examples I will discuss are taken from the Sinai although others in the Syro-Arabian desert are similar. The sites’ areas are small (200–300 sq m). Foundations of the small rounded structures are attached to each other like tents. One, built on a slope and protected from the cold winds, was a winter camp. The other site, in the midst of a valley in the high mountains, where lines of rocks forming foundations of large huts were preserved, also had underground storage facilities later used for secondary burials. The reburial of humans in storage facilities, in silos, is reminiscent of the idea that seeds in the granary will become plants next year. Perhaps these winter campers believed in reincarnation.

This brief summary of recent discoveries and a generalizing analysis of the available data lead us to the following conclusions. The Neolithic Revolution took place in the Levant around  $9800 \pm 200$  years B.C.E. in the apex or “The Golden Triangle” of the Levant. The establishment of systematic cultivation of plants and the onset of goat- and sheep-tending mark the revolutionary change. Systematic cultivation is the process that causes genetic changes in the plants, subsequent to which we can talk about domesticated ‘cereals and pulses. Tilling the field, sowing, and then harvesting increases the frequencies of arable weed species, as shown by G. Willcox.

The cultural markers of the earliest Neolithic (or PPNA) is construction of rounded houses with flat roofs and mud-brick walls, oftentimes over stone foundations, instead of just brush huts. The appearance of “kiva”-type public or “secret society” houses; the shaping of aerodynamic arrowheads, which could mean a different kind of archery; the

shaping of bifacial and polished axes and adzes for woodworking; and the extensive use of grinding slabs and stone bowls became hallmarks of that period. Increase in site size from less than 0.5 hectares, the largest site of hunter-gatherers, to more than 2.5 hectares, like Neolithic Jericho and other settlements, reflects a rapid growth of population. Additional markers are the systematic removal of skulls; the long-distance exchange of chlorite bowls in the northern Levant; and the “down the line” exchange movement of Anatolian obsidian into the southern Levant. Manpower was available, but the first appearance of artisans, residing in one locality (such as Göbekli Tepe) or mobile, like the ones who produced the blades from “naviform cores,” can be reconstructed. As times passed during the PPNA and then during the PPNB, more changes occurred. As long as we restrict ourselves to comments on the first millennium of that process—that is, we are speaking only about the first millennium of the Holocene—rapid population growth may be implied due to fast accumulation of surplus staple food based on carbohydrates (wheat and barley).

We should underscore the evidence for the appearance of central sacred localities at that time, which reflects the rise of social hierarchy expressed in the constructions of the temples of Göbekli Tepe. Was it the first evidence for the emergence of a chiefdom? As with technological innovations, social systems evolve through “trial and error.” While I am not certain what was the social character of the culture of Göbekli Tepe, which is represented by more than one site (Nevali Çori, Sefer, Karahan and others) within a territory of ca. 10,000 square kilometers, I intuitively feel that this was the first effort to create a chiefdom, which most likely failed. Needless to say, the number of people incorporated in this social system had to have been large enough to supply the manpower and food needed for the carving the T-shaped pillars and the erection of the buildings. The amount of energy spent at Göbekli Tepe was enormous in comparison to other early Neolithic (PPNA) collective construction enterprises, such as the tower of Jericho. There are many additional innovations that occurred later during the PPNB, from 8500 to 6200 B.C.E., but that would be a topic for a number of other lectures. \*



# Sitagroi in 2013

## A Fresh Evaluation of Wild Resource Exploitation during the Neolithic and Early Bronze Age

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### INTRODUCTION: TASTES FOR THE WILD IN A PREHISTORIC FARMING VILLAGE

This contribution to the 40th Anniversary edition of *Backdirt* has given us an opportunity to revisit the 40+-year-old excavation of Sitagroi, a prehistoric village in Northeast Greece. We consulted the data-rich volumes of the site report (*Sitagroi* 1, 1986; *Sitagroi* 2, 2003<sup>4</sup>) to evaluate the evidence for, and significance of, hunting, fishing, collecting, and foraging, albeit in the context of a fully agrarian village. Our thesis is that the villagers—men, women, and children—purposefully sought out wild resources for practical reasons while also expressing their perceptions of the natural world, decision-making, cooperating, sharing, negotiating, learning traditions, creating material culture, and attributing symbolic meanings and value to these wild resources (see Ingold 1988; Kaufmann 1992). These practices are of additional interest in the context of an agricultural economy in which there seems to have been no primary biological-economic need to pursue hunting and gathering. Although our focus is on the prehistoric agriculturalists from Sitagroi, we also refer to other comparable

sites in the Northern Aegean that were consistently occupied with gathering and hunting.<sup>5</sup>

Sitagroi, situated in the Drama Plain of East Macedonia, is a key site in the map of prehistoric northern Greece (Fig. 1). The tell, located close to the Angitis River about 25 kilometers from the modern Aegean coast, was formed over the course of some 3,000 years from the Middle Neolithic through Early Bronze Age, divided chronologically into Phases I–Vb (Table 1). Excavations between 1968 and 1970, jointly undertaken by the UCLA Institute of Archaeology and the University of Sheffield, were carried out in the scientific spirit of New Archaeology, which Sitagroi spearheaded in Aegean prehistory. The key research goal, to “further the understanding of relationships between material culture and environment in the plain of Drama and more widely in the

5 Among the plethora of prehistoric sites investigated in Northern Greece since the 1970s (Andreou et al. 2001), important ongoing projects (and web sites) include:

*Dikili Tash*, in the Drama Plain near Sitagroi: Treuil 1992, 2004; Koukouli-Chryssanthaki and Treuil 2008: [http://www.dikili-tash.fr/index\\_en.htm](http://www.dikili-tash.fr/index_en.htm)

*Dispilio Kastorias*, Northwest Macedonia: <http://dispilio.web.auth.gr/>

*Avgi Kastorias*, Northwest Macedonia: [http://www.neolithicavgri.gr/?p=1304&langswitch\\_lang=en](http://www.neolithicavgri.gr/?p=1304&langswitch_lang=en)

*Paliampela*, West Macedonia: [http://temper.web.auth.gr/index\\_en.html](http://temper.web.auth.gr/index_en.html)

*Makrygialos*, North Aegean Coast: Pappa and Veropoulidou 2011: [http://odysseus.culture.gr/h/3/eh352.jsp?obj\\_id=2502](http://odysseus.culture.gr/h/3/eh352.jsp?obj_id=2502)

*Archontiko Pellas*, West Macedonia: <http://www.hist.auth.gr/en/Departments/Archaeology-and-History-of-Ancient-and-Byzantine-Art-and-Civilization/Excavations/Archontiko>

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<sup>4</sup> For the full titles of the publication see Abbreviations at the end of the paper. This paper is based on data from the various chapters in *Sitagroi* volumes 1 and 2 and readers are directed to these volumes. Space limitations dictated listing in full only those chapters from the Tables of Contents that are referenced frequently in the paper.



Figure 1. Map of Northern Greece; Neolithic and Early Bronze Age sites, including many mentioned in the text (adapted from Theodoropoulou 2011, 94, Fig. 1).

Balkans” (*Sitagroi* I, 15), was materialized in methods of fieldwork, recording, and analysis that were innovative for their time.

This was an agricultural world with activities that inform our thinking about the men, women, and children who planted, herded, cooked, built houses, established households, nurtured babies, manufactured tools and goods, traded, and socialized. Interspersed in this way of life, we see distinct preferences for gathering, collecting, foraging, fishing, and hunting. Shell ornaments and implements (Nikolaidou 2003); impressions of textiles and of reed mats on pot bases (Adovasio and Illingworth 2003, 252; Elster 2003a, 246); paleobotanical evidence for collecting wild fruits, nuts, and seeds (J. Renfrew 2003); remains of wild animals, birds, fish, and shellfish in the faunal record (Bökönyi 1986; N. Shackleton 2003); and tools fashioned of wild animal bone and antler (Elster 2003b) are all part of the archaeological record. They constitute material evidence for age-old ways of life and economies existing long before the Neolithic, growing new roots into the process(es) of Neolithization (Perlès 2001), and continuing through the Early Bronze Age and beyond.

## THE SPECTRUM OF RESOURCES

Some of the most innovative finds from the site, which revolutionized prehistoric research in the region, belong to the realm of the “wild” (J. Renfrew 1973 and 2003).

*Wild grape.* Use of the wild grape, which is listed in Table 2 along with other collected plants, is attested from the Late Neolithic at Sitagroi, and the Early Bronze Age offers evidence for early, possibly local domestication of the species as well (J. Renfrew 2003, 13). The presence of wild grape in the region has also been confirmed in Late Neolithic levels of Dimitra and Dikili Tash, and the latter site has recently produced remarkable *in situ* evidence for

Phase	Duration (radiocarbon years B.C.E.)	Duration (calendar years B.C.E.)
Vb	2100–1800	2700–2200
Va	2400–2100	3100–2700
IV	2700–2400	3500–3100
III	3800–2700	4600–3500
II	4300–3800	5200–4600
I	4600–4300	5500–5200

Table 1. Sitagroi chronology (after C. Renfrew 2003, xxvii, Table 1).

Sites	Aceramic Neolithic					Early Neolithic					Middle Neolithic					Late Neolithic					Final Neolithic					Early Bronze				
	Grape	Almond	Cherry	Fig	Acorn	Grape	Almond	Cherry	Fig	Acorn	Grape	Almond	Cherry	Fig	Acorn	Grape	Almond	Cherry	Fig	Acorn	Grape	Almond	Cherry	Fig	Acorn	Grape	Almond	Cherry	Fig	Acorn
Achilleion						X				X					X															
Apsalos											X		X	X	X															
Arapi																X			X											
Archontiko																										X		X	X	X
Argissa	X			X					X	X																X			X	
Arkadiko																							X	X						
Balomenon						X			X					X																
DikiliTash																					X		X	X	X	X				
Dimini																X	X		X	X										
Dimitra																X		X												
Franchthi							X				X	X				X	X				X	X								
GiannitsaB						X		X																						
Kalythies																			X											
Kastanas																										X		X	X	X
Knossos		X		X		X	X		X		X	X		X																
Lerna																			X							X			X	X
Limenaria											X			X															X	
Makri																X		X	X	X										
Makrygialos																X		X	X	X										
Mandalo																					X		X	X	X	X		X	X	X
Myrtos																										X				
Nea Nikomedeia								X		X																				
Olynthos																			X											
Otzaki									X					X																
Pevkakia																X	X		X		X	X		X	X	X			X	
Prodromos								X		X																				
Rachmani																							X							
Sarakinos																				X										
Servia											X	X	X			X		X		X						X				
Sesklo				X	X	X			X		X			X			X			X										
Sitagroi												X				X	X	X	X		X	X	X		X	X		X	X	X
Stanropouli																X		X	X											
Thassounion																			X											
Thermi																X														
Tiryns																										X			X	

Table 2. Principle wild plants found in Prehistoric Greece (after J. Renfrew 2003, 24–27).

Neolithic processing of grapes, for wine-pressing or other juice extraction (Valamoti 2007; Valamoti et al. 2007).

Wild vines are widely distributed in the Mediterranean area, from the shores of the Caspian Sea to the Atlantic coast of France, and throughout Greece,

and grape pips occur with remarkable frequency in Neolithic and Early Bronze Age sites. In archaeological contexts, the pips are the most frequent finds, although in some cases the skins and fruit stalks (pedicels) also survive, as do very occasionally whole carbonized fruits. The problem is how to distinguish

between the remains of wild and cultivated grapes. In general, the pips of the wild fruits are more or less globular in shape, whereas the pips of cultivated grapes are longer and more pear-shaped. The fruit stalks of cultivated grapes tend to break off from the bunch when the ripe fruits are picked: in wild grapes the stalks are more robust and stay adhering to the rest of the bunch. There are, however, wide variations especially in the cultivated forms, and there is quite an overlap in size and shape of the pips. To complicate matters, spontaneous crossing between wild and cultivated forms occurs quite frequently.

The finds from Sitagroi show a development from the globular pips of wild grapes in Phases III and IV, to the more elongated pips of cultivated grapes and associated pedicels in Phase V (J. Renfrew 2003, 12–14). This raises the question of whether there was a local domestication in northern Greece. The find of grape pips and skins from Dikili Tash dating to around 2500 B.C.E. suggests that wine-making was already underway in northern Greece by this time, as do similar finds from the Early Minoan site of Myrtos in Crete. Grapes were important as a food source: the fresh berries contain 15–20 percent sugar, and fruits can be easily dried and stored as raisins. The juice can be made into wine, verjuice, or vinegar, and an edible oil can be extracted from the pips. Wine was especially important as it could be stored in sealed containers and traded as an exotic product, most notably in the Greek Bronze Age and later.

Other commonly found plant foods include figs, almonds, Cornelian cherries, and acorns, which were clearly collected to supplement the diet and/or to be otherwise processed (J. Renfrew 1997).

**Figs.** The fig tree, *Ficus carica* L., is also found widely around Greece, and wild figs typically grow at low altitudes in the Mediterranean *maquis* and *garigue* vegetation. They like to grow in rocky crevices, gorges and beside streams. There are two forms: the female is known as the true fig, and the male as the capri fig. Evidence of wild figs is abundant in early Neolithic sites in the Mediterranean basin. The trees seem to have come into cultivation by the Early Bronze Age in close association with the cultivation of the vine and the olive, but it is very difficult to distinguish between the pips of wild and cultivated figs in palaeo-ethnobotanical finds. Figs may be eaten fresh, or dried to be consumed out of season. Their value as a foodstuff lies in their high sugar content;

dried figs contain over 50 percent sugar, and thus form a valuable source of sweetening for societies with neither sugar cane nor sugar beet. In Classical Greece, they were also used as fodder for pigs.

**Almonds.** The almond, *Amygdalus communis* L., is the most widely cultivated nut in the Mediterranean basin. The nuts are either sweet or very bitter. The bitterness is due to the presence of glycoside amygdalin, which becomes deadly prussic acid after the seed is crushed or chewed. Almonds were collected from the wild long before domestication: carbonized shells were found in Mesolithic and Neolithic levels at the Franchthi Cave in southern Greece. A large find from Hallan Çemi Tepesi in southeastern Turkey, dating to about 8000 B.C.E., consists of charred wild fruits; these must have been treated to remove their latent toxicity either by leaching out the water-soluble prussic acid or by the extraction of almond oil. They appear to belong to the group of earliest fruit trees to come into cultivation. The kernels can be eaten fresh, or used in ground form in baking. They have a high fat content, about 50 percent, and a bland oil can be extracted from kernels.

**Cornelian Cherries.** *Cornus mas* L. is represented by its carbonized fruit stones. The fruits can be eaten fresh or dried, and today unripe fruits are pickled in brine and eaten like olives with a similar bitter taste. In France, they are sometimes preserved in honey. They can also be used to make an alcoholic drink.

**Acorns.** The fruits of *Quercus* sp., acorns are present on many prehistoric sites in Greece and are also found widely throughout prehistoric Europe. They appear to have been collected for use as human food: if they had been intended to feed pigs, it would be much less labor intensive to take the pigs into the forest to forage for themselves. The ancient writer Theophrastus describes the acorns of the different species of oak according to their sweetness, with those of the Valonia oak, *Quercus aegilops* Boiss., being the sweetest. He reports that in Macedonia, the acorns of *Quercus robur* L. are the sweetest, and that in Arcadia the acorns of the Holm oak, *Quercus ilex*, are sweeter than those of the Kermes oak, *Quercus coccifera* L. The challenge of using acorns for food is to extract the bitter tannins: this can be done by boiling or roasting them. Most archaeological finds consist of carbonized cotyledons, suggesting that they may have been roasted. Since the acorn cups or cupules do not survive, it is difficult





Plate 1. Left to right: Andrew Sherratt, Colin and Jane Renfrew, examining the large pits of the EBA bin complex; some were storing acorns; taken in 1986, on Sitagroi mound.

to assign them to species. Acorns were ground into flour to make bread in times of famine in medieval Europe, and it is possible that this was also the case with the large Bin Complex deposits found in the upper Early Bronze Age levels of Sitagroi (Plate 1). They can also be used as a vegetable dye and for tanning leather.

Many more species of wild fruits (see Table 2) were collected in season in the Neolithic and Early Bronze Age, but occur on very few sites: these species include cherries, wild pears, blackberries, elderberries, rosehips, hazelnuts, and capers; no doubt all added variety to the diet.

*Shellfish.* Among the collected/harvested materials, shells stand out for their strong presence among archaeological artifacts, shaped and worked into ornaments, tools and implements. In these materials, we observe interesting behavioral choices of form and functionality, across space and time.

The inhabitants at Sitagroi have not left behind evidence for strong dietary interest in the abundant seafood available at the Aegean coast; on the contrary, they deliberately sought certain species for their ornamental value as beads, pendants, bangles/

anulets (Fig. 2), and plaques. The marine shells of choice were, interestingly, those that were more difficult to obtain: *Spondylus gaederopus*, which has to be pried live from rocks deep underwater, and large *Glycymeris*, which lives buried deep in sandy beds (Miller 2003, 369; Nikolaidou 2003, 331; Shackleton 2003, 361). Although both species boast a tasty flesh, this aspect was apparently ignored, not only at Sitagroi, but in most other Neolithic sites (see Pappa and Veropoulidou 2011); although empty, unworked valves occur at times and could represent food remains, tangible evidence for culinary consumption of *Spondylus* so far comes principally from the Bronze Age and further south in the Aegean (Veropoulidou 2011).

Fishing for these marine mollusks is documented since the Middle Neolithic at Sitagroi. The predilection for the ornamental use of *Spondylus* and *Glycymeris*, despite differences in their respective treatment (Ifantidis 2011), is indeed a defining feature of Neolithic ornament technologies both within the Drama Plain, and all over northern Greece. Artifacts fashioned from the valves were intended for local use but also circulated widely within and

beyond the Aegean regions (Dimitrijević and Tripković 2006; Séfériades 1995). Not only was acquisition of marine bivalves an involved procedure; the profound transformation of the thick *Spondylus* shell into bangles/anulets and beads also required technical expertise, patience, and hard work. The labor invested in procurement and crafting, coupled with the attractive, exotic qualities of the shell, undoubtedly account for its remarkable popularity as an ornament in the Aegean and European Neolithic (Ifantidis and Nikolaidou 2011). Workshops have been documented or inferred at Sitagroi, Dimitra, Dikili Tash, Paradeisos, Makrygialos, Dispilio, and Dimini, all important centers of manufacture and regional/interregional circulation (Theodoropoulou 2011). This fascinating evidence for long distance trade of desirable items in the Neolithic has been continuously revisited (most recently Bajnóczi et al. 2013), ever since the pioneering sourcing studies of N. Shackleton and C. Renfrew (1970), which indicated the Aegean origin of *Spondylus* recovered from Sitagroi and elsewhere.

While in the Middle and Late Neolithic *Spondylus* and *Glycymeris* were used interchangeably at Sitagroi for the technically demanding bangles/anulets, in Chalcolithic Phase III the stronger, chromatically appealing *Spondylus* was the shell of choice for this ornament; the smaller *Glycymeris* were used for simple perforated pendants and beads (Miller 2003; Nikolaidou 2003). The latter were also conveniently made of *Dentalia*, a popular shell with a long, hollow shape lending itself ideally to effortless stringing. Among the repertoire of shell pendants, most were simply perforated natural forms or even pieces with handy, naturally occurring holes. A few more intricate shapes are found, including *Murex* rings and large perforated discs cut from thick *Spondylus*, the latter rather more useful as garment fasteners—perhaps a larger version of the well-known “buttons.” Indeed, a variety of *Spondylus* artifacts were possibly used as costume accessories in the Aegean and further north—heavy or elaborately shaped beads, “buttons” (Fig. 3), and belt buckles—which were attractive adornments but also powerful signifiers of value and likely prestige (Siklósi and Csengeri 2011; Theodoropoulou 2011).

Of the “functional” shells, useful for food and implements, *Unio pictorum* is the dominant edible species, and indeed the only shellfish whose consumption is attested at Sitagroi. This freshwater

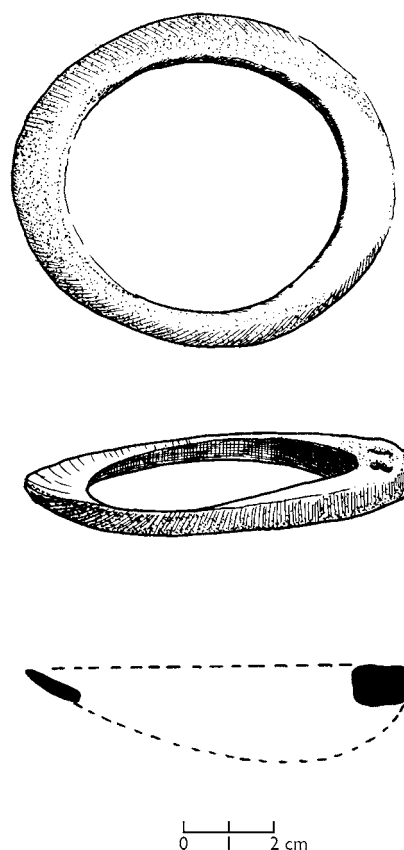


Figure 2. *Spondylus* bracelet/anulet drawing (after Nikolaidou 2003, 339, Fig. 9-5).

mollusk, abundant in the Angitis River close to the settlement, was ignored for ornamental purposes but was occasionally worked around the edges; in one case, it became a convenient container for red ochre, a pigment used to decorate figurines and presumably also useful for body or textile painting (Nikolaidou 2003). *Mytilus*, the Mediterranean mussel with a natural triangular form, offered an ideal shape and a sharp edge for a tool, likely to have been used, among other things, as little palettes or knives for the incision of ceramic decoration (N. Shackleton 2003). Interestingly, most of these worked triangular mussel shells date from Phase II, the ceramic repertoire of which features incised pots, distinctive small tripods or stands, miniatures (Elster and Nikolaidou 2003, 435, Figure 11.38), and figurines (Gimbutas 1986, 243) (Fig. 4).

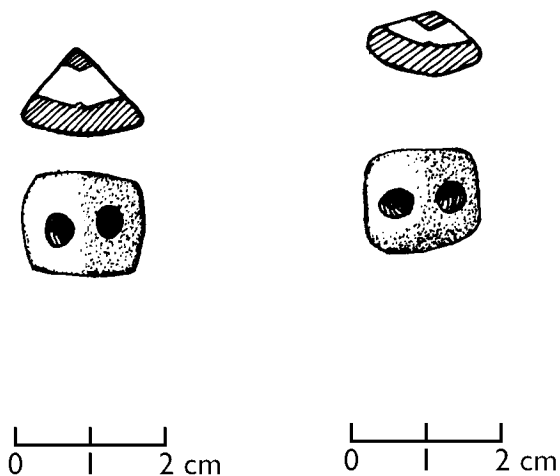


Figure 3. Buttons of *Spondylus* (after Nikolaidou 2003, 345, Figs. 9.18 and 9.19).

Along the temporal dimension, it is worth noting the increased quantities of *Unio* among the residue of Phase IV, the very same period that sees dramatic increase in the quantities of acorns, and among the faunal remains, taxa from wild game. The culinary tastes of the times may perhaps be sensed in the remains of a “soup” containing acorns, cockle shells, and *Polygonum* seeds, all found together in a pot from a house of Phase IV (Sherratt 1986, 441). Two other pots were recovered with large samples of grains still identifiable within, close to a cluster of acorns in a soil depression (*Sitagroi* 1, 210).

*Wild animal bone and antler tools.* Tools and artifacts of wild animal bone and antler were part of the faunal record identified throughout the life of the settlement (Bökönyi 1986; Elster 2003b).<sup>6</sup> Scholars have identified 5 domestic and 27 wild species; Bökönyi indicated that “the animal bone sample found on a prehistoric settlement does not represent the whole fauna in a region but only that part represented by human activities . . .” (Bökönyi 1986, 63). Thus human selectivity during those periods can be inferred especially by artifacts of antler and other wild taxa. The Sitagroi settlers’ preferences are documented in Table 3. The greatest percentage of wild-animal bone recovery is in Phase IV, the onset of the Early Bronze Age (Elster 2003b, 33; Table 2.1).

Despite the changing ratios of wild to domestic fauna in the zooarchaeological record of Sitagroi, there is consistent choice of antler for tools throughout the sequence (Elster 2003b, 67). Antler, valued for its sturdy and workable qualities, would most easily be collected in the forest after it was shed. Red deer range in dense forests and the rack of the mature male is shed in February, March, and early April, but only in particular forest areas (Choyke 1998: 172). Only antler specimens with pedicle attached are clearly from hunted deer since naturally shed antlers have no pedicle (Fig. 5). In Bökönyi’s report (1986, 68–9) of the refuse bone, red deer bone and antler represented 38 percent of the total wild bone recovered. This suggests that Sitagroi

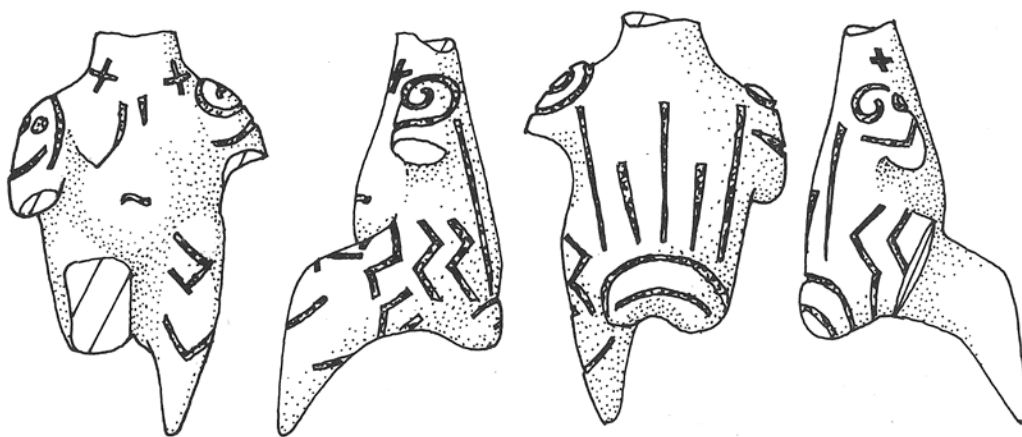


Figure 4. Incised figurine (after Gimbutas 1986, 243, Fig. 9.36).

6 There is currently strong interest in prehistoric bone and antler technologies. An important forum is the research group for the study of objects and waste of bone, antler, ivory, horn: <https://listserv.niif.hu/mailman/listinfo/bonetools>.

hunters were familiar with deer habits and habitats, and knew their way in the forests, successfully bringing back antler. Furthermore, skilled hunters acting within the social organization of the hunt, following whatever customs governed this activity, be they social, magical or religious, may account for the strong showing of red deer skeletal parts in the refuse bone of the settlement (Steele and Baker 1993: 26).

Bone artifacts total 452, and antler 161; the latter, seemingly much prized, is extremely resilient and absorbs shock without splitting. When the inner spongy core of a section of the rack is removed, the remaining sleeve can provide a handle for holding another tool (Choyke 1998: 171–72). Also, the number of artifacts that can be manufactured from an antler rack (Fig. 6) is potentially greater than from any other element: the multiple tines and basal, fork, or beam segments are all potentially useful. The antler beam and subsidiary tines are a bony outgrowth of the male deer's brow, grown and shed annually. As a stag matures his yearly antlers grow ever larger, along with the diameter of the beam and the number of tines; the latter are named in relation to their position closest to the burr: first "brow" tine, followed by "bez" and "trez" tines. A cross-section of antler shows that the interior is composed of woven bone tissue, coarsely bundled together and surrounded by a compact surface or external layer that offers much more material for carving than do other types of bone (Choyke 1998: 171). Because antler is stronger and more resilient than any other part of the deer, toolmakers selected, shaped, modified, and used various sections of beam and tine. Antler at Sitagroi comes from three species: the large red deer (*Cervus elaphus*) and two smaller, more graceful

species, roe deer (*Capreolus capreolus*), and less frequently fallow deer (*Dama dama*). If we can interpolate from the experiences of modern hunters, the roe deer was especially prized for its tasty meat.

Well over half of the bone tool count (252 artifacts or 56%) is manufactured out of elements from unidentifiable taxa (Table 3). We did not incorporate this large number of tools in all of the tabulations, since identification of even a fraction of these could change the relative percentage of domestic versus wild raw material selected. Nevertheless, from the

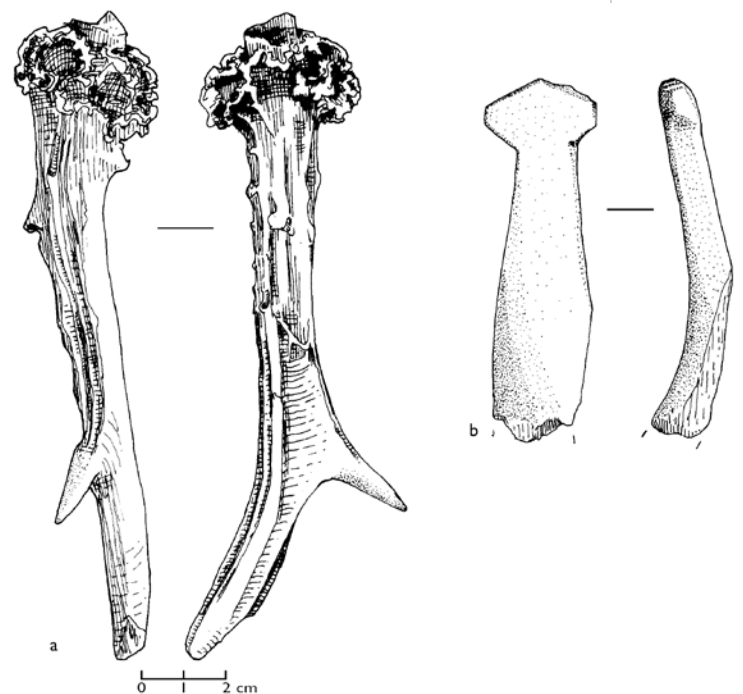


Figure 5. Left: antler beam with pedicle and wear at tip of tine. Right: roughed-out spoon from antler beam (after Elster 2003, 46, Figs. 2.12a–b).

Duration	% Domesticated	% Wild
Phase I (Early Bronze Age)	91.4	8.6
Phase II (Early Bronze Age)	96.53	3.47
Phase III (Early Bronze Age)	91.88	8.12
Phase IV (Early Bronze Age)	82.33	17.67
Phase Va,b (Early Bronze Age)	93.48	6.55

Table 3. Relative percentage over time for wild and domesticated bone taxa (after Elster 2003b, 33, Table 2.1).



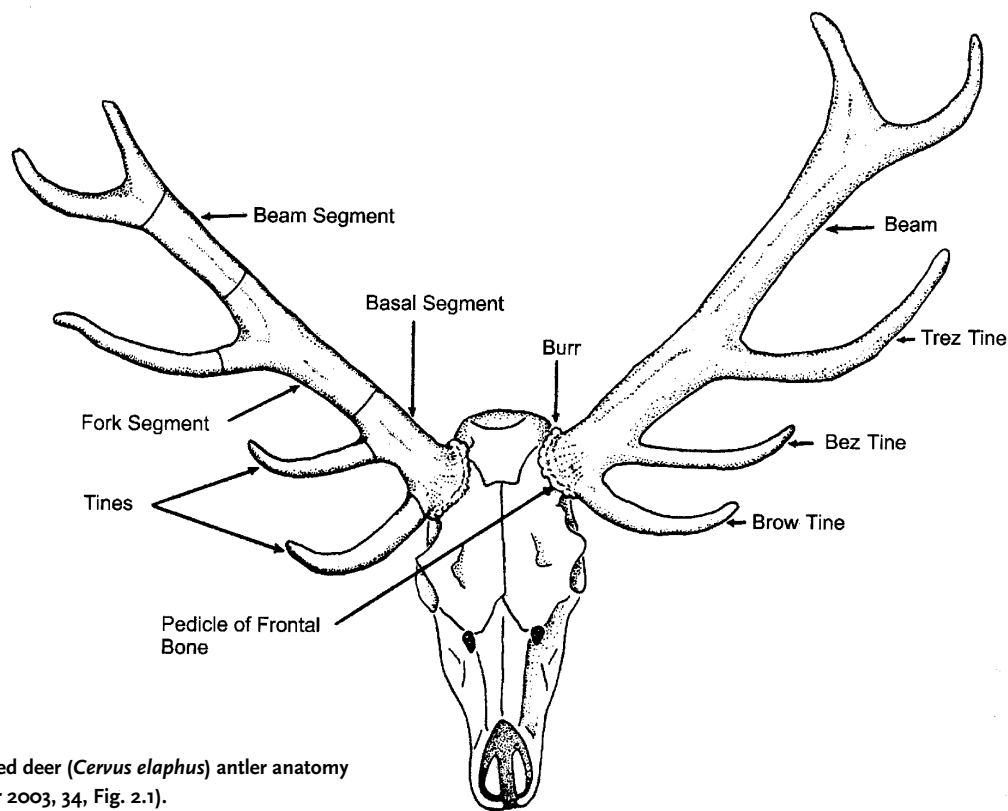


Figure 6. Red deer (*Cervus elaphus*) antler anatomy (after Elster 2003, 34, Fig. 2.1).

identifiable sample of 200 artifacts for a 3,000 year period, almost two-thirds (130) are from domesticates, and the balance (70) from wild taxa. Even though these tabulations do not present a full picture, the data suggest that bone from wild taxa was especially important to the settlers as raw material for tool-making, probably because elements from wild animals were stronger (Russell 1990: 544, 548). The hunt also offered opportunities for participants to show their skill and for leaders to emerge (Rappaport 1968), and the artifacts made of bone elements from wild and/or trophy animals might well have taken on special significance.

The repertoire of antler tools points to a variety of crafting and processing tasks with materials as diverse as hide, fiber, wool, wood, soft stone, and more. Of particular interest are the shaft-holed types, described as mattocks or other digging or hammering implements (Fig. 7a–b). Among the antler tools, these are perhaps the most demanding to manufacture and to form into part of a composite artifact. There are not many such utensils at Sitagroi, but they do cluster around the Neolithic and Chalcolithic, a phenomenon that calls for further exploration. Neolithic specialties also include a few other elaborately carved pieces of antler and bone from

Phases I and II. Some of these probably represent the shaft or handles of pans or other similar utensils (Fig. 7c), in which case they can be compared to the fanciful shapes and decorations characteristic of contemporary ceramic vessels. Indeed, all these extraordinary pieces harmonize with the pervasive preference for formal, and (probably) also semantic elaboration that distinguishes the material culture of the Neolithic.

#### THE CULINARY APPARATUS: FOOD, TOOLS, AND CONTAINERS

The changing culinary tastes documented in the palaeobotanical record (J. Renfrew 2003; Valamoti 2007) are reflected in novelties of the cuisine apparatus in the Early Bronze Age (Elster 1997): new, standardized types of querns, elaborate cooking installations, specialized implements such as the “oven stoppers” (Elster and Nikolaidou 2003, pls. 11.7–11.8), and a whole new repertoire of ceramics (Sherratt 1986) dominated by coarse wares appropriate for storage, transport, cooking, and serving: large jars, deep pots suitable for holding sizable quantities of food, deep handled bowls, ladles, jugs, plus individual-sized cups. These forms range from dry- and liquid-goods containers of large capacity, to medium- and small-sized vessels suited to the serv-

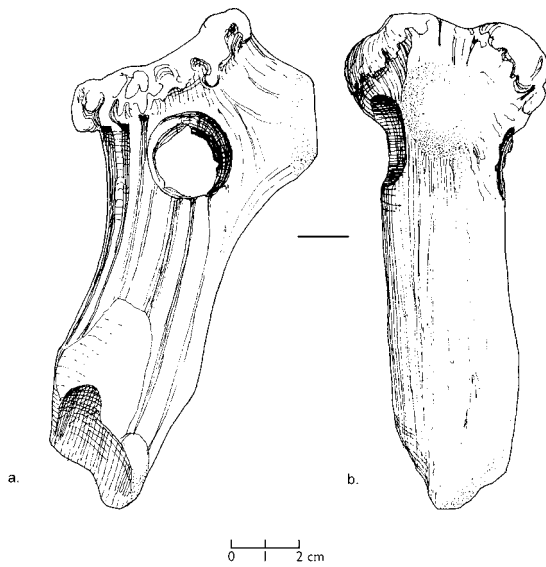


Figure 7a. Multiple-use antler beam with rosette preserved, shaft hole and hammer surface at cut brow tine; opposite end cut irregularly or worn; inner core removed (after Elster 2003, 49, Fig. 2.16).

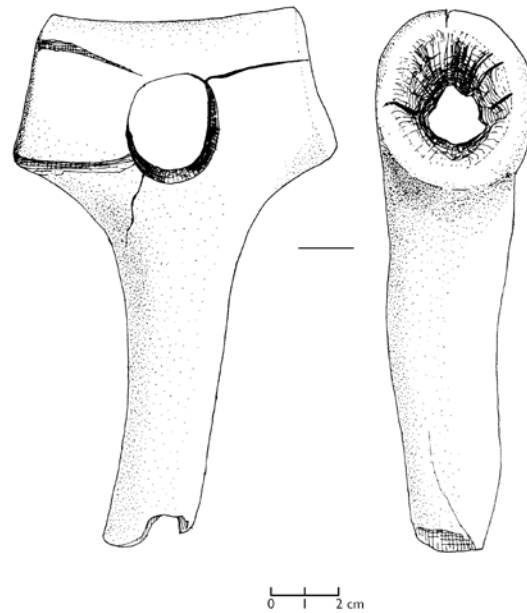


Figure 7b. Antler with shaft hole, fork segment (after Elster 2003, 49, Fig. 2.17).

ing and consumption of liquids and drinks: stews, wine, fruit juices, blood, medicinal brews, and of course milk from domesticated cow. On the other hand, we see a marked decrease of finely decorated ceramics from the onset of the Early Bronze Age onwards.

Looking back at the Neolithic and Chalcolithic pottery (*Sitagroi* I, chapters 11–12) with the predominance of small- to medium-sized pots, the high percentage of fine wares, and open shapes best suited for presentation, display, or group tasting, along with cooking and food-preparing vessels, we can perhaps appreciate the fact that the few mat/basket impressions at Sitagroi come from exactly these horizons of occupation (Elster 2003a). Basketry and cordage, devices already in use for millennia since the “string revolution” of the Paleolithic (Barber 2004), possibly fulfilled many of Neolithic folks’ needs for transportation, storage, cooking, and handling of large quantities of food. Lugs and small holes prepared for strings or cords appear on pots during the entire Sitagroi sequence. Impressions of reed mats, found on the base of pots, were identified as bilaterally split *Yucca* sp. A unique cloth impression from the Middle Neolithic, presumably woven of wild flax (Elster 2003a, 246: fig. 6.31a and pl. 6.19), provides us with a further picture of wild resource use.

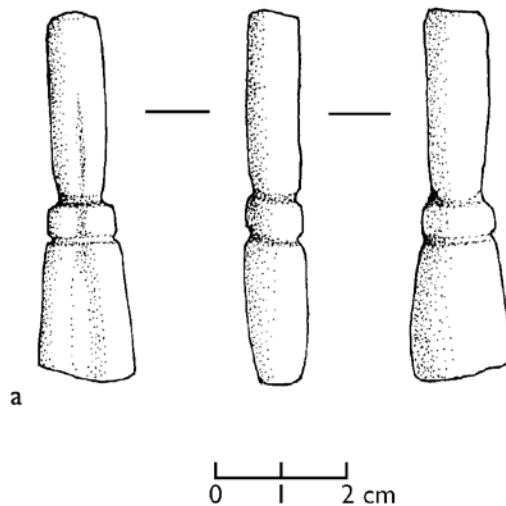


Figure 7c. Antler, shaped upper handle of spatula (after Elster 2003, 49, Fig. 2.18a).

That pottery, basketry, and mats are complementary is documented by the impressive finds at the recently excavated Late Neolithic House 1 at Dikili Tash.<sup>7</sup> Among the plethora of materials recovered in situ on the preserved floor and shelving were clusters of wild pears stored in what appears to have been a basket and in a large jar. Other pots included high concentrations of grape seeds, acorns, and grains.

## MATERIALS IN CONTEXT

Two assemblages rich in both wild and “domesticated” material represent, respectively, Neolithic and Early Bronze Age lifeways at Sitagroi (Nikolaidou and Elster 2003, Tables 12.2 and 12.7).

The excavation soils of Neolithic Phase II Square ZA, layer 52, were all screened through flotation, and the work exposed postholes of a house floor. Flotation provided a sample of more than 900 seeds representing cereals (most importantly), pulses, and a few wild fruit (cherry, pistachio, almonds, grapes); faunal recovery included skeletal parts of caprovids (6), cattle (3), and pig (4). An impressive number of small artifacts such as shell and stone ornaments, worked shell (*Mytilus*, *Unio*), chipped stone, figurines and models, and small counters were retrieved, as was also high-quality pottery; axes and stone grinders, and worked bone. Many categories of evidence seem interlinked. The processing stone tools and (sickle?) blades partner with the rich botanical record. Faunal remains and items of worked bone belong to the same species; bone items of various forms might have been used in the working of hides and processing of other parts from those same killed animals. Stone and bone implements with sharp points (including a *Mytilus* triangle), relatively well represented, may have produced the perforated ornaments and incised figurines, social ceramics, and plaque-handle. Scrapers, borers, querns and rubbers may also have been, in addition to food processors, tools for the manufacture of ornaments.

The early Bronze Age Bin Complex of Phase Vb features a rich exposure of large clay-plastered bins associated with patchy remains of flooring, postholes, hearth, a processing platform, and pits.

Although domestic in nature, this area was not clearly associated with a single structure; rather, the various bins possibly belonged to several now-perished houses. Thus, our focus shifts from the individual household to the neighborhood and village community. The structural features of bins and hearths suggest practices of food storage, preparation, production, and consumption encompassing more than one household; communal meals and feasting are attractive possibilities. This idea seems supported by the large numbers of organic remains, including 175 elements of domestic and wild fauna and more than 20 botanical samples, many of which consist of hundreds or thousands of seeds, acorns, and fruit pips. Also characteristic are the groupings of artifacts associated with the above activities: bowls, drinking cups, jars, or urns with big lids, chipped stone blades, axes, and various ground stone processors. Recorded artifacts number 245 and illuminate multiple aspects of life: farming, food processing, tool-making, crafts, notably weaving and metallurgy, trade (axes made of likely non-local raw materials in PO 7, 8; QO 8, 9; QN 7,8), adornment and fashion, presentation and/or display (a mace head), and hospitality (reflected in the cups and a decorated jar). If more than one family participated in the facilities of the Bin Complex (as is implied by the structural features), it would be interesting to consider the elements of visibility, collaboration, and competition involved in the performance of activities.

