

IN
SITU





In Situ

News and Events of the Harvard Standing Committee on Archeology

Middle Eastern Archaeology from the Air and Space

Jason Ur, Harvard University Department of Anthropology

In our pursuit of ancient sites and landscapes, archaeologists use a variety of tools—most famously, trowels, picks, and shovels. For many of the questions we have about the past, these tools just aren't up to the task. For “big” questions, and here I mean big in a spatial or geographical sense, it is simply not possible to excavate your way to an answer. How can you dig an ancient road network? Excavate an irrigation system? For a lot of questions about early cities, empires, and their landscapes, no amount of digging will provide suitable data to answer them.

For these questions, we need information at a regional or landscape scale, and therefore archaeologists have turned to remote sensing. High resolution satellite imagery has been available for over a decade, but it is expensive for budget-minded archaeologists (which is, unfortunately, all of us) and in any case it captures the modern landscape, which is almost globally degraded by industry, development, surging urbanization of the 20th and 21st centuries.

Archaeologists have, therefore, made great use of historical photographs, ones that predate the great changes of the late 20th century—when we can find them. A great leap forward came with the declassification of photographs from the CORONA program, the first US spy satellite program, which was in operation from 1959 to 1972. Archaeologists, especially those like me who work in the Middle East, have found them to be a gold mine of vivid archaeological sites and landscapes, many of which no longer exist. Using CORONA as a guide, I've mapped over 6,000 kilometers of trackways of the Early Bronze Age (ca. 2600-2000 BC) in north-eastern Syria, several hundred kilometers of irrigation canals feeding the cities of the Assyrian Empire (ca. 900-600 BC) in northern Iraq, and thousands of campsites of Shahsevan pastoral nomads (ca. AD 1700 to the present) in northwestern Iran. CORONA photographs are now made available through the website of the US Geological Survey (<http://earthexplorer.usgs.gov>) or viewable through the CORONA Atlas of the Middle East (<http://corona.cast.uark.edu>).

Two recent declassifications promise to be just as revolutionary for archaeology. Photographs from the successor to CORONA, the HEXAGON program (1971-1984) are now available. And aerial photographs from missions flown by U2 spy planes are also declassified (for the Middle East, 1958-

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1960). These two new sources are more challenging to access, since they are held exclusively by the US National Archives and Records Administration (NARA). Because of their volume and sensitivity, film from U2 and HEXAGON are stored in a climate-controlled facility below the ground in Lenexa, Kansas. Researchers must request that film be flown to the NARA facility in College Park, Maryland, where they must be viewed on special light tables in the Cartographic Reading Room. Digital copies cannot be made with scanners, but instead the films must be photographed with an elaborate camera and tripod setup (Fig. 1).



Figure 1 Sarah Martini (Anthropology Class of 2016) photo-graphing HEXAGON film at the National Archive.

For the past two years, I have made two or three trips annually to College Park to view U2 and HEXAGON films. I am primarily interested in imagery of the region of Erbil, the capital of the autonomous Kurdistan Region of Iraq, and also one of the most important cities in the core of the Assyrian Empire (Fig. 2). Since 2012, a Harvard-led project has been mapping ancient settlements, roads, tracks, irrigation, and field systems on the plain of Erbil (see <http://scholar.harvard.edu/jasonur/pages/erbil>). Many of these sites and features can be identified from the ground with difficulty, but we have found that nearly all of them are visible from the air or from space (Fig. 3). Our team first identifies possible sites on CORONA, U2, or HEXAGON imagery, and we then visit them on the ground to confirm our identification.



Figure 2. In January 1960, a U2 plane took this oblique photograph of Erbil as it banked to the left. The ancient citadel mound is clearly visible at the left. More subtle are the traces of the wall of its Assyrian and Medieval lower town, visible as a large oval at bottom and right. This wall feature has long since disappeared beneath modern Erbil (U2 mission 1554, 29 January 1960).



Figure 3. Probably in the 8th or 7th centuries BC, a massive canal was dug on the Erbil Plain, ending in a large basin, visible at right in this HEXAGON image. The basin is over 300 m wide from right to left, and almost 10 m deep. Later, in Medieval times, an Islamic town grew up nearby; its mosque is visible as a square feature at its southern edge (HEXAGON 1202, 1 Feb 1972).