## DISCUSSION

The excavated remains of wild resources (Table 4) point to a multitude of natural environments explored, both in the vicinity of the village and further afield. The site was located to exploit many different eco-zones within and surrounding the Drama Plain (Fig. 8), ranging from mountain forest to rolling hill country, fertile plains, river banks, marshland, and coastline, within a radius from a few to 25–30 kilometers distant (Davidson 1986). The Sitagroi villagers took full advantage of their situation with short walking outings, daytrips, or longer travels that may have lasted days, involving more effort, risk, and adventure.

7 [http://www.dikili-tash.fr/index\\_en.htm](http://www.dikili-tash.fr/index_en.htm), with further references. We are indebted to Dr. Dimitra Malamidou and the Dikili Tash research team, for sharing with us as yet unpublished information on this important find.

	MID./L. NEOLITHIC	FN/CHALCOLITHIC	EARLY BRONZE AGE
<b>WILD VEGETATION</b>			
acorn		X	X
wild almond	X	X	X
cornelian cherry	X	X	X
fig	X		X
wild grape	X	X	X
hazelnut			X
pistacio	X	X	
<b>WILD FAUNA</b>			
aurochs	X	X	X
badger	X	X	X
beaver		X	X
brown bear	X	X	X
bustard	X		
wild cat		X	X
chamois		X	X
<i>Cyprinidae</i>	X		X
fallow deer	X	X	X
red deer	X	X	X
roe deer	X	X	X
fox	X	X	X
goose		X	
hare	X	X	X
hedgehog			X
mallard	X		
marten		X	X
mole rat		X	X
pike		X	
quail		X	
wild swine	X	X	X
turtle	X	X	X
vulture		X	
wolf	X	X	X
<b>SHELLS</b>			
cockle	X	X	X
<i>Columbella</i>		X	
cowry		X	X
<i>Dentalia</i>	X	X	X
<i>Donax</i>	X		
<i>Glycymeris</i>	X	X	X
<i>Murex</i>	X		X
<i>Mytilus</i>	X	X	X
<i>Neritea</i>		X	
oyster	X		
<i>Spondylus</i>	X	X	X
<i>Unio</i>	X	X	X

Table 4. Wild plants and animals excavated at Sitagroi. Compiled after Bökönyi 1986; J. Renfrew 2003; Miller 2003; Shackleton 2003.



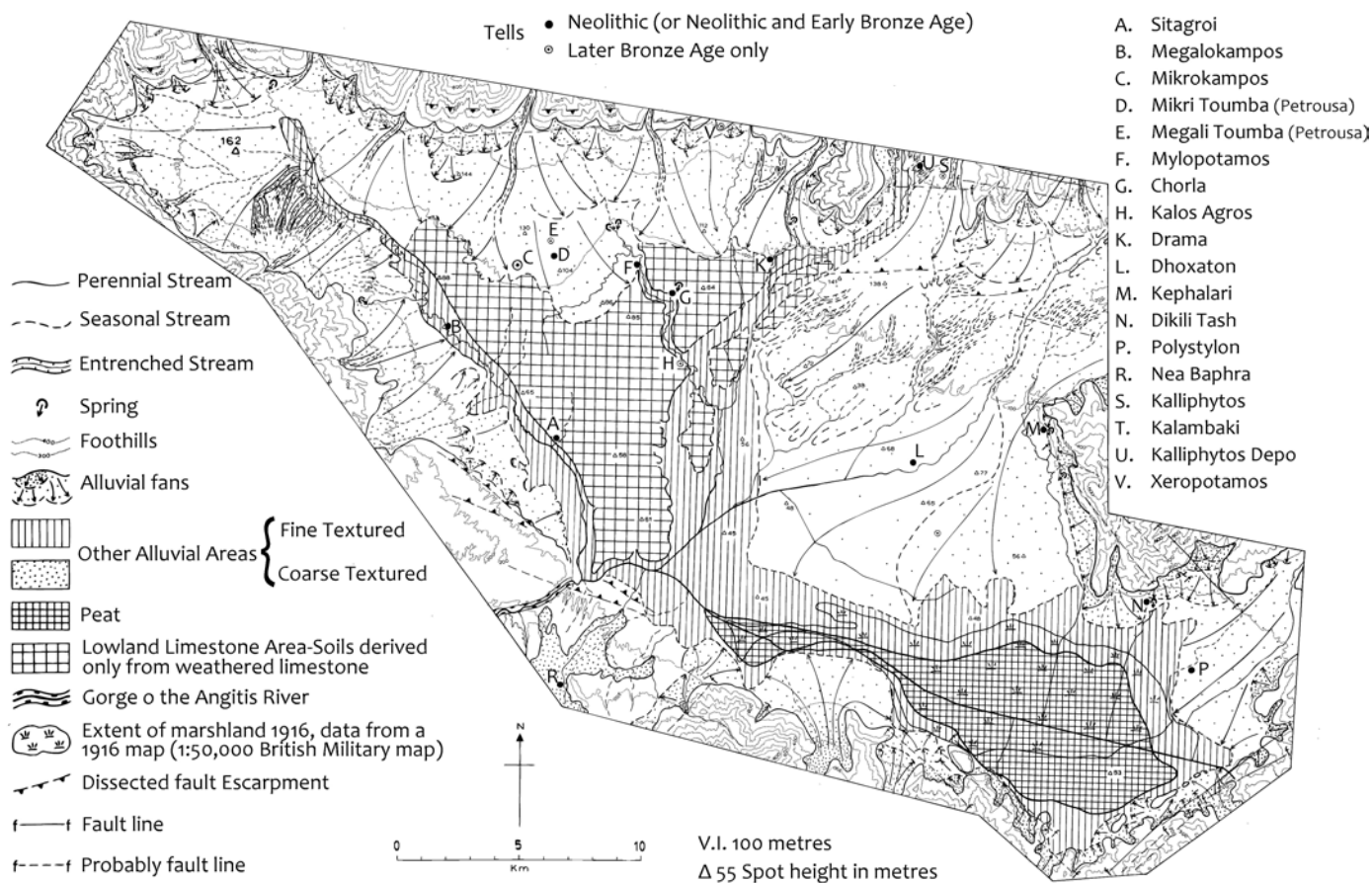


Figure 8. Ecological map of the Drama Plain with prehistoric sites in the region: Sitagroi (A) and Dikili Tash (N) (after Davidson 1986, 27, Fig. 3.2).

The mountain forests offered timber, fuel, and tasty game such as red deer, roe deer, and chamois; furs and skins from badger, brown bear, and wolf, plus acorns, hazelnuts, and wild cherries. The wetlands, rivers, and marshes were the habitat of the wild swine, fallow deer, beaver, freshwater mollusk, fish, migratory birds, and fowl. Also available were reeds for basketry and the flax, valuable not only as fiber but also for the medicinal and culinary value of its oily seeds (Valamoti 2007, 281). Although flax has not been identified at Sitagroi itself, it was found at Middle Neolithic Arkadikos Dramas close by (J. Renfrew 2003, T.I.19). The plain, meadows, and rolling hills provided fruit trees (fig, pistachio, almond, and wild grape vines), and the habitat of hare, fox, and turtle. The Aegean coast was the locale

to fish, dive, and/or comb for attractive shells. The material remains—shell, bone, antler, and seed—are but the preserved portion of this ecological cornucopia. But we can also imagine a whole treasury of other prized but now perished resources, including skin, furs, feathers, herbs, honey, wax (Decavallas 2007, 148) plus the favored meats, fruit, nuts, and juices provided by wild species.

In quantitative terms, the nutritional importance of hunted and gathered foods appears peripheral to the villagers' main diet of domesticated staples. But what were the reasons for consistently, albeit differentially, seeking comestibles from the wild? Did hunting and gathering provide a regular, albeit seasonally restricted, dietary supplement? Or did wild foods serve only as an "emergency" supplement to failed crops or dwindling livestock? People

were certainly aware of the nutritional value packed in foods such as acorns or mollusks (see J. Shackleton 1988), for example, which they systematically sought for millennia all over Northern Greece. Beyond sustenance considerations, were social and symbolic factors involved—or even predominant? Perhaps the inhabitants prized the “exotic” flavor of a rare delicacy; or the social status of the hunter was increased by bringing back prized game fit for a feast; or prestige was attached to a substance because of its limited availability and/or difficulty of processing. Perhaps there was an established value of local specialties that were traditionally consumed for generations and thus formed part of people’s identity, linked to their place. Special power may have attached to medicinal and/or unfamiliar ingredients, in the hands of a knowledgeable cook, healer, or crafter. Such nuances were hinted at in the research at Sitagroi; they are increasingly brought into focus through more recent and ongoing work on paleoenvironment, diet, and cuisine (Halstead and Barrett 2004; Mee and Renard 2007).

Within and beyond the Drama Plain, the settlers must have conducted a thriving trade in wild resources as well as other perishable goods. Perhaps each settlement specialized in certain goods, whether consumable (see Yannouli 1997), material, and/or spiritual, all exchangeable for other desirable commodities from around the Aegean and the Balkans (Perlès 1992). The most evident archaeologically at Sitagroi are lithics, graphite, shell, and metals, but ideas, skills (such as the special firing of graphite-painted pottery; see *Sitagroi* 1, ch. 12; *Sitagroi* 2, ch. 7), along with agents in each village, would all play a role. Some offerings now lost to us would have included textiles, “wild” raw materials and foods—anything exotic, desirable, difficult to obtain and/or process, and perhaps circulating under special conditions, for example as bridal dowry (Nikolaidou 2007; Valamoti 2007). The networks of communication spread in many directions, with villagers at various sites participating by both giving and receiving during transactions for procurement, affiliation, and knowledge. Technical “specialists” of ceramics, grape cultivation, and metallurgy would interact with other crafters, traders, explorers, and prospectors, engaging in negotiation, display, teaching, and learning (see Sherratt 1993). Goods of mythological and ritual significance (such as

figurines or specially formed and decorated ceramics) reflect other actors—healers, shamans, social leaders—who initiated interaction, ceremony, and communication.

In this paper, we reexamined the rich body of material and contextual evidence unearthed at Sitagroi to highlight some of the villager’s purposeful strategies of interacting with wild nature, and how these strategies were woven into the larger fabric of life in space and time. Research has progressed dramatically in this region since Sitagroi, our focal site, was first investigated (Andreou et al. 2001);<sup>8</sup> recent finds, new research tools, and innovative ways of thinking have added considerable time depth and breath of interpretative scope, and indeed call for a reconsideration of what is understood as the “Neolithic mode of life.” No longer seen as confined to the traditional archaeological model of sedentary farming and herding, Neolithic agriculturalists keep providing us with insights into a wide network of engagement with both domesticated and wild environments.

Such a reexamination spans two distinct areas of archaeological endeavor: hunter-gatherer studies and the archaeology of early farming economies. Both fields of research have been brilliantly pursued at the UCLA Cotsen Institute since its early days. As we recognize the 40th anniversary of the establishment of this research institute, we track the two converging paths of Sitagroi’s ancient farmers that were excavated so many decades ago: following the steps of these prehistoric villagers, and honoring the outstanding work of an international group of colleagues. ✱

8 An international conference on the centenary of archaeological work in Macedonia, 1912–2012, offered an impressive panorama of a century’s worth of research in the region, highlighting the important finds and advances since the 1990s: *1912–2012: A Century of Research in Prehistoric Macedonia, International Conference, Thessaloniki, 22–24 November 2012* (in press); <http://macedonia.prehistoric-conference.com>.

## ABBREVIATIONS

- Sitagroi* 1: Renfrew, C., M. Gimbutas, and E. S. Elster, eds. 1986. *Excavations at Sitagroi*, vol. 1. *Monumenta Archaeologica* 13. Institute of Archaeology, UCLA.
- Sitagroi* 2: Elster, E. S., and C. Renfrew, eds. 2003. *Sitagroi, Excavations in Northeast Greece, 1968–1970*: vol. 2, *The Final Report*. *Monumenta Archaeologica* 20. Cotsen Institute of Archaeology, UCLA
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# From Clay to Milk in Mediterranean Prehistory: Tracking a Special Vessel

SARAH P. MORRIS<sup>1</sup>



Figure 1. Map of the North Aegean (after Morris 2009–10: 5, fig. 4).

## ENIGMAS IN THE NORTH AEGEAN: BARREL-VESSELS?

Excavations at Torone in northern Greece, a coastal site occupied from prehistoric through Ottoman times, uncovered significant occupation levels of the third and second millennia B.C.E., representing the Aegean Bronze Age (Fig. 1). Thanks to an invitation from the Australian Archaeological Institute at Athens to publish the prehistoric materials from this site, I have been engaged in its study since 1993, and a preliminary report (Morris 2009–2010) anticipates a monograph in preparation.

Among the more challenging artifacts that I faced was a clay object of the Early Bronze Age that was reduced to fragments but once formed a barrel-shaped vessel made for suspension (Fig. 2). Its curious form emerged over several seasons, as it became clear that this vessel, with a single mouth on a short neck formed near the middle of its elongated body, possibly had a lid, but no flat, finished base; it never stood upright and had no handles (Fig. 3). While exterior surfaces are burnished like other wares of the same prehistoric phase, the inside faces were left rough, and in fact deeply and deliberately scored, a treatment common for the interior of Classical clay beehives (to allow attachment of wax honeycombs). But no evident explanation for these vessels was found in studies on Prehistoric Greece. Examples of this type of vessel turned up in several domestic

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Figure 2. Fragments of barrel vessel from Torone, Chalkidike.

contexts at Torone, indicating that it was a standard one in the Early Bronze Age household.

Parallels emerged in contemporary levels of the Early Bronze Age (2700–2200 B.C.E.) in the North Aegean, some at sites a few kilometers away in the Chalkidike (prehistoric Olynthos and Mesimeriani Toumba), others on islands in the North Aegean (at Poliochni on Lemnos, and Thermi on Lesbos), and, most famously, in vessels excavated at Troy in Anatolia (Fig. 1). Despite its ubiquity and contextual security, its peculiar shape made it difficult to identify its function. The fact that it appears in miniature forms as well, on Lemnos and Lesbos, made it even more intriguing.

#### CLUES IN THE EAST: “GHASSULIAN” CHURNS AND THE CHALCOLITHIC LEVANT

During a sabbatical year workshop in Israel in the fall of 2008, I was able to inspect the best parallels, in both form and function, in containers identified as “Ghassulian” churns in the Chalcolithic Levant (ca. 4500–3500 BCE). A hallmark of this important transitional phase from the Neolithic to Bronze Age,

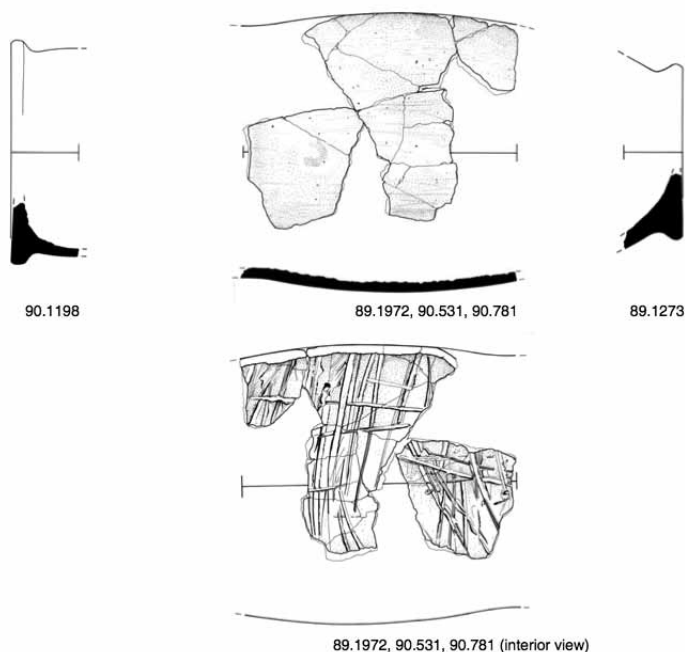


Figure 3. Exterior, interior of barrel vessel from Torone, Chalkidike (after Morris 2009–10: 37, fig. 28; drawing by Anne Hooton).



Figure 4. Ghassulian churns on display in the Israel Museum.



Figure 5. Modern Bedouin churn in use. Photo: courtesy of Osnat Misch-Brandl.

such shapes were easily identified as clay versions of traditional wood and leather containers for agitating soured milk in order to separate butter and whey, prepare various forms of cheese and curds, or produce a soured-milk drink still widely consumed across the Near East. In fact, Jacob Kaplan, an Israeli archaeologist whose research at Jaffa inspired a current UCLA project (<http://www.nelc.ucla.edu/jaffa/research/kaplan.html>), was one of the first to appreciate this shape and its functions (Kaplan 1954, 1965). Sturdy loops at both ends of the containers enable horizontal suspension (Fig. 4). Contemporary parallels still in use among Bedouin and other pastoralists (Fig. 5) help explain prehistoric shapes, and close studies of herding communities that process raw milk into multiple long-life products provide a complex *chaîne opératoire* for such systems (Martin 1980: 24–25; Fig. 6).

Perhaps the most interesting angle of these household items in the Near East is how they were celebrated in cult form, both as miniature versions and as an attribute of a female figure, like the one found at Gilat in the Negev, carrying one on her head (Fig. 7). This Chalcolithic “dairy queen” expresses a crude connection between the female body and the contents of the churn posed on her head, as well as the cup tucked under her arm with which she is ready to serve the churn’s contents. A related figure of a donkey, from an important shrine at En Gedi above the Dead Sea, carries examples of such churns on its back. While no such ritual images with churns have turned up in the Aegean, at least one jar from Chalcolithic Hacilar in Turkey has been identified as a churn-shaped goddess (Epstein 1985: 54, Fig. 1).

Here the Levant and the Aegean share the ritual aspect of these curious shapes, for they also appear in miniature form at Thermi (Lesbos), Poliochni (Lemnos), and at Limantepe in coastal Anatolia. This suggests cult attention to milk and its secondary products, during a period when pastoralism played a central role in the domestic economy. At Gilat in the Negev desert of Israel, well explored by our UCSD colleague Thomas Levy, a typical Chalcolithic assemblage included 765 churns (19% of domestic ceramics), including 71 miniature ones (or 10% of the corpus of clay churns) (Levy 2006: 424–26, 492–95). Most of the miniature containers seem too small to be functional, even to prepare “individual” portions (some are only 7 cm long). Rather, they

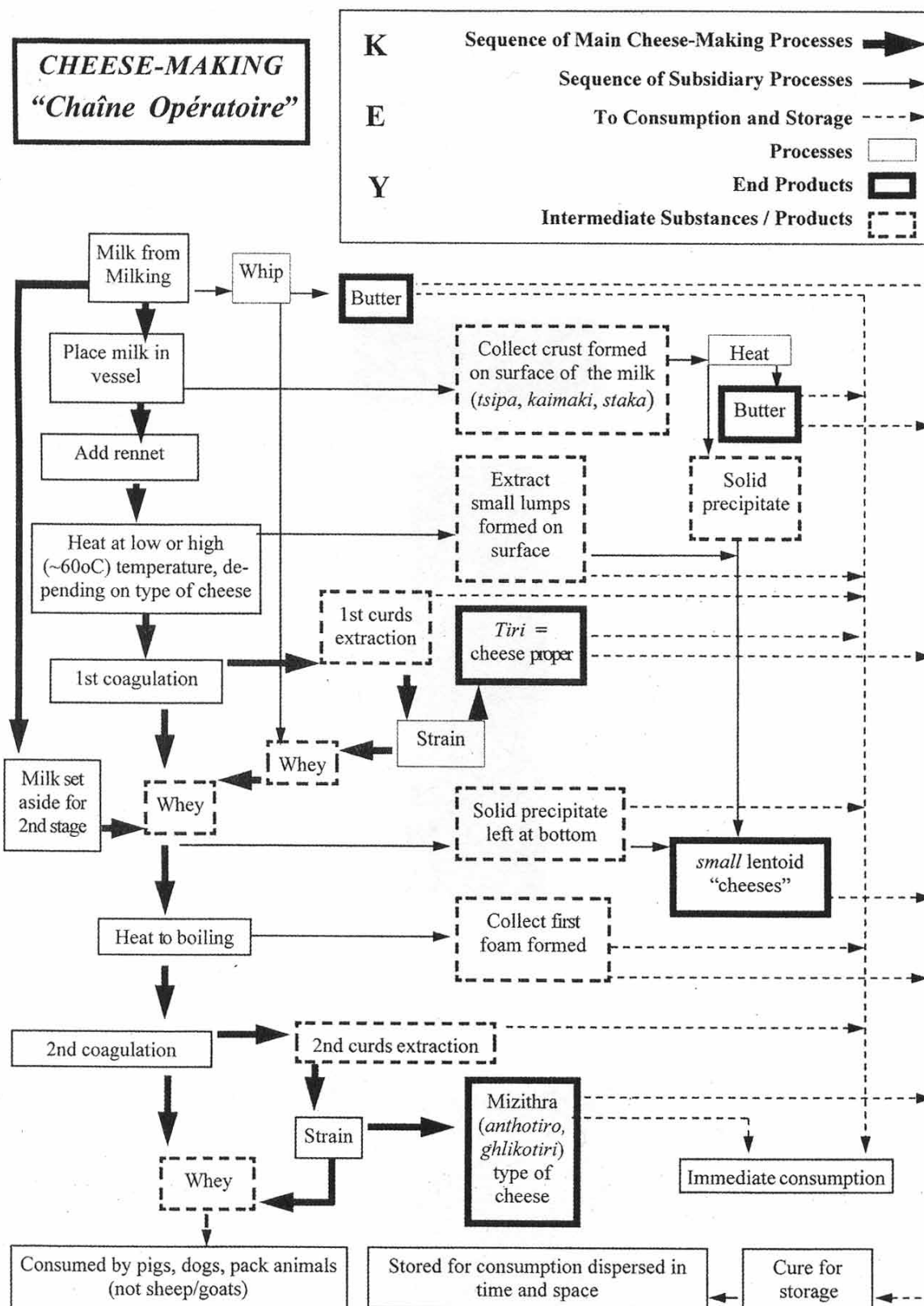


Figure 6. Chart of milk products (after Kapetanios 2003: 285, fig. 13.1).





**Figure 7. Chalcolithic female figurine with churn, from Gilat, Negev (Israel).**

must express a particular attitude towards the sacred that is articulated in the form of miniature objects, in prehistoric ceramics (Marangou 1992).

However close in form and function the examples we have compared from the Aegean and the Levant, it is unlikely that they are related. At least 1,000 years, and as many kilometers, separated pastoralists of the southern Levant from early village farmers and fishers of the North Aegean. Nor were intervening regions and centuries helpful for reconstructing plausible links, despite efforts by colleagues working in Crete to identify connections to the Levant in the fourth millennium (a recent panel of the AIA in 2013 convened six papers on this topic). While early Anatolia might appear to offer another logical link across time and space between the Levant and the Aegean, very few candidates for such dairy bottles have appeared at sites of the Chalcolithic period, an era well explored and analyzed in modern Turkey (Schoop 2005). Instead, large ovoid standing jars, resembling some modern containers still in use by herders, were used to separate butter fat from milk (Schoop 1998), largely in Central Anatolia at higher, cooler elevations where prehistoric communities may have prized sources of fat (butter) rather than protein (cheese, yogurt) in their processing of milk.

## THE AEGEAN AND THE NORTH: THE BALKAN CONNECTION

As it turned out, the most plausible origin for these vessels in the Early Bronze Aegean lay closer to home, and in fact emerged from the work of several famous Cotsen Institute of Archaeology collaborators. Much of my research has become a tribute to the pioneering work of the late, great Andrew Sherratt. The churn played a visible role in his arguments for a “secondary products” revolution during the Chalcolithic prehistory of Europe (Sherratt 1981), and was in many ways inspired by the work of his colleague at the CIOA Sitagroi excavations, Sándor Bökönyi, who also analyzed the animal bones from Torone. Andrew’s seminal study included a chart of the vessels critical to this development, although none turned up at Sitagroi (unless my hunch about some peculiar “lids” reported there pays off: Sherratt 1986: 468, fig. 13.22, 7–8), where he worked with Sándor Bökönyi, who first articulated the importance of domestic products (Bökönyi 1974). Instead, the examples that Andrew illustrated, in arguing for the processing of primary products (milk, wool, leather) into objects of added value for exchange, stem from cultures just north of the Aegean, in the Copper Age Balkans. This link proved to be crucial for my own research on similar vessels just beyond the contours, in space and time, of the Chalcolithic cultures of Southeastern Europe. They ended up offering me the closest parallels, in terms of shape and chronology, to the examples that were so ubiquitous in the Early Bronze Age North Aegean. These examples should rather be considered antecedents, as they belong to a suite of ceramic and technological innovations in the Late Copper Age that disappear from the Balkans, only to show up in the Chalcolithic Aegean.

During the Copper Age (ca. 4500–3000 BC, also called the Eneolithic in the Balkans, Final Neolithic in the Aegean, and Chalcolithic in the Near East), the Baden culture of the Carpathian Basin specialized in several distinctive shapes, including one called a “dairy bottle” by some, or a *Fischbutte* (fishtrap) in German, for its resemblance to baskets set in rivers as traps for fish (Kalicz 1963: 35–37). Examples of these appear in Sherratt’s chart (Sherratt 1981: 281, fig. 10.15: 4th row from top), and can be traced to examples in Hungary but also attested in many regions of the former Yugoslavia. With-

out much prior emphasis on churns and dairying, this area, instead, has been the focus of study on the demise of copper metallurgy in the Balkans (Anthony 2010), and a major shift toward the exploration of silver, gold, and lead in the Aegean regions (Maran 1998). It appears that other innovations or intrusions, involving foodways and the processing of dairy products, accompanied this important relocation of entrepreneurs and their households to the southern Balkans and North Aegean areas. Thus the brief life of churns (their demise will be considered below) signals a transformative era in the prehistory of southeastern Europe, along with the emergence of the Aegean as a critical region in Bronze Age metallurgy.

### BEYOND BARRELS AND CHURNS: MUCH-MALIGNED MILK?

Understanding the origin, life, and function of these special vessels brings up their specific role in dairying and what cult purposes they express along with serving as common household dairy-processing vessels of the Neolithic and Bronze Age. In the course of my research, it became clear to me that milk and its multiple by-products have not attracted the kind of scholarly attention that drew archaeologists to the primary resources of domesticated animals and plants in the Neolithic period. Unlike the consumption of prestige foods—choice cuts of fresh meat, carefully prepared dishes enhanced by spices, or fermented beverages, with their inevitable ties to feasting and elite practices repeated from time to time on different schedules—milk products must be extracted daily from their animal carriers and processed promptly. Frankly, dairying is slow, tedious, and messy work, involving repetitive actions, patience, and long-term investment in space and equipment, to produce portable forms of protein and liquids. While it would be reductionist and sexist to call it woman's work, as well as inaccurate—many herding activities are still in the hands of men—post-milking processing (like milking itself) belongs to daily household tasks and is often conducted there today (Fig. 8). It is also highly exposed to complex preferences in flavors and foodways, since raw milk can be boiled, fermented, separated, dried, salted, or served in soft or sweet form. As none of this shows up in the form of direct evidence or even proxy data, one must turn to additional, non-material testimonia



Figure 8. Traditional view of village life in modern Turkish postcard.

on ancient and modern tastes to appreciate the full spectrum of ancient dairy practices.

Here the work of UCLA colleagues in Near Eastern Languages and Cultures proved an inspiration. A specialist in the earliest surviving cuneiform texts from the Near East, Professor Robert Englund, and his former student, Dr. Jacob Dahl of Oxford, have devoted several studies to the early signs and complex systems recording dairy products in Mesopotamia (Englund 1991, 1995; Dahl 2005). In Proto-Elamite texts (3100–2900 B.C.E.), ten different variants distinguish containers for dairy products (milk, butter, oil, etc.) and in the Archaic Uruk writing system (3200–3000 BCE), products as well as containers are differentiated by names as well as signs, including distinctions among the milk of sheep, goat, and cattle (Fig. 9). All this implies a complex and closely regulated (as temple income) system of dairy herding and processing of milk products at an early date in complex state-level societies, but one visible primarily to cuneiform specialists, rather than to specialists in faunal remains. Indeed, some zooarchaeologists have explicitly denied a major role for milk or cheese products in the Archaic Uruk period (Zeder 1991: 34). For a faunal specialist, identifying age at slaughter and sex of archaeological specimens determines whether herding was aimed at meat or milk. Recently, two such specialists have argued that exploitation of sheep and goats, and even cattle, for milk, rather than meat, dates back to the earliest domestication of these species in prehistoric Europe, long before













Product Base	Butter-oil		Dry cheese	
	Susa	Uruk	Susa	Uruk
Sheep's milk	M260 	KISIM <sub>a</sub> 	M106 	GA'AR <sub>a</sub> 
Goat's milk	M269 <sub>(a)</sub>   	KISIM <sub>b</sub>   	M106 <sub>a</sub> 	(only attested for dairy cattle) 

Figure 9. Archaic proto-cuneiform signs from Susa and Uruk (after Dahl 2005: 115, fig. 21).

the “secondary products revolution” (see below) and even as early as the Pre-Pottery Neolithic in the Near East (Vigne and Helmer 2007). This would make milk a “primary” rather than secondary product, and even an original target of animal domestication itself. However, it may have been an increased emphasis on milk products—a drive for surplus, not just subsistence?—that made developments in the Chalcolithic the “revolution” identified by Sherratt (Greenfield 2010).

Indeed, it was partly in order to challenge a prevailing assumption among archaeologists that dairy products did not play a leading role in Neolithic Europe (Craig et al. 2005) that a comprehensive project in chemical analysis was initiated by Andrew Sherratt and Richard Evershed (Evershed et al. 2008). This ground-breaking study in residue analysis was published in 2008, two years after Andrew’s sudden and early death, and was based on a sample of over 2,200 vessel sherds from Europe and the Near East. Molecular analysis of lipid biomarkers (identified as milk fats), and stable carbon-isotope analyses of fatty acids, largely via gas chromatography, indicated that milk products were in use, or at least detectable in clay vessels, since the seventh millennium, in a procedure in which UCLA scientists and archaeologists have specialized (Barnard and Eerkens 2007). Unfortunately, the original study did not offer enough details on the types of vessels sampled, unlike later ones where alleged milk strainers and boilers from Neolithic Europe were

deliberately selected for analysis (and tested positive for their use in dairying: Salque et al. 2012). Nor is it possible at this point to organize a North Aegean project to sample suitable vessels of the Early Bronze Age (some Neolithic sites in the region provided sherds for the first study, but tested negative for milk products: Urem-Kotsou and Kotsakis 2007: 257), given that many were excavated over a century ago, and others too thoroughly washed on discovery. Thus a final interpretation of the churns that I have identified in the North Aegean must rest, at the moment, on a contextual and comparative study of excavated examples.

### SHAKEN, OR STIRRED? THE MANY LIVES OF MILK

What often remains elusive is just precisely in what form these products were served and consumed: dried, salted, soured, fermented, or fresh? Within the framework of raw milk, the same liquid can also be processed and prized as a beverage safer than water, as a source of portable protein (when dried and salted into multiple forms of cheese), but also as a source of fat in the form of butter or oil. The milk of both cattle and sheep is high in dairy fat, which can be separated from the milk proper or whey, then purified by extraction of its water content to reduce its ability to foster bacteria and spoilage. This produces a form of clarified butter or liquid oil (familiar as ghee in South Asia) with a much longer shelf life than fresh milk or solid butter, as it can be sealed and stored for up to a year. But in residue

analysis, identifying milk lipids cannot inform us what kind of dairy product was processed, stored, or consumed in individual vessels. Even the species of animal cannot be determined from milkfat residues alone: do lipids represent milk from goat, sheep, cattle, or horse? In turn, strontium-isotope analysis of human collagen in bones or teeth will reveal whether animal protein was consumed and can even pinpoint the species, but not whether such protein was consumed as meat, milk, or byproduct. This requires coordinated research among ceramicists, faunal specialists, material scientists, and bioarchaeologists, for a complete analysis of how milk traveled from animal to human, and in what form.

Here another brilliant aspect of Andrew Sherratt's scholarship on the role of processing is still being appreciated: the problem of raw animal milk and its intolerance by many human beings. Boiling and processing raw milk, and turning it into soured milk or yogurt in liquid or clabber form, greatly reduces its lactose content, thereby eliminating a steep challenge for many human consumers who lack lactase, the enzyme necessary for digesting it. Whether by trial or by error, the domestication of animals for use as dairy herds also introduced methods of making their main product tolerable for human digestion. The results of this heritage still play a role in modern human health and the distribution of its particularities. The troubling lactose factor is more widely tolerated in northern cultures (where milk spoilage is also a less urgent factor than in high-heat regions such as the Levant and Mesopotamia), while even today, raw milk is less welcome in southern regions where the human system did not adapt as well to the challenge of digesting lactose products. Recently, the genetic adaption that enabled lactase persistence has been isolated as a strong biological selective advantage, and its effects and distribution modeled across European populations (Itan et al. 2009). Thus factors in both biology and economy may have co-inspired early herding populations to make raw milk both more easily digestible, as a reliable staple food source, and to render it into products with longer shelf-life as a stored product, both a hedge against riskier resources and a source of added-value income for the household.

Another risk attached to raw milk is its ability to foster bacteria: in addition to the health risks of lactose and spoilage, harmful organisms that

flourish in a liquid rich in sugars, fat, and so on can inflict consumers of milk with serious diseases. Like soaking and cooking legumes to reduce their natural neurotoxins, which cause lathyrism and favism (two afflictions named for pea and bean types) in mammals, boiling milk kills bacteria, including those transmitted from animals to humans that carry brucellosis. In more basic health terms, boiled milk is safer than water in an unfamiliar environment: thus visitors and strangers are offered boiled or fermented milk, or buttermilk to drink on arrival in a pastoral community, in modern practice as well as ancient literature. A Middle Kingdom Egyptian traveler who reaches Palestine is welcomed by herders with boiled milk (in the Song of Sinuhe), while in the Biblical book of Judges, a courageous woman, Yael, welcomes her enemy Sisera into a tent by offering him boiled(?) milk, before driving a tent-peg through his temple. No wonder churns and their products attracted poetic praise in bucolic verse since Sumer, and in the imagery of the Hebrew Bible (Kramer 1989; Grottanelli 1994). As a subsistence food as well as a focus of cult since the Chalcolithic period, milk and its by-products deserved a special ideology, across the long life of pastoralism in the Near East.

Finally, the many lives of dairy products in antiquity will necessarily remain invisible, as long as their effects do not survive in ceramic surfaces, human collagen, faunal remains, or other proxy data. For example, while these Early Bronze Age vessels vanished from the repertoire of Aegean pottery, they may simply have been replaced by other containers of perishable materials (leather, wood, etc.). Solitary clues to their demise or disappearance emerge from archaeological contexts: in both northern Greece and in the Levant, at least two households took these horizontal suspension churns, rotated them 90 degrees, and planted them in the earthen floor, near the hearth, as if to expose the contents to warming, and use them as vertical churns (Fig. 10). This turned the horizontal, suspended "barrel" into something more familiar as a standing, stationary (wooden) churn, with a vertical agitation process (via a deep wooden plunger, later a geared wheel as in modern churns) that replaced the earlier, "tribal" form. Yet a taste for dairy products and ability to diversify its processed





Figure 10: Churn (upended) from Mesimeriani Toumba, Chalkidike. Archaeological Museum of Thessaloniki.



Figure 11. Modern wooden barrel-vessel for making *ayran*, Turkey, 2008. Photo: Charles Steinmetz.

forms for protein, fat, and long-life purposes must have survived as long as Aegean communities herded domesticates. This leaves us with an absence of evidence that surely does not spell evidence of absence, and archaeology may have to pick up a new trail of dairy products.

## EPILOGUE: CHURNING AHEAD?

Last year, it was a welcome surprise to discover fragments of these vessels, distinctive for their scored interior surfaces, thick walls, and multicolored burnished exteriors, during the first study season at ancient Methone. This site in northern Greece lies not far from Torone (as the crow flies west), on the coast of Pieria in Macedonia, and was home to a substantial new settlement since the Late Neolithic period (see pages 148–149 this volume). It is the locus of a new CIOA archaeological project that was launched in 2012, supported by the Steinmetz Chair in Classical Archaeology and Material Culture, one that we hope will keep many of us in northern Greece for many years to come. It was in fact an informal CIOA presentation that I gave in 2005 that exposed me to the many interests and talents for researching this topic in our Institute, and a UCLA Alumni Tour to Turkey that introduced me to one of many modern examples of this shape, captured on camera by Charlie Steinmetz (Fig. 11). So, I expect further surprises in the history and adventures of this shape to emerge from our next project in Greece, and in the study of the Bronze Age pottery (to be published with our CIOA academic affiliate, Dr. Marianna Nikolaidou). So stay tuned! ✨

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# Evolving Holistic Approaches to the Quaternary in East Africa<sup>1</sup>

MERRICK POSNANSKY<sup>2</sup>

**Paleoanthropology is multidisciplinary in nature and the [Paleoanthropology Society's] central goal is to bring together physical anthropologists, archaeologists, paleontologists, geologists and a range of other researchers whose work has the potential to shed light on hominid behavioral and biological evolution.**

(1992 definition, Paleoanthropology Society)

**I**n much of eastern Africa in the early 1950s, “archaeology” meant Paleolithic archaeology. Paleoanthropology as a multidisciplinary field explaining how humans fitted into their landscape, how they organized their living space and made and used their tools, hardly existed. There were paleontologists who studied fossils, and a very few human-oriented paleontologists who studied fossil hominids and what were believed to be their fossil ancestors. It was firmly believed by most scholars that the Pleistocene period comprised the last million years and that it was characterized by (1) Ice Ages in the north-

ern hemisphere and (2) human development. There were no accepted, or at least widely known, methods of determining a universal time scale. Except for the last 50,000 years, which were on the brink of being covered by the new carbon-14 (C14) isotopic dating method, all time scales were controlled guesswork; the sole exception was for far older rocks, the ages of which were already approximated using isometric dating, albeit with wide margins of error. The conceptualization of the Holocene, or the “completely recent” period in which we live, was based on ideas about the end of the Ice Ages that had characterized the Pleistocene. The suggestion that it comprised the last 10,000 years was partly due to the work of the Swedish geologist Gerard de Geer (de Geer 1910) who in the early twentieth century worked out his chronology based on varves, the annual sedimen-

<sup>1</sup> A version of this paper was given as a keynote address at the Eastern African Quaternary Research Association (EAQUA) conference in Nanyuki, Kenya, in July 2013.

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tary deposits in glacial lakes. C14 dates have now pushed back the start of the Holocene to around 11,000–11,500 years B.P. Some scholars believe we may still be in the Pleistocene and that what we are now experiencing is an Interglacial episode. It is now established that human origins, though not the presence of modern humans nor of stone tools, goes well back into Pliocene times.

In Africa, regional geological mapping programs undertaken by colonial departments of geology were successful and provided some excellent maps, but outside of E. J. Wayland's work in Uganda, there was little colonial involvement in archaeology (Fig. 1). In 1956, there were just six East African archaeologists at work, only two of whom were full time. Foreign archaeologists, such as T. P. O'Brien and Van Riet Lowe in Uganda, and in the mid-1950s Clark Howell in Tanganyika, worked at important sites. During the same period, a few gifted and knowledgeable amateurs, with minimal funds, such as E. C. Lan-ning in Uganda and Henry Fosbrooke in Tanganyika, made important discoveries, but the search for the human past was still in its infancy. The development of national parks in Kenya, beginning with the one in Nairobi in 1948, led to cultural conservation. Archaeologists—including myself in 1956—were appointed Wardens of Prehistoric Sites based at Olorgesailie, while James S. Kirkman became Warden of the Historic Sites with his base at Malindi. In the half dozen years after 1957, the discoveries of fossil hominids at Olduvai completely changed the whole equation and led to many remarkable developments, of which the most notable were the creation of paleoanthropology, the teaching of archaeology as a university discipline, and the expansion of our knowledge of the prehistory and archaeology of the Holocene and the tentative beginnings of historical archaeology. This was a period of great expectations, hopes, and advances—a heroic age in the archaeology of Africa.

The purpose of this paper is not to recount or evaluate the many discoveries made between 1957 and 1964, but rather to convey the excitement of the period from an archaeological perspective. The new finds and approaches coincided with a remarkable era in East Africa, with the arrival of independence and the establishment of the University of East Africa covering Uganda, Kenya, and Tanganyika (to be renamed Tanzania in 1965 following independence and the revolution in Zanzibar). The outside world became more interested in both the past and

the future of Africa. The African past had been relatively neglected, and the future held hope and anticipation of new knowledge and greater appreciation of Africa's importance in world history. The remarkable events that I shall describe were not only important for Quaternary studies in East Africa but also had significant ramifications for African studies generally.

These developments took place at a time when African history, and certainly the archaeology of Africa, was absent from the syllabi in the universities of the Western world. Most anthropologists looked to Africa as a basis for "primitive art," studying the organization of both tribal societies and nascent states, but not seeking there the history of humankind before "the birth of civilization" in the Near East. The growth of African history<sup>3</sup> paralleled and stimulated archaeological initiatives. Historians demanded more information on pre-colonial Africa as well as on Africa in the period of the slave trade, on the subsequent exploration of Africa by the West, and on the development of colonialism. The lack of knowledge about Africa as well as rigid stereotypes affected not just African studies but also social research in lands far removed from Africa. The literature at the time was so limited that as a newcomer to Africa in 1956 I was able within a few weeks to read most of the books and papers relating to East Africa's history from human origins to the colonial period. Except for *Kush*, which covered the Sudan and particularly the Middle Nile, there were no pertinent journals of archaeology except for the *South African Archaeological Bulletin* published in Cape Town, which covered the white-dominated parts of southern Africa. During that period, which preceded the establishment of universities in various countries of Africa, at the then-University Colleges of London in Africa, the past of Africa was discussed only from the middle of the eighteenth century C.E. as part of a general course on imperial history after the time of the American Revolution—the eighteenth century being the time when the British and French Empires began to loom large. Timbuktu was still regarded as practically the end of the earth. It was no wonder that two of the most influential books for students

3 African history only came into its own with the publication of *The Journal of African History* in 1960 and the beginning of university courses at the Universities of London, Birmingham, and Edinburgh. Such development came slightly later in the United States and the rest of Europe.



interested in the early history of Africa, as opposed to human origins, were Basil Davidson's *Old Africa Rediscovered* (published in the United States as *The Lost Cities of Africa*, 1959) and E. W. Bovill's *Caravans of the Old Sahara* of 1933. Both of these volumes conveyed the stereotypical "mystery" of Africa. One influential breaker of the paradigm of enigmas regarding the African past was the Reverend Gervase Mathew, quoted by Davidson as declaring that new ideas about Africa were constantly being discovered and that the most important word for any writer on African archaeology was "probably" (Davidson 1969).

This was also the period of the Civil Rights movement in the United States. African-Americans, who during their time of dependency and enforced submission had absorbed some of the prevailing negative attitudes toward Africa, now began looking at Africa with a sense of pride, some adopting African dress such as Dashiki shirts and smocks and colorful textiles, like Ghanaian *kente*, as well as Afro hairstyles. In this period, too, African Studies associations were founded in the United States and Europe, and research centers like our own at UCLA (in 1959) came into being. Courses on Africa were introduced on African campuses; African students were encouraged to study at American universities and were often helped by adventurous schemes like the Tom Mboya airlift from Kenya and generous foundation funding. The Peace Corps was established and many of its first volunteers after 1961 were bound for Africa. It was a period when the names of Kwame Nkrumah of Ghana, known for his pan-Africanist ideals, and Louis Leakey, hailed for his affirmation that Africa as the original homeland of humankind, were acclaimed as names of respect in the African diaspora.

Many mysteries about Africa's past still remained in 1956, but as Davidson foretold, the pace of discovery since then has been rapid. We can now dispense with many of the "probablys" and affirm that for Quaternary research in East Africa the seven years from 1957 to 1964 were the most critical for our understanding. For a time, the concept of the "Human Revolution" was hailed as being just as important as the later Agricultural, Maritime, and Industrial Revolutions. Though the Quaternary was geologically the fourth and most recent geological period, the prevailing original definitions did not

really fit. The Quaternary began before both the Ice Ages of Europe and the first appearance of hominids. The period begins with a geological definition based on marine faunal changes described from Italy, in a phase known as the Villafranchian. The mammalian fauna, particularly its elephants, horses, and pigs, was a distinctive feature of the Pleistocene.<sup>4</sup> A spotlight was shone on Africa when participants in the International Geophysical Year of 1957–58 undertook research in Africa, working on the high mountains, the deserts, and areas of tectonic activity. It was the first time that the idea of contemporary climatic change during the Holocene of Africa was mooted, as observers noted the shrinkage of the high-mountain ice caps and the southward advance of sand dunes from the Sahara.

In 1956, archaeology and geology were to some extent on parallel tracks, but even as recently in the comprehensive *Prehistory of East Africa* by Sonia Cole, published in 1954, the archaeology of the Late Holocene was given minimal consideration. Continuities between past and recent populations also received scant recognition. Meanwhile, the practice of archaeology was changing rapidly. In the first place, the idea of vertical cuttings (sometimes referred to as phone boxes) to test what there was and to determine the stratigraphic, and thus the cultural, sequence of artifacts, was giving way to horizontal excavation with larger windows on past activity. In Stone Age archaeology, this practice enabled Mary Leakey to suggest early Stone-Age wind-breaks, and for Glynn Isaac to delineate campsites and suggest food-sharing activities. Instead of a statistical approach with measurements of tool shape and size that resulted in graphs, tables and number-crunching—to determine cultural assignment and style—the focus shifted to how tools were used. Wear patterns were examined and the experimental use of the tools was employed, all to determine behavior and technology. Slow, painstaking work was undertaken, where there was no evidence of the movement of flakes from a working floor, to reassemble cores to determine exactly how tools were made. Spatial patterning became essential, as was clearly demonstrated in Mary Leakey's later excavations at Olduvai Gorge.

4 One of the original definitions of the Pleistocene by Charles Lyell in 1870 had been the period in which 70% of the fauna were similar to those of the present day.

Some of the most profound changes took place in Uganda, where the geologist Bill Bishop used a geomorphological approach to the physical setting instead of just stratigraphy, and assumed climatic changes to explain physical features. The climatic sequence previously in vogue for Stone Age archaeology—proposed by E. J. Wayland, enthusiastically supported by Louis Leakey, and codified in Sonia Cole’s synthesis—was just too simplistic. It wrongly assumed that higher lake levels and expanded river flows were the result of pluvials, the African equivalent of the European glacials. French scholars in the Sahara clearly demonstrated the opposite: that for the period of the last glacial advance in Europe, the desert in the Sahara intensified and was dry and cold. The situation in East Africa was now seen as much more complex. Major tectonic upheavals and faulting had occurred, which drastically changed drainage patterns. Bishop (1969) reconstructed a geological history of the Western Rift and demonstrated, among other things, the need for diachronic comparative studies. He noted that many river gravels of the Tertiary period had size and shape compositions similar to those of Early Pleistocene Uganda. When he examined the percentages of pebbles and the patterns of flake removal in these early river gravels, in which the flakes had clearly been removed and pebbles fractured due to the mass movement of the gravels, he was left in no doubt that the percentages were similar in both locations. The demolition of the Kafuan as the world’s oldest stone industry came about because similar “tools” were found in both Tertiary and Pleistocene contexts. In other words, their form was created by the movement of the pebbles in the river bed, not by any human agency (Bishop 1959). This meant that the earliest credible stone tools were now the Oldowan chopping tools found at camp sites associated with faunal remains at Olduvai Gorge. Bishop also clearly demonstrated that the famous Acheulean hand-axe sites in the Kagera Valley, such as Nsongezi (Fig. 1) and Nyabusora, were the accumulation of stone tools on exposed lake flats similar to those in Tanganyika sites such as Olduvai and Isimila. The lake flats existed and were exposed when Lake Victoria was more extensive than it later became (Fig. 2). The land transformations described by geomorphologists were taking place contemporaneously with human occupation. In many ways, the nature of geological research was changing. Just as

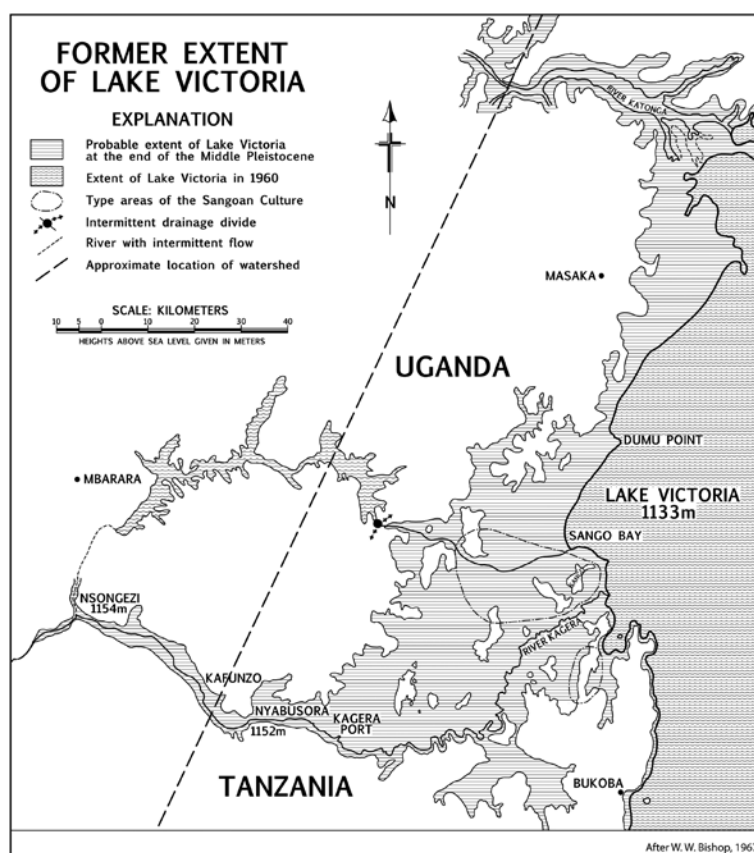


Figure 1. Map showing former extent of Lake Victoria. Hand-axe sites, like Nsongezi, are found on terraces of old lake flats cut through by Kagera River.



Figure 2. Nsongezi camp, 1959. Note the flat area of the terrace, and the small size of the camp.

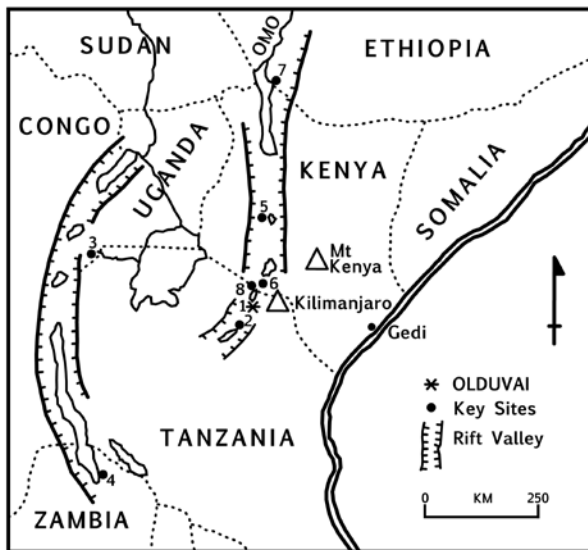


Figure 3. Map showing sites mentioned in the text: 1. Olduvai Gorge; 2. Laetoli; 3. Nsongezi, Uganda; 4. Kalambo Falls, Zambia; 5. Baringo; 6. Olorgesailie; 7. Koobi Fora, Lake Turkana.

landscape formation can be glimpsed from geomorphology and through the study of fossils (paleontology), geomorphology has become a key component of Quaternary studies (Fig. 3).

The establishment of the Oldowan choppers as the oldest tool industry made the discovery of hominids at Olduvai that much more arresting. In 1955, Louis Leakey, who had discovered Miocene primates like *Proconsul* (now known as a *dryopithecene*) in the Rusinga area of Kavirondo, found a hominid tooth at Olduvai (L. S. B. Leakey 1960). He had previously published a number of skeletal finds of Late Stone Age inhabitants (L. S. B. Leakey 1935), but this was his first early hominid find at Olduvai. Olduvai was a site with a stratified sequence of lacustrine exposures on which hominids established campsites. The multiplicity of faunal remains, which had excited German explorers before World War I, made it likely, but certainly not inevitable, that eventually a hominid would be found. Leakey was persistent and worked periodically at Olduvai from 1931 onward. The discovery in 1959 of a cranium of what was initially called *Zinjanthropus boisei* has become the best known archaeological discovery in East Africa. It instantly gave Leakey bragging rights for East Africa as the original homeland of mankind. Australopithecines had been discovered and described from South Africa by Raymond Dart, and later Robert Broom, but they were from sites not associated with assemblages of stone tools. A further factor was that Olduvai could be dated by a new isotopic dating tech-

nique developed in the United States, known as K/Ar (potassium argon) based on quantification of the half-lives of the principal constituents, Potassium<sup>40</sup> and Argon<sup>40</sup> (Curtis 1967). The method was not universally applicable: it depended on the presence of volcanic tuffs. Such volcanic deposits were not found on South African sites but were interspersed throughout the layers at Olduvai. (A lava layer, which for a time provided a convenient marker for the beginning of the Pleistocene, underlies the whole sequence at Olduvai.)

In the years since the early 1960s, new methods of dating have been developed and volcanic tuffs are now dated using Argon<sup>40/40</sup>, a method that has been calibrated with the known, documented dating of 79 C.E. for the eruption of Vesuvius that overwhelmed Pompeii. Magnetic dating has also been developed, utilizing the effects of magnetic-pole reversals. Though this method has been used for East Africa, including Olduvai, it relies partly on deep-sea core calibration and is normally used in conjunction with isotopic dating techniques.

Once archaeologists and geologists were free from the arduous task of dating—using stratigraphy, associated faunal remains (if any), or assumed climatic conditions—they were at liberty to discuss what the finds actually meant in social and cultural behavioral terms. For the Late Stone Age, ethnological analogies had been employed with conclusions—often in fact tenuous—drawn from studies of modern hunting-and-gathering societies. The big problem is that great distances in time and/or space separate the Stone Age hunters from their ethnographic analogues. The hunters of Europe preyed on migratory species, like caribou/reindeer, that moved around in large numbers. The sites excavated have often been caves and the deposits indicate that their users were highly sophisticated hunters, employing missiles such as barbed arrows and spear throwers with stone-tipped projectiles. Rock art, so far only found from contexts later than 30,000–25,000 B.P.,<sup>5</sup> provides the spiritual, mystical context of that industry. None of this information is available to students of early hominid sites. The present-day foragers

5 Christopher Stuart Henshilwood of the University of Witwatersrand has recently suggested (2013 Inskeep Lecture at Cambridge University), on the basis of finds from Blombas Cave and Klipdrift Shelter in the Southern Cape in South Africa, that the use of ochre coloring and engraving may go back to possibly 75–80,000 B.P.

in semi-desert conditions, such as the Australian aborigines or the San peoples of the Kalahari, have technology that is far advanced from that of Olduvai, or have been in contact with metal-using peoples for many generations. Behavioral studies of human's closest mammalian relatives, the Great Apes, had been shown to be feasible by George Schaller's work on the mountain gorillas of southwestern Uganda (Schaller 1963). Louis Leakey saw the feasibility of looking at the behavior of other, more accessible great apes, such as the chimpanzees of Tanzania. Accordingly, he dispatched Jane Goodall to Gombe near Lake Tanganyika in the late 1950s. Goodall studied social interactions and interactions with outside groups of chimpanzees but also recognized use of tools such as grass stalks for fishing out termites from hollow logs, their facility for carrying objects while balancing on their feet, their use of sticks and occasional omnivorous habits like eating smaller animals that they had killed (Goodall 1965). Though chimpanzees do not make camps on the ground, their social and other activities provided insights to students of early humans regarding possible social activity and tool use. Her work stimulated further and prolonged research on gorillas by Dian Fossey and on orangutans by Biruté Galdikas.

Of particular significance in trying to determine the nature of early hunting and gathering was the conference convened in Chicago in 1966 on Man the Hunter, sponsored by the Wenner Gren Foundation (Lee and De Vore 1968). The conference brought together archaeologists, human biologists, social anthropologists, and others interested in the evolution of hunting practices and the nature and explanation of their behavior. Instead of simply describing sites and the distribution patterns of stone artifacts, some researchers were beginning to come to grips with changing patterns of human behavior. A particularly significant paper at the time was one by Richard B. Lee (1963), which provided models for different settlement distribution patterns as related to climatic shifts or environmental changes. The focus was changing in the early 1960s from descriptions of Stone Age industries to attempts to define changes in Stone Age ecology, particularly in the writings of Desmond Clark (Clark 1960).

With success in finding sites with hominid fossils came a determination to explore such sites more extensively. The original 1959 season at Olduvai Gorge turned into an excavation that lasted several

years. Far from digging more cuttings, Mary Leakey expanded her FLK excavation to cover 3,600 square feet.<sup>6</sup> Cut marks were discovered on bones presumably made with Oldowan choppers, and more intensive examination of the fossil-rich deposits led to the discovery of the remains of many smaller creatures and even of insects. It was clear that the old ideas of humans scavenging game that had been killed by other creatures or using group activity to capture small prey such as antelopes were off the mark. The evidence now suggests that the diet of Early Pleistocene foragers must also have included small animals such as lizards, tortoises, birds, and probably insects as well as an abundance of gathered foods that are not yet readily detectable (M. D. Leakey 1979). Fossilized coprolites yielded a plethora of such data. All in all, bones from more than thirty animal families have been found over the years at Olduvai and other sites, providing a great deal of information on both the resources available and the nature of the environment as it changed over the million and a half years of human occupation (M. D. Leakey 1979, 123–64). In 1960, researchers found numerous bones from two individuals, and, in 1961, foot bones were discovered. Part of a skull of *Homo erectus* was unearthed in 1960. Then, in the early 1960s, a completely new hominid was discovered, eventually named *Homo habilis*, dating from 1.8 million years ago and associated with stone tools: the earliest such association. This now meant that there was the strong possibility that two varieties of hominid co-existed and that *Homo habilis* was possibly an ancestor of *Homo erectus*. This probability of multiple genera and different behaviors, based on different environments, had a dramatic effect on interpretations of early human ecology.

One of the immediate results was that researchers set out to find new areas where similar conditions existed; namely, areas that possessed exposed stratified lacustrine deposits interspersed with dateable volcanic tuffs (Fig. 2). These conditions were found (1) at the northern end of Lake Natron where Glynn Isaac found further australopithecine remains at Peninj in 1964; (2) in the Omo Valley in Ethiopia, near Lake Turkana, where work continues to this day and where specimen ER1470 fully confirmed the

6 These areas are in fact relatively small compared to those uncovered on early agricultural sites in Turkey dating to 10,000 B.P., which can comprise upward of 60–70,000 square feet.



expectations of the genus *Homo*; (3) in the Baringo Basin in Kenya, where Bill Bishop worked with a team from the University of London; and (4) at Hadar in Ethiopia, where in 1974 Donald Johanson found Lucy, *Australopithecus afarensis*, the most complete australopithecine ever found. In the 1970s and 1980s, *Homo ergaster* was separated out to comprise many of the larger brained members of this early *Homo* grouping. Though the search for hominids was regarded as paramount, pains-taking work on Early Stone Age sites and explorations of human ecology by Desmond Clark, from UC Berkeley, were just as productive in Ethiopia and at Kalambo Falls on the border between Tanzania and Zambia. Both areas had sequences running through to Late Stone Age times, and proof of fire as a tool being associated with Acheulean material (Gowlett and Wrangham 2013). In 1975, Mary Leakey broke new ground with her work at Laetoli, south of Olduvai in Tanzania, which produced remains of *Afarensis* and the first hominid footsteps made in fresh tuff, dated to 3.5 million years ago.

Though data remained elusive, it was also postulated that the Early Stone Age tool-making hunters, who certainly had fire, might have communicated using language. Various theories based on neck morphology, evidence of where specific muscles were located, etc., have led to suggestions that language may have been in existence as early as *Homo erectus*. Though language was a tool of communication facilitating cultural evolution, we still know little about the matter before 15–20,000 years ago.<sup>7</sup> It is possible to suggest the use of language as one of the crucial cultural components of *Homo sapiens sapiens* (modern humans) by 70–80,000 years ago. In a seminal paper in *Current Anthropology*, Hockett and Ascher (1964) made a strong argument for language—facilitating sharing and transmission of information—being a key component of the Human Revolution. Part of the argument made at that time was that all languages fall within the same sound-frequency range, suggestive of a common ultimate source for all languages.

7 Mark Pagel of Reading University suggested, in a U.S. National Public Radio interview in May 2013, that proto-languages can be traced back to a point some 15,000 years ago when there were at least 2,000 words whose roots can be suggested. Ehret (2002) has suggested proto-languages for most of the current African languages from the same time frame.

In many ways one of the key results of the transformative events in East Africa was the stimulation of new publications reflecting some of the new excitement. *Current Anthropology* initiated by the University of Chicago became a forum for new discoveries and ideas. Various foundations sponsored conferences and research dealing with new evidence; particularly the Wenner Gren Foundation for Anthropological Research, which fostered *Current Anthropology* and hosted several key symposia on Africa during the 1960s at their conference center at Burg Wartenstein, Austria. The National Geographic Society in Washington, known then much more widely for introducing its readers to little-known societies living in areas untouched by the Western world, became a major sponsor and publisher of paleoanthropological research. It had the appeal of reaching outside the arcane readership of specialist journals, a readership that only numbered in the hundreds, into the homes of millions around the world. Time-Life Books published its first volume on *Early Man* in 1965 with numerous drawings, maps, and colored plates. It too reached millions of readers. Its author, Clark Howell, was also responsible for widely stimulating paleoanthropology throughout universities in the United States. In 1968, the L. S. B. Leakey Foundation came into being in southern California. Research on African primates, hunter-gathering peoples, and Stone Age sites became a clearer focus for the foundation's financial support, as well as the training of African paleoanthropologists. The Western world that had hitherto ignored Africa now began to realize that it needed to know more about how humans developed, how society evolved, and what lay at the roots of world civilization. Africa became relevant. Paleoanthropology was fortunate in that its discoveries had awakened wider interest at a time when the West was taking a greater interest in Africa and competing for global success in the Cold War era. Unfortunately, the "rush" to find qualified Africanists led to a drain from Africa of many of its most experienced researchers.

One other, possibly less-anticipated result of the expansion of the discovery of hominids and the search for early human sites has been an increase within Africa of public interest in the past. This was tied up with the extremely rapid development of public education that occurred after independence. Before 1963, there were only five full secondary schools in Kenya; they were exclusively for boys,

and two of them mostly served the sons of colonialists. After ten years of independence, every district and most major towns had at least one secondary school. Many were day schools, and most were co-educational. New African pupils meant new curricula and new textbooks that reflected African rather than British history. Pride was developing in African institutions, and universities were not far behind. The first university courses in African archaeology were taught at Makerere College in Uganda in 1962, the first in Dar es Salaam in 1966, followed by Kenya in 1967, and in the 1970s at Addis Ababa in Ethiopia. From two museums at the time of independence in Kenya, there are now sixteen national museums, affording young people an opportunity to get to grips with the realities of the search for and conservation of Early Humansites. School programs were added or enhanced at museums in Kampala and Nairobi. Similar developments took place in Uganda and Tanzania. None of this development would have been possible without the active interest taken by political leaders of these countries at a time when expanded social services for hospitals, general education, community development, transport systems, and economic expansion were the order of the day.

It was only in 1960 that African dances were adapted for stage presentation in the new Uganda National Theatre. From the 1960s, East African music was played and recorded in East African studios. Part of the pride shown in such expressions of cultural identity was also evident in the stamps issued in East Africa. In colonial times, the stamps had reflected colonial interest in game or scenery, with lions, elephants, giraffes, dhows, Mt. Kilimanjaro, Ripon Falls, and railways being depicted on stamps. With independence, starting with Tanganyika in 1961, Uganda in 1962, and Kenya in 1963, stamps began to express local pride in indigenous culture to broadcast knowledge about the antiquity of humans in East Africa and their accomplishments. *Zinjanthropus* appeared on an airmail stamp in 1965, along with the Leakeys and their dogs at Olduvai (Fig. 4). An East African stamp series commemorating archaeological sites appeared in 1967 (Fig. 5). In 1975, the butchery site of a hippopotamus left by hominids using hand axes at Isimila in Tanzania appeared on an East African stamp commemorating the African Festival of Arts (Fig. 6). Such archaeological stamps and many others on rock art, hairstyles, dress, pottery, historic sites, buildings, and so



Figure 4. East African postage stamp of 1965 depicting *Zinjanthropus* and Olduvai site.



Figure 5. East African postage stamps commemorating archaeology, depicting rock art; fossil finds (*dryopithecus* ape ancestor); Luzira terracotta head; and Islamic Pillar tomb from Kenya coast. Photo courtesy of J. Walz.

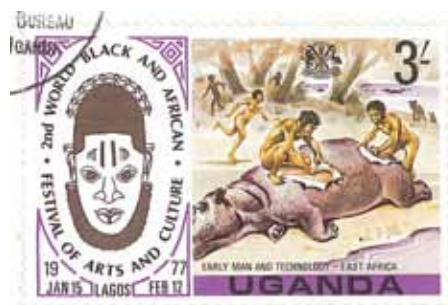


Figure 6. A 1977 East African stamp depicting Isimila hand-axe site with reconstruction of the butchering of a hippopotamus; stone tools and hippo bones facilitated the reconstruction.

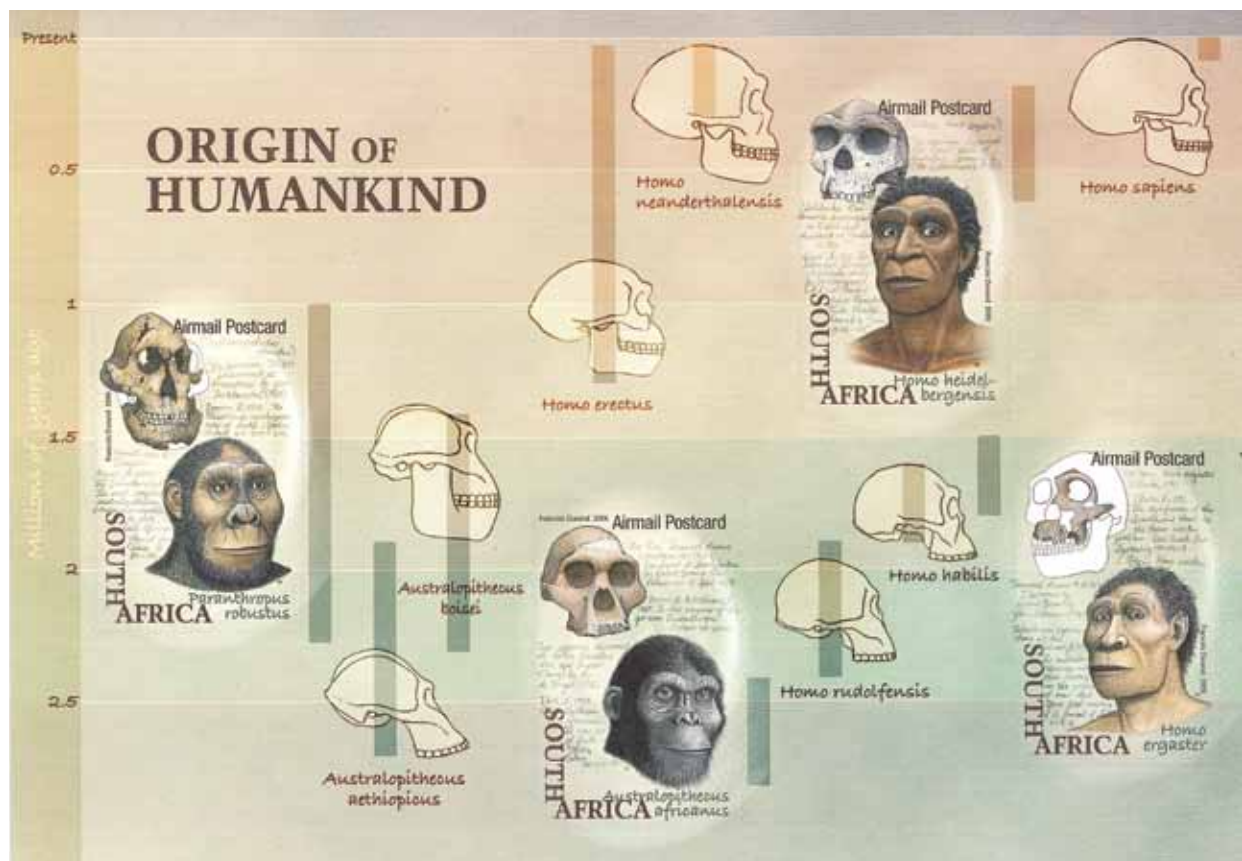


Figure 7. Human Evolution as depicted on South African stamp series of 2006. Fossil hominids have also been depicted on stamps of Kenya, Zambia, Ethiopia, and Chad. Photo courtesy of J. Walz.

on, which followed over the years, advertised East Africa's importance to the wider world in a way that articles in learned journals never could.<sup>8</sup> One scholar has termed stamps "propaganda for the millions" who use stamps on a daily basis but who perhaps rarely visit museums (Fig. 7).

Since the early 1960s, there have been significant initiatives of importance for Quaternary studies. Many were discussed in *Current Anthropology* in its last issue for 2012 devoted to human biology and the origins of *Homo*. One of the most important developments in studies of Late Pleistocene and Holocene humans has been work on biogenetics and genome sequencing. In the late 1970s, researchers recognized the importance of mitochondrial DNA, a genetic signature passed down through the female line. Many of the related studies parallel historical linguistic research, which clearly indicates both the geographic areas where many of the present linguistic groups originated, and how they interacted.

8 By 2013, more than fifty African countries had issued stamps with archaeological themes, many where Islamic influence was strong, some of which clearly indicated support for the theory of evolution that has not yet gained the same public acceptance in the United States.

The loaning of words and the acquisition of vocabulary items from one population to another helps archaeologists in untangling links between people in the Late Pleistocene and Holocene. Biogenetic research indicates that *Homo sapiens sapiens*—modern humans—began some two to three thousand generations ago within East Africa, where the largest number of mutations can be recognized. This is consistent with the very limited skeletal evidence that is available. At that time, the breeding stock of humans was at its lowest, perhaps not more than 150,000 people altogether. This data prompted the linguistic historian Christopher Ehret to write: "Human history began in Africa. Barely more than 50,000 years ago, the ancestors of every single human being alive today lived in Africa. World history to that point was African history" (Ehret 2011). These modern humans spread into Europe, Asia, and ultimately through Asia to the Americas, and through Southeast Asia to Australasia. This is sometimes thought of as "Out of Africa 2," the first movement having been that of *Homo erectus* more than 1.5 million years before. Many ancestral lines of these earlier hominids died out or adapted to local environmen-



tal conditions, which is what is believed to be the case with the small *erectus* populations of the Flores Island in Indonesia who perhaps survived into Holocene times. Other advances have highlighted the y-chromosome, passed down through the male line, which has demonstrated significant linkages between past populations. A very comprehensive biogenetic study was conducted in Africa around 2007/8 that provided information on biogenetic distancing of various populations (Tishkoff et al. 2009). A corollary of all this genetic research has been its application to domestic fauna (Gifford-Gonzales 2013), which is helping to clarify the origins of the animals that have been most significant in human history since the advent of farming. Though some exciting suggestions are being made, the paucity of funds for extended geographical research on fauna or for large-scale sampling of key species has made these advances tantalizing perceptions of future results rather than major strides.

As the social and physical sciences become more specialized, new techniques are being developed almost daily that will help us understand human responses to Quaternary challenges. What is important is that no single approach has all the answers. The developments of the “heroic” age when so many new discoveries were taking place, in the late 1950s and early 1960s, demonstrated how much different approaches depend on one another to provide a synthesis. Some have asked why we go to such trouble. An excellent answer is provided by Donald Johanson, who was quoted in Ian Tattersall’s *The Human Odyssey: Four Million Years of Human Evolution* (1993). Johanson concludes, “all humans have a common origin and therefore a common destiny—the outcome of which will be determined by human-kind itself.” \*

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## Report from the Chair

# Decades of Success: The Archaeology Interdepartmental Graduate Program 1969–2013

JOHN K. PAPADOPOULOS<sup>1</sup>

In this year in which we celebrate the fortieth anniversary of the Cotsen Institute of Archaeology, and of the Archaeology Interdepartmental Program (IDP), it is important to reflect, as archaeologists often do, on the past—in this case, the not-so-*longue durée*. Indeed, the success of any academic program is best gauged by the quality of the students it produces, and the Cotsen Institute of Archaeology can boast a long list of successful Ph.D. graduates. In the forty years that the Archaeology IDP has been in existence, it has produced no fewer than 87 graduates: an average of over two newly minted Doctors of Philosophy every year! To showcase the success of the program, I append at the end of this report a complete list of the graduates, together with the titles of their doctoral dissertations. The range and breadth of topics is truly remarkable, and it establishes the UCLA Archaeology IDP within the top tier of graduate programs in the world that deal with archaeology globally. On behalf of the entire faculty of the Archaeology IDP at UCLA, I would like to congratulate all of our Ph.D.s, and especially the three that have most recently attained the rank of Doctor of Philosophy: Anke Hein, Kuei-chen Lin, and Kelly Fong. This is, of course, only a partial list, as several more students are poised to complete their doctoral dissertations in the coming academic year, and we look forward to congratulating them all in next year's report.

As Chair of the Archaeology IDP, I am often asked by prospective graduate students as to the success of our graduate students in getting jobs; after all, there is little point in granting graduate degrees to people who are compelled to leave the field. In this respect, I am especially proud of the ability of our graduates to land academic positions in some of the most prestigious and highly respected institutions in the world. Recent graduates of the UCLA Archaeology IDP are in tenured or tenure-track ladder faculty positions in the following institutions:

Harvard University  
Yale University  
University of Pennsylvania  
University of California, Berkeley  
University of California, Santa Barbara  
University of North Carolina, Greensboro  
Boston University  
Rhode Island School of Design  
Syracuse University  
University of San Diego  
California State University, Dominguez Hills  
University of Utah  
National Taiwan University  
McGill University (Canada)  
University of Victoria (Canada)  
University of Helsinki (Finland)  
Middle East Technical University, Ankara (Turkey)

<sup>1</sup> Department of Classics; Cotsen Institute of Archaeology, UCLA.

This, too, is only a partial list. Other graduates of the program are employed in positions related to archaeology, including at the U.S. Department of the Interior Forest Service, the Tampa Museum of Art in Florida, the University of Texas at Austin (Texas Digital Library), and the Museum of Natural History in Los Angeles, while another graduate of the program is the founder and Managing Editor of the Left Coast Press. Several more recent graduates are holding fellowships, for example at the Hebrew University, Jerusalem, or the Shaanxi Archaeological Academy, Xi'an, China. Two of our earlier graduates—Ernestine Elster and Jo Anne van Tilburg—never really left UCLA, as both scholars currently are Directors of Research Labs in the Cotsen Institute of Archaeology.

What makes the UCLA Archaeology IDP successful is the nature of the graduate program, in which students can create uniquely-configured committees of expertise from faculty in multiple departments within the university: the Core Faculty of the Archaeology IDP numbers well over 20 scholars from nine different home departments at UCLA. Our currently enrolled graduate students number over 30 and they cover the globe in their pursuit of academia's highest degree.

We are especially proud of our students for their success in competitive funding both within the university and at the national and international level. Five of our current students are recipients of NSF (National Science Foundation) multi-year funding packages; another has further funding from the Ford Foundation, and one of our students will continue his Ph.D. studies for an additional quarter in Germany as a recipient of the German Chancellor Fellowship. On the home front, it has been a banner year for our students receiving year-long and summer research mentorships, as well as fellowships from the UCLA International Institute and other funding bodies, both within the university and outside. My congratulations to them all!

Before closing, I would like to welcome our six incoming 2013–2014 graduate students (in alphabetical order): Caroline Arbuckle (M.A., Oxford University), Jacob Damm (M.A. Harvard University), MaryAnn Kontonicholas (M.A., University College, London), Shi Tao (M.A., University of Beijing), Deborah Sneed (M.A., University of Colorado, Boulder),

*What makes the UCLA Archaeology IDP successful is the nature of the graduate program, in which students can create uniquely-configured committees of expertise from faculty in multiple departments within the university.*

Chenghao Wen (M.A., University of Beijing). This is an exceptional group of talented new students and we wish them every success in their graduate studies.

The success of the UCLA Archaeology IDP has always depended on its students and their research, and it is the exceptional quality of our students that has earned the program its No. 1 standing in the National Research Council rankings published in 2010. On behalf of the greater Cotsen family, I look forward to the coming years because I know that the future of the past is in good hands. ✱

# Graduates of Archaeology Interdepartmental Graduate Program and their Doctoral Dissertation Titles, 1975–2013

## 1975 SUMMER

Annegret Irene Woosley  
*Pollen Studies in Archeology: Correlation of the Prehistoric Pollen and Cultural Sequences of the Deh Luran Plain, Southwestern Iran*

## 1976 SPRING

Alana Kathleen Cordy-Collins  
*An Iconographic Study of Chavin Textiles from the South Coast of Peru: The Discovery of a Pre-Columbian Catechism*

## 1977 SUMMER

Ernestine Sondheimer Elster  
*Neolithic Technology: A Case Study in Lithic Analysis for Old Europe, 6500–4000 B.C.*

## 1978 SPRING

Elizabeth Jane Gardner  
*Regulation of the Biosynthesis of Kaurene Synthetase*

## 1978 SUMMER

Bar Branstetter-Hardesty  
*Ceramics of Cerro Porteguelo Mexico: An Industry in Transition*

Joseph Michael Rawls  
*An Analysis of Pre-Hispanic Andean Warfare*

Bert John Smoor  
*The Iconology of the Mediterranean including Southeastern Europe and the Near East: ca. 10,000–5,000 B.C.*

## 1981 SPRING

Kathleen Faye Galvin  
*Early State Economic Organization and the Role of Specialized Pastoralism: Terqain the Middle Euphrates Region, Syria*

## 1981 SUMMER

Carol Anne Witte  
*The Genesis of Sacred Corner Cult: A Re-Evaluation of Earlier Ethnological Theories Based on Archaeological Evidence*

## 1981 FALL

Bryan Avery Feuer  
*The Northern Mycenaean Border in Thessaly*

## 1982 SPRING

Marilyn Patricia Beaudry  
*Production and Distribution of Painted Late Classic Maya Ceramics in the Southeastern Periphery*

Monica Cornelia Rothschild-Boros  
*The Sehala Praeconum: A Biochemical Analysis of a Fifth Century A.D. Amphora Deposit*

## 1982 FALL

Marie-Thérèse Mathilde Kanter  
*Western European Neolithic: The Megalithism and Associated Symbolism*

## 1983 SPRING

Emmanuel Kofi Agorsah  
*An Ethnoarchaeological Study of Settlement and Behavior Patterns of a West African Traditional Society: The Nchumuru of Banda-Wiaie in Ghana*

## 1983 SUMMER

David Richard Berry  
*Disease and Climatological Relationship among Pueblo III–Pueblo IV Anasazi of the Colorado Plateau*

## 1984 WINTER

Gayle O. Gittins  
*Radiocarbon Chronometry and Archaeological Thought*

## James L. Lander

*Roman Stone Fortification: Variation and Change from the First Century A.D. to the Fourth*

## 1984 FALL

John Martin Pohl  
*The Earth Lords: Politics and Symbolism of the Mixtec Codices*

## 1985 SPRING

Terry Yarov Levine  
*Inca Administration in the Central Highlands: A Comparative Study*

## 1986 WINTER

Chandra Lee Reedy  
*Technical Analysis of Medieval Himalayan Copper Alloy Statues for Provenance Determination*

## 1986 SPRING

Georgia Lee  
*Easter Island Rock Art: Ideological Symbols as Evidence of Sociopolitical Change*

Doris Holly Love  
*Midden Analysis: The Validity of Column Sampling in Defining Prehistoric Coastal Adaptation*

## 1986 SUMMER

Sarah Ann Massey  
*Sociopolitical Change in the Upper Ica Valley, B.C. 400 to 400 A.D.: Early States on the South Coast of Peru*

Jo Anne Van Tilburg  
*Power and Symbol: The Stylistic Analysis of Easter Island Monolithic Sculpture*

## 1987 SPRING

Paul Farnsworth  
*The Economics of Acculturation in the California Missions: A Historical and Archaeological Study of Mission Nuestra Señora de la Soledad*

Henry Wangutusi Mutoro  
*An Archaeological Study of the Mijikenda Kaya Settlements on Hinterland Kenya Coast*

## 1987 SUMMER

Massoud Azarnoush  
*Sassanian Art in Eastern Fars: The Excavation of a Manor House at Hajibad, Darab, Iran*

## 1988 WINTER

Mary Bushong Alexander  
*Precision Radiocarbon and Tree-Ring Dating of Historical Buildings and Cabinetry in Oxfordshire, England*

Roy Arnold Salls  
*Prehistoric Fisheries of the California Bight*

## 1988 SPRING

Martha Ann Molitor  
*Pots and Potters of Prehistoric Malta*

## 1988 SUMMER

Robert Washington Preucel, Jr.  
*Seasonal Agricultural Circulation and Residential Mobility: A Prehistoric Example from the Pajarito Plateau, New Mexico*

## 1988 FALL

Elsie Catherine Sandefur  
*Andean Zooarchaeology: Animal Use and the Inka Conquest of the Upper Mantaro Valley*

## 1989 WINTER

Mary Sue Woodley  
*The Sacred Precincts of Cybele*

## 1989 SPRING

Adam Theodore Kessler  
*The Erlitou Site: Evidence For the Contemporaneity of Late Xia and Early Shang Dynastic Kings*

Jenny White Marshall  
*The Spread of Mainland Paruchiae to the Atlantic Islands of Illauntanning, High Island and Danishuarray*

## 1989 FALL

James Edward Brady  
*An Investigation of Maya Ritual Cave Use with Reference to Naj Tunich*

Christopher Raymond Decorse  
*An Archaeological Study of Elmina, Ghana: Trade and Culture Change on the Gold Coast between the 15th and 19th Centuries*

Alan Edwin Kilpatrick  
*Megalithic Europe: Death Rituals and Funerary Art*

## 1992 WINTER

Joan Johnston Carothers  
*The Pylian Kingdom: A Case Study of an Early State*

Richard Duane Hansen  
*The Archaeology of Ideology: A Study of Maya Preclassic Architectural Sculpture at Nakbe, Peten, Guatemala*

Ellen Teresa Hardy  
*The Mortuary Behavior of Guanacaste/ Nicoya: An Analysis of Pre-Columbian Social Structure*

Abdo J. Malki  
*A Case Study in Computer Applications to Archaeology: Byzantine Churches in Syria and Palestine*

**1992 SPRING**  
William Howard Breece  
*The Raysse Burins of Solvieux: A Study in Upper Paleolithic Systematics*

Laurie A. Wilkie  
*"Never Leave Me Alone": An Archaeological Study of African-American Ethnicity, Race Relations and Community at Oakley Plantation*

**1993 WINTER**  
Stuart Tyson Smith  
*Askut and the Changing Nature of Egyptian Imperialism in the Second Millennium B.C.*

**1993 SPRING**  
Roger Henry Colten  
*Prehistoric Subsistence, Specialization, and Economy in a Southern California Chiefdom*

**1994 WINTER**  
John Weldon Parker  
*Dots on a Map: Using Cultural Resource Management Data to Reconstruct Prehistoric Settlement Patterns in the Clear Lake Basin, California*