Our focus is on Erbil, but these Middle Eastern missions captured countless sites over a dozen declassified U2 missions (and indeed many more have yet to be released to the National Archives). The U2 archives are especially rich in the Middle



Figure 4. On 2 May 1978, a HEXAGON satellite flew over Nimrud, one of the capitals of the Assyrian empire. Its city wall is visible as a rectangle, with its palace-filled citadel in its lower left corner. At lower right are traces of a massive canal that brought water to the city from 23 km away (HEXAGON 1214).



Figure 5. Seleucia on the Tigris, south of Baghdad, in southern Iraq, ca. 300 BC. It was founded by one of the successors of Alexander the Great, who brought Greek urban design principles to Mesopotamia, here visible through the linear east-west road through the linear east-west road through the site and the transverse streets perpendicular to it. In 1982, when this HEXAGON image was taken, it was a dry ruin surrounded by modern irrigated fields (HEXAGON 1217, 12 June 1982).

East, eastern Europe, China, southeast Asia, and especially Cuba.

HEXAGON captured the entire planet, although with emphasis on Cold War regions, and with frequent revisits. For example, HEXAGON program satellites overflow the Erbil Plain almost two dozen times between 1971 and 1984, providing a bonanza of landscape-scale data that will take our project years to fully analyze.



Figure 6. The urban complex at Tell Brak in northeastern Syria, captured by a U2 plane in January 1960. Tell Brak was one of the earliest cities in the Middle East, growing to urban status about 6,000 years ago. Its high mound is visible by its shadows, and its broad lower city by a halo of discolored soil around it. Beyond are dark radiating lines that mark out ancient trackways leading to the city (U2 1554, 29 Jan 1960).

The sites and features revealed by their images could drive dozens of research projects, from senior theses to PhD dissertations to NSF-funded multi-year field projects. In an increasingly developed and overpopulated world, they are often the only record of remains of the past that have now



Figure 7. On its way from Baghdad to Basra, a U2 plane captured this pair of marsh villages in October 1959. The houses are on islands of mud and reeds, in a sea of reed beds; the dark lines are cleared paths through reed forests that were navigated by boat. By the 1990s, the marshes had been nearly completely drained by the Iraqi government, and few villages like this survived (U2 mission 8648, 30 Oct 1959).



Figure 9. Many U2 missions targeted Egypt, especially Cairo, the Nile Delta, and the Suez canal. This U2 mission made east-west transects over the Delta before following the Nile south. In this oblique tracking camera shot facing south, Cairo is in the middle ground; the three small dots to its right, on the edge of the floodplain, are the pyramids of Giza (U2 mission 8649, 30 Oct 1959).

disappeared. The photographs that accompany this article show only a small glimpse into the ancient world, viewed from above, that survive in the newly released imagery from the National Archive.



Figure 8. Flying from Amman to Damascus, a mission captured this oblique image of the Golan Heights, the Sea of Galilee, and northern Israel out of the left side of the plane. Many U2 flights overflew Israel, but these missions have been systematically excluded from declassification, so only oblique images from the low-resolution tracking camera are available (U2 mission 8652, 19 Nov 1959).



Figure 10. HEXAGON planners spied on the US as well. On 4 Oct 1984 a satellite captured this image of Boston, which includes a bit of landscape archaeology: the massive elevated interstate highway I-93, which bisected the city until its demolition in 2003 (HEXAGON 1219).

A Message from the Chair

Affiliates and Friends of the Standing Committee on Archaeology (SCA):

It gives me great pleasure to have another opportunity to pull together a small set of reflections on some of the many archaeologists that we have here at Harvard for this second installment of our newsletter: *In Situ*. This issue includes a note by Dr. Jeff Quilter, the Director of the Peabody Museum of Archaeology and Ethnology, which is celebrating its 150th anniversary this year. Jeff has reflected for us on one of the millions of objects in the museum collections, a Paleolithic human sculpture associated with the Gravettian culture. A second piece, prepared by Prof. Jason Ur, director of the Harvard Center for Geographical Analysis, provides a view of archaeology from a completely different scale of observation – taking us from the individual object to the scale of landscapes as seen from above. In relation to his ongoing work in the Kurdistan region of Northern Iraq, Prof. Ur has been utilizing recently declassified U2 spy plane photographs available in the National Archive in Washington, D.C., and he introduces us to this sort of remote archaeology. We also include an essay by one of the graduate students at Harvard whose engagement with archaeological research as part of their PhD is being certified with a “Secondary Field” in Archaeology through the SCA within the Graduate School of Arts and Sciences. This issue we have a contribution written by Sarah Porter, a PhD student in the Divinity School, presenting her connections to archaeology within her studies.