**1994 SPRING**  
Glenn Steven McAlpine  
*A Test of Booster PCR as a Method for Reducing the Effects of Inhibitors in Ancient DNA Extracts*

**1994 SUMMER**  
Lisa Joyce Lucero  
*Household and Community Integration among Hinterland Elites and Commoners: Maya Residential Ceramic Assemblages of the Belize River Area*

**1995 SUMMER**  
Sinead M. Ni Ghabhlain  
*Church, Parish and Polity: The Medieval Diocese of Kilfenora, Ireland*

**1996 WINTER**  
Paola Demattè  
*The Origins of Chinese Writing: Archaeological and Textual Analysis of the Pre-Dynastic Evidence*

**1996 SPRING**  
Jay David Kotliar  
*The Classic Maya Paradox: The Role of Utilitarian Craft Production in the Socioeconomic Structure of Maya Civilization*

**1996 FALL**  
Steve Lynn Martin  
*A Dietary Reconstruction for the Virgin River Branch Anasazi: Subsistence in a Marginal Environment*

**1997 SPRING**  
Mitchell Jack Allen  
*Contested Peripheries: Philistia in the Neo-Assyrian World-System*

Laurel Anne Breece  
*An Assessment of the Archaeological Potential of Nata, a Pre-Columbian and Colonial Town in Central Panama*

**1997 SUMMER**  
Kristina Aldona Kelertas  
*Agricultural Food Systems and Social Inequality: The Archaeobotany of Late Neolithic and Early Bronze Age Thy, Denmark*

**1997 FALL**  
Nairy Heraz Karkour Hampikian  
*Complex of al-Salihiyya: Transformations through Time and a Proposal for the Future*

**1998 SPRING**  
Richard Brendan Burke  
*From Minos to Midas: The Organization of Textile Production in the Aegean and in Anatolia*

**1998 SUMMER**  
Bradley James Parker  
*The Mechanics of Empire: The Northern Frontier of Assyria as a Case Study in Imperial Dynamics*

**1999 SPRING**  
Terisa Marion Green  
*Spanish Missions and Native Religion: Contact, Conflict, and Convergence*

**1999 FALL**  
Kara Leah Nicholas  
*Interpreting Religious Ritual in Magna Graecia: An Analysis of the Archaic and Classical Black Glaze Ceramics from the Rural Sanctuary at Pantanello (Metaponto)*

**2000 WINTER**  
Elena K. Lincoln  
*Yucatec Maya Marriage and Political Alliances*

W. D. J. Benille Priyanka Emmanuel  
*Civilization in Its Own Words: Inscriptions and Archaeology in Ancient Sri Lanka*

**2000 Fall**  
Eric Floyd Hansen  
*Ancient Maya Burnt-Lime Technology: Cultural Implications of Technological Styles*

**2002 SPRING**  
Gwen Patrice Bennett  
*The Organization of Lithic Tool Production during the Longshan Period (ca. 2600–2000 B.C.) in Southeastern Shandong Province, China*

Michael R. Hilton  
*Evaluating Site Formation Processes at a Higher Resolution: An Archaeological Case Study in Alaska Using Micromorphology and Experimental Techniques*

**2002 SUMMER**  
Maura Keane Heyn  
*Social Relations and Material Culture Patterning in the Roman Empire: A Juxtaposition of East and West*

**2004 WINTER**  
Po-Chen Chen  
*Salt Production and Distribution from the Neolithic Period to the Han Dynasty in the Eastern Sichuan Basin, China*

Cigdem Eissenstat  
*Ritualization of Settlement: Conditioning Factors of Spatial Congruity and Temporal Continuity during the Late Neolithic of Southeastern Anatolia*

Rowan Kimon Flad  
*Specialized Salt Production and Changing Social Structure at the Prehistoric Site of Zhongba in the Eastern Sichuan Basin, China*

**2004 FALL**  
Abier Ziadah Shamma  
*The Umayyad Dome of the Rock: A Seventh-Century Cultural Paradigm*

**2005 WINTER**  
Bekir Gurdil  
*Architecture and Social Complexity in the Late Ubaid Period: A Study of the Built Environment of Degrimentepe in East Anatolia*

**2005 SPRING**  
Minna H. Haapanen  
*From a Community to Communities of Practice: The Late Shang Dynasty Site of Miaopu Locus North Anyang, Henan Province, China*

**2005 FALL**  
Wa Ye  
*Mortuary Practice in Medieval China: A Study of the Xingyuan Tang Cemetery*

**2006 FALL**  
Aleksander Jerzy Borejsza  
*Agricultural Slope Management and Soil Erosion in Tlaxcala, Mexico*

**2008 SPRING**  
Yoko Nishimura  
*North Mesopotamian Urban Space: A Reconstruction of Household Activities and City Layout at Tiris Höyük in the Third Millennium B.C.*

Adam Daniel Smith  
*Writing at Anyang: The Role of the Divination Record in the Emergence of Chinese Literacy*

**2009 SUMMER**  
Elizabeth Brownell Mullane  
*Megaliths, Mounds, and Monuments: Applying Self-Organizing Theory to Ancient Human Systems*

**2010 SPRING**  
Petya Dimitrova Hristova  
*Masks and People: Reconstructing the Early Mycenaean Funerary Ritual through Archaeological Images and Context*

John McCampbell Marston  
*Evaluating Risk, Sustainability, and Decision Making in Agricultural and Land-Use Strategies at Ancient Gordion*

**2010 FALL**  
Jamie Denise Aprile  
*Pylos and Nichoria: A Case Study in Urban/Hinterland Political Economy*

Davide Marco Zori  
*From Viking Chiefdoms to Medieval State in Iceland: The Evolution of Social Power Structures in the Mosfell Valley*

**2011 SUMMER**  
Seth Daniel Pevnick  
*Foreign Creations of the Athenian Kerameikos: Images and Identities in the Work of Pistoxenos-Syriskos*

**2011 FALL**  
Jennifer Susan Rashidi  
*Paleoepidemiology of Mesopotamia and the Ancient Near East: The Impact of Zoonotic Diseases and Population Demographics on Infectious Disease Patterns*

**2013 SPRING**  
Anke Hein  
*Cultural Geography and Interregional Contacts in Prehistoric Lianshan (Southwest China)*

Kui-Chen Lin  
*Regional Interactions and Social Complexity of the Sichuan Basin in Bronze Age China*

**2013 SUMMER**  
Kelly Fong  
*Excavating Chinese America in the Delta: Race and the Historical Archaeology of the Isleton Chinese-American Community*



## Report from the Chair

# UCLA/Getty Interdepartmental Masters Program in the Conservation of Archaeological and Ethnographic Materials

IOANNA KAKOULLI<sup>1</sup>

Conservation has been known and practiced since ancient times. As early as the sixth century B.C.E., the last Neo-Babylonian king, Nabonidus, helped restore the crumbled great Ziggurat of Ur, originally built ca. 2100 B.C.E. In subsequent centuries, conservation evolved as a craft taught, learned, and practiced through apprenticeship. The need for manual dexterity in conservation practice meant that artists were the “first” conservators. It was not until the nineteenth century, however, that the link between art and science was established, with scientists applying theoretical and experimental means to study the deterioration of artifacts. At the same time, the first societies and charters on preservation were crafted and the first jobs for conservation scientists were created in major museums in Europe. Conservation matured as a discipline in the second half of the twentieth century, entering the academic world with the establishment of professional and degree programs in various countries, including the United States. *Conservation is therefore an ancient and relatively new undertaking at the same time.*

Conservation preserves cultural heritage for the future. Activities in conservation supported by research and education include examination/analysis of objects, documentation, treatment, collections care, access, and dissemination. The conservation of heritage materials is therefore a truly multidisci-

plinary endeavor. It requires knowledge and skills across a variety of fields from the social sciences and the humanities to information technology, the natural sciences, and engineering. It aims to preserve not only the physical aspect of objects but their intangible values as well.

Today, professional and research academic degrees in conservation range from B.A.s and B.S.s to Ph.D.s. Most common are graduate programs, mainly at the Master’s level (M.A.s and M.S.s), of two to three years’ study requiring both rigorous coursework and an internship. In North America, there are currently seven academic programs that offer graduate degrees in conservation with diverse foci ranging from paintings and decorative arts to archaeological, ethnographic, and site preservation. The programs that offer conservation education are also members of the Association of North American Graduate Programs In Conservation (ANAGPIC), which holds a meeting during the annual conservation graduate students’ conference.

The UCLA/Getty Conservation Interdepartmental Degree Program (IDP) is the youngest of the conservation graduate degree-granting programs in North America. It is unique in several respects: it is the only one in the western United States, specifically Los Angeles, and operates within a world-leading research institution (UCLA) in partnership with a renowned center for conservation, the Getty Conservation Institute (GCI). Specializing in a unique subject matter and building on the strengths of its founding institutions, the program has dis-

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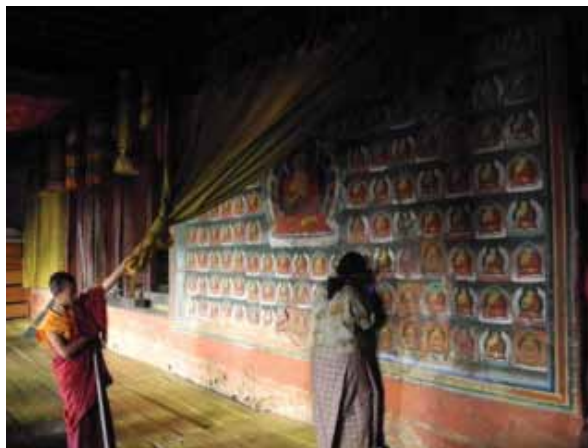
tinguished itself in a very short period of time and today attracts top candidates from the United States and abroad for the three-year Master's Degree. Participants study the conservation of both archaeological and ethnographic materials in the field and in collections, the all-encompassing archaeological and living-heritage aspect of conservation, with a blend of science and art. The curriculum includes two years of rigorous coursework and an eleven-month internship in a museum or in the field, from sites in the Mediterranean (Fig. 1), to museums in North America, to Buddhist temples in Bhutan (Fig. 2) and Sri Lanka. The complementary expertise of the IDP faculty and academic staff distinguishes our program from other conservation programs and academic curricula. Faculty and staff research topics such as the corrosion mechanisms of archaeological glass and metals; weathering and conservation of stone and building materials; the fading of feathers; and understanding the relationship between processing and properties in color change of ancient paints. The program pushes the boundaries of conventional conservation research and offers new possibilities in education and training for the next generation of conservation professionals.

The special focus and cross-disciplinary curriculum of the IDP program serves the archaeological and ethnographic communities alike and offers a nexus at the boundary of conservation, archaeology, ethnography, and the natural sciences, as well as a sustainable resource for integrated research, access, education, and training.

Being an IDP (rather than a department like other graduate programs) and housed within the Cotsen Institute of Archaeology and the Getty Villa, the UCLA/Getty Conservation Program has significant advantages. Students are enriched by direct interactions with faculty and researchers from the Cotsen Institute of Archaeology and across campus through the program's core faculty members with "home departments" in three different schools/divisions: the Henry Samueli School of Engineering and Applied Science, the Graduate School of Information Studies, and the Humanities Division in the College of Letters and Science. Also, the program and students benefit from regular interaction and collaboration with the Getty Museum Conservation Department, and the GCI's Science Department at the Getty Villa, as well as with the GCI's Field Projects.



**Figure 1.** UCLA/Getty Master's Program student Geneva Griswold at Herculaneum, Italy, preparing consolidants for the wall paintings in the Casa del Bicentenario during her summer internship with the Getty Conservation Institute (GCI). Photo: © J. Paul Getty Trust.



**Figure 2.** Documentation of the condition of wall paintings at Neyphug Thegchen Tsemo Monastery in Paro District, Bhutan, damaged by the 2011 earthquake, during the summer internship of UCLA/Getty Master's Program student Ayesha Fuentes. U. Gurung, Ayesha's supervisor from the Conservation Department in the Division for Cultural Properties at the Department of Culture, works with the help of a young monk. Photo: courtesy of Ayesha Fuentes.

*Our vision is to become a center of excellence in conservation for the whole of the United States that will serve as an important educational and research resource for the academic, local, and global communities.*

Conservation education at UCLA covers an unusually broad range. Faculty members of the UCLA/Getty IDP consult and support initiatives in their home departments and schools in subjects related to conservation and preservation, and supervise research students both at Master's and Ph.D. levels in fields such as archiving and collections preservation, object based and object-inspired research, and archaeometry and conservation science. Collaborations with tribal communities, and Memoranda of Understanding (MoU) with international universities and research facilities also expand the scope of research and education in other related

fields and enhance community and underrepresented minority involvement and outreach.

In sum, the UCLA/Getty Conservation IDP provides an excellent platform for education, research, and sustainable resources for the preservation of material culture in the face of modernization and emerging global challenges. It supports discovery and innovation through research that transcends the boundaries of traditional disciplines. It uniquely trains the next generation of conservators in the best practices and methods of cultural heritage conservation through various pedagogical approaches including, but not limited to, core teaching and learning, independent research, and laboratory experience in museums and in the field. Finally, it positively impacts the community by engaging with a more informed public that would seek to protect cultural heritage from imminent threats.

That is our vision: to become a center of excellence in conservation for the whole of the United States that will serve as an important educational and research resource for the academic, local, and global communities. ✱

## Graduates of Conservation Program and their Thesis Titles, 2008–2012

### 2008

Christian de Brer  
*Investigations into the Deterioration of the Chinchorro Mummies Held in the Museo Arqueológico San Miguel de Azapa in Arica, Chile*

Özge Gençay Üstün  
*Limitations of Handheld XRF Instruments as a Quantitative Tool for Analyzing Heavy Metal Pesticides on Organic Art Objects*

Molly Gleeson  
*Approaches to Cultural Heritage Preservation among Native Museums in Southern California*

Allison Lewis  
*The Characterization of Archaeological Amber Using Ultraviolet Fluorescence*

Steven Pickman  
*Examination of Some Bronze Corrosion Products with Polarized Light Microscopy*

Liz Werden  
*The Sacred Rock Art Site of Painted Rock: Preservation through Conservation Documentation Methodologies*

### 2010

Siska Genbrugge  
*Analyses and Conservation of a Mummy Cartonnage*

Lauren Horelick  
*The Occurrence and Detection of Gunpowder in Haitian Charms*

Jiafang Liang  
*Scientific Investigation of Green Waxy Paint on Egyptian Polychrome Artifacts*

Linda Lin  
*Technical Study and Treatment of a Pair of Japanese Masks*

Suzanne Morris  
*The Analysis and Treatment of a Polychrome Gilded Head of St. Michael*

### 2012

Tessa de Alarcon  
*Evaluation of Two Fluorescent Dyes Used in Immunofluorescent Microscopy for the Detection of Proteinaceous Binding Media in Wall Painting*

Lily Doan  
*From Ethnographic to Contemporary: How an Artist Interview May Direct the Study and Conservation Treatment of a Balinese Cili Figure*

Elizabeth Drolet  
*Characterization of the Deterioration of Low-Fired Ceramics in Varying Burial Environments*

Nicole Ledoux  
*An Investigation of Loss Compensation Materials for the Conservation of Coiled Basketry*

Dawn Lohnas  
*Evaluating the Effectiveness of Calcium Hydroxide Nanoparticle Dispersions for the Consolidation of Painted Earthen Architectural Surfaces*

Robin Ohern  
*On the Surface: A Cultural and Scientific Analysis of Two Western African Komo Masks' Surfaces*

Cindy Lee Scott  
*An Investigation into the Chemistry and Removal of Unrefined Shellac from Ceramics Substrates via Hydrolysis*



## ARCHAEOLOGY GRADUATE INTERDEPARTMENTAL PROGRAM FIRST-YEAR DOCTORAL STUDENTS, 2013–14



**Caroline Arbuckle** is originally from Vancouver, Canada. She received a B.A. in Classical and Near Eastern Archaeology and Ancient History from the University of British Columbia, and an M.A. in Egyptology from Oxford University. She is primarily interested in the archaeology of value, in particular the use and value of timber in objects from ancient Egypt. Her master's thesis examined the value and significance of timber in Egyptian coffins from the second millennium B.C.E. She has excavated in Greece and worked in museums in Greece and England. At UCLA, she will be working with Dr. Willeke Wendrich and Dr. Kara Cooney.



**Chenghao Wen** was born in Henan Province of China and received his B.A. at Xiamen (Amoy) University in 2009 and his M.A. at Peking University in 2012. Over the past eight years, he has participated in various field projects conducted in Guangxi, Three Gorges, Sichuan, Henan, Inner Mongolia, and Gansu in China. He took part in excavations at the Mound House site in Kampsville, IL, in the summer of 2009 and at the La Digue site in Marsal, France, in the summer of 2010. He began to focus on the prehistoric archaeology of Northwestern China while studying at Peking University, and completed his master's thesis based on a field survey in the Alxa region of western Inner Mongolia. At UCLA, he will continue to pursue research on the prehistoric archaeology of Northwestern China and adjacent areas, such as Mongolia, Southern Siberia, and Inner Asia, studying with Dr. Lothar von Falkenhausen and Dr. Min Li.



**Jacob Damm** spent most of his childhood on military bases throughout the United States. He received his B.A. in Classics and Religious Studies from the University of South Carolina, which included a year-long study of Classical Archaeology at the University of Warwick. He then moved on to Harvard's Department of Near Eastern Languages and Civilizations where he received his A.M. in Levantine Archaeology. His primary areas of interest include the archaeology of ceramics, boundary maintenance and identity creation, as well as the archaeology of socioeconomic stratification—especially as these apply to the Levant region in the Late Bronze and Iron Ages. Jacob has conducted fieldwork in Israel, working on excavations at the sites of Khirbet Qeiyafa and Ashkelon, and in the summer of 2013 joined the Jaffa Cultural Heritage Project. At UCLA, he will work under the direction of Dr. Aaron Burke.



**MaryAnn Kontonicolas** studied at the Institute of Archaeology, University College London, where she earned her B.A. in Classical Archaeology and her M.A. in Eastern Mediterranean and Middle Eastern Archaeology. She is especially drawn to social networks and exchange, urbanization processes, and power dynamics in the eastern Mediterranean, with a focus on the prehistoric Aegean. MaryAnn's broader interests include island archaeology and ethnography, material culture studies, and theory and method in archaeology and anthropology. Her master's thesis analyzed island networks and identity in the prehistoric Dodecanese and southwest coast of Anatolia. She has participated in field projects in Greece, Israel, and the United Kingdom, and most recently was involved in post-survey ceramic analysis for the Knossos Urban Landscape Project. At UCLA, she will work with Dr. Sarah Morris and Dr. John Papadopoulos.



**Tao Shi** was raised in Sichuan, China. He earned his B.A. in Sun Yat-sen University, Guangzhou, and his M.A. in Peking University, Beijing. During his eight years at university, he participated in the excavation in Baligang site in Middle Yangtze River and is currently writing the excavation report of this site. He also participated in three excavations in Sichuan over a two-year period. His master's thesis focused on the analysis of plant remains in Sichuan Province from the Neolithic to Bronze Age. He is interested in field excavation, settlement archaeology, archaeobotany, and GIS. At UCLA, he will continue his research on Sichuan and the Middle Yangtze River.



**Debby Sneed** earned a B.A. in English and History from the University of Wyoming and an M.A. in Classics from the University of Colorado, Boulder. She has participated in excavations in Greece and Italy. She is particularly interested in Greek domestic cult practices; the cult of Cybele in Greece and Rome; the transmission of cults and religious practices; and the archaeology of daily life. She also enjoys Victorian novels, playing badminton, and puns.

## CONSERVATION FIRST-YEAR GRADUATE STUDENTS, 2013–14



**Colette Khanaferov** received her B.A. in Art History from the UCLA in 2010. During her last semester of undergraduate studies, she excavated various inorganic and organic materials in the caves of Areni, Armenia, that dated back to 6,000 B.P. In the following year, she started a pre-program internship at the Fowler Museum at UCLA where she gained further exposure to the care and treatment of archaeological and ethnographic objects. She also worked alongside a Los Angeles-based conservator whose expertise was in objects, sculptures, and architectural elements. This fall, as she begins her graduate studies at UCLA, she hopes to develop her analytical skills as well as further expertise in archaeological objects.



**Betsy Burr** received her B.A. summa cum laude in Anthropology from the University of Minnesota in 2007, focusing in paleoanthropology. As an undergraduate, she had the opportunity to assist research in the Evolutionary Anthropology Laboratories, which fueled a study abroad in South Africa, collecting data at the Transvaal Museum, Pretoria, and the South African Museum, Cape Town. She also gained experience excavating at an Iron Age cemetery in Spain. After graduation, Betsy pursued non-profit administration and broadened her material-culture work experience. She interned for two years in the Object Conservation Lab at the Minnesota Historical Society, and interned at the Midwest Art Conservation Center. In 2012, she apprenticed in Vienna, Austria, restoring painted architectural surfaces. An active hand-weaver, Betsy is interested in ethical issues regarding access to and preservation of cultural heritage, and will focus on textiles and other organic materials in the UCLA/Getty Conservation Program.



**Lesley Day** grew up in the Florida Keys on the island of Islamorada. After graduating from Bennington College with a B.A. in Ceramics, she moved to New York City where she worked as a studio assistant and archivist for the artist Betty Woodman. It was there that she developed an interest in art conservation. Since 2009, Lesley has been a pre-program intern in the Sherman Fairchild Center for Objects Conservation at the Metropolitan Museum of Art, where she has treated a variety of objects including ancient Cypriot limestone objects, Islamic ceramic and glass objects, and architectural elements in the American Wing. While completing her internship, Lesley also managed the Art Center at the 92nd Street Y, a community-based art school that serves six thousand students annually in New York City. While her current research interests include the conservation of ceramics and glass, she is eager to gain experience treating objects made of organic materials.





**Tom McClintock** received his B.A. in Art History from Loyola Marymount University in 2009. Tom's conservation experience began with two years of training at the Getty Research Institute's conservation studio, mainly treating works on paper and mixed media objects. He then worked for two years in a private paintings conservation studio and a simultaneous volunteer position in the Getty Conservation Institute's Modern & Contemporary Materials Department. After developing a profound personal interest in rock art, Tom worked for several seasons on the survey of a series of Cahuilla petroglyph sites outside of Joshua Tree National Park. Additional experience includes working as a staff member on an archaeological field school in Belize, focusing on the excavation of a Classic-era Maya site. His professional interests include the conservation and sustainable management of rock art sites, conservation of monumental architecture, and cultural heritage management in conflict zones.



**William L. Shelley** graduated from the University of Miami in Florida with a degree in Art History and a minor in Chemistry. He spent five months in Tucson, Arizona, working at the National Park Service Western Archaeological and Conservation Center. William then moved to Washington, D.C., for a 12-month internship in the Smithsonian Institution Anthropology Conservation Laboratory at the National Museum of Natural History. He then spent seven months working on archaeological metals at the Maryland Archaeological Conservation Laboratory. He returned home to Toledo, Ohio, for a summer internship at the Toledo Museum of Art before attending Studio Arts Center International (S.A.C.I.) in Florence Italy, where he received a Post-Baccalaureate Certificate in Conservation. He has spent the past two years working at the Toledo Museum of Art in the Conservation Department.



**Heather White** attended the University of Missouri-Columbia, where she earned a B.A. in Art History and Archaeology in 2009, with a focus on Classical Archaeology and a Minor in Studio Art. As an undergrad, she worked as a Curator Assistant for the Museum Support Center in Columbia, Missouri and completed an archaeological field school of a Moravian site in the Czech Republic. Having discovered conservation while interning at the Saint Louis Art Museum (SLAM), she instantly decided to pursue a career in the field. Heather's pre-program experience includes curatorial and conservation internships in addition to work as a Conservation Labora-

tory Technician at SLAM; archaeological survey work in Indiana and Nebraska; and work as a Preparator Assistant at the Mildred Lane Kemper Art Museum of Washington University. She is currently interested in preventive conservation methods, outreach, and the treatment of ancient ceramic and stone objects.



## NEW ACADEMIC APPOINTMENTS



**Patricia Anawalt**, a new Academic Affiliate of the Cotsen Institute of Archaeology, is Director Emerita of the Center for the Study of Regional Dress, an endowed research and teaching facility located in the Fowler Museum at UCLA. Her ethnographic study, *The World-wide History of Dress* (Thames & Hudson, Ltd., 2007), is now available in English, French, German, Italian, Japanese, Korean, Portuguese, and Spanish. An Arabic translation will appear in 2014. Her current publication is *Shamanic Regalia in the Far North*, forthcoming from Thames & Hudson in March 2014. Anawalt's prior publications include two books and over sixty articles in peer-reviewed journals and special-interest magazines. Her appointments include the President's Cultural Property Advisory Committee, 1984–93; the Archaeological Institute of

America's Charles Eliot Norton Memorial Lectureship, 1996; the Villa Advisory Council of the J. Paul Getty Museum, 2001–Present; Fellow of the Society of Antiquaries of London; and the Costume Society of America. Her awards have included a 1989 John Simon Guggenheim Memorial Foundation Fellowship; the AIA 1994 Outstanding Book Award for *The Codex Mendoza* (Univ. of California Press, 1992); five National Geographic Society grants for ethnographic fieldwork in Mexico; two National Endowment for the Humanities grants; two Ahmanson Foundation grants; and five UCLA grants. After serving for 25 years as Director of the Center for the Study of Regional Dress, Anawalt retired in September 2013 from the Fowler Museum, and plans to spend her leisure participating to the research projects of the Cotsen Institute, traveling the world, and writing her memoirs.



**Christian Fischer** (Assistant Professor in residence, UCLA/Getty Conservation Program and Department of Materials Science and Engineering) conducts research on the characterization of archaeological and cultural materials with particular focus on stone and ceramics, as well as on field-deployable non-invasive analytical techniques. His other research interests include weathering processes of porous materials and the development of multi-functional protective treatments for the preservation of cultural heritage. In collaboration with the École Française d'Extrême-Orient (EFEO) and scholars from other institutions, he is currently involved in several projects in Cambodia and neighboring countries, studying the spatial and temporal relationships of ancient Khmer material culture from the Funan to the

post-Angkorian periods through the analysis and sourcing of constitutive materials from sculptures and other stone objects. Beside his research in Southeast Asia, Dr. Fischer is conducting field investigations on materials provenance and conservation of cultural artifacts in Cyprus, Chile, and Central America. At UCLA, he teaches undergraduate and graduate courses on various topics including archaeometry, conservation science, and stone conservation as well as polymer science and advanced spectroscopic techniques for the analysis of ancient and modern materials. He is also the co-director of the Molecular and Nano Archaeology Laboratory and a member of the Archaeomaterials group at UCLA as well as a scientific consultant for UNESCO missions on the preservation of cultural heritage.



**Stella Nair** has recently joined UCLA as Assistant Professor with the Department of Art History and the Archaeology Interdepartmental Graduate Program. Trained as an architect and architectural historian (UC Berkeley), Nair has conducted fieldwork in Bolivia, Mexico, Peru, and the U.S. Midwest, with ongoing projects in the South Central Andes (900–1800 C.E.). Her publications explore a range of subjects, such as the design of Inca royal estates, Tiahuanaco stone carving, colonial Andean paintings, and Brazilian urbanism. In support of her research, Nair has received grants and fellowships from the American Philosophical Association,

the Center for the Study of the Visual Arts (National Gallery of Art), Dumbarton Oaks, the Fulbright Institute, the Getty Foundation, and the John Carter Brown Library. Nair has published (with Jean-Pierre Protzen) *The Stones of Tiahuanaco: A Study of Architecture and Construction* (Cotsen 2013, see p. 162 this volume) and recently completed *Retreats Without Surrender: The Architecture of Sanctuary at Chinchero* (University of Texas, forthcoming). Nair's article "Localizing Sacredness, Difference, and *Yachacuscamani* in a Colonial Andean Painting," was awarded the distinction as one of thirty-two "greatest hits" published in the last hundred years of the *Art Bulletin*.



**Thomas A. Wake** (currently Director of the Cotsen Institute's Zooarchaeology Laboratory) recently joined the Archaeology Interdepartmental Graduate Program as Assistant Adjunct Professor of Anthropology. A native Angelino, he received his doctorate from UC Berkeley in 1995 after studying zooarchaeology and ethnicity at Fort Ross in northern California. He has worked with several CIOA core faculty, graduate students, and researchers on projects in China, Egypt, Peru, Mexico, Guatemala, and California. For the past eight years, Wake has been running an archaeological field school in Caribbean coastal Bocas del Toro, Panama, at a site called Sitio Drago. Findings from this project have illustrated that the region was much more dynamic and far less isolated than previously thought. Wake recently (2010) received a grant from the National Science Foundation to study how Formative Period vertebrate subsistence practices relate to political cycling in the Pacific coastal Guatemala/Mexico borderlands region.

## Supporter Spotlight

# When Fieldwork Becomes a Passion and Personal Priority

## An Interview with William Orrange<sup>1</sup>

BRETT KAUFMAN<sup>2</sup>

### BK: How did you get interested in archaeology?

**WO:** Growing up in Buffalo, New York, I attended Jesuit schools throughout college. The standard curriculum centered around the humanities, including Latin and Greek. We read the Classics: Greek drama and Homer; and in Latin, Caesar, Cicero, Virgil, and the lyric poets. After graduating from college and three years on active duty, I followed a Marine Corps buddy to graduate school in Classics at UCLA. A year in graduate school, among a small group of extraordinarily brilliant Classics students, revealed the painful truth that I was no great scholar. I left and began a business career. Nevertheless, I loved the literature, history, and mythology of the Classical World, and looked forward to the time when I could revisit them at leisure.

I had a public relations agency with a partner. We were located in Palo Alto serving Silicon Valley clients. As I approached retirement, I looked over the Continuing Studies program at nearby Stanford, thinking that I would be reading Greek tragedies and the historians. What caught my eye, however, was a course in Byzantine archaeology taught by Patrick Hunt. Professor Hunt was a spellbinding lecturer with a big following in Continuing Studies. I was hooked. I took other courses by him and

joined his field school, excavating a Roman site on the Swiss-Italian border in the Great Saint Bernard Pass. There was no question after that. Archaeology was where I wanted to spend my time.

### BK: How has archaeology impacted your life?

**WO:** The Classics that I was taught enforced the traditional “Western” view that nothing very important happened before Homer. But I kept being pushed further and further back in antiquity, viewing the evidence that complex, highly developed societies existed at a time in the past that was much more distant from Homer than we are today.

While working in Turkey, I had the opportunity to visit the splendid site of Çatalhöyük, which had run its course and was abandoned more than 4,500 years before Homer. And then I was introduced to the daunting work by Professor Sarah Morris, *Daidalos and the Origins of Greek Art* [Princeton University Press, 1992]. I was confronted with evidence that the stirring history of Classical Greece that I admired so much was largely propaganda appropriated from a distant time and place in the Near East.

This discovery has shaken one of the core beliefs that I took away from my Jesuit education: the belief in the perfectibility of man. Working with the material evidence left by ancient people has convinced me that they were as intelligent and insightful as we are today. And also as compassionate, cruel, moral, and deceitful.

<sup>1</sup> Director's Fellow, Friends of Archaeology, Cotsen Institute of Archaeology, UCLA.

<sup>2</sup> Assistant Editor, *Backdirt*.

In saying this, however, I want to be careful. We don't really know what people thought or how they lived in antiquity. Archaeologists are trying to learn about those things from the physical record. But we can never be certain that they've got it right.

**BK:** For fifteen years, you have been involved in excavations and recording data. What are some of your favorite memories from the field?

**WO:** The greatest excitement in my experience is the possibility that any scrape of the trowel, feature removal, or re-examination of field notes can reveal something startling and enlightening. New information comes up constantly. In the background is the team: living and working, often in an unfamiliar part of the world, with an international group of scholars: students and academics, as well as local workers, assistants, and their families.

In 2007, Professor Gregory Areshian participated in the fieldwork at Tell Mozan in Syria—a site where I worked for many seasons under the direction of Professors Marilyn Kelly-Buccellati and Giorgio Buccellati. For a research project related to the environmental history of Tell Mozan, Gregory planned to visit major sites in northern Syria in order to understand topographic differences in site patterns. He suggested that I accompany him. It was the opportunity of a lifetime.

We walked about a dozen *tells*, with Gregory interpreting what we saw and much more. At each site, he recounted the history of excavation, the personalities involved, their contributions, prejudices, conflicts, and mistakes. The experience was like walking around inside an epic generational novel.

**BK:** How do you perceive your contributions to the research projects you have been a part of, and in general how do you perceive the contributions of the Friends of Archaeology (FoA) of the Cotsen Institute?

**WO:** At various sites early on, I did actual excavating: working with a trowel, a brush, and a pick. Then I moved up to supervising squares: measuring, recording, drawing, and writing journals and field notes. Eventually, I was overtaken by the infirmities of old age and I became a liability climbing in and out of trenches. For several years now I have worked with the Mozan/Urkish project, chiefly as the curator of the photo library that consists of well over

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ten thousand digital photos. The task is to identify, select, categorize, and label photos of all types: excavation views, objects, work activities and methods, scans of sherd sections for analysis, and so on. The final product becomes part of the Urkish Global Record (UGR). The UGR, designed and implemented by Giorgio Buccellati, is a comprehensive, web-based relational database for on-line publication and research. A public version of the UGR that presents an overview of the Website and examples of its content is at <http://www.urkish.org>.

As I recall, I was introduced to Friends of Archaeology in an extension class on Minoan Crete taught by Brendan Burke (now at the University of Victoria). He encouraged joining FoA. Coincidentally, Charlie Steinmetz was in the same class. Charlie provided a top-level introduction to FoA, and shared much of the thinking and planning for the future of the organization. The chief focus of course is to support, financially and otherwise, the students—undergraduates, graduate students, and post-docs in archaeology, anthropology, and





Figure 1. At the recently resumed excavations of Karmir-Blur; left to right: William Orrange, Gregory Areshian, Hakob Simonyan.



Figure 2. Bill Orrange standing next to the Soviet-era “Jeep” during a survey in Armenia and along the border with Azerbaijan.

conservation—as well as specific research projects conducted by the faculty and researchers of the Institute. FoA also does a masterful job of outreach to the public, in particular through participation in the annual Cotsen Open House. Charlie Steinmetz personally supports programs to get grade school students involved in archaeology with the direct participation of Cotsen students. I have met enough of the children to know that they love it and are surprisingly well-informed.

I have no words to describe adequately my admiration for the intensity and dedication of the archaeology students I have met and worked with. I won’t begin to mention names because it would be unfair to those I have not met. I’ll make one exception to illustrate the point. I was fortunate in 2011 to join the team co-directed by Gregory Areshian that works at the Areni-1 Cave Complex in Armenia (Figs. 1–3). At the start of the preparations in Los Angeles, I was in the control of Kristine Martirosyan-Olshansky.

While all the time working diligently on her own research, grant proposals, and publications, Kristine maintained detailed oversight of the accountability, budget, logistics, and personnel of the project. In Armenia, when a problem came up or a decision was needed the cry went up: “Krees!” In fact, that’s one of my most endearing memories.

**BK:** You have worked at Tell Mozan in Syria with the Buccellatis, in Armenia, and have traveled widely. Please recount some of your most memorable experiences.

**WO:** After my retirement from business, as I already mentioned, I worked at a number of sites before being accepted into the Tell Mozan team in 2004: a Roman site in the Great Saint Bernard Pass, Switzerland; a nineteenth-century plantation near Lynchburg, Virginia; Wadi Fidan in Jordan; Etruscan sites near Siena, Italy; Pisidian Antioch in Turkey; and Tell Qarqur in Syria.

The things that moved me most were pretty ephemeral. Chiefly, finds or incidents that suggest personal contact across the millennia: finding a fingerprint of the potter on the lip of a cup sherd, or a personal artifact such as a piece of jewelry that seemed to have been dropped inadvertently. During my first excavation in the Swiss Alps, I felt chills when I picked up an extraordinary bronze “brooch” in the shape of a butterfly. It was excavated by Jim Vedder, who is known for some groundbreaking experimental archaeology. My job was to sort through buckets of wet soil that Jim passed to me. As I carefully lifted the corroded but clearly recognizable bronze piece from the bucket, the nearby representative of the Swiss antiquities department exclaimed “*incroyable*.”

I felt a strong emotion as I visualized the wife of a Roman general or diplomat on the passage to or from Gaul, realizing with sadness that she had lost her splendid brooch. It lay in the ground for 2,000 years until I picked it up. Alas, that emotion lasted for about two years until Patrick Hunt told me that a comparable specimen was found in a museum collection. It was not a brooch but the brow-band decoration for a horse. ✱



Figure 3. At the grave of Garegin Nzhdeh, leader of the anti-Communist resistance in Southern Armenia in 1921, at the Spitakavor Monastery of the Virgin Mary.

## Alumni Spotlight

# Doctor Smith Goes to Hollywood

## An Interview with Stuart Tyson Smith<sup>1</sup>

BRETT KAUFMAN<sup>2</sup>

In 1982, **Stuart Tyson Smith** received his B.A. from UC Berkeley in Ancient Near Eastern History and Archaeology. He earned his doctorate in Archaeology in 1993 from UCLA. He is currently Professor and Chair of Anthropology at UC Santa Barbara, where he was promoted to full professor in 2006, far ahead of schedule.

He has over fifty publications, including three books, *Askut in Nubia* (1995), *Valley of the Kings*, with Nancy Barnard (2003), and *Wretched Kush: Ethnic Identities and Boundaries in Egypt's Nubian Empire* (2003). He is currently writing a book for Cambridge University Press entitled *The Social World of Ancient Egypt*.

Smith's research focuses on the dynamics of cultural interaction, ethnicity and other axes of identity, ceramics and foodways, legitimization and ideology, sealings and administration, funerary practice and the social and economic dynamics of ancient Nilotic civilizations. He is also an active field archaeologist, having participated in and led archaeological expeditions to Egypt, and since 1997 to Sudanese Nubia. He currently directs an excavation at Tombos at the Third Cataract of the Nile in northern Sudan that investigates Egypt's New Kingdom empire and the emergence of the Nubian Dynasty in its aftermath.

**BK:** How did you become interested in archaeology?

**STS:** My interest in archaeology goes back to a summer enrichment program between the fifth and sixth grade taught by a local archaeology enthusiast. When she got to Tutankhamen's tomb, I was hooked, both on ancient Egypt and the idea of the archaeologist as a kind of time traveler. It still strikes me today how remarkable it was that when Howard Carter looked into the tomb, he saw what

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the last ancient overseer of the Valley of the Kings or priest saw after cleaning up the tomb over three thousand years before (although substantially intact, the tomb had been broken into twice in antiquity). Archaeology is all about context, placing things in time and space, and one of my favorite items from the tomb is a bundle of golden rings tied up in a rag. Each one on its own is an amazing work of art, but the thing that sticks with me is that the context in which they were found tells a story. They had been hastily thrown into a chest near the entrance to the tomb along with an assortment of other things as the Ancient Egyptian police tidied up the mess left by the looters. The rings must have been first stolen and then dropped by a robber. We may never know his name, but we do know that he was desperate or greedy enough to risk the severe punishments that awaited thieves who violated a royal tomb (probably impalement). One can imagine him, part of a small gang of thieves rummaging in the guttering light of oil lamps through the boy king's many boxes and containers, the fierce visages of the lions and hippos on his embalming beds looking down in disapproval. He took the rings not because he admired their delicate craftsmanship, but because he could melt them down into bullion and exchange the valuable and now untraceable gold for anything he might want. But he never realized those desires; instead one of two things happened. One possibility is that the gang had a lookout posted who shouted out a warning. In the resulting retreat, there was a flurry of activity as everyone rushed out, and perhaps a collision in the doorway forced our thief to drop his ill-gotten gains as he hurried away. Of course the other option is not so nice for the thief: the police stormed into the tomb and caught them in the act, grabbing the rings and tossing them into the nearest receptacle.

Over a hundred years ago, one of the founders of modern scientific archaeology, William Matthew Flinders Petrie, said that "The work of the archaeologist is to save lives; to go to some senseless mound of earth, some hidden cemetery, and thence bring into the comradeship of man some portions of the lives of this sculptor, of that artist, of the other scribe; to make their labor familiar to us as a friend, to resuscitate them again, and make them live. . . ." I can think of no better description of what we do. Even Tutankhamen was an obscure character before



**Figure 1. Digging a tomb from around 1000 B.C.E. at Tombos in 2010.**

the discovery of his tomb. Although I have never found anything as spectacular (who has?), I have been fortunate enough to encounter archaeological contexts where the past melted away, and people long dead who left little or no record in history came back to life for me. I will give you one example: that of a small child, perhaps eight years old, buried around 3,300 years ago at the Egyptian colonial cemetery at Tombos in Sudanese Nubia, where I have been digging since 2000 (Figure 1). Although reduced to a skeleton, careful excavation showed that he or she had been placed in a wooden coffin and carefully embalmed, wrapped tightly in linen, only traces of which remained after three millennia. The parents had gone all out, giving their child the best chance of a good afterlife, placing a string of simple amulets around their child's neck in a final farewell. One can imagine the grieving parents lovingly choosing the protective images of deities like Bes, the popular grotesque dwarf god that scared away evil spirits, and Taweret, the hippo goddess who looked after women and children. For me, suddenly 3,000 years slipped away and the ancient colonists were no longer part of some remote civilization, but





**Figure 2.** At a special UCSB-SAR joint History-Anthropology graduate student seminar on *Borderlands in New Mexico*: students in the background, Prof. Elizabeth Digester (UCSB History), Dr. James Brooks (SAR), and Stuart Tyson Smith, seated left to right on bench.

real people, in essence no different from any loving parent today. Curiously, in spite of this careful attention, the child had lain face down for 3,000 years—how rude! It was not, however, the parent's fault, but rather a quality control issue with the embalmers. Ancient Egyptian mummification took a symbolic 70 days and the last two weeks was set aside for final rituals and wrapping. A thorough wrapping would involve yards of linen and might take several days. Clearly the embalmers lost track which way was up late in the process and were confronted with a conundrum—unwrap the body and get it right, or just pick a side and hope for the best. They chose the latter option. So our story is one of both grieving parents who spared no expense on their child's funeral, but somewhat careless or at least fallible embalmers. Fulfilling Petrie's goal of bringing the lives of them and others like them back into human consciousness is a fascinating and awesome job and the UCLA Institute of Archaeology and Ph.D. Program played a fundamental role in realizing my long-held goal of becoming a professional archaeologist.

**BK:** What are some of your formative memories from the Ph.D. program at UCLA?

**STS:** My graduate student and postgraduate career at UCLA spanned a series of dramatic changes for the Institute and the Archaeology Graduate Program. I remember the cramped and often quirky spaces the Institute occupied in Kinsey Hall (currently the Humanities Building), which had originally been the campus Physics building. I had lab space for a time in an old experimental locker in one of a series of rooms past a giant door that reminded me of a bank vault. The walls were painted silver and still had the ends of assorted instrument probes sticking out. I was always irrationally slightly worried that someone would close the door and lock me in (a good premise for a horror/suspense movie). Needless to say the move into the basement of the Fowler Museum was a huge improvement!

One thing that was always present was a dynamic series of talks and lectures that brought in scholars from southern California as well as across the nation, enriching my experience as a graduate student. The thing I miss most though is the camaraderie of a dynamic community of scholars from a range of disciplines spanning the social sciences, humanities, and natural sciences. I have forged my own interdisciplinary relationships at UCSB (Figure 2), but the Archaeology Ph.D. Program and the Cotsen Institute's base in the Fowler Museum provided a natural venue for archaeologists across campus to meet, discuss their work, and learn about the latest discoveries from around the world. I am happy to see that the Archaeology Program still provides a space for scholars like me to craft interdisciplinary degree programs, in my case spanning the humanities and social sciences through a combination of Egyptology/Near Eastern Studies and anthropological archaeology.

**BK:** I understand that the material recovered from UCLA's 1960/1961 salvage excavations before the construction of the Aswan Dam on the Nile was shipped in sealed crates to the basement of Kinsey. These were eventually opened by you and informed your dissertation on Egyptian imperialism. Could you please recount how it felt to be the first scholar to process this data?

**STS:** I was working for the Fowler Museum when I started as a graduate student at UCLA. As we were chatting, Paul Farnsworth, the Curator at that time, mentioned that he thought that there was some Egyptian stuff in one of the storerooms in Haines and Kinsey Halls. Except for five boxes, the material had been unpacked by the excavator, the late Alexander Badawy, but never published beyond a few short preliminary reports. Due to a clerical error, the collection had been “lost,” at least on paper. So in a sense, I was excavating in the Museum. As I looked through the shelves, I was very excited to see that I had hit a veritable archaeological jackpot and realized that my dissertation and beyond was set—a pretty big deal for a beginning grad student! Only the nicer things were kept in the Museum proper. The bulk of the material had been repacked and put into “dead storage” in the basement of Kinsey Hall—think the last scene in *Raiders of the Lost Ark* but on a smaller scale. The room was packed to the gills with various boxes and objects, including an odd Physics experimental structure and assorted Museum collections. I remember in particular loads of African spears and masks from New Guinea (another good creepy movie setting . . .). One entire row was full of boxes from Askut, mostly pottery but including the whole range of objects one might find on an ancient settlement. As I opened boxes and saw the wide range of pottery and other material, I realized that the collection was remarkably complete compared to the other sites excavated during the Salvage Campaign, whose finds had been culled for diagnostic or otherwise interesting pottery and objects. This has proven a logistical challenge because of the large amount of material, but a boon for interpretation since it allows for reasonably reliable quantification, critical for the investigation of subtle issues like the material expression of ethnic identity.

My first challenge working with the collection was the almost complete absence of documentation. It turns out [that] Badawy had taken everything back to Egypt upon his retirement—he was a native Egyptian originally from Alexandria. It took me several trips to Egypt to track everything down, but I especially remember discovering the catalog that provided provenience information for all of the artifact numbers. Many of his papers ended up in the American Research Center in Egypt offices in Cairo and I had gone through box after dusty box

until I pulled out the catalog. I still remember the moment vividly—what a rush! I went from knowing the location at the site for maybe a third of the material to knowing where everything came from—a huge leap forward. Eventually I was able to track down the plans of the site, photographs, and other notes. This allowed me to produce a dissertation, later a very well-received book that provided evidence that significantly changes our understanding of Egypt’s southern empire. Working on Askut also got me interested in Nubia, ultimately leading me to my current very successful excavations at Tombos in northern Sudan.

**BK: How do you see the future of archaeology in Egypt?**

**STS:** The situation in Egypt is very grave, and sadly as of this writing it is not clear how quickly things will improve. In addition to the human toll, archaeological sites have suffered greatly since Mubarak was overthrown and even more so since Morsi was deposed. Objects have just recently been stolen from several provincial museums (two of them almost completely cleared out), and attacks and looting continue at even some very prominent archaeological sites and monuments, as well as historic Christian churches. The military government has moved to protect some key places, including thankfully the Egyptian Museum in Cairo, and in some cases locals have fended off attempts by looters, in particular in Luxor where I worked several times while at UCLA (Figure 3). But the damage since Mubarak’s overthrow and more recently has been severe, even at some prominent sites. Archaeologists are just resuming work in the country, but the first task will be to assess and if possible mitigate the damage. And our Egyptian and Egypt-based colleagues are doing what they can to protect sites and document the looting. One key aspect of this has already started; archaeologists are working with Interpol and other authorities to document stolen objects where possible in order to stop illegal sales on the international art market, which sadly still deals in objects looted worldwide.

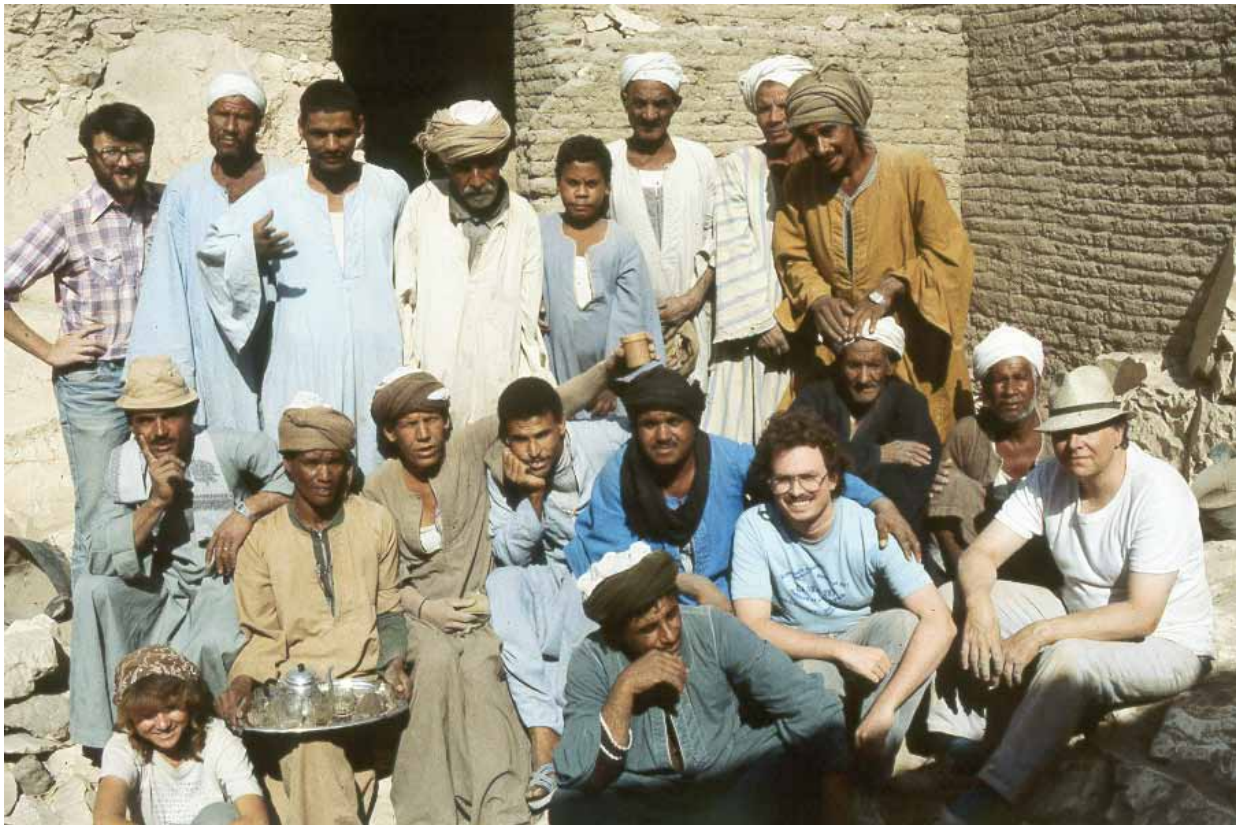


Figure 3. Smith sans beard with the team in the Nobles' tombs on the west bank of the Nile at Luxor in Egypt. Standing at the back left is Prof. Nigel Strudwick (now at University of Memphis but then visiting Professor at UCLA); at bottom left, Dr. Monica Bontty (then a UCLA graduate student in Near Eastern Studies; now Associate Professor of History at University of Louisiana Monroe); and to the right, Dr. Tony Waldron (University College, London).

**BK:** You have consulted for films such as *Stargate*, *The Mummy*, and *The Mummy Returns*. What is it like to be an archaeologist in Hollywood?

**STS:** I had just filed my dissertation and formally been awarded the Ph.D. when I got a call from the producers of *Stargate*. I had just become an unpaid Research Associate in the Institute at the time, and generally fielded Egypt-related Hollywood calls. I would usually give them about an hour before they had to pony up a consulting fee, and I was able to quickly give them what they wanted: *Stargate* in hieroglyphs for a promo to get funding for the film. They said they'd call if the "money people" bought into the idea. I didn't give it much thought, but about a month later I got a call saying they had sold the idea and could I come in to discuss my role in the film? Little did I know that only two months after getting my Ph.D., I'd be working on a major motion picture, commenting on the script, consulting on sets and props, and teaching actors how to speak ancient Egyptian! In addition to bringing a much-needed and welcome infusion of cash (Hollywood movies pay

well!), everyone called me "Doctor Smith" or "Doc" (Figure 4), which, trust me, was hugely validating after seven years of hard work to get a Ph.D.!

As your readers may remember, the main conceit of the film involved an Egyptologist traveling to another planet (through the "Stargate") and meeting descendants of ancient Egyptians carried off by evil space aliens. I know what you're thinking, but it's really a very clever science fiction plot. The notion that the Egyptologist character, Daniel Jackson played by James Spader, would initially have problems understanding the inhabitants of the new planet, but could later converse without difficulty, worked perfectly from a scholarly point of view.

Although the Egyptian hieroglyphic writing system is fundamentally phonetic in spite of its pictographic appearance, the Egyptians didn't include vowels in their writing system. In order to pronounce Egyptian, Egyptologists just simplify, not worrying about things like original syllabic structure and just inserting neutral vowel sounds to make the words pronounceable. The differences between this "Egyptology speak" and real spoken Egyptian are more



than enough to maintain the conceit of the film, that Spader does not recognize the language initially and yet is able to pick it up quickly later on. For example, when he points to a symbol and says “Ra,” as most Egyptologists would, the village leader just gives him a blank look. And no wonder, the original pronunciation of the sun god’s name was “REE-‘uw” (accent on the first syllable and the ‘ is a guttural sound like Arabic/Hebrew ‘eyn). So if you were an Egyptologist travelling to another planet and encountering the descendants of ancient Egyptians, you *would* have problems understanding them and vice versa, but if you were a brilliant linguist like Daniel Jackson, you’d eventually figure it out. I knew about original pronunciation because I had been lucky enough to work with Near Eastern Studies students of the late John Callendar, who sadly passed away not long after I started at UCLA, and with his eventual replacement, Antonio Loprieno, who is now at Basel University in Switzerland. Both are among a handful of Egyptologists interested in vocalization, or original pronunciation. I was able to work that directly into the film, so if you want to know what ancient Egyptian sounded like, check it out!

I was amazed throughout the production that director Roland Emmerich and writer-producer Dean Devlin cared about the accuracy of the language (the “money people” producers were less impressed, but my compensation was chump change on a production that size). After all, only a few hundred of the millions who would see the movie could tell the difference. The stars, however, certainly appreciated the fact that they were actually saying something instead of made up nonsense words, and I think my work helped the movie’s credibility. In any case, everything you hear is genuine ancient Egyptian—about half the movie’s dialog! Since I was on the set for about half of the five-month shoot, I received a complete introduction into the mysteries of film production while working on the project. Pretty cool for a newly minted Ph.D. without immediate job prospects (as I said before, movies pay well)! Apart from translating dialog and a few glyphs when necessary, I spent a great deal of time with James Spader, helping with his dialog and giving him insights into academe. My favorite scene, which I wrote, is the one where Spader as Egyptologist Daniel Jackson learns how to pronounce the language, which earned me praise from my mentor Antonio Loprieno. Most of the time, however,

I’d just sit around the set like everyone else who didn’t have anything to do (movie-making is tremendously inefficient). Then Spader or somebody would decide they needed to say something with a minute or two to cameras rolling and I had to come up with an instant translation. It was the first and only time that Egyptology became an emergency service. A couple of times I got calls at 9 or 10 p.m. with frantic assistant directors saying the schedule had changed and Spader or someone has a line and can I please, please, please be on the 6 a.m. plane to Yuma! Which is pretty much how the movie industry works. Either nothing’s happening or it’s a crisis. Once they said I’d be in Yuma, where they shot the desert scenes, for a day or two tops and I ended up being there two weeks! I also got a few wild rides on dune buggies to get out to location in the sand dunes and coach the actors.

All the actors picked up on the language pretty well. The two younger “Shepherd Boys” were soon swearing at each other in Egyptian in the background, much to the amusement of myself and a couple of friends on the crew I’d clued in. Jaye Davidson, who played the evil alien/sun god Ra, was the exception. He liked the idea of doing his dialog in Egyptian, but couldn’t remember a line to save his life in front of the camera. Best known for his Academy Award nominated role in *The Crying Game*,



Figure 4. Coaching actors on the set of the Hollywood movie *Stargate* in 1993. The hieroglyphs in the background are an actual text that Smith translated for the set department.



he is not a trained actor and it showed. I suddenly became the most important person on the entire set as filming ground to an expensive halt. The director and crew were frantic. At one point the sound guys made me a little booth and put an earwig (micro-receiver) in Jay's ear. That didn't work and we finally ended up with cue cards—probably the strangest ever seen in Hollywood! As a result Ra's dialect is, ah . . . a bit eccentric shall we say? Well . . . he was a god/alien after all. I also had to be careful to avoid words that sounded like English. The most outrageous example was only noticed in postproduction. The first time Jaye Davidson and James Spader speak to one another, James says "I died?"—in Egyptian "Yuh-wan me-toni?"—a bit too close to "You want me tonight?" We had a good laugh and I found an alternative for James to dub in during "looping," when they re-dub any dialog that didn't turn out well during filming. The other actors, including Spader, did just fine, so much so that it produced an epiphany for me. I remember clearly after 20 years being on set during a scene when the local leader is worried that the Daniel Jackson character has rejected their hospitality. He goes into an excited rant, and I remember as if it were yesterday ancient Egyptian suddenly became a living language to me. We had used reconstructed pronunciations before in seminars, but hearing the language spoken with vowels and accents, but also at a normal speaking pace with emotion in the context of a story gave me a whole new appreciation for the fundamental nature and music of the language that you just can't realize from dry, academic study.

My film career continued about five years later when one of the *Stargate* actors, Eric Avari, who played the local leader mentioned above, got a role in Universal's remake of *The Mummy* as an Egyptian Museum curator/librarian. This led to work on the sequel, *The Mummy Returns*. My role in these hit films was more hands-off. As with *Stargate*, I commented on the script and translated dialog for the actors. Rather than coaching them on set, however, I made up Berlitz-style language tapes and transcripts for them to study. I did work a bit with Arnold Vosloo, who played the Mummy, and also coached Dwayne "the Rock" Johnson once on a fuzzy cell-phone call to someplace in the desert outside of Marrakesh.

Unlike *Stargate*, where they took all of my advice (well, I could hardly complain about the space aliens building the pyramids part . . .), Steven Sommers, the director/writer of the Mummy movies, took about half of my advice and ignored the rest. I could never figure out why he used some things but not others. So, for example, they took my suggestion that the nomadic Mummy guardians should be called *Medjay* after an ancient Nubian nomadic group who eventually served as the elite police force that guarded the Valley of the Kings during the New Kingdom, which works beautifully for the conceit of the film. They also took my advice and made all of the weapons the golden color of bronze (iron was very rare until after the New Kingdom) and avoided using gemstones in jewelry (no cut stones or precious stones in ancient Egypt).

At the same time, they decided against my advice to use five, not the correct four, canopic jars (the vessels in which the deceased's separately embalmed internal organs were stored). Honestly, I told them four, not five, but they totally blew me off! I am also not responsible for the whole flesh-eating scarabs thing. I politely informed them that scarabs are into dung, not flesh (they are called dung beetles for a reason!). I even clued them into a mythical soul-eating demon beetle that would have worked well instead, but did they listen? No! They also apparently didn't believe me when I told them that far from being a rare, obscure text, the Book of the Dead used to revive the Mummy is about the most common document to survive from ancient Egypt (and would have been a papyrus scroll, not a hinged book!). Here the 1932 Karl Freund classic version of *The Mummy* starring Boris Karloff did much better, calling the book (a papyrus scroll) that brought Imhotep back to life the Book of Thoth—a clever reference to a real ancient Egyptian mummy story, so Sommers really had no excuse! But I was still paid well, which was good timing since I had just gotten the tenure-track job at UCSB (houses in Santa Barbara are expensive!). And the language turned out quite well, even translated into the right grammatical dialect for the period, Late Egyptian, getting me praise again from my colleagues in spite of the outlandishness of much of the script. I reckon that even getting a modicum of accuracy in films like these is a bit of a triumph and will hopefully make at least some viewers curious about the real ancient Egypt. ✱

# Looting

## Another Phase in the Social History of a Pre-Hispanic Cemetery in Southern Peru

MARÍA CECILIA LOZADA<sup>1</sup>, AUGUSTO CARDONA ROSAS,<sup>2</sup> AND HANS BARNARD<sup>3</sup>

Reconstructions of ancient societies in the Andes rely heavily on the excavation of cemeteries. Because most mortuary sites have been looted, it can be challenging to use them to increase our understanding of the past. Illegal excavations and looting<sup>4</sup> can be traced back to the colonial period, and even much earlier. In the Andes, archaeological contexts are disturbed not only by grave-robbing but also through a variety of other activities the purposes of which are not necessarily economic. A better understanding of these practices and how they have evolved over time may reveal new layers of interpretation in the evaluation of disturbed contexts.

We argue that a complete analysis of mortuary contexts, beginning with the initial burial rituals,

including subsequent looting events and the final excavation by archaeologists, not only generates valuable data regarding past behavior, but also represents a means by which to investigate the dynamic interaction between the living and the dead. We propose that the systematic study of all material evidence offers a refined interpretation of the social meanings behind this interaction and the contexts within which they developed over time. As a case study, we will explore the various “social lives” and changing roles of one of the pre-Hispanic cemeteries in the Vitor Valley, west of Arequipa (southern Peru).

The Ramadas people buried members of their community in the Vitor Valley as either single or collective graves about 1,200 years ago, making them among the oldest archaeological remains in the area. Many of these burials demonstrate evidence of reentry over the subsequent centuries, suggesting that even after inhumations had ceased, these cemeteries served as a means by which people shaped their social and cultural past, often through activities such as looting, but also including recent systematic archaeological research.

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<sup>3</sup> Cotsen Institute of Archaeology, UCLA.

<sup>4</sup> Looting is defined as any excavation or digging at archaeological sites without academic research purposes and, in present times, unauthorized under the current laws of the given country.

A complete analysis of mortuary contexts . . . not only generates valuable data regarding past behavior, but also represents a means by which to investigate the dynamic interaction between the living and the dead.

#### COLONIAL LOOTING IN THE ANDES

Many contemporary looters in Peru believe that their activities are not illegal, as the Spaniards destroyed ancient tombs without any consideration for the symbolic meaning of such sacred spaces. Furthermore, looters claim an ancestral connection with the individuals buried in pre-Hispanic cemeteries, a relationship that they believe gives them the right to open the tombs of their ancestors. One can debate the legitimacy of their rationale for looting; however, it is important to understand and contextualize their behavior within a specific historical and economic context.

Susan Ramírez (2002) offers a description of a looting event that occurred only a few years after the colonial conquest, and it is of great importance here.<sup>5</sup> In the 1550s, Alonso Zarco, a well-known looter, was

active on the coast and the highlands of northern Peru, and used his limited knowledge of Quechua to work with indigenous people who helped him locate rich contexts. In 1558, Zarco sought a court injunction against a “looting company” composed of several Spaniards and Don Antonio Chayhuaca, an indigenous lord of the local Chimues. This company aimed to “excavate” the structures of Yomayoguan, known today as Chan Chan. According to the colonial legal documents, Zarco had already started “excavations” at this location, which under colonial law would give him ownership of any items uncovered at the site. He was outmaneuvered by the “looting company,” which usurped his rights to Yomayoguan, and under this “bi-national enterprise” the looting continued for about two years with the aid of ninety Indians and slaves. The discoveries were truly spectacular as attested by the list of hundreds of items included in such legal documents. The initial agreement between the Spaniards and Don Antonio called for any finds to be divided into two parts: one for the Spanish partners and the other for Don Antonio to distribute among himself, his subjects, and a few Spaniards. According to the colonial legal system, a substantial taxation—about a quarter of the amount found—should have been paid to the Crown, but this does not seem to have actually occurred. Instead, the goods were hidden and witnesses bribed.

Historical records suggest that many poor Spaniards became treasure hunters in order to climb the colonial social ladder. Ramírez (2002) contends that Don Antonio decided to join the Spaniards not for monetary gain, but rather because he wished to protect the most important sacred items removed from Yomayoguan. Such “treasure hunts” started immediately after the initial contact, and historical references attest to similar practices: Andeans, for example, opened the graves of their ancestors and removed their bodies and belongings in order to keep them away from the Spaniards (Gündüz 2001; Ramos 2010). It is within this post-colonial context that Spaniards started a transcontinental trade in archaeological objects both for individual profit and as a mechanism to improve their position within the new colonial order.

Confirming these historical accounts, Augusto Cardona excavated a number of mortuary contexts in the Colca Canyon in southern Peru. He uncovered evidence of reburials in highly visible Inca tombs as

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5 We thank Dr. Marco Curatola Petrocchi, Tinker Visiting Professor in Anthropology at the University of Chicago, for providing this reference.

well as in underground funerary contexts within the foundations of domestic terraces. He proposes that the purpose of reburial was to protect the ancestors of the local Inca during the early colonial period in Uyo-Uyo, Yanque.

## CONTEMPORARY LOOTING IN PERU

As with many other traditions that began with the Spanish conquest, looting is an integral part of both the past and the present in Peru. The lyrics of a popular Peruvian creole song, for instance, praise such activities: “*Huaquero, huaquero, huaquero vamos a huaquear.*”<sup>6</sup> Examples such as this allude to looting, albeit in a more abstract way, underscoring the deep and often complex relationship that many Peruvians have with archaeological sites. In the early twentieth century, landowners along the coast of Peru, with the assistance of their workers, “excavated” numerous ancient sites on their property to gather archaeological items for their private collections. Furthermore, weekend family outings often involved the “exploration” of archaeological sites to collect mementos.

*Huaqueros*, on the other hand, represent the long-standing tradition of looters that dates back to the early colonial period. Rena Gündüz (2001) argues that the knowledge of these specialists, who are typically male, is handed down from father to son. Their practical training involves a deep understanding of their own customs, landscape, and culture. Furthermore, they perform rituals designed to ask for forgiveness from their ancestors for desecrating their sacred spaces, or *huacas*. These *huaqueros tradicionales*, along with the local shaman, are part of a complex network that ensures the overall well-being of the participants. They prefer to conduct these activities on Thursday or Friday of Holy Week, a liminal period when, according to local tradition, the souls of the dead wander, leaving their graves unprotected. Others argue that it is during these days that treasures flourish within these ancient cemeteries (Gündüz 2001). During these “looting” activities, ancient corpses are treated with respect: they are left in situ and are not disturbed. In contrast, *huaqueros no tradicionales*, nontraditional looters, have no bonds with the past, and, like the

Spaniards after the conquest, engage in treasure-hunting purely for economic profit without any regard for the historical and cultural significance of the sites (Gündüz 2001).

Looting and artifact trafficking remain a major problem in Peru, in spite of restrictions imposed by the UNESCO convention of 1970. Many mechanisms are used to evade these laws, making it possible for large quantities of archaeological materials to reach the international market, despite awareness programs and laws enacted by the Peruvian government to protect the country’s rich cultural heritage.

## THE VITOR VALLEY OF SOUTHERN PERU

The Vitor Valley is located about 40 kilometers west of the colonial city of Arequipa in southern Peru, between Lake Titicaca and the coast of the Pacific Ocean. It has a long and continuous history of human occupation extending from the pre-Hispanic Formative Period through the Colonial Period into modern times. Vitor Valley is known for its wine and grape vodka (*pisco*) production, as well as its strategic location along key trade routes between highland communities and the settlements along the Pacific coast. The abundance of archaeological sites and ancient roads throughout the valley underscore the central importance of this area in the regional economy of the South Central Andes, both in the past and in the present. Before the Vitor Archaeological Project (VAP) was conceived in 2008, no major archaeological research had been conducted in this valley. The VAP fields a multidisciplinary team, which rigorously explores the long, rich history of the Vitor Valley. Our systematic assessment of this important area has identified numerous ancient sites, while also noting that a significant number of these had been extensively looted. Sites that contained residential or ceremonial contexts were relatively spared, but the more than twenty pre-Hispanic cemeteries in the lower part of the valley showed extensive destruction. These cemeteries were typically constructed on alluvial terraces close to ancient flood plains. They are thus clearly visible and easily accessible. No settlements associated with the cemeteries were found. It is likely that the associated residential areas were destroyed in an effort to create additional arable land for cultivation. Alternatively, such settlements may be preserved, but located elsewhere in the valley.

6 “Looter, looter, let’s go to loot.” *Huaqueros* refers to looters in Peru. The word derives from the term *huaca* used to identify Andean sacred places (Gündüz 2001).



# Looting and artifact trafficking remain a major problem in Peru, in spite of restrictions imposed by the UNESCO convention of 1970.

Cemeteries seem to have varied little in size and in the construction of the tombs. In general, burials were in pits of different depths with a diameter between 40 and 80 cm. Based on surface observations, most graves appeared to have contained a single burial. None of the graves included a stone lining or a superstructure, such as a collar; there were no capstones to seal the tombs. Instead, cane matting may have been used to cover the funerary pits. Ancient cultural materials left by looters were scattered over the surface. Many fragments of nondecorated ceramics associated with the Ramadas tradition were identified. While this local ceramic style is characterized by a lack of decoration, this is not true for the associated gourds and textiles, which often show a variety of decorative motifs. Textiles in particular showed designs that appear to have been influenced by the coastal Nasca tradition (Cardona 2002; Haeberli 2001).

According to our local informants, such mortuary contexts often contain exquisite textiles that are part of the mummy bundle. It was also said that large, feathered textiles were sometimes recovered from these burials. The majority of looting in the Vitor Valley seems to have been perpetrated by the inhabitants of the valley rather than by outsiders. Our informants also stated that during the last few years, organized group of *huaqueros* from the south coast, specifically from the area close to Nazca (south of Lima), have traveled to the valley to loot

pre-Hispanic mortuary sites. Another recent threat to the archaeological sites in the Vitor Valley is the expansion of agricultural fields, development of irrigation systems, and overall population growth. In this area, ancient residential, ceremonial, and mortuary areas are at immediate risk of destruction.

## THE SOCIAL HISTORY OF A RAMADAS CEMETERY

Our research over the past four years has uncovered evidence of the direct intervention of the Wari Empire in this part of the Andes through the establishment of the Millo Complex, an extensive administrative center that incorporated the Vitor Valley in the Wari state outside its heartland in Ayacucho. While our data so far provides compelling evidence of Wari intrusion, our questions are centered around understanding the nature of the relationship between Wari colonizers and the local population, archaeologically identified as the Ramadas tradition. Our research on Wari domestic contexts, including radiocarbon dates and ceramic analysis, indicates that both groups cohabited the same spaces. In other words, there was ongoing indigenous occupation after Wari occupation in the valley (Cardona et al. 2012).

Thus far, we have attempted to define the relationship between the indigenous Ramadas and exogenous Wari mainly based on material culture; however, we are also interested in addressing this question from a biological perspective. Are the changes in the Vitor Valley during the Middle Horizon associated with the presence of highlanders? Our research in Vitor Valley shows extensive local Ramadas cemeteries that can provide a baseline for future cultural and biological studies regarding the relationship between the local population and the Nasca and Wari polities. In 2012, our study focused on this local tradition, and we conducted a salvage excavation in one of the Ramadas cemeteries (Fig. 1). The site was covered by soil on top of a thick layer of tephra (volcanic ash), most likely produced when the Huaynaputina volcano erupted in 1600. This tephra deposit represents an ideal chronological marker, as it sealed all human activities that occurred before this catastrophic episode. Because the site was heavily looted, our methodology was designed to maximize our data recovery for the reconstruction of the cemetery's history. This included the excavation of a single



Figure 1: Location of Ramadas cemetery in Vitor Valley. Photograph by Erika Simborth.

unit (4 x 10 m) and the cleaning of sixteen burial pits located throughout the cemetery. A systematic collection of all surface finds was also conducted, which yielded a vast quantity of archaeological material, including human and animal bones, undecorated ceramic fragments, textiles, baskets, mats, vegetable fiber ropes, gourds, and marine shells. In addition, cigarette butts and boxes, remains of *pagos* or offerings to Mother Earth, were also collected. These *pagos* included coca leaves and empty liquor bottles. They thus appear to represent traditional Andean rituals linked to looting practices at the site. Evidence of archaeological research conducted in the past

was also found in the form of a clipboard and the remains of an excavation unit one meter square, now covered with topsoil.

The destruction of the cemetery appeared quite extensive and systematic. While performing the surface collection, it was clear that the looters had used various modes of extraction, as there is evidence of extensive digging in certain parts of the cemetery, along with multiple probing pits throughout the site. Our excavations and tomb cleaning provided exceptional clues regarding the funerary patterns of





**Figure 2:** Excavation of recently looted context by Caitlyn Phillips (University of Chicago) and Jon Clindaniel (Harvard University). Photograph by Mariana Ladrón de Guevara.

the Ramadas people, as well as the different looting episodes throughout the history of this cemetery (Fig. 2).

Looting seems to have occurred both before and after 1600. At least six disturbed graves were filled with pure tephra, indicating that the graves had been opened prior to 1600 (Fig. 3). In these cases, whoever opened these tombs left part of their original contents within the funerary pit. These remnants included elements of the roof, human bones, mummy bundles, and artifacts. A second wave of looting, characterized by a fill consisting of mixed topsoil, tephra, and various cultural materials, seems

to correspond to modern activities. In these contexts, the original contents of the grave had been removed, and only the few elements found in the vicinity of the pit provided data regarding the cultural associations of these burials. Mummy bundles and human bones were not found in these funerary pits and, like our surface findings, these contexts contained cigarette boxes, caps of soda bottles, candy wrappers, and matchboxes.

Although no intact burials were found, we have been able to reconstruct some of the original Ramadas mortuary rituals that characterize their funerary tradition. The predominant pattern entails deep pits

dug directly into the ground. These simple pits had a boot-shaped form, with the tip oriented to the west or southwest. While no evidence of roofs has been detected, “cane grills,” which may have been used to seal the grave, have been recovered on the surface throughout the cemetery. While there was significant variation in the size and depth of the tomb, there was little variation in their layout or construction. We are not sure if size differences were associated with the status of the deceased or with other social differences. The graves in this cemetery were not monumental, and it is not clear from our excavations whether the intact tombs were visible from the surface or whether they had any markers such as logs, canes, or stones. From looting practices prior to 1600, which were less destructive, we are able to characterize the Ramada’s burial pattern with respect to body treatments and grave goods. Recovered mummy bundles and skeletons indicate that these individuals were placed at the tip of the boot, as it were, in a seated position with their arms and legs flexed. These semi-disturbed contexts include

more than one individual, which seems to suggest different funerary episodes and tomb reuse. Grave goods were placed along both sides of the deceased, and there is evidence that ropes made of vegetal matter were used to lower grave goods and perhaps some of the mummy bundles into the grave. These tombs contained Ramada-style ceramics, exquisitely decorated textiles, wood and bone artifacts, and shell necklaces. The demographic pattern observed thus far indicates that children, adult males, and adult females were buried, suggesting that there was no selective practice when burying individuals in this cemetery.

## DISCUSSION

From our excavations, it is clear that the cemetery was occupied first by the Ramadas people. While we need to analyze the osteological data and material culture further in order to pinpoint the biological and cultural profile of this group, we can comment



Figure 3: Burial pits looted prior to 1600 CE and identified by clean tephra filling.



## Looted cemeteries hold important clues regarding the beliefs and traditions of the looters who engage in these activities.

on the looting history of their cemeteries. Although we have shown that looting occurred before 1600, it is not clear who opened these tombs to remove selected items. As the Vitor Valley was one of the first valleys in which wine was produced after the arrival of the Spaniards in southern Peru, there are detailed historical records regarding the presence and interaction of indigenous people and Spaniards in the area. In 1557, the Spanish administration divided the land of Vitor Valley among the colonists (*encomenderos*), many of whom started to produce wine as early as 1560 (Buller 2011). At this time, the valley offered opportunities to a variety of people as it became a major center of agricultural and commercial activity. The wine industry changed the local demographic pattern, as well as the political and economic landscape of the valley. This prosperous period abruptly collapsed in 1600 as a result of the Huaynaputina eruption, which devastated all crops in the region. It is quite possible that looting occurred during this period, as the cemeteries were located at the bottom of the valley and thus close to the vineyards and the newly constructed wineries (*bodegas*). Additional fieldwork will be needed to determine if other pre-Hispanic groups that inhabited the Vitor Valley before the arrival of the Spaniards practiced grave-opening in the past.

The looting patterns prior to 1600 suggest a respectful opening of graves, during which the body was not disturbed. These “looting” activities seem to have been conducted in accordance with traditional ceremonies, as demonstrated by the *pagos* used to ensure the overall success of such endeavors. This pattern contrasts markedly with more recent patterns of looting, during which there is more



**Figure 4:** Severed humerus from surface collection reflecting the contemporary and destructive approaches used to remove ancient human bone in the cemetery.

indiscriminate destruction of the burial contents, most particularly of the body itself (Fig. 4). Our preliminary evaluation of the archaeological materials suggests that exquisite textiles, some feathered, were used in the production of mummy bundles. In contrast to the Ramadas ceramics, which may be seen as plain and therefore unprofitable, the beautiful textiles can easily be transported and fragmented for the local and international market. A visit to the tourist shops in Arequipa revealed some of these textiles, and a Google search for Nasca or Wari textiles found artistically framed examples in international auction houses.

The systematic study of this looted cemetery provides intriguing glimpses into the gradual transformation of attitudes toward such cemeteries in Vitor Valley in different time periods. These attitudes may have been shaped by a constantly changing cultural, spiritual, and economic landscape, as well as by the perceived connection between the looter

and the buried individuals. Tombs were entered by the Ramadas-era inhabitants of the valley as part of an extended mortuary pattern, one that does not seem to have altered the body and accompanying funerary goods. After the Ramadas era, but before 1600, looting began to include the theft of burial accouterments, an act that represented a violation of the mortuary context inside the tombs. The body, however, was generally left intact. The reason for this practice is unclear and worthy of further study. Was this due to a fear of the dead, or perhaps respect, a sentiment stemming from cultural or spiritual beliefs? Whatever protected the body from being a target of looting appears to have faltered over time, ushering in the more contemporary form of looting that is currently widespread. It would be very interesting to determine what prompted this change in attitude toward the body during the act of looting, as this would shed light on attitudes regarding the dead. It is conceivable that some of these changes may have occurred with the arrival of the Spanish, although this too needs to be explored further. Even the differences between traditional and nontraditional looters suggest that there is an ongoing transformation in attitudes toward death and ancient cultural traditions.

Looted cemeteries hold important clues regarding the beliefs and traditions of the looters who engage in these activities. Thus, while looting destroys critical data on those who were interred, it does not render them valueless. Archaeologists need to incorporate the study of these activities as different layers of analysis in mortuary excavations, each of which represents a different social dimension, or “life,” of a cemetery. Viewed in this way, the cemetery in Vitor Valley represents not only a snapshot of burial traditions during the Ramadas period, but also a diachronic view of changes in attitudes toward death and the dead over a 1,500 year period as understood through the changing practices of looting. ★

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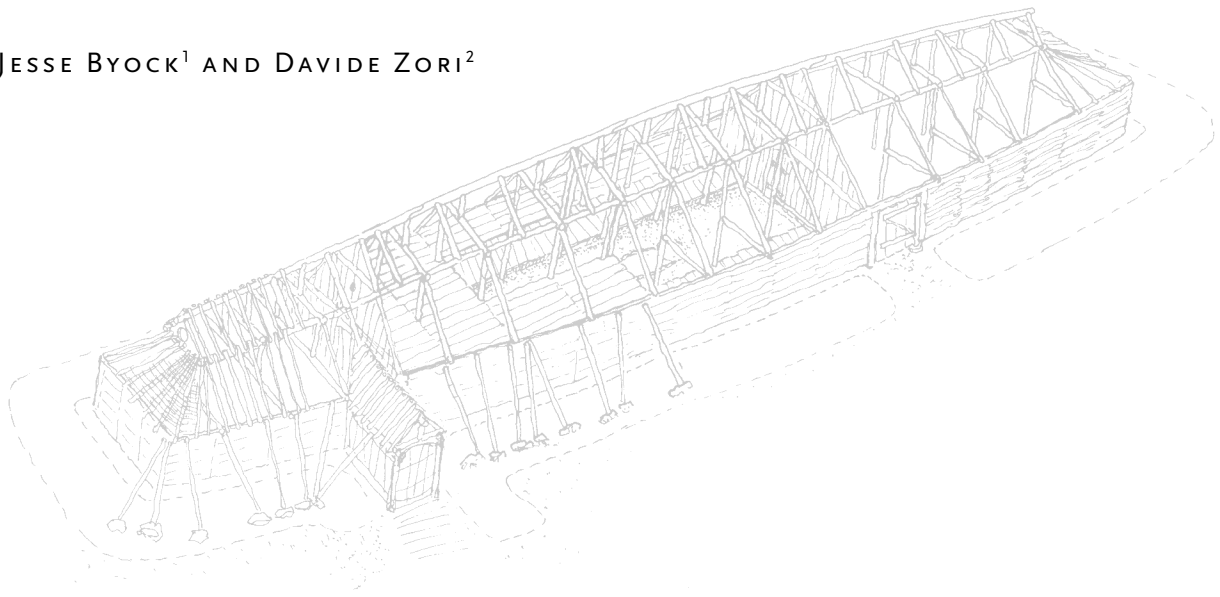
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## Report from the Field

# Viking Archaeology, Sagas, and Interdisciplinary Research in Iceland's Mosfell Valley

JESSE BYOCK<sup>1</sup> AND DAVIDE ZORI<sup>2</sup>



*This article is dedicated to the memory of Phillip Walker, our friend, University of California colleague, and co-director of the Mosfell Archaeological Project*

Working in the glaciated and once-wooded Mosfell Valley (Mosfellsdalur) in southwestern Iceland, the Mosfell Archaeological Project (MAP) is unearthing the prehistory and early settlement history of that region during the Viking Age (ninth to eleventh century C.E.).<sup>3</sup> This article offers an overview of MAP's recent archaeological research at the farm of Hrísbú in the valley. This site was the home of the Mosfell chieftains (the Mosfellsdælingar, "the People of Mosfell's Dale"), a powerful Viking Age family of leaders, warriors, farmers, and legal specialists. Within the context of MAP's findings, this article considers the relationship between modern archaeological methods and Iceland's medieval writings, especially the family sagas.

By applying different sources and research techniques—archaeological, scientific, and humanistic—MAP is constructing a picture of habitation and environmental change in the Mosfell Valley over the course of the Old Icelandic Free State, a Viking Age parliamentary state that continued until the mid-thirteenth century (Fig. 1; Byock 2001). MAP's

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<sup>2</sup> UCLA Center for Medieval and Renaissance Studies; Icelandic Centre for Research (Rannís).

<sup>3</sup> The Mosfell Archaeology Project (MAP) is directed by Jesse Byock, UCLA professor of Old Norse and Archaeology. MAP's field director is Davide Zori, UCLA Cotsen Institute of Archaeology Ph.D., 2010. A joint Icelandic and American project, MAP is interdisciplinary and international with archaeologists, scholars, and students from different countries and universities. For further information, see the forthcoming book, *Viking Archaeology in Iceland: The Mosfell Archaeological Project*, ed. Davide Zori and Jesse Byock (Turnhout: Brepols Publishers, 2014).