Sarah is one of a few PhD students who are conducting archaeological studies as part of their research, but for whom the degree they will receive does not also obviously indicate a thorough training in archaeology. The Secondary Field administered by the SCA provides a way to substantiate and certify this engagement among PhD students in such fields. We also administer a Secondary

Field at the undergraduate level, which aims to accomplish a similar certification for students who have substantially engaged in archaeological coursework and training during their undergraduate studies, but whose concentration is not focused on archaeology.

Our efforts to bring together the many archaeologists on campus in ways that highlight the diversity of activities on campus continue to focus on communicating as much as possible the many related events that are happening on campus, as well as hosting a few of them. Here in the newsletter we highlight the two events that we officially sponsored during the Fall 2016 semester – A fascinating talk titled “Beyond Monumentality – Perspectives for the Ephesos dig in the 21st Century” by Sabine Ladstätter, Director of the Austrian Institute of Archaeology, and an exciting series of presentations titled “Prisoners of War: Durham and the fate of the Scots in 1650” presented by a team of archaeologists from Durham University led by Chris Gerrard. These were only two of a large number of archaeological events on campus this past semester, including celebrations of Archaeology month (October), a series of talks at the Peabody Museum on Race, Representations and Museums, as part of the museum’s 150th celebrations, and many talks hosted by various departments, including Anthropology, Classics, History, Near Eastern Languages and Cultures, the Divinity School, and the Hutchings Center for African and African American Studies, the East Asian Archaeology Seminar, and the Andean Art History and Archaeology Working Group, to name but a few. Since the last issue of this newsletter there have also been several major archaeological gatherings on campus, including the Seventh International Conference of the Society for East Asian Archaeology, the 35th Annual Northeast Conference on Andean Archaeology and Ethnohistory, a symposium on Australia’s deep past organized by the Australia Chair, an international conference of the Moses Mesoamerican Archive, and a series of talks and events associated with the Initiative for the Science of the Human Past. We seek to maintain a relatively comprehen-

sive list of events on our website: archaeology.harvard.edu. Keep your eyes out in particular for an SCA event on Digital Archaeology to take place on February 3-4, 2017.

On this website, in addition to the list of events across campus that have archaeological content, we also list the members of the committee of the SCA who advise the chair on activities we may support and ways to integrate archaeological events at Harvard. In addition, we list the broader group of associates of the SCA, who comprise the larger community of professional archaeologists on campus in various departments, centers, and museums. The Standing Committee is merely an annually rotating subset of this larger group of invested affiliates who really comprise Harvard's archaeological community.

Our archaeological community extends broadly beyond campus as well. As reported in the last issue of *In Situ*, an archaeological field school in Denmark has been run the past couple summers under the supervision of Prof. Stephen Mitchell of the

department of Scandinavian Studies. In addition, preparations are being made for a second Harvard Field School for the summer of 2017 at the site of San José de Moro in Peru. Furthermore, recent agreements between Harvard and other institutions continue to strengthen archaeological studies at Harvard. These include an agreement with the Berlin Graduate School of Ancient Studies, a program in scientific archaeology with the Max Planck Institute in Jena, and an agreement with Sichuan University in China associated with the foundation of the West China Research Institute on the Sichuan University campus.

We are looking forward to an exciting spring semester at Harvard and welcome comments, suggestions, and, most importantly, seeing you at future events. Please contact us at sca@fas.harvard.edu if you have anything you would like to communicate to me or to the Standing Committee, or the Harvard Archaeology community more generally.

-Rowan Flad, John E. Hudson Chair of Archaeology

The Standing Committee on Archaeology at Harvard University is a multidisciplinary group of scholars at Harvard who promote the teaching and research of archaeological work around the world. Visit our website at archaeology.harvard.edu

2016-2017 Standing Committee

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The Grimaldi Figurine: A Return of Sorts

*Jeffrey Quilter, Peabody Museum of Archaeology
and Ethnology*

One afternoon, this past October, I descended from my second floor office in the Peabody Museum to the first floor. Planning to step outside to take in the crisp air of an autumn afternoon, I was distracted by a summons from the desk attendant who informed me that a gentleman, who was standing there, had been asking to see a curator. So, mentally donning my curatorial hat, I stepped up to the desk to greet a distinguished looking gentleman with a gray beard who introduced himself as Duncan Caldwell. As he stated his name, my mind started to search for connections but before I could make them he said, “I am here, in particular, because I had hoped to see the Grimaldi figurine.”