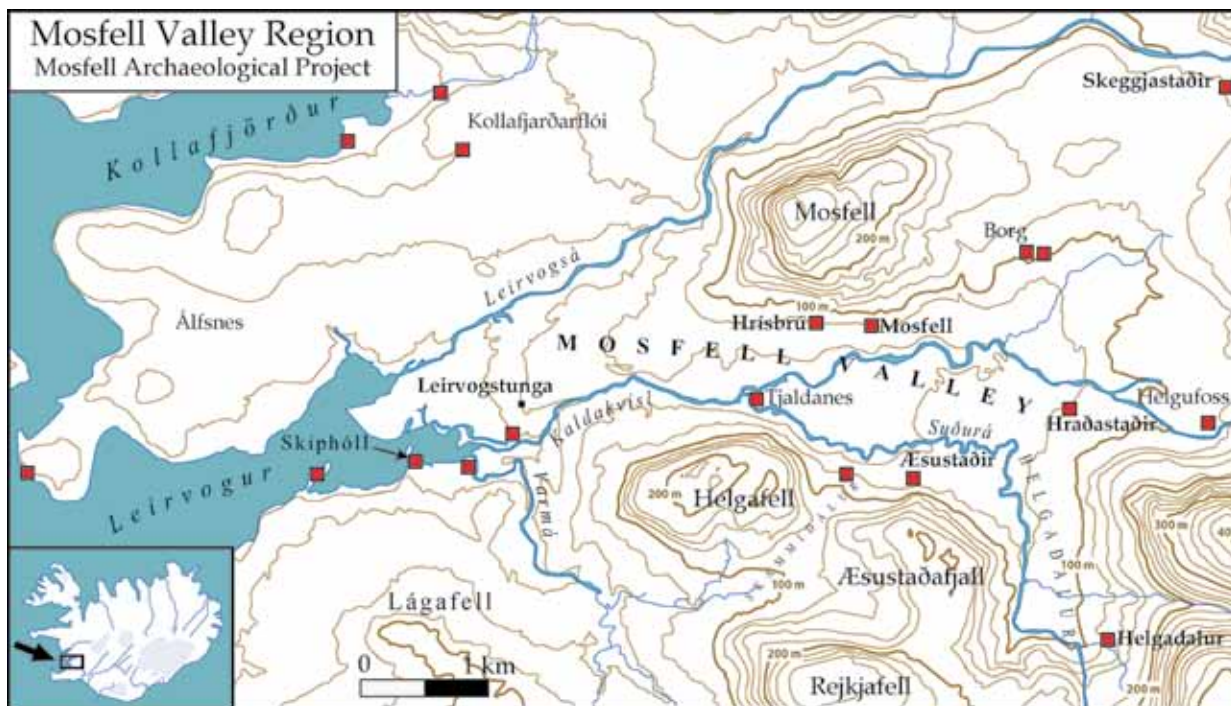


Figure 1. Map of the Mosfell Valley region. The red squares show the locations of MAP's excavation and survey sites. The entrance to the valley lies between Mosfell Mountain to the north and Helgafell Mountain to the south. The farmstead of Hrisbrú sits on the lower slopes of Mosfell Mountain from where it controlled the entrance to the valley and looked down on the Viking Age port at Skiphóll (Ship Knoll) in Leiruvogur Bay.

excavations at Hrisbrú have revealed a large long-house, a timber/stave church from the conversion-age transition from paganism (ca. 1000 C.E.), an early graveyard with mixed pagan and Christian attributes, and a pagan cremation burial site (Figs. 2, 3, and 4). Together these exceptionally well-preserved remains form the core features of a chieftain's high-status farmstead. At this time, we are researching and excavating fourteen sites throughout the valley (see Fig. 1). These excavations are providing a detailed picture of Viking Age life in Iceland and in the North Atlantic. The sites include monumental stone ship settings—stones arrayed to form the outline of a ship—at the inland end of the valley (Fig. 5), and a Viking Age port at the valley's coastal mouth at Leiruvogur Bay, where the rivers of the valley flow into the sea.<sup>4</sup> The extensive assemblage of sites in the Mosfell Valley forms a powerful political, religious, and governmental landscape.

The Mosfell Valley is the type of Icelandic community of the Viking Age that produced the Icelandic sagas, one of the world's great bodies of

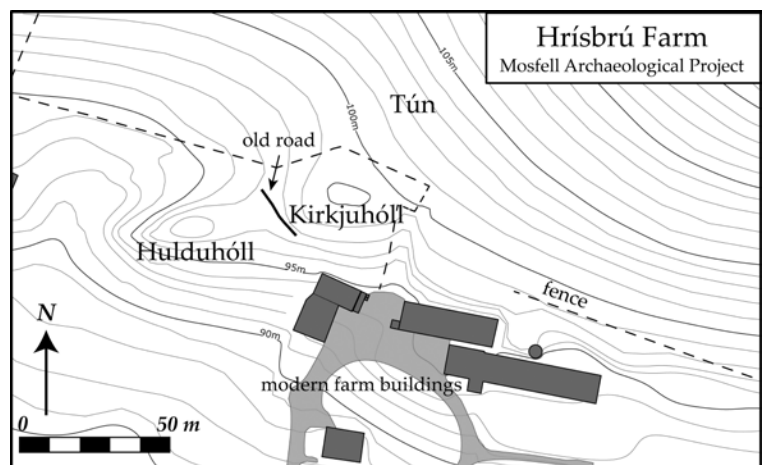


Figure 2. The modern farm of Hrisbrú showing the locations of the major excavation areas of Kirkjuhóll (Church Knoll), Hulduhóll (Elven Hill), and the tún (the ancient homefield) mentioned in this article. The old road leading past Hrisbrú lay between the Christian church on one side and the pagan burial mound on the other.

4 Leiruvogur, "Tidal Flats Bay," is sometimes spelled "Leirvogur" and may also be translated as "Clay Bay." Both translations make sense as the bay is still today both clayey and muddy.



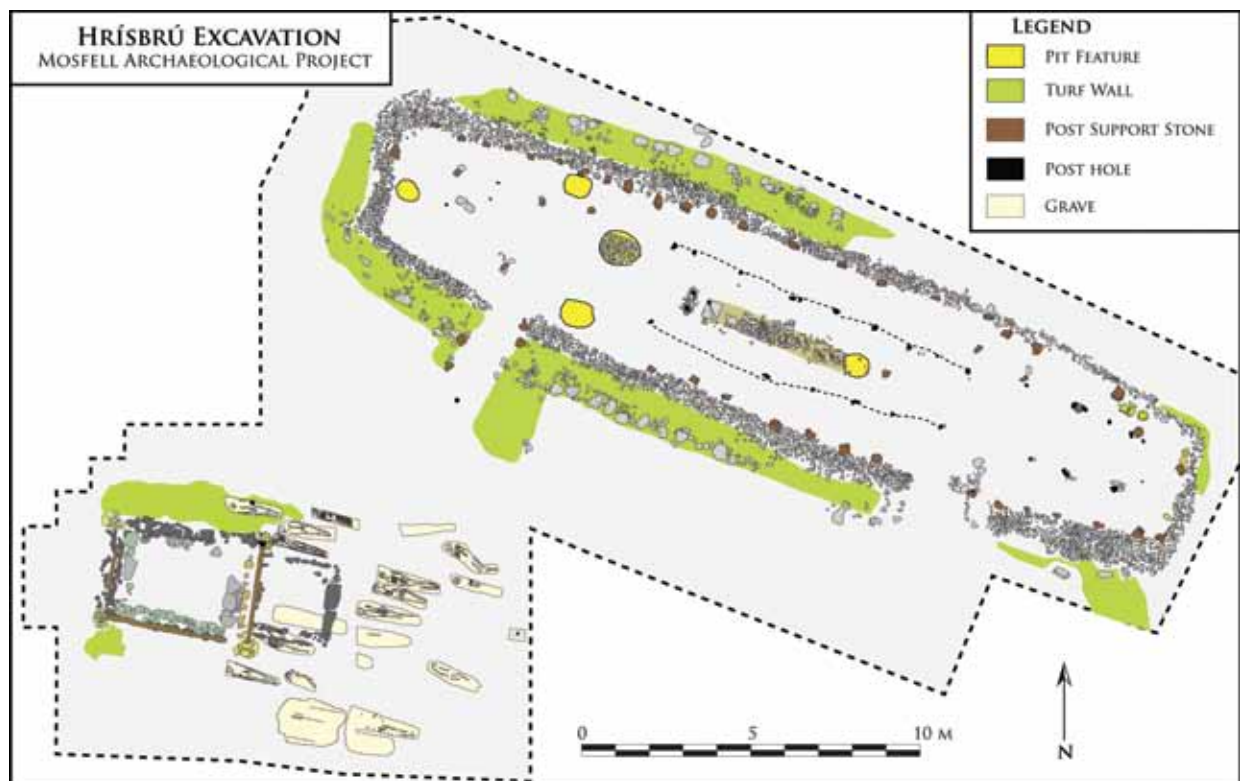


Figure 3. Site plan of the excavated Viking Age chieftain's farm at Hrísbú. The map shows the Viking Age longhouse and the conversion-era church (ca. C.E. 1000) with a surrounding burial yard.

literature. Most archaeologists working in Iceland today avoid the sagas, dismissing them as fictitious writings. We take a different view. We employ Iceland's medieval writings as one of many datasets in our excavations, and the archaeological remains that we are excavating in the Mosfell Valley appear to verify our method. Together, the written medieval sources and the archaeological discoveries offer new information about Iceland's earliest past and about the Viking Age in general.

MAP is also an example of archaeology in transition. When we started in 1995, the valley was rural. It lay beyond the outskirts of Reykjavík, Iceland's capital. But the situation has changed: the Mosfell Valley is rapidly becoming part of sprawling greater Reykjavík, and the Viking Age sites are now threatened by urban development. Since we started our excavations, a large area of the Viking port area at Leiruvogur Bay has been turned into paved housing subsections. Where earlier we herded horses and sheep off our sites, we now compete with bulldozers and larger machinery. With the swift advance of urbanization, our task is to find and document the archaeological remains of turf buildings, ancient

roads, burials, agricultural enclosures, and port facilities before they are destroyed by modern construction.

MAP is highly interdisciplinary in its archaeological approach, using the tools of archaeology, history, anthropology, forensics, environmental sciences, and saga studies in a coordinated methodology. We call our research framework Valley System Archaeology, a concept we developed and which we find well-suited to Viking and North Atlantic archaeology. Guided by this framework, we combine analyses of the Mosfell Valley's cultural, scientific, and environmental landscapes from the coastal regions at the western lowland mouth of the valley up into the highland heaths that rise at the valley's eastern end.

The Mosfell region is a suitable test case for the utility of the Valley System concept. The valley, the surrounding highlands, and the lowland coastal areas are an interlocking system of natural and man-made components. The area encapsulates the major ecologies of Iceland: coastal, riverine, and highlands with volcanic soil; it contains rich archaeological heritage, connected to a broad collection of oral narrative and medieval writings. The time-frame of MAP's research begins with Iceland's earliest

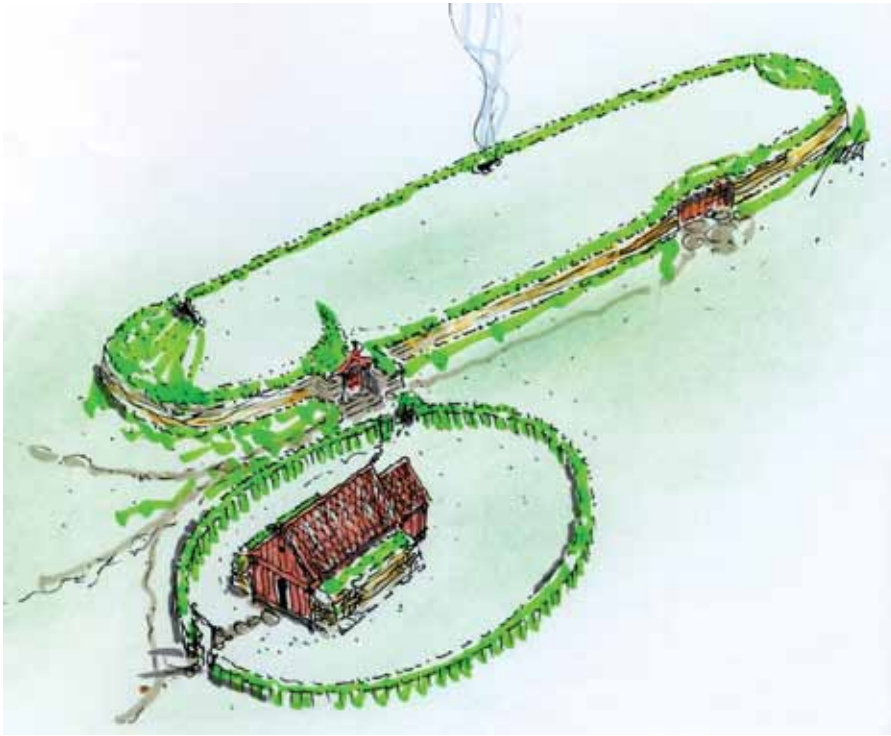


Figure 4. Architectural drawing of the buildings at Hrísbú in the Mosfell Valley reconstructed from the MAP site plans. The church, which is of timber/stave construction, is approximately 8 meters from the turf-clad longhouse.

Figure 5. A ship setting found in the Mosfell Valley. Such man-made stone settings arrayed in the shapes of ships are widely distributed throughout mainland Scandinavia and are often connected with the rituals of death. This is the first such monument to be found in Iceland. The ship setting, 30 meters long and 10 meters wide, is made up of 69 laid stones.







**Figure 6.** Four “eye beads,” originally from the eastern shores of the Caspian Sea, were found hidden in a pit dug in the floor of the Hrísrú longhouse. More than 30 beads were found within the longhouse, the largest number of such finds recovered within an Icelandic longhouse of the Viking Age. Beads were valuable trade goods in the Viking Age, and these finds are consistent with the wealth and status of the inhabitants of the Hrísrú farmstead.

ninth-century settlement period, called the *landnám* or “landtaking,” when Norse and Celtic settlers first sailed from northern Europe to uninhabited Iceland. The time frame of our current excavations continues through the transformation from paganism to Christianity and into the thirteenth century C.E.

The specialists on the MAP team explore, among other subjects, local power structures in wider Iceland contexts (Byock in press; Byock and Zori in press); the changes over time in subsistence strategies (Erlendsson et al. in press; Zori et al. in press); health and disease (Holck in press; Eng in press); the place of origin of the Norse immigrants (Grimes et al. in press); the role of Leiruvogur Harbor in the international exchange of the Viking Age (Hilberg and Kalmring in press); the integration of texts and archaeology (Erlandson et al. in press; Byock in press; Byock et al. 2005); the organization of the local settlement pattern (Zori in press); cooperation between local municipalities and archaeologists (Thórðarson in press); the paleobotany of early Icelandic settlements (Martin in press) and the development of innovative subsurface survey methods to

locate turf structures (Bathurst et al. 2010). We are analyzing architectural techniques (Byock and Zori in press); trade and exchange as witnessed by the artifact record (Hansen et al. in press); the production, forms, and uses of iron (Zori 2007); usage of smaller activity areas, such as the sel or summer dairy stations; roads and paths (Connors in press); the intra-site artifact distribution patterns in a Viking longhouse (Milek et al. in press); and the role of feasting in an environmentally marginal North Atlantic society (Zori et al. 2013).

MAP’s archaeological findings, including our artifact collection, indicate that the region is culturally representative of early Iceland. The community that evolved in the Mosfell Valley was in many ways a self-contained social and economic unit. It was also connected to the rest of Iceland through a network of roads. Two major east–west roads lead through the valley, one on the north slopes of the valley and the other on the south side. These routes connect into major north–south routes. They also lead to nearby Thingvellir (the “thing or assembly plains”), the meeting place of the annual Viking Age parliament, the Althing, thirty kilometers (about eighteen miles) to the east of the Mosfell Valley. The artifacts, including imported glass beads from the Mediterranean and Central Asia, show that the Mosfell Valley was also in contact with the international trade and travel of the Viking Age (Fig. 6). Leiruvogur Port at the western mouth of the valley provided commercial and cultural contact with the larger Scandinavian and European worlds. The connections went possibly as far as Constantinople (connected historically to Scandinavia and Iceland through the Varangian Guard, the imperial bodyguard of the Byzantine Emperor, composed of Northmen), the Caspian Sea, and Greenland.

MAP’s archaeological work began in the mid-1990s with background research on historical sources, field surveys, and test excavations (published in Byock 1993, 1994a, 1995; Earle et al. 1995). Major excavations began in 2001, and subsequent field seasons have documented a rich Viking Age and *landnám* occupational history (Byock et al. 2005; Holck 2005; Byock 2009). The 2001–2004 excavations at Hrísrú in the valley revealed the presence of significant remains, including an early church, a surrounding cemetery, and an adjacent burial mound containing human cremation remains (Fig. 7). Our subsequent field seasons have expanded the

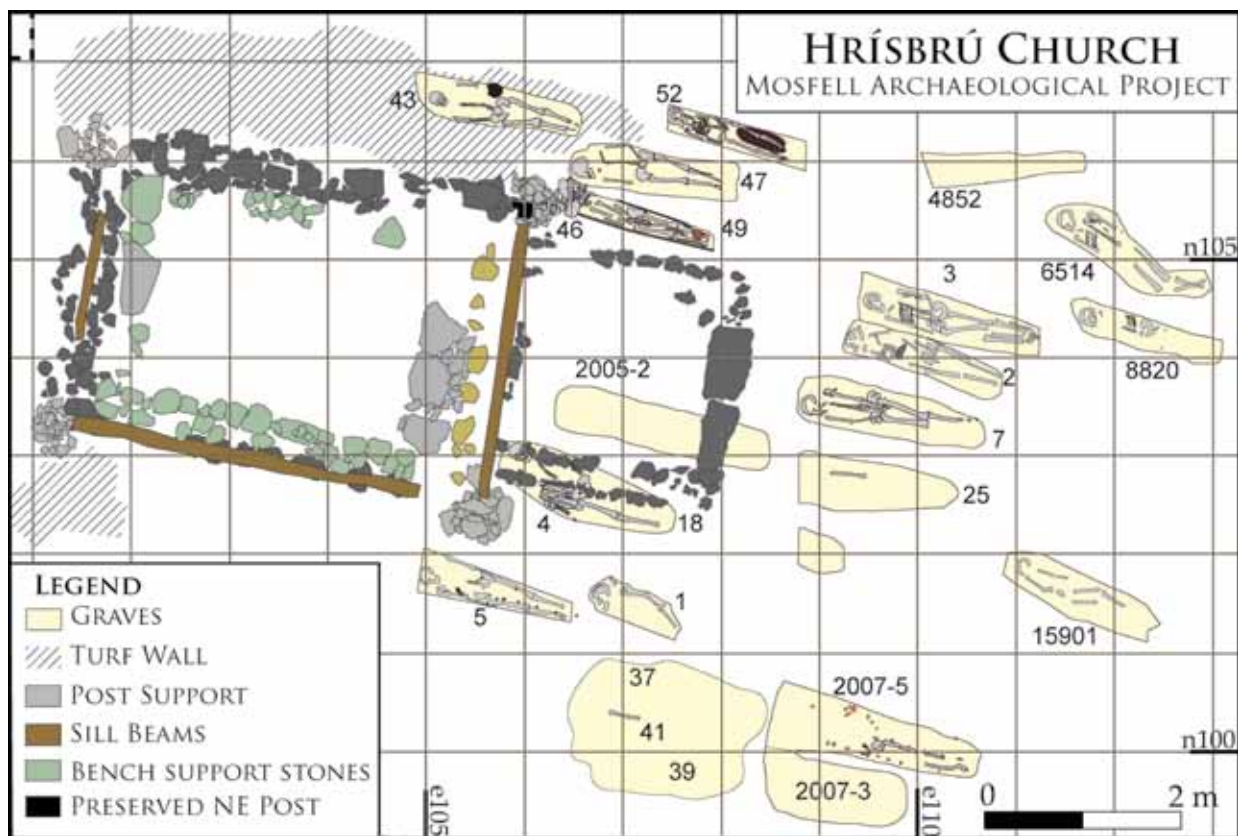


Figure 7. The conversion-age timber/stave church at Hrísbú. The plan shows the two parts of the building, the nave on the left and the chancel on the right. By the end of MAP's graveyard campaign, we had found the remains of 26 burials. A number of the burials appear to have been emptied. Burial Features 4 and 46 on the north and south side of the chancel are reburials containing disarticulated skeletons (see Fig. 14). These bones were moved to the churchyard from earlier graves, probably pagan.

scope of the work, and in recent years, we excavated at Hrísbú a large (28 m long) early tenth-century longhouse (Figs. 8, 9, and 16). In Old Norse/Icelandic, this type of longhouse is called an *eldskáli* or firehall, named for the long fire (*langeldr*) down the center of the hall. In the case of the Hrísbú longhouse, the long fire is 5.8 meters long, making it one of the largest such hearths excavated in Iceland.

Our current excavations on the Hrísbú farm focus on three areas: Kirkjuhóll (Church Knoll), a hillock just behind the modern farm's stable; the *tún* or hayfield just north of Kirkjuhóll; and Hulduhóll (Elfin Hill, Knoll of the Hidden People), the hillock located about 20 meters west of Kirkjuhóll (see Fig. 2). Numerous additional sites are under investigation in the valley. At Skeggjastaðir, in the eastern end of the valley, our recent campaign of subsurface archaeological testing has located the remains of a previously unknown Viking-period farmstead (Fig.

10). The *Icelandic Book of Settlements* or *Landnámabók* preserves the tradition that Skeggjastaðir was the first farm in the valley, established by and named for Thord Skeggi, the first Viking Age settler to claim land in the region. Our work at Skeggjastaðir is just beginning and promises to be another example of fruitful interdisciplinary research (see Zori in press). Two additional sites discussed in this article are ship-like stone settings in the low highlands on the eastern inland end of the valley and the port at Leiruvogur at the western end of the valley.

The stone ship settings in the eastern end of the valley are unusual in Iceland. To date, no other examples of such monuments have been found on the island. The ship settings appear to be remnants of the pre-Christian ritual landscape. Probably they are mortuary sites, but they could also be assembly sites, and the one possibility does not preclude the





Figure 8. The longhouse at Hrisbrú in the Mosfell Valley was constructed around the year 900. This picture was taken during MAP's excavation, when the long fire down the center of the sunken central hall was just coming into view. Also coming into view are the raised benches along the sides of the central hall on which people ate and slept. At this point in the excavation, the benches were still partially covered by toppled small stones from the building's side walls. These stones from the collapsed walls were removed during subsequent excavations, revealing the full extent of the meter-wide benches. The door through wall on the left was large enough for livestock. The smaller entrance on the other end of the same wall was the main human entrance. This door looked directly down on the Viking Age harbor at Leiruvogur.

other. Indeed the Mosfell Valley stone ships are comparable to ship settings found throughout the Viking world, which are connected with both burial and assembly sites. The largest Mosfell setting is approximately 30 meters long and 9 meters wide, typical proportions of a Viking Age ship (see Fig. 5). The long axis is oriented east–west, with the prow pointing west toward Leiruvogur Bay and the sea. MAP's excavations, especially of the stones at the prow and in the center, have determined that the ship-settings predate the erosion in the area. These

stone features are not recorded in any medieval or modern written sources, and they came as a surprise to individuals and families who had lived in the valley for generations. The placement of the ship settings at what we believe is the possible boundary of the old Mosfell farm is consistent with the location of burial mounds on land boundaries elsewhere in Iceland (Zori 2010; on pagan burials in Iceland, see Friðriksson 2009).

From the start of our research, we have incorporated ethnographic components. In particular,



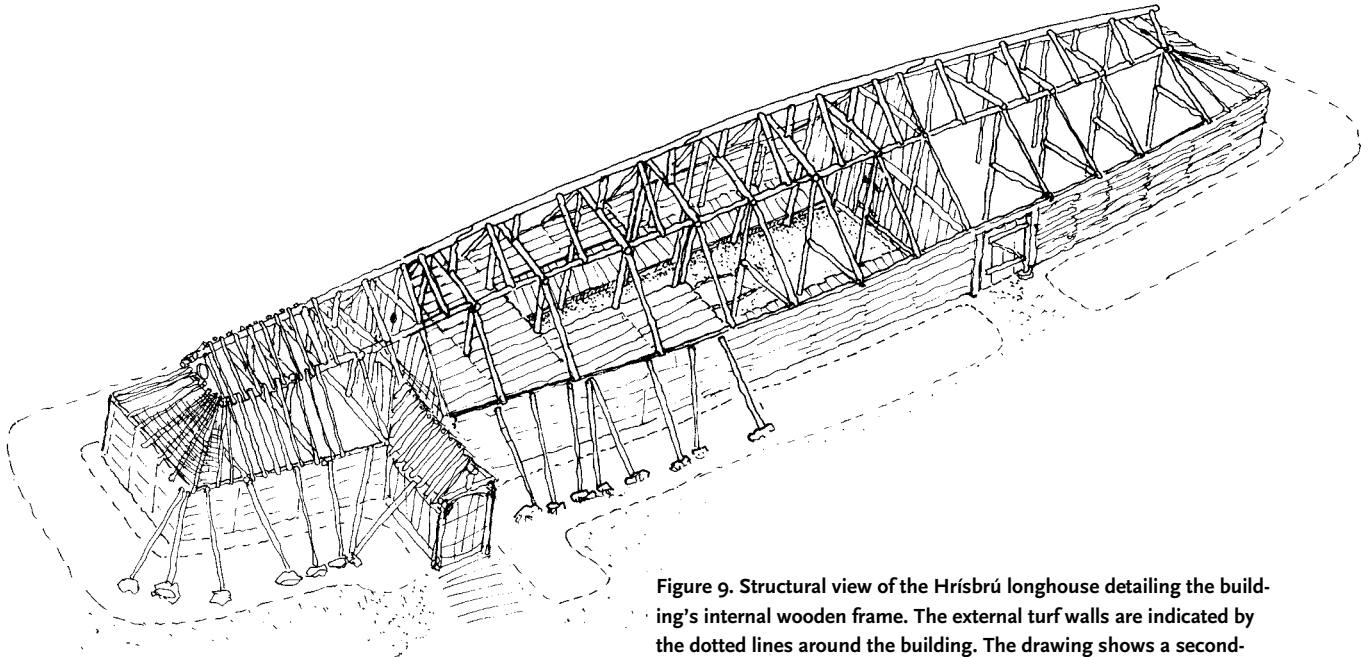


Figure 9. Structural view of the Hrisbrú longhouse detailing the building's internal wooden frame. The external turf walls are indicated by the dotted lines around the building. The drawing shows a second-story loft to the east of the main entrance and partially over the central hall. Note the two entrances on either end of the building.

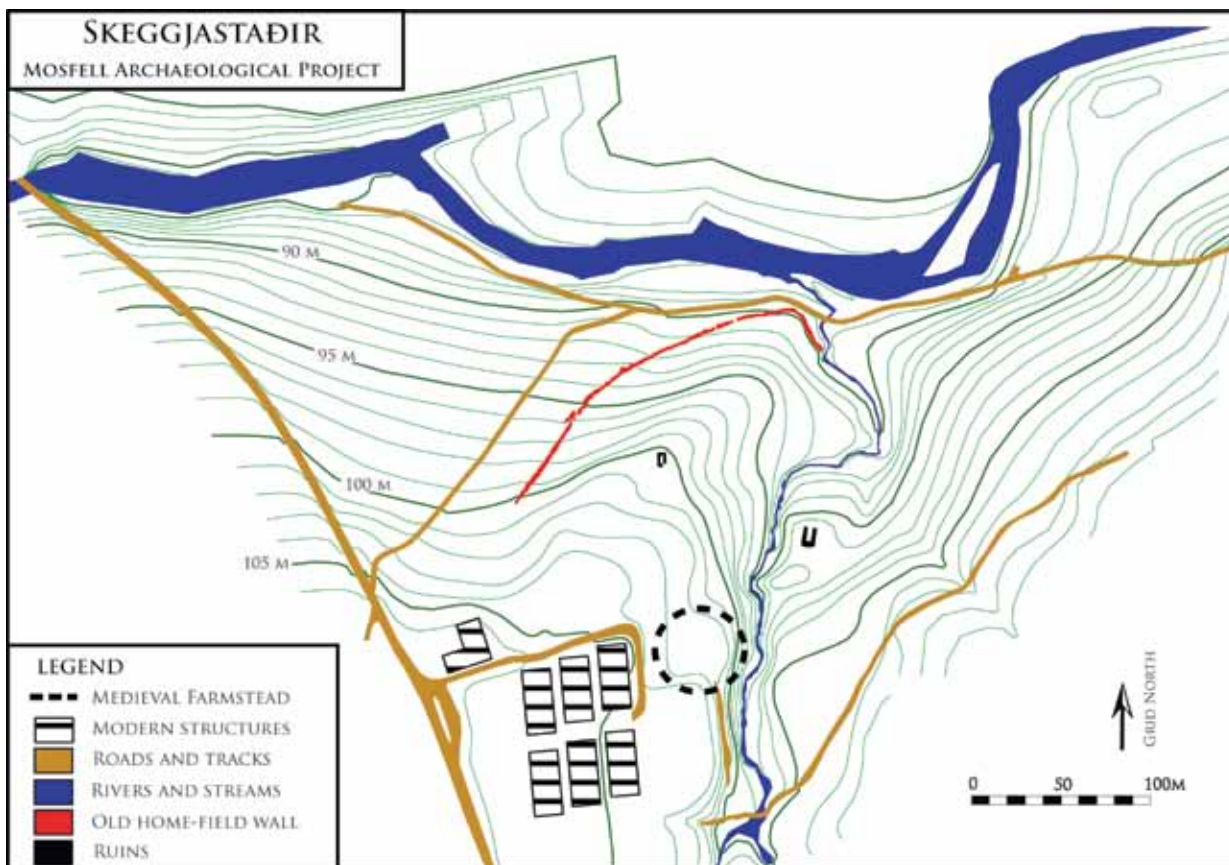


Figure 10. Map of Skeggjastaðir showing the location of the medieval farmstead discovered with subsurface coring. According to the tradition retained in the medieval Icelandic *Book of Settlements* (*Landnámabók*), this farm was settled by and named after the valley's first settler, Thord Skeggi.

we pay careful attention to the oral histories of local families. The farmers at Hrísbú—Ólafur Ingimundarson, his son Andrés Ólafsson and their families—are extremely knowledgeable about their valley (see Fig. 17). Their family has lived on the land for many generations, and Ólafur and Andrés spent a great deal of time with us explaining the landscape. When we began excavating in the Mosfell Valley in 1995, the two adjacent knolls of Kirkjuhóll and Hulduhóll were used as pasture. They were covered with grass, and their surfaces were undisturbed except where the trampling of cows exposed small patches of earth. No agricultural machinery was ever used on Kirkjuhóll because of the reverence attached to the knoll in oral memory as the site of an ancient church. This situation is fortunate since most contemporary Icelandic farms are highly mechanized. Hulduhóll, the site of the cremation burial, had also been spared the effects of agricultural machinery. Stories attached an interdiction or taboo to Hulduhóll to leave it alone, because it was inhabited by “the hidden people” or elves, who were dangerous if disturbed. As it turned out, oral memory proved strong. Both knolls were connected with ancient mortuary rites. They contained human remains from the Viking Age, both Christian and pagan.

In addition to modern oral memory, the archaeology of the Mosfell Valley is aided by a wealth of surviving medieval Icelandic writings describing the valley’s sites and people. Listed in the notes, this extraordinarily large and varied collection of writings are rich sources about the Mosfell chieftains.<sup>5</sup> They make the Mosfell Valley an ideal test case for reconsidering the validity of the sagas as historical and archaeological sources. The writings tell that the geographical position of the chieftains’ lands and their area of power allowed them to monitor and benefit from the travel and trade that passed through their port and valley. *Egil’s Saga* (*Egils saga Skalla-Grímssonar*) and *The Book of the Icelanders* (*Íslendingabók*) recount that in the years before

and after the conversion to Christianity (ca. 1000), Grím Svertingsson, Law Speaker of Iceland from 1002 to 1004, lived at Hrísbú (Old Mosfell). *Egil’s Saga*, *Gunnlaug’s Saga* (*Gunnlaugs saga ormstungu*), and *Hallfred’s Saga* (*Hallfreðar saga*) offer detailed information about the Mosfell chieftaincy (*goðorð*). According to these sagas, the Mosfell chieftains controlled the area known as Nesin (the Nesses), the headlands or promontories of the southern coastal region that stretched out from the valley’s mouth past modern Reykjavík and farther west. In a direct line of sight from the front door of the Hrísbú longhouse, one sees all of Reykjavík and beyond to Seltjarnarnes (Fig. 11). Conversely, standing in the old harbor in the center of old Reykjavík and looking east, one sees the farm of Hrísbú on the slopes of Mosfell Mountain.

In the medieval sources, the Mosfell chieftains are said to have called up armed men from the Nesses to support them in times of armed conflict. So too the Mosfell chiefs are said to have entered into marriage alliances with the chiefs at Borg (Fig. 12). This powerful family was descended from the Norwegian Skalla-Grím Kveldúlfsson, the first settler or *landnámsmaðr* in Borgarfjörður and father of the Viking Egil from *Egil’s Saga*. Given that Borg controlled the coast of a fjord area, a day’s ride to the north of Mosfell, alliance between these two chieftain families would have been quite logical and would have bolstered the power and authority of both families. The two were close enough to support each other, but far enough away not to compete for thingmen (followers) or natural resources.

As archaeologists piecing together the different possibilities of the geographical and political landscapes, we might have speculated on the likelihood of an alliance between these families. Iceland’s sagas made such speculation unnecessary. The following textual example (chapter 81 of *Egil’s Saga*, written around the year 1220) offers insight into the functioning of an ancient alliance between Borg and Mosfell. Egil, for example, was originally from Borg. In his later years, he gave his chieftaincy at Borg to his son Thorstein and moved to Mosfell.

An episode from *Egil’s Saga* makes clear that the connection between the chieftains at Mosfell and Borg remained strong. According to this text, after Egil departed for Mosfell, his son, Thorstein at Borg, found himself in a property dispute with his neighbor. This conflict was especially dangerous, because

5 These include *The Book of Settlements* (*Landnámabók*); *The Book of the Icelanders* (*Íslendingabók*); *Egil’s Saga* (*Egils saga Skallagrímssonar*); *The Saga of Gunnlaug Serpent-Tongue* (*Gunnlaugs saga ormstungu*); *Hallfred’s Saga* (*Hallfreðar saga*); *The Saga of the People of Kjalarness* (*Kjalnesinga saga*); *The Saga of the People of Floi Bay* (*Flóamanna saga*); *The Tale of Thorstein Bull-Leg* (*Þórsteins þáttur uxafóts*); *Njál’s Saga* (*Njáls saga*); *The List of Priests* (*Pres-tatal*); *The Saga of Thorgils and Hafliði* (*Þorgils saga ok Hafliða*); and *The Short Saga of Orm Stórolfsson* (*Orms þáttur Stórolfssonar*) in Flateyjarbók.

the neighbor had secured the alliance of several chieftains, all of whom stood to profit if Thorstein were to lose the dispute. The matter resulted in a showdown of force at the local springtime assembly, the *várping*, where Thorstein found himself outnumbered. If matters went against him, he stood to lose his lands, his chieftaincy, and perhaps his life. The saga describes the dramatic resolution of this crisis at the Borgarfjörður assembly (called the “thing”) as follows:

That day men went to the thing slope and discussed their lawsuits, for in the evening the courts would convene to consider prosecutions. Thorstein was there with his following and had the greatest say in the conducting of the thing, because that had been the custom while Egil was still a leader and was in charge of the chieftaincy. Both sides were fully armed.

From the thing site, men saw a group of horsemen come riding up along the Gljúf River. Their shields shone in the sun and there in the lead, as they came toward the spring assembly, was a man in a blue cape. On his head was a gilded helmet and at his side was a shield worked with gold. He held in his hand a barbed spear, its socket inlaid with gold. A sword was bound to his waist. Egil Skalla-Grímsson had come with eighty men, all well-armed, as if ready for battle. It was a carefully chosen troop. Egil had with him the best farmers’ sons from the Nesses to the south, those whom he thought the toughest fighters.<sup>6</sup>

After his timely journey to Borg, Egil returned to Mosfell. Years later when he died (ca. 990) in the Mosfell Valley, Egil was first interred in a pagan burial mound. Later, after Iceland had converted to Christianity, he was reburied twice in Christian graveyards. His second burial (first reburial) was at Hrísbú (Old Mosfell) in the early eleventh century. His third burial (second reburial) was at Mosfell (New Mosfell) in the mid-twelfth century (see Byock 1995). But for the sagas, we would know nothing of Egil’s posthumous travels, which provide a wealth of information about the local solutions to religious changes from paganism to Christianity.



Figure 11. The Nesses (headlands) with the Mosfell Valley in the center. The people of the Nesses are referred to in the sagas as the *Nesjamenn* (The Men of the Nesses). The farm at Hrísbú overlooks the Nesses, which can also be seen from the main entrance of the longhouse.



Figure 12. Southwest Iceland, showing the two allied centers of chiefly power, Borg in Borgarfjörður and Hrísbú (Old Mosfell) in the Mosfell Valley.

6 Translation by Byock. The line about the Nesses reads in Old Icelandic: “*hafði Egill haft með sér ína beztu bøndasonu af Nesjum.*”



The sagas also give us a good deal of information about the other sites in the region. For instance, the Leiruvogur Port, at the intersection of the Nesses and the Mosfell Valley, is mentioned in more Icelandic sagas than any other early harbor in this part of the island. According to *The Short Saga of Orm Stórolfsson*, (*Orms þáttur Stórolfssonar*), *Hallfred's Saga* and *The Saga of Gunnlaug Serpent-Tongue*, ships from Norway landed in Leiruvogur. In *The Saga of the People of Floi Bay* (*Flóamanna saga*), a man called Thorgils intends to leave Iceland and establish a new farm in Greenland. He goes to Leiruvogur Harbor to purchase an ocean-going ship although other harbors are closer to his home (Zori 2010, 183). MAP's archaeological coring, geophysical testing, and survey of Leiruvogur Port has shown why Thorgils went there to find a ship (Fig. 13).

Leiruvogur Bay, with its highly sheltered anchorage, offers more protection for anchored or landed ships than any other harbor in this part of Iceland. The bay reaches far inland, and its bays, estuary, and inner lagoon are protected behind an unusual combination of natural barriers. These include an extensive series of small islands and nesses (promontories) at the seaward entrance that serve as breakwaters. In this anchorage, ships could safely wait out winter storms and load cargo and passengers. As the saga suggests, Leiruvogur Harbor was a proper place to keep a ship anchored for resale. And the Mosfell chiefs profited from the money and goods that changed hands at the port.

How important was the port to the Mosfell chiefs? From the archaeological record alone, this would have been difficult to determine. But the sagas record the readiness of the Mosfell chiefs to defend their economic interests in the port. The passage below from *Hallfred's Saga* speaks of the warrior Hrafn, the son of the Mosfell chief Önund, as ready to fight to uphold the family's right to collect port landing fees. Hallfred, a Viking warrior who arrives by ship from Norway, refuses to pay to Önund's servant the landing dues of half a mark of silver, effectively challenging the chieftain's right to collect payments. Hrafn rides to the port and threatens Hallfred, who backs down and agrees to pay not only the usual port toll but a humiliating supplement as well.

In the summer Hallfred sailed out [from Norway] to Iceland, landing his ship in Leiruvogur, south below the Mosfell heath. At the time Önund was living at Mosfell. Hallfred was required to pay half a mark of silver to Önund's house servant, but refused harshly. The servant came home and told of his trouble. Hrafn [Önund's son] said it was to be expected that the servant would get the lower part of the bargain in an exchange between them. And in the morning, Hrafn himself rode to the ship, intending to cut the anchor cable [causing the ship to drift and get stuck on the mud flats of Leiruvogur (Clay Bay)] to make sure that Hallfred and his men did not leave. Then men intervened between them and took part in reconciling them. The result was that Hallfred paid half again more than the servant had demanded. With this they parted.

(Byock trans.)

Ok at sumri fór Hallfreðr út til Íslands ok kom skipi sínu í Leiruvág fyrir sunnan land. Þá bjó Önundr at Mosfelli. Hallfreðr átti at [gjalda] hálfa mörk silfrs húskarli Önundar ok svaraði heldr harðliga. Kom húskarlinn heim ok sagði sín vandræði. Hrafn kvað slíks ván, at hann myndi lægra hlut bera í þeira skiptum. Ok um morguninn eptir reið Hrafn til skips ok ætlaði at höggva strengina ok stöðva brottferð þeira Hallfreðar. Síðan áttu menn hlut í at sætta þá, ok var goldit hálfu meira en húskarl átti, ok skilðu at því (Sveinson 1939, 196).

Having medieval narrative sources, such as those connected with the Mosfell Valley, or any written sources at all, is exceptional in Viking archaeology. While extensive Viking Age sites are found throughout mainland Scandinavia, the British Isles, and northern Europe, there is a paucity of written sources in these regions, so archaeologists, historians, and anthropologists often know little about the inhabitants, their personal histories, or their specific socioeconomic and political relationships.