Trying to maintain as plain a poker face as possible while having no idea what he was talking about, I

believe I muttered something such as “And what might you want with the Grimaldi figurine,” or some other bland statement that attempted to hide my ignorance while maintaining an air of competency and authority. Mr. Caldwell then stated that the Grimaldi figurine, was, in fact, the most ancient representation of the human form with incontestable provenience residing in any museum in the United States and that it had been on display at the Peabody in previous times. He spoke with clear authority and quite skillfully so as to not make me, the director of the museum, feel like I was a complete dolt for not knowing what was in my own institution!

At this point, I realized that I was speaking to someone who knew what he was talking about or, at the very least, knew more than me. So, I invited him up to my office. There, we had an engaging conversation in which I learned that Mr. Caldwell is a scholar of repute with a great number of research projects and publications on intriguing topics (see: www.duncancaldwell.com; Caldwell 2009). And then and subsequently I also learned that the Grimaldi “Venus” is indeed believed to be the only uncontested Upper Paleolithic sculpture of a human being in an American institution, dated to the Gravettian archaeological culture of circa 26,000—17,000 B.C.

Found in the Grimaldi Caves of Liguria, Italy, the object is a small (6.2 cm in height) carving in brown steatite. The stone was crudely carved into a female form with an enlarged belly, legs together, and right arm at her side. The left arm is missing and the facial features minimally rendered although a “bob” hairstyle is in evidence. A most distinctive feature is a hole from front to back through the middle of the neck.

After an hour of stimulating conversation on a range of topics, Mr. Caldwell had to depart though we vowed to meet again. I also vowed to check on whether the Grimaldi figurine was still in the keeping of the Peabody Museum and, happily, it is, safe in our vault. I also subsequently learned that the “Grimaldi Caves” consist of a complex of caverns

on the Liguria coast to the French border and that excavations in about eight of them began in the 1880s, attracting the attention of Prince Albert Grimaldi of Monaco for whom the complex was named. The excavations produced many finds associated with Neanderthals and European Early Modern Humans (a.k.a. Cro-Magnons) and about 15 human figurines done in various styles and materials including ivory. The subsequent history of many of these finds make for fascinating tales, including the fact that seven of the figurines surfaced in a Montreal antique store in the early 1990s (Bisson and Bolduc 1994; White and Bisson 1998).

To the best of our knowledge, however, the Peabody's figurine is the only one of its kind in a U.S.

institution. The museum is considering ways to exhibit this object as part of its continuing celebration of its 150th anniversary.

REFERENCES

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Caldwell, Duncan. 2009. Palaeolithic Whistles or Figurines? A preliminary survey of pre-historic phalangeal figurines. *Rock Art Research*, Vol. 26, No. 1: 65-82.

White, Randall and M. Bisson 1998. *Imagerie féminine du paléolithique: l'apport des nouvelles statuettes de Grimaldi*. *Gallia Préhistoire* 40: 95–132.

Secondary in Archaeology

Sarah Porter, PhD Student, Harvard Divinity School

When Antonio Bosio's catacomb excavations began in the seventeenth century, the academic study of earliest Christianity was electrified by proximity to the tangible past. Biblical archaeology developed in answer to twin desires for a purer history and a purer devotion – though each practitioner avowed a different mixture of these motives. I confess that I, too, started my journey as a scholar of religion in hopes that material culture would help me trace the outlines of the body of the Christian tradition. However, I find that now these ancient texts, ancient contexts, and ancient objects convince me more and more that the early Christian tradition was polymorphous and polycephalous.

As a component of my Ph.D. in New Testament and Early Christianity, I am pursuing archaeology as a secondary field. My research concerns an array

of relationships among religious expression, theological development, and material culture. These relationships can be separated into scales or planes, though they are inevitably connected: On a micro-scale, I am interested in the way people in the late Roman Mediterranean expressed religious proclivities through small finds in funerary contexts. On a local scale, I am interested in how early Christians manipulated space, carefully constructing buildings to produce affect in laypeople that would concentrate religious power, like in funerary churches. On a regional scale, I attend to the development of pilgrimage routes, where economic and spiritual capital were circuited simultaneously to benefit church, state, and individuals. I've explored these questions during fieldwork with the American Excavations at Kenchreai (Greece), and I will continue to work on them this summer at the Sardis Expedition. The secondary field in Archaeology has introduced me to wider conversations in global archaeology, strengthened my methodological rigor, and connected me to resources across the Harvard community that I would certainly have overlooked on my own.