It is hard to imagine now, in light of the rich archaeological finds in the Mosfell Valley, that at

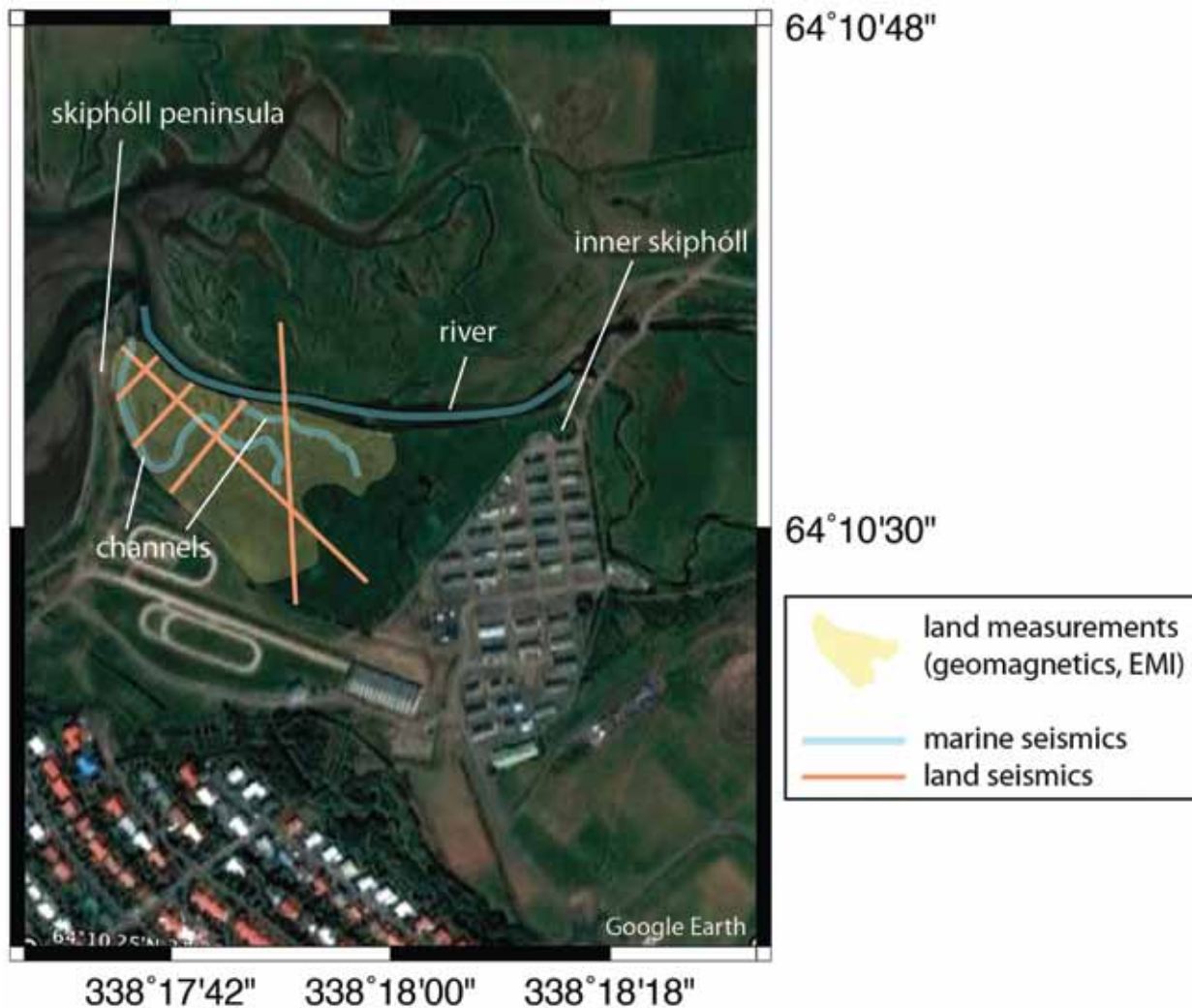


Figure 13. Map depicting the Leiruvogur harbor area. Geophysical and oceanographic surveys were conducted to explore the site. This work is being conducted with a team of geophysicists from the University of Kiel, led by Wolfgang Rabbel, Denis Wilken, and Tina Wunderlich, who have joined our project.

the start of our excavations many archaeologists, historians, and saga scholars thought it was futile to consult the family sagas as sources for locating sites.<sup>7</sup> We take a contrasting view that, because archaeology depends on site discovery, MAP employs—with caution—every tool and clue that could help us with this discovery. Most sites in Iceland have been found accidentally, when they were exposed by wind or water erosion. A large number of sites have been uncovered during road work and construction, both in

towns and on farms. Our goal was to find sites that have not been exposed by erosion or construction projects. To this end, we searched Iceland's medieval texts, including the sagas, for references that could lead to specific sites. The penultimate chapter in *Egil's Saga* is a case in point. It names Hrísrú as the site where a conversion-period church was built in the Mosfell Valley. The saga also supplies information about when, why, and by whom the church was built. The following passage from *Egil's Saga* led us to the site.

7 Skepticism about the sagas is in part a political legacy. The mid-twentieth-century reinterpretation of the family sagas as thirteenth-century fictional creations was proposed by a group of Icelandic literary scholars known as the Icelandic School (*Íslenski skólinn*). This group emerged at the climax of Iceland's struggle for independence from Denmark, which Iceland declared unilaterally 1944, and their theory became institutionalized in the Icelandic educational system. It was and still is the accepted theoretical position among many researchers, particularly archaeologists.

Grím of Mosfell [the chieftain at Mosfell and husband of Thórdís, Egil's stepdaughter] was baptized when Christianity was adopted by law in Iceland; he had a church built there. People say that Thórdís had Egil's bones moved to the church, and this is the evidence. Later when a church was built at Mosfell and that church which Grímr had built at Hrísbú was taken down, then the graveyard there was dug. And under the place of the altar, human bones were found; they were much bigger than the bones of other men. People knew because of the accounts of old men that these were Egil's bones. At the time, Skapti the Priest Thórarinsson, a wise man, was there.

(Byock trans.)

Grímr at Mosfelli var skírðr, þá er kristni var í lög leidd á Íslandi; hann lét þar kirkju gera. En þat er sögn manna, at Þórdís hafi látit flytja Egil til kirkju, ok er það til jarðtegra, at síðan er kirkja var gör at Mosfelli, en ofan tekin at Hrísbú sú kirkja, er Grímr hafði gera látit, þá var þar graf- inn kirkjugarðr. En undir altarisstaðnum, þá fundusk man- nabein; þau váru miklu meiri en annarra manna bein. Þykkjask menn þat vita af sögn gamalla manna, at mundi verit hafa bein Egils. Þar var þá Skapti prestur Þórarinsson, vitr maðr (Nordal 1933, ch. 68).

This passage gives considerable information and answers many questions of interest to archaeologists. It tells us that a Viking Age church was to be found on Grím's farmstead at Hrísbú in the Mosfell Valley; that it was built when Christianity was accepted into law (ca. C.E. 1000) by Grím Svertings-son, the chieftain at Mosfell, because he converted to Christianity; that the church included a burial ground containing the remains of the warrior poet Egil Skalla-Grímsson; that his remains were moved there by Thórdís. The sources for this information are also given: "people say" (*sögn manna*) and "the accounts of old men" (*sögn gamalla manna*)—that is, oral memory.

Was there a hindrance to pagan Egil being reburied in a Christian context? It has been argued that a reburial such as this went against Christian

law (Tulinius 2004, Introduction). While this may be true, Christian law and practice are not always the same, and discrepancies were particularly common in the decades immediately following Iceland's conversion to Christianity. The Icelandic narratives of the conversion period detail the tolerance of continued pagan practices on private farms. It is difficult to believe that the first generation of converts to Christianity in Iceland would have adhered closely to the complicated details of Christian law even if they had known what they were. In any case, Egil was entitled to burial in hallowed ground: during his service as a mercenary for the English king Athelstan (895–933), we are told, he had received *prímssigning*. *Prímssigning* is a Norse term meaning "provisional baptism," adopted from the Latin *primum signum* or *prima signatio* (Byock 1993, 30; see also Molland 1968). *Prima signatio* consisted of making the sign of the cross over non-Christians in order to cleanse them of the evil spirit. After being "prime signed," pagans could attend mass and enter into full relationships with Christians.<sup>8</sup>

The saga also tells us what happened to the early church that Grím built at Hrísbú: it was "taken down" (*ofan tekin*) or dismantled and moved. We found it 500 meters further eastward up the valley toward New Mosfell.<sup>9</sup> Furthermore the passage tells us when this occurred: the church was "taken down" while the priest Skapti Thórarinsson was present. From other sources, *Prestatal*<sup>10</sup> and *The Saga of Thorgils and Hafliði*,<sup>11</sup> we know that Skapti was active in the years 1150–60. If we count the years between approximately 1155, when the church was taken down, and approximately 1220, when most saga scholars agree that *Egil's Saga* was written, this time

8 Jón Steffensen considered the issue of the transference of Egil's remains to sanctified ground in light of later twelfth- or thirteenth-century regulations as preserved in *Grágás*. He argues that, in the early years after the conversion, Egil was eligible for reburial in Grím's new church; see Steffensen 1975, 153. See also Byock 2001, chs. 15 and 18.

9 In 1995, we excavated a corner of what appeared to be the twelfth-century church at Mosfell. See Earle et al. 1995.

10 "Nafnaskrá íslenzkra presta," in *Diplomatarium Islandicum: Íslenzkt fornbréfasafn*, vol. 1, edited by Jón Sigurðsson (Copenhagen: S. L. Möller and Hið íslenska bókmenntafélag, 1857), 186.

11 Skapti the Priest participated in feuds. In *The Saga of Thorgils and Hafliði*, he is credited with the famous statement: "Costly would be all of Hafliði, if this should be the price of each limb" (*Dýrr myndi Hafliði allr, ef svá skyldi hverr limr*). The statement refers to the large sum demanded by Hafliði for the loss of a finger (*Þorgils saga ok Hafliða*, ch. 31, in Jóhannes-son et al. 1946).



span was within the memory of one long lifetime. If we count years from the building of the church around 1000 to the dismantling of the church around 1155, this period would be within the memory of two or three long lives. Given the stability of the settlement pattern, the visibility of the church site in the Mosfell Valley both before and after the abandonment, the memory of the site retained in the local place names, and the importance of Egil as Iceland's great warrior-poet, it is hard to imagine that the story of the church would have been forgotten. It is worth noting, too, that Egil's burial was not a folkloric event claimed by numerous places. There are no other traditions of Egil being buried elsewhere, not even in his ancestral seat at Borg in Borgarfjörður.

The saga thus led us to the site, but the identification of the thousand-year-old graveyard was a separate archaeological question. We first turned to geophysical testing of Kirkjuhóll and the homefield directly to the north, but the resulting magnetometer and resistivity maps yielded negative results and did not suggest the presence of subterranean architectural features. Nevertheless because of its place name, we decided Kirkjuhóll (Church Knoll) was worth testing with excavations. Once the excavations began, we soon found domestic refuse from a Viking Age farm. Then we found a concentration of graves, all with the east–west orientation of Christian burial, indicating the presence of a churchyard. Next, the excavation revealed the foundations of a small building amid the graves (see Fig. 6; see Byock 2009 for issues surrounding discovery of the Hrísbú church and the first phases of the excavation). The skeletal remains excavated at Hrísbú offer considerable evidence about the health status and living conditions of the tenth- and eleventh-century inhabitants of the Hrísbú farmstead (Walker et al. 2004).

At this point, it was clear to us that archaeology and sagas complemented each other. The texts and archaeology support each other in illuminating the economic life of these Viking Age people centered on a settled pastoral life of livestock-raising, coastal fishing, and the gathering of wild foods in a challenging marginal environment (Byock 2001, 43–62, Zori et al. 2013). The texts helped us to discover the graveyard at Hrísbú that proved rich in bioarchaeological information concerning the Viking Age Icelandic life. From skeletal analysis, we have been able to document a rough and sometimes



**Figure 14.** The reburied skeleton in Burial Feature 4 was found lying up against the southern foundation wall of the church. This individual, who may have suffered from tuberculosis and a fatal brain infection, was moved from a pagan grave into the Christian graveyard after the conversion of Iceland to Christianity.

violent life (Walker et al. 2012). Several individuals in the Hrísbú cemetery show evidence of strenuous physical activity involving the hands and arms, and osteoarthritis was prevalent (Eng in press). The skeletons also show signs of infectious diseases. One young man has lesions on the pleural surfaces of his ribs and another young male's skull shows evidence of lesions associated with chronic ear infection that resulted in a brain abscess (Fig. 14). The lesions in both cases suggest that tuberculosis was present in the Hrísbú population (Holck in press). Our data show that stressful living conditions and heavy labor were common among early Icelanders even at a high-status site such as Hrísbú. Together the different sources are giving us a broad-based picture of life on the Hrísbú farm.

Traumatic injuries have also been found in the Hrísbú cemetery. One person is a homicide victim with two massive head injuries caused by axe or sword (Fig. 15; Walker et al. 2012). Such evidence of





Figure 15. The axed-man of Mosfell found in the Hrísbú graveyard. This man, in his mid-forties, was found close to the eastern wall of the church chancel (Feature 2 in Fig. 7). Reflecting the violence of feuding described in the sagas, he died of head wounds from an axe or sword. Radiocarbon dating places this man's death in the latter half of the tenth century or the early part of the eleventh.

lethal violence at Hrísbú is consistent with the general picture of Viking Age Iceland's feuding society sketched in the sagas (Byock 1982; 2001). The killing at Hrísbú has a parallel in an account from *The Saga of Gunnlaug Serpent-Tongue*. That saga describes the violent culmination of the Mosfell chief Önund's feud with the chief Illugi the Black from Gilsbakki and the attack on Önund's farmstead in the Mosfell Valley. According to the saga:

It is said, that in the autumn Illugi rode from his home at Gilsbakki with thirty men and arrived at Mosfell early in the morning. Önund and his sons escaped into the church, but Illugi caught two of Önund's kinsmen, one named Björn and the other Thórgrím. Illugi had Björn killed and Thórgrím's foot chopped off. Then he rode home and after this Önund sought no reprisal.<sup>12</sup>

What conclusions can we draw at this stage of the Mosfell excavations concerning sagas and

archaeology? While we do not by any means believe everything found in the written materials, the Icelandic sources concerning Mosfell are often informative, detailed, and worthy of consideration. They offer core information about settlers, chieftains, warriors, lawgivers, slaves, and travelers in the Mosfell Valley and the port at Leiruvogur, shedding light on the material culture, social conditions, and site location. They provide details about things such as the interiors of habitation sites, kinship relations, mortuary customs, and economic arrangements. Iceland's medieval writings comprise northern Europe's most comprehensive portrayal of a functioning medieval society, and MAP is using them to develop a novel methodology for archaeological, anthropological, and historical research (Byock 2001, 21–24 and 149–51; Byock 1994b). Taken together, MAP's findings confirm the value of this multidisciplinary approach to the sources for the study of early Iceland and the Viking Age. ✱

12 *Gunnlaugs saga ormstungu*, ch. 13, in *Borgfirðinga sögur: Íslenskt fornrit 3*, edited by S. Nordal and G. Jónsson (Reykjavík: Hið Íslenska Fornritafélag, 1938).



Figure 16. Excavating the Viking Age longhouse at Hrísbú. The stones being exposed here made up the inside of the longhouse walls. In this photograph the collapsed turf roof and side walls still cover the inside features and floors of the house.

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Figure 17. Part of the MAP team at the end of the 2007 season. Andrés Ólafsson, the farmer at Hrisbrú, is on the far left.

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## Report from the Field

## Masis Blur: A Late Neolithic Settlement in the Plain of Ararat, Armenia

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Knowledge of archaeological periods before the Early Bronze Age (ca. 3500/3400–2400/2300 B.C.E.) in the Central Near Eastern highlands is still quite fragmentary. In this area—above Mesopotamia, between the Eastern Taurus mountain range in the south and the mountain chain of the Great Caucasus in the north—the natural environment of ancient societies was quite different from that of neighboring regions, and so were the trajectories of the development of civilizations. The first archaeological excavation in this geographic area of a site that today we attribute to pre-Early Bronze Age times was conducted at the end of the nineteenth century by Waldemar Belck. On the eastern shore of Lake Van, in the lower levels of the *tell* (mound) of Shamiramalti, also known as Tilki-Tepe, Belck discovered a kind of painted pottery later identified with the Halaf culture of Northern Mesopotamia, and presently dated to the sixth millennium B.C.E. The proximity of that site to rich sources of obsidian allowed V. Gordon Childe to hypothesize that Tilki-Tepe was occupied by a Halaf community that engaged in the exploitation and long-distance trade of this valuable commodity. For half a century, there were no follow-up excavations of Neolithic or Chalcolithic sites in that region of

the Near East, the modern landscape being divided at that time by political borders of the Soviet Union, Turkey, and Iran. This situation persisted until T. Burton Brown conducted a brief dig at the large tell of Geoy Tepe on the western shore of Lake Urmia in Iranian Azerbaijan in 1948. This was followed in the next decade by Charles Burney's surveys in Eastern Turkey and Osman Abibullaev's excavations at the *tell* of Kül-Tepe I near Nakhichevan in the central part of the Arax River valley.

The subsequent quarter of a century witnessed an increased volume of fieldwork conducted by Georgian and Azerbaijani archaeologists in the Kura River valley and by Armenian scholars in the Ararat Plain. The intellectual impetus of these researchers was the search for the emergent stages of farming economy, which was quite successfully conducted on the other, southern side of the Eastern Taurus Mountains. The historical and current presence in Armenia and Georgia of wild species of plants and animals that presumably were the earliest domesticates of the Neolithic Revolution had framed the research perspective of these scholars. During that search for the early farmers, an amazing group of Neolithic *tell* settlements was discovered, and their clusters in the middle section of the Kura River valley—called the Shulaveri-Shomutepe culture after the eponymous *tells*—were thoroughly researched. Investigations into another cluster of settlements closely related to the Shulaveri-Shomutepe assemblages were launched by systematic excavations at Aratashen and Aknashen in the Ararat Plain, carried out by the joint

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Figure 1. Aerial view of Masis Blur and the 2012 excavation trenches.

Armenian-French mission in the last decade. Despite the archaeologists' high expectations regarding the possibility of discovering the early stages of farming economy with distinguishable traces of the processes of Neolithic domestication, no such evidence was found. Instead, the plant and animal remains represented fully domesticated species, indicating that the process of domestication had probably been completed at least one to two thousand years before the appearance of the Shulaveri-Shomutepe assemblages. Moreover, the study of these sites revealed a very sophisticated and complex system of obsidian artifact production, together with evidence that may indicate the development of artificial irrigation, though this is still insufficiently researched. Thus, it became apparent to the authors of this report that the research agenda for the study of the Shulaveri-Shomutepe sites and related settlements in Armenia must be reformulated and refocused from issues concerning the emergence of farming in the Central Near-Eastern highlands, to the study of emergent social complexity during the Late Neolithic.

With this goal in mind, in 2012 we began sys-

tematic excavations at the Late Neolithic settlement of Masis Blur,<sup>5</sup> under the auspices of the Cotsen Institute of Archaeology at UCLA (CIOA) and the Institute of Archaeology and Ethnography (IAE) of the National Academy of Sciences of the Republic of Armenia. The project is co-directed by Gregory E. Areshian (CIOA), Pavel S. Avetisyan (IAE), and Charles S. Stanish (CIOA) with Kristine Martirosyan-Olshansky (CIOA) as Field Director of excavations.

Situated some 13 kilometers south of Yerevan, the settlement of Masis Blur (Fig. 1) lies in the Ararat Plain at an ASL elevation of 862 meters, close to the ancient left bank of the presently dry bed of Hrazdan River. The site was discovered and surveyed in the spring of 1969 independently by Areshian and S. H. Sardaryan of Yerevan State University. During the survey, Areshian observed traces of an ancient canal leading from the dry riverbed toward the site. This canal may have been dug by the inhabitants of the settlement. Today, Masis Blur is a mound site in name only; its upper 2.5-meter-thick cultural layers,

5 Blur is the Armenian word for a mound; *tell* (from Hebrew תל, *tepe* or *höyük* (Turkish)).



Figure 2. Breaking ground at Masis Blur.

which at the time of discovery rose above the modern surface of the plain, were bulldozed and cut down to plain level during the construction of a greenhouse complex in its vicinity in the early 1970s; the cultural deposits were used as a fill for the greenhouse foundations. Following that destructive event, S. A.

Amiryan (National Museum of History of Armenia) and Areshian (then at Yerevan State University) collected artifacts and animal bones scattered on the surface. A cursory analysis of the collection permitted the conclusion that the site was linked to the Shulaveri-Shomutepe culture. In the late autumn of 1986, a team from the Center for Archaeological Research of the Yerevan State University directed by Areshian carried out a brief season of fieldwork at Masis Blur in order to determine whether any remnants of the settlement still remained intact below the surface of the plain. In the course of that work, four important facts were established: (1) the bulldozing had done little damage to the remains of the settlement below the present surface of the plain; (2) the cleaning of the section of a ditch dug in the northwestern part of the site (most likely with a backhoe) before the arrival of the archaeologists indicated that the cultural layers at Masis Blur continued for 3.2–3.7 meters below the surface level of 1986 and, therefore, it had been no less than 6 meters thick before the destruction of the mound; (3) near the presumed southern end of the site four large rocks (between 200 and 400 kilograms each)



Figure 3. Uppermost building horizon of Masis Blur showing round-plan houses and adjacent constructions for various household activities (Trenches L10/4 and M10/1).



that may have belonged to a cyclopean masonry or another monumental building were attested after their extraction by heavy agricultural machinery from the cultural layers during the destruction; (4) in a small trench excavated near the center of the site up to the depth of 0.7 meters, sections of packed clay walls and floors were uncovered where two excellently preserved burials with the skeletons in the fetal position were excavated underneath a floor. Today, it is difficult to establish how far the tell extended before it was cut down and its deposits used to level out the surrounding fields, but surface finds from the destroyed layers spread across 3 hectares. These finds included obsidian artifacts and fragments of pottery and bones.

Our own excavation work, which was carried out in September and October, 2012, revealed two distinct building horizons with a difference in elevation of nearly 1 meter. The uppermost preserved building horizon of the settlement, dated to the beginning of the sixth millennium B.C.E. (Table 1) through radiocarbon analysis (Levels I and II, Trench L10/4 and M10/1), is represented by a circular building



Figure 5. Beads and pendants from shell, bone, and various stones from Masis Blur.

Masis Blur Sample No.	Laboratory Sample No.	$\delta^{13}\text{C}^1$	Conventional $^{14}\text{C}$ age <sup>2</sup> (BP yrs)	Conventional $^{14}\text{C}$ age <sup>3</sup> (cal BC yrs)
MB-1 2012.L10/4.105.1034	UCIAMS-121528	-25.1	6935±25	5880 - 5740
MB-2 2012.M9/1.212.2110	UCIAMS-121529	-25.8	6995±20	5980 - 5945 (0.21) 5925 - 5835 (0.78)
MB-3 2012.M10/1.319.3085	UCIAMS-121530	-24.4	6940±25	5885 - 5745
MB-4 2012.M11/1.023.0259	UCIAMS-121531	-25.6	6765±25	5715 - 5630

Table 1. Radiocarbon measurements on carbonized plants from Masis Blur, Armenia.

<sup>1</sup> IRMS measurements of  $\delta^{13}\text{C}$  values measured to precision of <0.1‰ relative to PDB.

<sup>2</sup> Conventional  $^{14}\text{C}$  ages as defined in Stuiver and Polach (1977).

<sup>3</sup>  $^{14}\text{C}$  ages are calibrated using CALIB 6.0 protocols and the IntCal09 data set. Single interval 2σ range calibration values are expressed for intercepts representing ≥0.95 of the relative area under the probability distribution. If relative area is ≥0.1, that value is listed in parenthesis.



Figure 4. Neolithic groundstone axe heads from Masis Blur.





Figure 6. A bifacially incised steatite seal (?) from Masis Blur.



Figure 7. An example of a bone artifact from Masis Blur.

with a diameter of 3 meters and numerous associated smaller constructions of household type (e.g. hearths, fire pits, work surfaces, storage, etc.). The second architectural level within the same horizon is visible (but not yet excavated) below Level I in the same squares. The second, lower building horizon

(Trench M9/1) has not been excavated in its entirety, but our preliminary observations indicate that its structures may have a larger diameter, and a significantly different construction technique. The elevation difference between Level II of the upper horizon and the second, lower horizon, combined with geomorphological data, lead us to believe that there may be at least one more level between the Level II (Trench L10/4 and M10/1), and the as-yet unnumbered level of the second horizon in Trench M9/1.

The 2012 season produced an abundance of artifacts, such as obsidian sickle inserts, scrapers, borers, and drills, polished axes, shaft-straighteners, incised grooved stones, beads, and pendants. The bone tool industry is particularly rich; we recovered more than 140 artifacts used for working hides, basket-making, and food consumption. The faunal and floral preservation at Masis Blur is good, and although the faunal assemblage is still awaiting analysis, we can preliminarily identify sheep/goat, oxen, turtles, birds, and fish. According to the project's archaeobotanist, Roman Hovsepyan, the main agricultural practice of the Neolithic settlers of Masis Blur was centered on cereal cultivation, particularly naked wheat and emmer, together with naked and hulled barley.

The first season of fieldwork at Masis Blur was productive and promising. We hope that the resumed excavations of Masis Blur will significantly enrich the factual database pertinent to the Neolithic period of Armenia and the Central Near Eastern Highlands in general. The data obtained during the excavations will allow us to refine the Neolithic sequence in the Arax River valley, to address questions of economic exchange and connections within the greater Near East, to help us reconstruct the final stage of the early Holocene environment of the Ararat Plain, and to investigate environmental changes of both anthropogenic and natural origin.

The 2013 excavations at Masis Blur were made possible thanks to the generous support provided by Lloyd Cotsen, Zaruhi Sara Chitjian, the Waters Trust, Harris Bass, Charlie Steinmetz, David Boochever, Bruce Hector, Jeanne Bailey, and Avo Babian. The authors also express their gratitude to John Southon and Erv Taylor for facilitating the processing of AMS <sup>14</sup>C dates at the W. M. Keck Carbon Cycle Accelerator Mass Spectrometry Laboratory, University of California, Irvine.\*

## Researcher's Notebook

### The Archaeology of Insurgency in Bronze Age Jaffa

Since 2007, the Jaffa Cultural Heritage Project has brought to light the results of earlier excavations from 1955 to 1974 in Jaffa (Tel Yafo) by Jacob Kaplan, the municipal archaeologist of Tel Aviv-Jaffa. One of the primary objectives of this project was to provide a baseline for renewed archaeological exploration of Jaffa in which modern data-collection methods and analytical techniques are employed to improve our understanding of the site and its population. During the Late Bronze Age, for example, from ca. 1460 to 1200 B.C.E., Jaffa functioned as an Egyptian garrison, supply port, and administrative center

for Egypt's New Kingdom imperial expansion into Canaan. Work on the earlier excavation records and renewed excavations in 2011 and 2012 create an archaeological narrative for a period fraught with conflict and resistance to the Egyptian presence by the region's Canaanite inhabitants, alongside evidence of increasing social interaction between these groups. Tel Yafo provides an ideal archaeological case study for assessing the intensity and character of social interaction between the Egyptian military personnel and local non-Egyptian communities. This evidence is revealed in multiple destruction levels and diachronic changes in the percentages of types of material culture that may be associated with Egyptians and non-Egyptians.

In June 2012, under the direction of Aaron A. Burke (UCLA) and Martin Peilstöcker (Israel Antiq-



Figure 1. Destruction of the Egyptian gate complex in the first half of the fourteenth century B.C.E.

uities Authority), excavations continued on the ancient mound of Jaffa within the Egyptian gate complex dated to the Late Bronze Age (ca. 1460–1150 B.C.E.). The excavations resulted in the complete exposure of two major phases of the Ramesside gate (ca. 1300–1150 B.C.E.), integration of earlier excavation data, and an improved understanding of the volatile relationship Jaffa had with its hinterland. This narrative stands in stark contrast to the official rhetoric of the Egyptian crown, which mentions continuous efforts to pacify Canaanite settlements but seems to carefully avoid reference to lost Egyptian fortresses and military losses that typify local resistance. As suggested in Jaffa’s archaeological record, such resistance frequently climaxed in outright insurgency against Egyptian rule. This project provides, therefore, a unique case study of insurgency and social interaction in antiquity that informs similar contexts up to the present. Central to this interpretation is the identification of at least four major episodes of destruction of the fortress during approximately three hundred years when it served the Egyptian New Kingdom Empire (Figure 1).

The research program of the Egyptian settlement began in 2011 and has been supported by the Cotsen Institute of Archaeology, UCLA’s Office of the Vice Chancellor for Research, the Near Eastern Languages and Cultures Department, and Johannes-Gutenberg Universität, Mainz, Germany. Research will continue from 2013 to 2015 with the support of a collaborative research grant from the National Endowment for the Humanities. The project is titled “Insurgency, Resistance, and Interaction: Archaeological Inquiry into New Kingdom Egyptian Rule in Jaffa” (RZ-51445-12).

—Aaron A. Burke, *Department of Near Eastern Languages and Cultures, Cotsen Institute of Archaeology, UCLA.*

## Ancient Methone: A New UCLA Project in Northern Greece

In 2012, the Cotsen Institute of Archaeology launched a new field project in Greece in collaboration with the 27th Ephorate of Antiquities (Pieria, Macedonia) and with a team from UCLA headed by Sarah Morris and John Papadopoulos. The site of ancient Methone (alternately spelled Methoni) was an important port on the Thermaic Gulf in the North Aegean, at the mouth of the Haliakmon River (Fig. 1), and was best known as a major exporter of inland timber to Classical Athens for its fleet of triremes (oared warships). This alliance with Athens made it an enemy of Philip II of Macedon, who destroyed it in 354 B.C.E. Salvage work since 2003 has revealed many centuries of occupation since the Late Neolithic period (4000 B.C.E.), including a Bronze Age cemetery, and an important phase of Early Iron Age activity as a major trading center, prior to its historical foundation by Eretrians from the island of Euboea in 733 B.C.E.

The first two seasons of research are devoted to analysis of finds and areas uncovered since 2003, in preparation of a synthetic volume on Methone’s prehistoric and historical phases, artifacts, and architecture. Particular attention has already focused on the Early Iron Age (late eighth and early seventh centuries B.C.E.) “hypogeum” deposit of pottery, primarily transport vessels, including almost 200 with incised or painted letters—35 of them alphabetic—that form the largest corpus of such early inscriptions in Greece (the subject of a volume and conference in 2012). Our next agenda targets the ancient contours of the city and its harbor(s), now obscured by the alluvial advance of the Haliakmon River but soon to be clarified by geophysical work and a series of cores to be extracted at key points along its presumed ancient shoreline. This important phase of geomorphological and geoarchaeological fieldwork, planned for 2014, will be complemented by geophysical analysis of the Classical city and its short-lived Macedonian successor. Field excavation will also complete the exposure and preservation of an early agora or city center, defined by rare Archaic examples of the Greek stoa or colonnaded building (Fig. 2), and trace its earlier occupation into the Bronze Age (already identified from a cemetery with Mycenaean vessels,



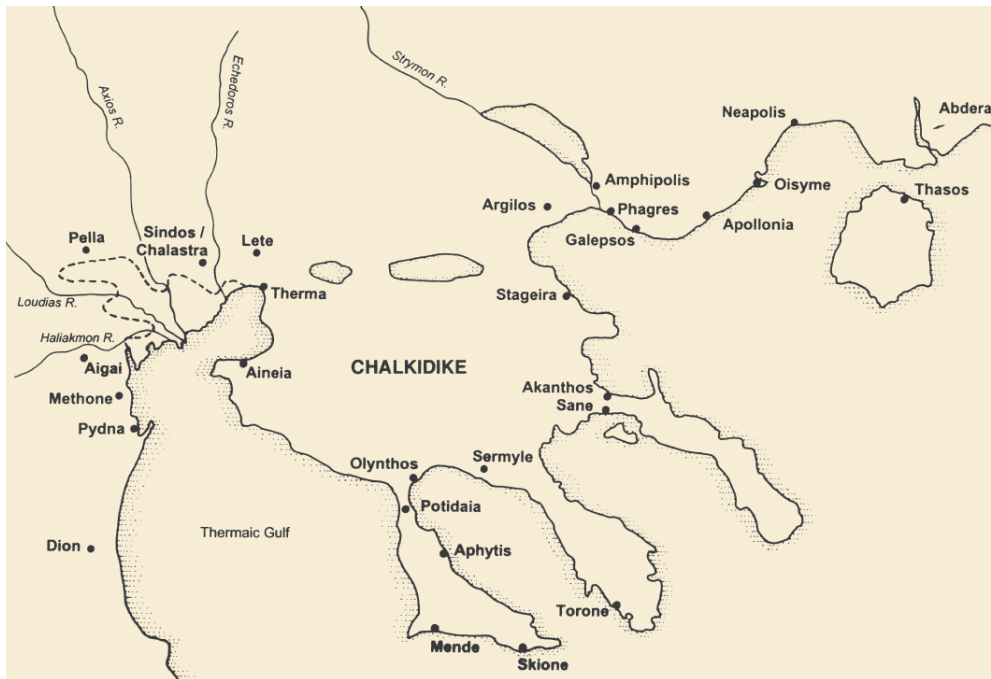


Figure 1. The location of ancient Methone, Pieria (Greece).

bronze weapons, gold and amber jewelry, and local handmade pottery).

Specialists have begun analysis of the architecture, prehistoric, and Classical pottery, transport vessels, small finds made of various materials (such as an ivory seal, Fig. 3), animal bones and botanical remains, mollusks, and human remains, along with conservation measures applied by students and staff of the UCLA/Getty Conservation M.A. program. Our team looks forward to further participation by UCLA students, faculty, and research staff. The aim is to integrate the human history of this important site with its natural heritage—a wetlands environment rich in migratory bird life; to help attract visitors to a new local archaeological museum (under construction) and a special exhibit on Methone in Thessaloniki this year; and to enhance facilities and resources to engage and sustain the local community. Thanks to the support of the Steinmetz Family Foundation and the Cotsen Institute, two full seasons of research and analysis will be followed by three years of field archaeology.

—Sarah P. Morris, Steinmetz Professor of Classical Archaeology and Material Culture, Department of Classics; Cotsen Institute of Archaeology, UCLA.

—John K. Papadopoulos, Department of Classics; Cotsen Institute of Archaeology, UCLA.



Figure 2. Detail view of Agora area, with the foundations of an Archaic stoa.



Figure 3. Ivory stamp seal (and impression) of the late eighth/early seventh century B.C.E. from the *Hypogeum* deposit at Methone.



## Talapada: An Ancient South Asian Town Built “On Spec”?

Our economy recently has experienced the phenomenon of housing developments that were started but never finished, built by speculators hoping to capitalize on population growth beyond city margins. Ancient cities also contain evidence of plans that never quite came to fruition, both within the urban core and in the surrounding regions. Through the study of seemingly “unfinished” towns, our international collaborative research team from UCLA and Deccan College in Pune, India, is expanding our scope of research from prior work on the ancient city of Sisupalgarh to look at the effects of urbanism on the surrounding hinterlands in the last centuries B.C.E. and early centuries C.E.

Sisupalgarh was a magnificent city by any standard of measurement, with many architec-

tural embellishments including a formal rampart encircling an area of over one square kilometer and monolithic stone columns at the center of the site. Thanks to recent research by our team’s Indian students using Google Earth, Sisupalgarh’s distinctive perimeter pattern was recently found to be repeated at smaller sites in the region up to 150 kilometers away. The sites’ layouts are identical to Sisupalgarh and strongly suggest the implementation of a pre-conceived master-plan for hinterland settlement.

During subsequent reconnaissance at the newly discovered sites, our team noted something odd: these sites seemed to be relatively empty inside of their formal perimeters. Compared to the extensive archaeological deposits at Sisupalgarh, the smaller towns seemed to have been occupied for a much shorter period of time. Settlement areas within towns also seemed to have been spaced widely apart, as though plenty of room had been allotted for neighborhood growth that never occurred.



Figure 1. Northern gateway of Talapada, India.



Figure 2. Excavations inside of the rampart, Talapada.

The phenomenon of towns in an urbanizing landscape provides an ideal opportunity to understand a component of urbanism that has often been overlooked by archaeologists, who tend to focus on the biggest sites in an area. In order to evaluate the social and economic life of towns, we started research at Talapada in early 2013 with a combined program of excavations and geophysical survey; the latter was led by Prof. Timothy Matney of the University of Akron, who also had coordinated the geophysical research at Sisupalgarh (Figs. 1 and 2).

Fieldwork has supported our surmise that occupation at Talapada was patchy and discontinuous, but the occupants of the site weren't necessarily disadvantaged compared to their urban counterparts. For example, the artifacts at Talapada indicated a greater self-sufficiency in food as seen in the presence of extra-large grinding tools and storage jars; the inhabitants of Talapada also expressed their wealth through the use of the same types of ornaments that we found in the city of Sisupalgarh (Fig. 3), and they even had some costly items, such as a lead earspool the like of which we never found in our urban excavations.

Ancient builders as well as modern ones may well have gambled on the premise "if you build it,

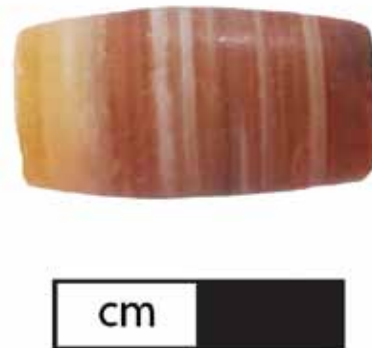


Figure 3. Stone bead from Talapada excavations.

they will come." But they weren't always able to force settlements to conform to their expectations. By critically evaluating the optimistic calculations of ancient planners, we can provide distinct insights into how rural residents interacted with cities at the beginning of the urban tradition.

—Monica L. Smith, *Department of Anthropology; Cotsen Institute of Archaeology, UCLA.*

—Rabindra Kumar Mohanty, *Department of Archaeology, Deccan College Post-Graduate and Research Institute, Pune, India.*





Figure 1. Excavations in the main sunken court at Cerro del Gentil.



Figure 2. Lab specialists prepare and examine one of the several Paracas mummies found in excavations.

## Excavations and Survey in Chincha, Peru

Our work in the upper Chincha Valley, Peru, continued in 2013 with some truly spectacular finds from our excavations in the main platform mound of Cerro del Gentil (see *Backdirt* 2012). We excavated in the center of a partially-looted sunken court on one of the three platforms (Fig. 1). Our excavations soon revealed the remains of plaster walls (seen in the upper left side of the excavation in Fig. 1). We found pieces of painted plaster indicating that the walls were covered in designs of at least black and white. These walls defined a squarish sunken court that is over 1 meter deep and over 7 meters on a side.

What we have learned is that the platform mound was built in stages beginning at least by the middle or late Paracas, ca. 400–100 B.C.E. It may be earlier: we will find out next season. As the mound was rebuilt several times, the sunken court was also rebuilt. On the floor of the court, we found lavish offerings of textiles, mummies, pottery, gourds, baskets, and wooden objects (Figs. 2–6). What we still do not know is if the offerings were placed in an open court over many years and then paved over to build a new one, or if the court was kept clean for ceremony and then closed with a



Figure 3. Examples of Paracas baskets left as offerings.

lavish offering just prior to building a new one. Our work next year will help us resolve this question, as we will be able to date the offerings in each of the floor levels.

This is a very important discovery for Paracas archaeology. There is an extensive literature on the culture but we still do not know if there was a “core” political center or if the artistic style was widespread and shared over many valleys. Given the fact that Chíncha is the only valley with substantial Paracas monumental architecture, our research hints at the possibility that it was the Paracas political center, at least in its later phases. Only more research will answer these intriguing questions.

—Henry Tantaleán, Charles Stanish, and Benjamin Nigra, *Cotsen Institute of Archaeology, UCLA*.

—Michiel Zegarra and Kelita Pérez, *Proyecto Chíncha*.



Figure 4. Detail of basket left as an offering.



Figure 5. Engraved Paracas gourd left as an offering.

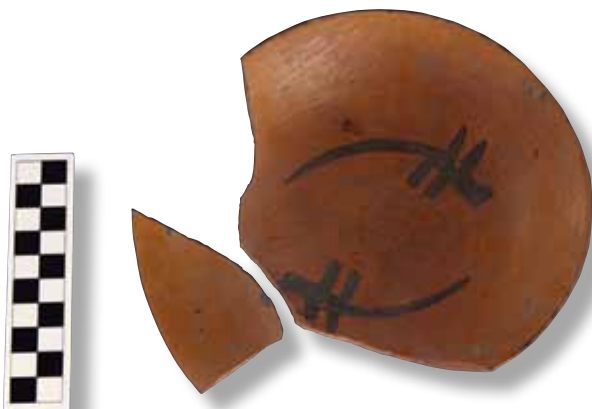


Figure 6. Pottery vessel left as an offering. All photos by John Cody.



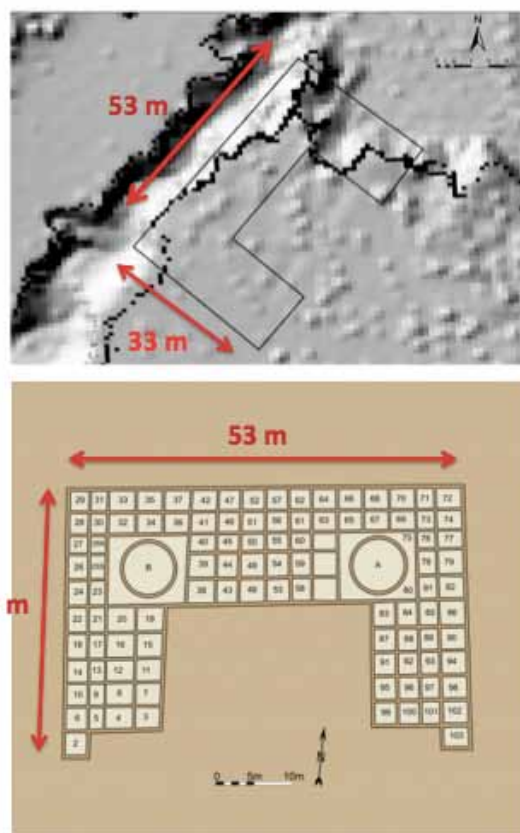
## New Excavations in Chaco Canyon: The Roberts' Great House Project

This past summer, Dr. Stephen Plog of the University of Virginia sponsored a small crew (led by Dr. Adam Watson of the American Museum of Natural History) to conduct for the first time in over thirty years, new excavations at a great house in Chaco Canyon, New Mexico. Today a UNESCO World Heritage site, Chaco Canyon was once home to the Ancestral Puebloans whose modern descendants are spread throughout the Four Corners region of the United States. The canyon itself is home to more than twelve Great Houses—multi-story, masonry roomblock structures such as the well-known Pueblo Bonito—and hundreds of small Basketmaker, Pueblo, and Historic period habitation and agricultural sites.

In this first season of research, efforts were focused on the poorly understood site of Roberts' Great House. The site was initially explored by Frank H. H. Roberts and the Smithsonian Institution in 1926. Based on limited excavation, Roberts concluded that the pueblo was likely never inhabited. With no visible surface architecture, its existence is



**Figure 1.** Northwest (back) standing masonry wall of the Roberts' Great House roomblock being exposed by the erosional forces of a tributary of the Chaco Wash.



**Figure 2.** Top: Preliminary map of Roberts' Great House, bordered on the northeast and northwest sides by the arroyo. Bottom: Wiji Great House (Chaco Research Archive: <http://www.chacoarchive.org>).

only known because it is being eroded on the Northwest and Northeast boundaries by two tributaries of the Chaco Wash, exposing portions of the masonry walls (Fig. 1). As many as nine rooms have already been lost to erosion, and the pueblo is in danger of sustaining more severe damage in years to come. Thus, our primary objective was to document the site as thoroughly as possible using minimally invasive techniques before more of it is destroyed.