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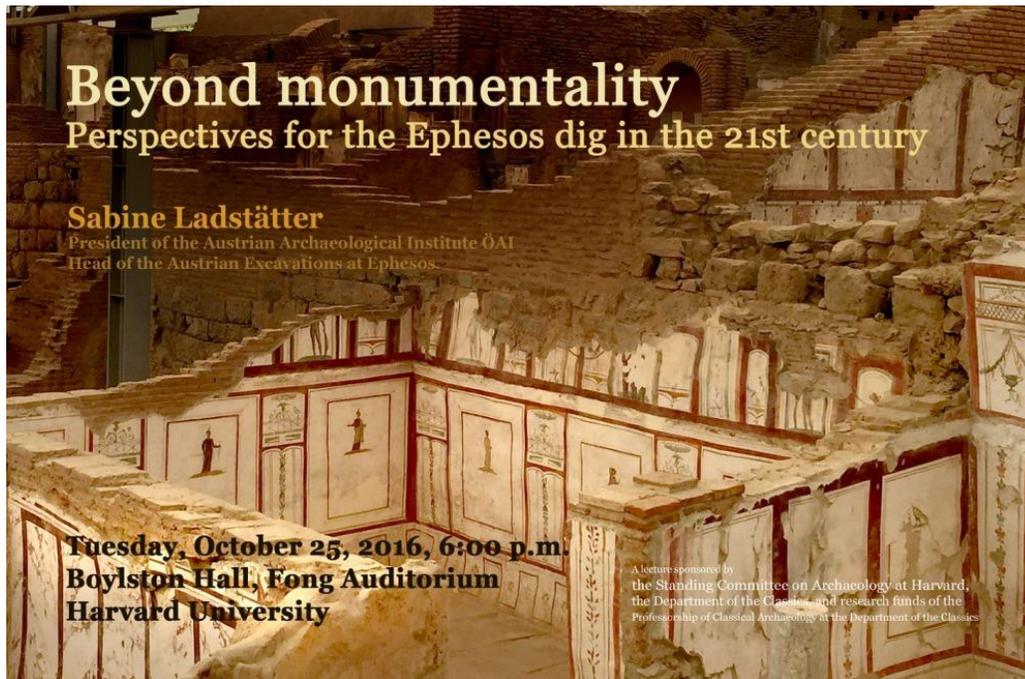
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Seniors with a Secondary in Archaeology

Lorena Benitez
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 Rachel Harner
 Lizzie Pate

Affiliates of the Standing Committee on Archaeology include faculty and staff across the entire university. Our members and affiliates work with and in a range of museums and department on Harvard's campuses.

Fall 2016 Events



Beyond monumentality Perspectives for the Ephesos dig in the 21st century

Sabine Ladstätter

President of the Austrian Archaeological Institute ÖAI
Head of the Austrian Excavations at Ephesos

Tuesday, October 25, 2016, 6:00 p.m.
Boylston Hall, Fong Auditorium
Harvard University

A lecture sponsored by the Standing Committee on Archaeology at Harvard, the Department of the Classics, and research funds of the Professorship of Classical Archaeology at the Department of the Classics

Beyond monumentality: Perspectives for the Ephesos dig in the 21st century

Sabine Ladstätter

Dr. Ladstätter discussed the future of research, conservation, and heritage at Ephesos – an iconic city that is valued by multiple nations.



Prisoners of War: Durham and the Fate of the Scots in 1650

Chris Gerrard, David Cowling, Richard Annis, Anwen Caffell, Pam Graves, and Andrew Millard

Archaeologists from Durham University, UK, told the fascinating history of how prisoners from a seventeenth century battle between England and Scotland came to Massachusetts. Transported to the US as indentured servants, some of the men went on to become successful farmers, and there are now hundreds of descendants of these soldiers living in New England and beyond. The talk explained the research methods used by the archaeologists on human remains, discovered during construction of a new café at Durham University in 2013. This research has helped solve the almost 400-year-old mystery of where hundreds of soldiers, who died whilst held captive in Durham, were buried.



Standing Committee on Archaeology
Harvard University

Chris Gerrard, David Cowling, Richard Annis, Anwen Caffell, Pam Graves, and Andrew Millard Present

PRISONERS OF WAR:

Durham and the fate of the Scots in 1650

Thursday, October 27th; Tozzer 203 12:00pm

Photo courtesy of North News and Pictures



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