The site and surrounding area were mapped using both total station and Trimble handheld Global Positioning System (GPS). Faro Focus 3D Scanning equipment was used to produce three-dimensional images of the arroyo cuts in order to document microerosion occurring on the edges of the site. Two excavation units were assigned in threatened areas, and soil cores in possible agricultural fields were taken by Dr. Vernon Scarborough of the University of Cincinnati. Mapping efforts determined that the site is almost identical in size to its neighbor to the northwest, the Wiji Great House

(Fig. 2). Both are E-shaped with likely two kivas. Roberts' Great House, however, was no more than one story tall, though it may have had more than fifty rooms. No definitive trash middens have been identified in association with either site, throwing into question whether either site was ever occupied.

Decorated ceramic collections yielded a mean ceramic date of C.E. 942  $\pm$  104 years, straddling the Pueblo I and II time periods, though we might expect radiocarbon dates to place the occupation later. Excavation inside the pueblo revealed low numbers of faunal remains and no plant material. Other artifacts usually indicative of habitation, including food-processing implements like manos and metates, were minimal in quantity and no definitive evidence of occupational floors was found—indicating that post-construction occupation of Roberts' Great House may have been limited. We also identified a noncontiguous pithouse structure immediately south of the pueblo that may have been a primary area of occupation during the construction of the pueblo. With further research, we hope to be able to answer other occupation-related questions, and to shed light on the relationship of Roberts' Great House to its neighbors, as well as its role in the eastern branch of Chaco Canyon overall.

—Katelyn Bishop, *Department of Anthropology, UCLA*

## In Times of Turmoil . . .

You are well aware of the tragic war in Syria. We were able to go back in December 2011, visiting both Damascus and our site of Mozan/Urkesh and reviewing with our local staff in Mozan procedures for continuing our longstanding site conservation and site presentation activities. They had done this for years . . . but always under our immediate supervision. Now they have had to do it on their own, with our help only through telephone and Internet communication. I am proud to report that our staff have done a superb job, have kept us constantly informed, and have solicited our input, mostly through the Internet!

We have been continuing to work on the online publication of the Urkesh/Mozan excavation data, in particular adding to our already very large website. To this end, we have conducted three study seasons in Europe with members of our staff. I have concentrated on editing and revising all the ceramic data for six units of the excavation, which we will be publishing online shortly. Our website for the Urkesh Global Record contains multiple sections on the ceramics, organized in various ways. One section is on the ceramics as they relate to major features of the stratigraphy, as well as the specific context. The features in this section total 216 pages, containing about 3,000 sherd drawings and descriptions. These individual drawings are hyperlinked to the stratigraphic context and other ceramics, objects, and samples found there. Another section on the ceramics includes the catalogs of the main ceramic types by horizon from Late Chalcolithic (ca. 3500 B.C.E.) through the Middle Assyrian period (ca. 1200 B.C.E.). This part comprises over 300 pages, containing approximately 3,000 sherds with descriptions.

To allow myself a bit of fresh air I also presented papers in 2012 at universities in Venice (June) and Florence (December) Italy. In addition, we had in 2012 three conferences and workshops on the Urkesh Eco-Archaeological Park: at the Polytechnical University in Milan (June), at the Institute of Archaeology in Moscow (September) partly sponsored by the Cotsen Institute, and at the Biblioteca Ambrosiana in Milan (December), sponsored by a UCLA Transdisciplinary Seed Grant from the Office of the Vice-Chancellor for Research. This last venue is a prestigious Library in the center of Milan originally established by Federico Borromeo containing manuscripts of Leonardo da Vinci and the cartoon for the *School of Athens* of Raphael, among its collections of books, manuscripts, and paintings.

—Marilyn Kelly-Buccellati, *Cotsen Institute of Archaeology, UCLA*



Figure 1. Tim Whalen, Director of the Getty Conservation Institute, offering welcoming remarks against a backdrop of the 2013 "L-A-NAGPIC" student-designed logo.

## ANAGPIC Annual Meeting

The UCLA/Getty Program in the Conservation of Archaeological and Ethnographic Materials faculty, staff, and students hosted the annual meeting of the Association of North American Graduate Programs in Conservation (ANAGPIC) on April 25–27, 2013, the first ever to be held on the West Coast. For more than 30 years, ANAGPIC has convened in the Northeast, so our students aptly nicknamed this year's meeting "L-A-NAGPIC" and designed the logo accordingly (Fig. 1). The meeting brought together 150 students and faculty from academic programs in conservation, including Buffalo State College, NYU-Conservation Center of the Institute of Fine Arts, Queens University, UCLA/Getty, the Winterthur-University of Delaware Program in Art Conservation, and the Straus Center at Harvard University.

Following an opening reception and laboratory tours at the Getty Villa on April 25, the program began on April 26 at the Getty Center with welcoming remarks by Tim Whalen, Director of Getty Conservation Institute (Fig. 1). Twelve student papers addressed a broad range of cultural heritage conservation topics, including research into structures and innovative stabilization methods for materials including silk textiles, a seventeenth-century heraldic manuscript, a Georges Seurat painting, an orangutan taxidermy specimen, and pinball art, as well as issues in the conservation of plant-based contemporary art. UCLA/Getty student Caitlin Mahony ('14) presented her research and treatment of



Figure 2. Casey Mallinckrodt ('14) describes her research on a Ptolemaic Egyptian sarcophagus from the San Diego Museum of Man during tours of the UCLA/Getty Conservation Labs at the Getty Villa.



an American Indian quillwork leather vest in the collection of the Fowler Museum, and Casey Mallinckrodt ('14) presented her technical research and condition assessment of a Ptolemaic Egyptian sarcophagus from the San Diego Museum of Man (Fig. 2). Following a day of vigorous intellectual exchange, guests enjoyed a banquet with dancing at the Getty Café.

The second day of talks at the UCLA Lenart Auditorium in the Fowler Museum began with a warm welcome by Museum Director Marla Berns. The Angelica Zander Rudenstine Lecture, presented annually to honor an esteemed former Program Officer at the Andrew W. Mellon Foundation, was entitled "Why Conservation is Critical to the Future of our Planet," presented by Robyn Sloggett, Director of the Centre for Cultural Materials Conservation at the University of Melbourne, Australia. The lecture encouraged students to think about how cultural conservation could be embedded into more processes than is presently the case. A panel session entitled "Conserving Communities" followed, incorporating alternative views of conservation from Tongva archaeologist Desiree Martinez and Maori textile conservator Rangi Te Kananwa, as well as Judy Baca and Robyn Sloggett, all scholars who incorporate host community viewpoints into

their preservation work. The panel was organized and moderated by UCLA Andrew W. Mellon Education Resident Tharron Bloomfield. The final poster session filled the halls of the Cotsen Institute of Archaeology with seventeen posters, including three posters authored by UCLA/Getty students.

We extend warm thanks to the Getty Conservation Institute, the Fowler Museum, TruVue, Inc. and the Cotsen Institute of Archaeology for their generous support of the conference.

—Ellen Pearlstein, *Department of Information Studies; UCLA/Getty Program in Archaeological and Ethnographic Conservation; Cotsen Institute of Archaeology*

## Third Annual Graduate Student Conference in Archaeology

How does the concept of scale contribute to our understanding of the past and to the ways that we as archaeologists formulate questions about the processes and events we study? At this year's graduate student-run Third Annual Cotsen Institute of Archaeology Conference, entitled "Scalar Inquiries in Archaeology," we set out to explore the influence that this concept has had in our own work and got a glimpse at the impact that it will continue to exert.

The Conference was held on Friday and Saturday, April 26–27, 2013, in



Figure 1. Professor Michael Dietler delivering the keynote lecture for the Third Annual Cotsen Institute of Archaeology Graduate Student Conference.





**Figure 2.** UCLA graduate student Scott Sunell (Anthropology) presenting on “Small-Scale Craft Production in Laguna Canyon, Santa Cruz Island” at the Saturday session of the Third Annual Cotsen Institute of Archaeology Graduate Student Conference.

conjunction with the Cotsen Institute of Archaeology 40th Anniversary Celebration, and featured a diverse group of graduate-student presenters from universities across North America. Furthermore, Professor Michael Dietler (University of Chicago) delivered an engaging keynote lecture to a full house in Royce Hall on Friday evening, entitled “Issues of Scale and the Archaeology of Colonialism: Reflections from the Case of Ancient Mediterranean France” (Fig. 1). Dietler’s lecture dealt with the multiple temporal and social scales illuminated by colonial and post-colonial episodes in the ancient southern Mediterranean, and was highly thought-provoking for all who attended, thus starting off the Conference in the best possible way.

Graduate-student presentations took place all day on Saturday, followed by closing remarks from Professor Dietler and UCLA’s own Professor Richard Lesure (Department of Anthropology). Scale is of course a broad concept with implications that are both spatial and temporal, theoretic-

cal and methodological. This breadth was well represented in the twelve presentations delivered by graduate students from the Cotsen IDP (Jacob Bongers, Jack Davey, Anke Hein) and from the Departments of Anthropology (Scott Sunnell, Fig. 2) and History (Kate Craig).

Since we started planning this event in Spring Quarter, 2012, the planning committee (Kathryn Chew, Myles Chykerda, Ellen Hsieh, Kanika Kalra, Lana Martin, Ben Nigra, Kristine Martirosyan-Olshansky, and myself) tried to ensure that this yearly event would continue to capitalize on momentum that past organizers (Seppi Lehner, Anne Austin, and Hannah Lau) were able to generate. Our aim is to grow it into an ever more lively and exciting venue where early-career archaeologists can come to share their ideas. The outpouring of support and interest we received from UCLA’s graduate students and faculty was even more than we could have hoped for, and bodes extremely well for the Fourth Annual Cotsen Institute of Archaeology Conference next year. I look forward to seeing you there!

—Ben A. Shepard, *Department of Anthropology, UCLA*

## Friday Seminar Series

With the topic of “Cultural Contacts and Other Forms of Interactions” and a varied lineup of guest speakers, the Cotsen Institute Friday Seminar Series in Fall 2012 took us from Tijeras Pueblo, New Mexico over the Silk Road to early China, Cambodia, and back to California. Miriam T. Stark from the University of Hawaii opened the series with her lecture “Origins of the Cambodian State: From Angkor Borei

to Angkor Wat.” She shared insights into different levels of interaction and their relative importance for state formation processes gleaned over nine years of fieldwork. In her lecture entitled “Tracing Interactions and Technological Developments: Southwestern Glazed Painted Pottery as Seen from Tijeras Pueblo,” our next guest, Judith Habicht-Mauche (UC Santa Cruz) used archaeological material from that New Mexico site to develop and illustrate theoretical perspectives on technological developments and interactions as reflected in pottery production techniques and decorations. In this context, she also presented the results of mineralogical, chemical, and isotopic techniques for sourcing artifacts and their importance in the reconstructing ancient trade routes. Armin Selbitschka (University of Munich) took the audience to the other side of the world, presenting on “Exotic Things and Strange Writings: Cultural Exchange in the Light of Artifacts Discovered along the Silk Road.” He discussed how “prestige goods” are usually defined, both in general terminology and in the context of the Silk Road. Geographically, his talk provided a great transition to the following week when Zhichun Jing (University of British Columbia) presented on earlier developments in China, focusing on “Shang Cities: Population Dynamics and Urbanization.” He also discussed how strontium isotope analysis can provide evidence for cultural contact between different populations. In the next lecture, Alice Yao from the University of Chicago took us to the rim of the Chinese influence sphere with her talk “Where History meets Prehistoric Times: Han Expansion into the Southwest,” discussing the interaction between the complex bureaucracy and long-standing cultural tradition of the

Han Empire and the completely different cultural traditions of the Southwest. In the final lecture, “Colonialism in California: Taking a Fresh Look at Complex Hunter-Gatherers,” Kent Lightfoot (UC Berkeley) explored how colonial encounters differed in California from other parts of North America and how these initial encounters still influence the present-day situation of native Californian communities and their fight for federal recognition.

This Winter quarter, we hosted a roster of renowned scholars who provided diverse perspectives on the enduring topics of urbanism and urban process. Michael E. Smith (Arizona State University) opened the series by considering whether modern cities provide useful analogies for examining their ancient counterparts, in “Are Ancient Cities Relevant to Contemporary Urbanism: Archaeology and Comparative Urbanism.” His emphasis on a comparative approach set the stage for six subsequent case studies drawn from recent research in the New and Old Worlds. In “Regionalism in the Transition from Late Bronze Age to Iron Age Urbanism in Cyprus: The View from Idalion,” Pamela Gaber (Lycoming College) framed urbanization as a process predicated upon regional island geography, local industry, and the relationship between Cyprus and the broader Mediterranean world. Focusing more tightly on the economic components of urban development, Guillermo Algaze (UCSD) characterized ancient Near Eastern cities not simply as places defined by unprecedented consumption, but as crucibles of novel industry and productive organization in his talk “Import Substitution

as Mechanism in the Development of Early Near Eastern Economies.” Moving to the New World, Timothy Pauketat (University of Illinois) spoke on “Why North American ‘Cities’ were Proto-Urban: Chaco, Paquime, and especially Cahokia,” and John Janusek (Vanderbilt University) presented “Teluric Urbanism: Animate Landscapes and the Production of Tiwanaku in the High Andes,” both questioning whether the concept of the city (an artifact of Old World scholarship) is useful for approaching the dense, autochthonous settlements at Cahokia and Tiwanaku. Closing the series with a return to the Near East, John MacGinnis (McDonald Institute for Archaeological Research) lectured on “Excavating a Provincial Capital of the Assyrian Empire: The Ziyaret Tepe Project,” and Bill Dever (Lycoming College) asked us to ponder the fragility of urban systems in periods of political decentralization and growing population mobility in his talk “The Early Bronze IV Period in Southern Canaan, ca. 2300–2000 B.C.E.: Urban Collapse and Its Aftermath.”

During the Spring quarter, we had five wonderful talks under the umbrella title “Archaeological Field Methods.” Two of these talks were preceded by workshops for graduate students in the Cotsen IDP and associated departments: the first focused on field photography and the second on LiDAR remote-sensing technology and 3D-artifact scanning. The series began with a talk by the Cotsen Institute’s own Willeke Wendrich. Her talk “Brushing Up on Data Cleaning: Fieldwork, Digital Records and Publication” focused on the importance of maintaining digital records and online publications. Jason Quinlan (Çatalhöyük Research Project and Fayum Project) presented on the nuances of

archaeological field photography. His talk “Shooting on Site: Real World Practices for Archaeological Field Photography” addressed the importance of attention to detail and consistency in field photography and 3D reconstruction of features and artifacts using multiple images. Jacques Chabot (Université Laval) lectured on his recent work on the “Neolithic Obsidian Industry in the Southern Caucasus: Technology, Methodology, and Use-wear Analysis.” Jelmer Eerkens (UC Davis) spoke on “Prehistoric Mining in South-Central Peru,” discussing the nature of mineral mining organization during the Nasca period. Our final talk of the quarter, Ashley Richter (UC San Diego) delivered a synthesis of “Integrated Data Captured Technologies and Methodologies for Rapid Archaeological Field Deployment and the Creation of Point Cloud Based Data Scaffolds for Cultural Heritage Dissemination: Case Studies from Cyprus, Italy, Jordan, and San Diego.”

—Anke Hein, Ben Nigra, Kevin Hill, Kristine Martirosyan-Olshansky, and Lana Martin, *Cotsen Institute of Archaeology, UCLA*

## Noon Talks

Each year graduate students at the Cotsen Institute organize a weekly series of Pizza Talks, inviting lecturers from all over the world, the country, and the University to speak about their research in archaeology and related fields. In the 2012–13 academic year, a great diversity of speakers participated in the lecture series.

Associate Professor Ioanna Kakoulli (UCLA-Materials Science and Engineering; Chair, UCLA/Getty Conservation Program) took us “Undercover,” describing her recent work to authenticate archaeological objects seized during a Federal investigation. In “The Chinchá Lines of Southern Peru,” Professor Charles Stanish (UCLA-Anthropology) engaged us with descriptions of an ancient geoglyph landscape. Professor Monica Smith (UCLA-Anthropology) gave an exciting talk on “Expanding the Urban Horizon,” describing recent excavations in the hinterlands of the Kalinga Polity in India. In keeping with this diverse menu of speakers, Professor David Scott (UCLA/Getty Conservation Program and UCLA-Art History) shared recent work on Mafa ironworking in the Cameroons, Africa; Research Associate Elizabeth Barber (COIA) took us through 20,000 years of Southeastern European costumes in her talk, which dovetailed with the recent exhibit “Resplendent Dress from Southeastern Europe: A History in Layers” at the Fowler Museum; and Associate Professor-in-Residence Axel Schmitt (UCLA-Earth and Space Sciences) described the use of zircon isotopic analysis to source ceramic ash temper in Mexico.

Pizza Talks have always been a popular forum for graduate and post-doctoral students, and this year was no exception. In China studies, Evan Carlson (IDP) spoke about the links between tattooing, material culture, and the body in ritual bronzes from the Shang Dynasty; and Kate Brunson (Anthropology) presented her “Zooarchaeological and Experimental Research on Bone Hairpin Production at Anyang.” In Mediterranean and Near East studies, Brett Kaufman (IDP) shared his insights on the mercantile and military basis of empire formation in “Empire Without a Voice: Phoenician Iron Metallurgy and Imperial Strategy at Carthage.” Visiting postdoctoral scholar Laerke Recht (CIOA) discussed her fascinating work on animal sacrifice in the Bronze Age in “Eminently Sacrificable: Animal Sacrifice in the Bronze Age Aegean and Near East,” and Michael Moore (NELC) lectured on “Neo-Hittite Statues and Luwian Texts: An Iron Age Gate at Tell Tayinat.” In Andean studies, Abby Levine (Anthropology) spoke on “Trade and the Emergence of Regional Centers in the Lake Titicaca Basin.” Finally, Mike Rocchio (Architecture and Urban Design) discussed a new field technique in “Multi-rotor Platforms: Photographic Surveying of Archaeological Sites.”

Various scholars from UCLA also reported on exciting new work at the sites of Jaffa (Associate Professor Aaron Burke, NELC; “The Archaeology of Insurgency: The 2012 Excavations of Jaffa’s Egyptian Gate”); Urkesh (Research Associate Marilyn Kelly-Buccellati, CIOA; “Landscapes and Urbanism: A Frame for Understanding the Sacred and Political Development of Urkesh”); Scaloria Cave

(Research Associate Ernestine Elster, CIOA; “About the Cave”); and the Eastern Desert of Egypt (Assistant Adjunct Professor Hans Barnard, NELC; “The Eastern Desert Revisited”).

In addition to this impressive host of presenters from UCLA, we had the good fortune of welcoming a great number of visiting lecturers. In the Fall quarter, Michiel Kappers (QLC / ArcheoLINK) brought us “A Demonstration of the ArchaeoLINK Information System,” and Professor Robert Sternberg (Franklin and Marshall College) gave an exciting report of “A Magnetometry Survey at Oglanqala, a First-Millennium Iron Age Site, Azerbaijan.” Additionally, Marc Abramiuk, author of *The Foundations of Cognitive Archaeology* (MIT Press, 2012), presented his “Reflections on the Intersection of Archaeology and Cognitive Science,” and Professor Dimitrios Tsougarakis (Ionian University; Onassis Foundation) presented his work on “Rights of Passage: Transitions and Social Change in Late Roman Medieval Crete.”

In the Winter quarter, Lecturer Thomas Garrison (USC), brought us a talk “Kings of the Sun: Landscape Intersection and Rulership at El Zotz, Guatemala, and doctoral student Anna Hodgkinson (Liverpool Urban University) introduced us to her work on high-status industries in Egypt, focusing on “Urban Industries of the New Kingdom: The Production of Glass, Faience, Metal and Sculpture with the Royal Cities.” Professor Rafi Greenberg (Tel Aviv University) presented exciting new findings on interactions between the Caucasus and the Fertile Crescent in “Adaption and Resilience

in the Outer Fertile Crescent: Tracking the Kura-Araxes Expansion in the Third-Millennium BCE.”

In the Spring quarter, Professor Rüdiger Krause (Johann Wolfgang Goethe University) gave us a fresh perspective on East–West interactions in “The Eurasian Steppe and the Sintashta Culture of the Trans-Urals in Western Siberia: Influences to the West and to the East”; Associate Professor Owen Doonan (California State University-Northridge) discussed plans for new excavations in “A Modest Proposal: On a New Excavation Proposal for Ancient Sinope, Turkey”; Mellon Education Resident Lucy Skinner (Buffalo State College) gave a fascinating talk on ancient Egyptian leather in “Racing Leathers in the New Kingdom: Conservation and Analysis of the Unique Leather Casing for an Ancient Egyptian Chariot”; and Ran Boytner, Executive Director of the Institute for Field Research, reported on the future of Archaeological field schools in “The Archaeology Field School Industry Complex.” Finally, Professor Matthew Canepa (University of Minnesota), whose visit was co-sponsored by UCLA Asia Institute’s Program on Central Asia, brought us “Competing Cosmologies, Sacred Spaces and Powerful Objects: Enacting Empire among and between Rome, Sasanian Iran, and Sui-Tang China.”

Cotsen Institute Pizza Talks are open to the public. They are held on Wednesdays at noon in Fowler A222 during the Fall, Winter, and Spring quarters.

—Laura Griffin, *Cotsen Institute of Archaeology, UCLA*



# New Titles from the Cotsen Institute Press, 2012–13

RANDI DANFORTH<sup>1</sup>

As we continue to develop and expand our program with the publication of leading research in archaeology, anthropology, and art history, the Cotsen Institute of Archaeology Press has had a banner year with an outstanding selection of titles.

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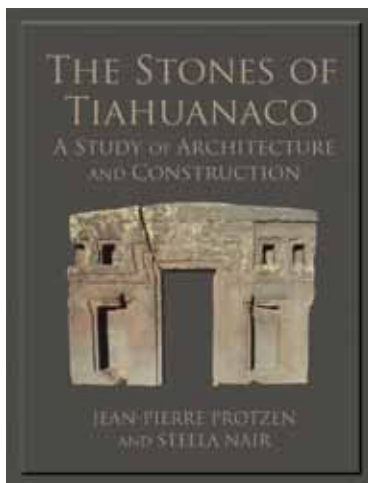
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### The Stones of Tiahuanaco: A Study of Architecture and Construction

*Jean-Pierre Protzen and Stella Nair*

**ISBN:** 978-1-931745-70-3  
**Publication date:** February 2013  
**Series:** Monograph 75  
**Price \$57.00 (paperback)**

The remains of the artful gateways, platforms, walls, and sculpture at Tiahuanaco, an important Middle Horizon site at the southern end of Lake Titicaca in Bolivia, have for centuries sparked what has seemed like unanswerable questions about how they were made. The masons' highly sophisticated knowledge of mathematics, geometry, and stonework is evident in



the tight joints and perfectly sharp, right angles of these fine examples of Andean cut-stone architecture. The Inca prized the precise stone masonry of this important site, which is considered by many scholars to be the precursor of the stonebuilding traditions of their civilization, which flourished four hundred years after the decline of Tiahuanaco. Protzen and Nair refute this long-held theory, arguing that Inca architecture could have been inspired by Tiahuanaco, but was not derivative of it. Looking to the stone itself for answers, the authors performed original experiments with stone tools to better understand how the artisans had shaped and finished the stone, revealing a new appreciation for their pre-metallurgic accomplishments.

### The Dead Tell Tales: Essays in Honor of Jane E. Buikstra

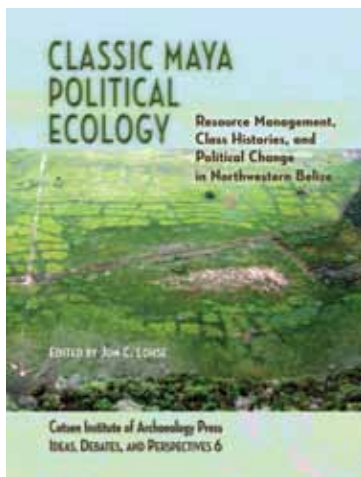
*Edited by María Cecilia Lozada and Barra O'Donnabhain*

**ISBN:** 978-1-931745-68-0  
**Publication date:** February 2013  
**Series:** Monograph 76  
**Price \$84.00 (hardbound)**



Honoring Jane Buikstra's pioneering work in the development of archaeobiological research, the essays in this volume stem from a symposium held at an annual meeting of the Society for American Archaeology. Buikstra's redefinition of the term "bioarchaeology" to focus specifically on human skeletal data in historical and anthropological contexts, and the impact of her mentorship on developing scholars in the field, are acknowledged and celebrated by the wide-ranging contributions in *The Dead Tell Tales*. They highlight the dynamism of bioarchaeology, documenting the degree to which this discipline has become integrated into anthropological research, and has become essential to the interpretation of archaeological data. Sections organized geographically present topics in North America, Central and South America, and the Old World, and discuss such diverse subjects as animal effigies, the archaeology of cemeteries, childhood diets in Copan, an analysis of skeletal trauma in samples from a medieval to early modern Danish cemetery, the social aspects of leprosy, and the role and origins of individuals who labored in a Byzantine prison mining camp in southern Jordan.

<sup>1</sup> Publications Manager, the Cotsen Institute of Archaeology Press.



### Classic Maya Political Ecology: Resource Management, Class Histories, and Political Change in Northwestern Belize

*Edited by Jon C. Lohse*

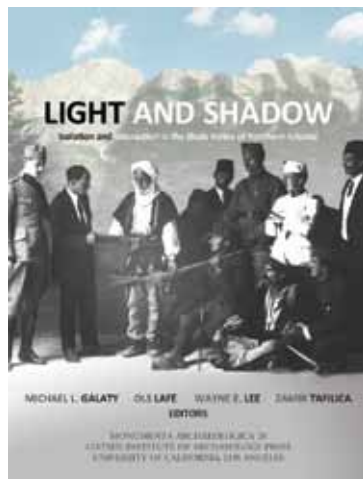
**ISBN: 978-1-931745-70-3**

**Publication date: February 2013**

**Series: Ideas, Debates, and Perspectives 6**

**Price \$67.00 (paperback)**

The Classic Maya of the Central Lowlands crafted one of the ancient world's great civilizations in what is today Belize, northern Guatemala, and Yucatan, Mexico. Although the Maya have long been known for their artistic and architectural achievements, the economic and agricultural base of this society has received far less attention. Over the past couple of decades, archaeologists have begun to understand how Maya householders reliably farmed this harsh, fragile, and yet highly productive environment for two thousand years. A new view emerges of how regional polities prospered in the face of population increase, political turmoil, and environmental and climatic change. This volume examines pre-Columbian political processes grounded in environmental productivity and a mutual interdependence between elite and non-elite classes, both contributing to the long-term success and adaptability of local and regional political communities and the networks that sustained them.



### Light and Shadow: Isolation and Interaction in the Shala Valley of Northern Albania

*Edited by Michael Galaty, Ols Lefe, Wayne E. Lee, and Zamir Tafilica*

**ISBN: 978-1-931745-71-0**

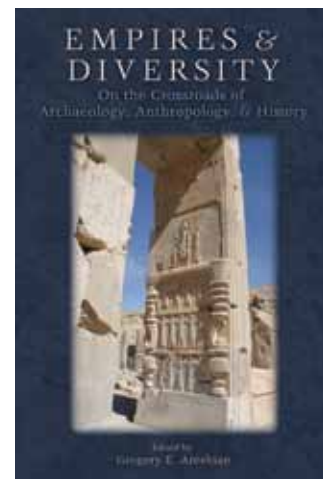
**Publication date: April 2013**

**Series: Monumenta Archaeologica 28**

**Price \$65.00 (hardbound)**

There are few places in Europe as remote as the Shala Valley of northern Albania. The inhabitants appear lost in time, cut off from the outside world, a people apart. But this careful interdisciplinary study of their past and way of life tells a very different tale, overturning much of what we thought we knew about Shala and "persistent" peoples everywhere.

The residents of this mountain tribe spent centuries inside the bounds of the Ottoman Empire, yet they retained not only their Catholicism, but also their political autonomy, forming a flexible, resilient society. Employing survey archaeology, excavation, ethnographic study, and multinational archival work, the Shala Valley Project uncovered the many powerful, creative ways in which the men and women of Shala shaped their world, and successfully fought for their survival. The researchers also unveiled a new, deeper history for the region—one that reaches back to an unexpected fortified Iron Age site. The people of Shala may serve as an example in our modern age, in which tribal people still seek to preserve some degree of independence from capitalist economies bent on their incorporation.



### Empires & Diversity: On the Crossroads of Archaeology, Anthropology, and History

*Edited by Gregory Areshian*

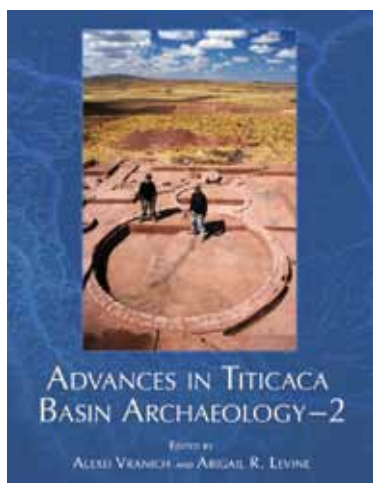
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**Publication date: June 2013**

**Series: Ideas, Debates, and Perspectives 7**

**Price \$49.95 (paperback)**

For more than four thousand years, empires have been geographically the largest polities on Earth, shaping in many respects the human past and present in different epochs and on different continents. Covering the time span from the second millennium B.C.E. to the sixteenth century C.E., and geographic areas from China to South America, the case studies included in this volume demonstrate the necessity to combine perspectives from the *longue durée* and global comparativism with the theory of agency and an understanding of specific contexts for human actions. Contributions from leading scholars examine salient aspects of the Hittite, Assyrian, Ancient Egyptian, Achaemenid and Sasanian Iranian, Zhou to Han Dynasty Chinese, Inka, and Mughal empires.



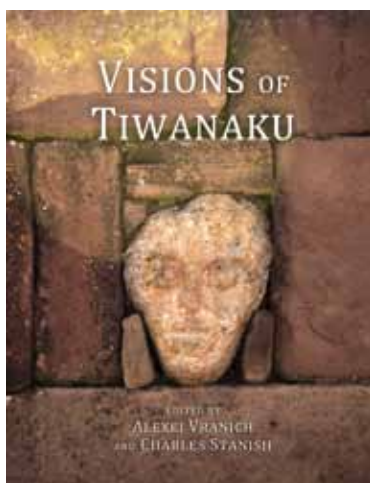
## Advances in Lake Titicaca Basin Archaeology—2

*Edited by Alexei Vranich and Abigail R. Levine*

**ISBN: 978-1-931745-72-7**  
**Publication date: September 2013**  
**Series: Monograph 77**  
**Price \$65.00 (hardbound)**

This volume, the second in a series of studies on the archaeology of the Titicaca Basin, serves as an excellent springboard for broader discussions of the roles of ritual, authority, coercion, and the intensification of resources and trade for the development of archaic states worldwide.

Over the last hundred years, scholars have painstakingly pieced together fragments of the incredible cultural history of the Titicaca Basin, an area that encompasses over 50,000 square kilometers, achieving a basic understanding of settlement patterns and chronology. While large-scale surveys need to continue and areas will need to be revisited to further refine chronologies and knowledge of site-formation processes, the maturation of the field now allows archaeologists to invest energy fruitfully in individual locations and specialized topics. The contributions in this volume focus on the southern region of the Basin, the area that would become the core of the Tiwanaku heartland.



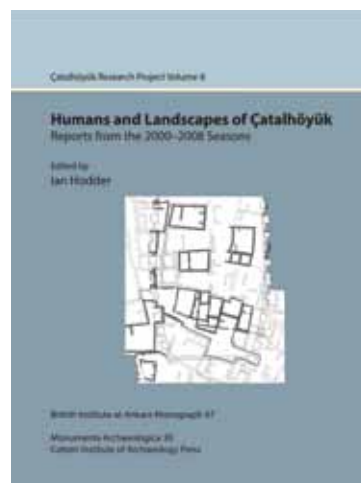
## Visions of Tiwanaku

*Edited by Alexei Vranich and Charles Stanish*

**ISBN: 978-0-917956-09-6**  
**Publication date: November 2013**  
**Series: Monograph 78**  
**Price \$75.00 (hardbound)**

*“What was Tiwanaku?”* This question was posed to a select group of scholars that gathered for an intensive two-day conference at the Cotsen Institute of Archaeology at UCLA. For over half a millennium, the megalithic ruins in the highlands of the Andes mountains have stood as proxy for the desires and ambitions of various empires and political agendas; in the last hundred years, scholars have attempted to answer this question by examining the shattered remains from a distant pre-literate past. The conference pooled the decades of experience of a dozen leading scholars together with the recent field data of junior scholars (published separately in Volumes 2 and 3 of *Advances in Titicaca Basin Archaeology*).

This volume contains twelve papers from senior scholars, whose contributions discuss subjects from the farthest points of the southern Andes, where the iconic artifacts of Tiwanaku appear as offerings to the departed, to the heralded ruins weathered by time and burdened by centuries of interpretation and speculation. *Visions of Tiwanaku* stays true to its name by providing a platform for each scholar to present an informed view on the nature of this enigmatic place that seems so familiar, yet continues to elude understanding by falling outside our established models for early cities and states.



## Humans and Landscapes of Çatalhöyük: Reports from the 2000–2008 Seasons Volume 8

*Edited by Ian Hodder*

**ISBN: 978-1-898249-30-6**  
**Publication date: October 2013**  
**Series: Monumenta Archaeologica 30**  
**Price \$89.00 (hardbound)**

The Neolithic site of Çatalhöyük in Turkey has been world famous since the 1960s, when excavations revealed the large size and dense occupation of the settlement, as well as the spectacular wall paintings and reliefs uncovered inside the houses. Since 1993, an international team of archaeologists, led by Ian Hodder, has been carrying out new excavations and research, in order to shed more light on the people who inhabited the site. This volume, one of four copublished with the British Institute of Archaeology at Ankara, reports on the results of excavations in 2000–2008 that have provided a wealth of new data on the ways in which the Çatalhöyük settlement and environment were occupied. The first section explores how houses, open areas, and middens in the settlement were central to the daily lives of the inhabitants; the second section studies their subsistence practices; and the third examines the evidence from the skeletons of those buried inside the houses to understand the health, diet, lifestyle, associations, and burial practices of those who lived there. A complex picture emerges of a relatively decentralized society, large in size, but small-scale in terms of organization, dwelling within a mosaic patchwork of environments.



## Substantive Technologies at Çatalhöyük: Reports from the 2000–2008 Seasons Volume 9

*Edited by Ian Hodder*

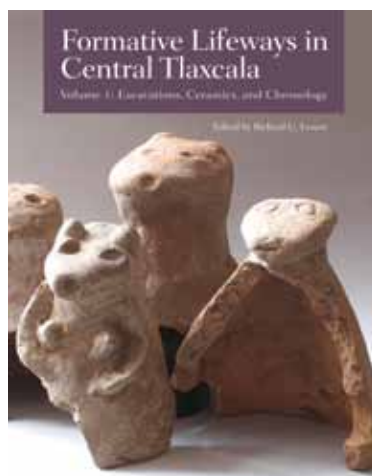
**ISBN: 978-1-898249-31-3**

**Publication date: November 2013**

**Series: Monumenta Archaeologica 31**

**Price \$89.00 (hardbound)**

The ways in which humans became increasingly engaged in their material environment, such that “things” came to play an active force in their lives, is the subject of this volume in the Çatalhöyük series. The alluvial clays surrounding the site were extremely important in this dynamic involvement. In the absence of local stone, humans extracted and manipulated clay for a wide range of purposes, for the manufacture of bricks, ovens, pots, and figurines. This heavy use of clay led to changes in the local environment that influenced human activity, as indicated in the first section of the volume. In the second section, other examples of material technologies are considered, all of which engaged humans in various ways in specific dependencies and relationships. For example, large-scale studies of the obsidian trade have drawn a complex picture of changing interactions among humans over time. The volume concludes with an integrated account of the uses of materials at Çatalhöyük based on the analysis of heavy-residue samples from all contexts at the site.



## Formative Lifeways in Central Tlaxcala Volume 1: Excavations, Ceramics, and Chronology

*Edited by Richard G. Lesure*

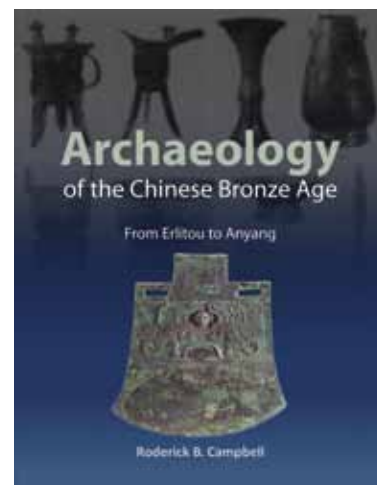
**ISBN: 978-1-931745-69-7**

**Publication date: December 2013**

**Series: Monumenta Archaeologica 33**

**Price \$75.00 (hardbound)**

This book, the first volume of a projected three, reports on excavations at Formative-period sites in the state of Tlaxcala, Mexico. The transition to the Formative in the relatively high-altitude study region is later than it was in choice regions for early agriculture elsewhere in Mesoamerica. From 900 B.C.E., however, population growth and sociopolitical development were rapid. A central claim in the research presented here is that a macroregional perspective is essential for understanding the local Formative sequence. In this volume, excavations at three village sites (Amomoloc, Tetel, and Las Mesitas) and one modest regional center (La Laguna) are reported. Ceramics are described in detail. An innovative approach to the classification of figurines is presented, and a Formative chronology for the region is proposed based on seriation of refuse contexts and radiocarbon dates. The work concludes with a macroregional framework to be used in the analysis of subsistence, social relations, and political economy in Volumes 2 and 3.



## Archaeology of the Chinese Bronze Age: From Erlitou to Anyang

*Roderick B. Campbell*

**ISBN: 978-1-931745-98-7**

**Publication date: December 2013**

**Series: Monograph 79**

**Price \$55.00 (paperback)**

*Archaeology of the Chinese Bronze Age* is a synthesis of recent Chinese archaeological work on the second millennium B.C.E., the period associated with China's first dynasties and East Asia's first “states.” Focused on Early China's great metropolitan centers in the Central Plains and their hinterlands, this work attempts to contextualize them within their wider zones of interaction from the Yangtze to the edge of the Mongolian steppe, and from the Yellow Sea to the Tibetan plateau and the Gansu corridor. This book critically presents the current state of Chinese archaeology on the second millennium in a way that brings to English readers the complexity of Early Chinese culture history, the variety and development of its urban formations, and the larger context of Central Plains Civilization. Although employing “Chinese” and “Bronze Age” in the title for the sake of familiarity, this work attempts to complicate both terms by showing East Asia's divergent developmental paths and re-examining its deep past without the anachronistic lens of later historiography or over-simplistic evolutionary assumptions. This, it is hoped, will contribute to a more nuanced basis for understandings of China's Early Bronze Age.



## 2014 Titles

### Çatalhöyük Excavations: The 2000–2008 Seasons Volume 7

*Edited by Ian Hodder*

*Çatalhöyük Excavations* presents the results of the excavations that took place at the site from 2000 to 2008 when the main aim was to understand the social geography of the settlement, its layout, and social organization. Excavation, recording, and sampling methodologies are discussed as well as dating, “levels,” and the grouping of buildings into social sectors. The description of excavated units, features, and buildings incorporates results from the analyses of animal bone, chipped stone, ground stone, shell, ceramics, phytoliths, and micromorphology. The integration of such data within their context allows detailed accounts of the lives of the inhabitants of Çatalhöyük, their relationships, and activities.

### Integrating Çatalhöyük: Themes from the 2000–2008 Seasons Volume 10

*Edited by Ian Hodder*

This volume discusses general themes that have emerged in interpretation of the results of the 2000–2008 excavations, synthesizing the results of research described in other volumes in the same series. Subsistence analysis and the examination of human remains yielded data on landscape use and mobility, and the storage and sharing of food. The ways in which houses

were constructed, lived in, and abandoned leads to a broad discussion of settlement and social organization at Çatalhöyük, and of change over time. For example, shifts in the themes that occur in paintings in houses evolve as part of a wider set of social, economic, and ritual changes in the upper levels. The social uses of materials and technologies are explored, as well as the roles of materials in personal adornment. Finally, the discussion of variation through place and time is recognized as dependent on scales of analysis and social process.

### The Excavation of the Prehistoric Burial Tumulus at Lofkënd, Albania

*John K. Papadopoulos, Sarah P. Morris, Lorenc Bejko, and Lynne A. Schepartz*

The burial tumulus of Lofkënd lies in one of the richest archaeological areas of Albania, ancient Illyria, home to a number of burial tumuli spanning the Bronze and Iron Ages of later prehistory. Some were robbed long ago, others were reused for modern burials; just a few were excavated under scientific conditions. Modern understanding of the pre- and protohistory of Illyria has largely been shaped by the contents of such burial mounds. What inspired the systematic exploration of Lofkënd by UCLA was more than the promise of an unlooted necropolis; it was also a chance to revisit the significance of this tumulus and its fellows for the emergence of urbanism and complexity in ancient Illyria. In addition to artifacts, the recovery of surviving plant remains, bones, and other organic material contributed insights into the environmental and ecological history of the region. The analysis

of the skeletal remains, both inhumed and cremated, enhanced knowledge of the demography and human population in this region of Albania.

### New Insights into the Iron Age Archaeology of Edom, Southern Jordan

*Edited by Thomas E. Levy, Mohammad Najjar, and Erez Ben-Yosef*

Situated south of the Dead Sea, near the famous Nabatean capital of Petra, the Faynan region in Jordan contains the largest deposits of copper ore in the southern Levant. The Edom Lowlands Regional Archaeology Project (ELRAP) takes an anthropological archaeology approach to the deep-time study of culture change in one of the Old World's most important locales for studying technological development. Using innovative digital tools for data recording, curation, analyses and dissemination, the researchers focused on ancient mining and metallurgy as the subject of surveys and excavations related to the Iron Age (ca. 1200–500 B.C.E.), when the first local, historical state-level societies appeared in this part of the eastern Mediterranean basin. This comprehensive and important volume challenges the current scholarly consensus concerning the emergence and historicity of the Iron Age polity of biblical Edom and some of its neighbors, such as ancient Israel.



PHOTO: EMILY UYEDA KANTRIM.



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