

News and Events of the Harvard Standing Committee on Archaeology

Chalcolithic–Bronze Age mound at Girdi Abdulaziz,
Kurdistan Region of Iraq; see page 3

In this issue: Projects focusing on Brazil, Egypt,
Germany, Kurdistan Region of Iraq, and Turkey

In Situ

News and Events of the Harvard
Standing Committee on Archaeology
Spring Semester 2020

Contents

Note from the Chair	2
Drones over Kurdistan	
Jason Ur	3
Peabody Brazil Collections Digitized	
Annie Greco, Jennifer Poulsen, and Zach Williams	8
Anonymous was a Woman: Illuminating the Writing and Art of Religious Women in the Middle Ages	
Christina Warinner and Alison Beach	11
Stories from Sardis	
Rebecca Deitsch, Frances Gallart Marqués, Matilda “Midge” Scheftel, and Sarah Eisen	18
A New Name for the Harvard Semitic Museum	
Peter Der Manuelian	23
Three Ancient Egyptian Coffins at Harvard University	
Peter Der Manuelian	29
The Giza Project: Celebrating Twenty Years of Aggregating Archaeology at the Pyramids	
Peter Der Manuelian	32
2019–2020 Standing Committee; Associated Faculty and Researchers	36
Associates and Visiting Fellows	37
Students with a Secondary in Archaeology; Spring 2020 Events (through COVID-19 stop)	38

Note from the Chair

As this issue of *In Situ* went to press, the COVID-19 pandemic had put a halt on most activities at Harvard and beyond. Nevertheless, the articles presented here came in just before the lockdown, and we are pleased to demonstrate that archaeological research continues.

This issue describes digitization efforts of objects from Brazil in Harvard’s Peabody Museum, drone flights and data captured over Kurdistan, the discovery of lapis lazuli crystals hidden in the dental calculus of a 900-year-old female artist, reports from the long-running excavations at Sardis, the historic renaming of the Harvard Semitic Museum and an interdisciplinary examination of its three spectacular Egyptian coffins, and the 20th anniversary of the Giza Project, documenting archaeological activity at the Pyramids. In addition, we list the events related to the Standing Committee on Archaeology’s mission on campus this semester; many more were unfortunately canceled due to the pandemic.

For fundamental support, both logistical and moral, we thank as always the Dean of Social Sciences, Prof. Lawrence Bobo, and the Dean of Humanities, Prof. Robin Kelsey. Their encouragement allowed us to sponsor archaeological activities over the course of the entire academic year, as well as to bring you these biannual *In Situ* newsletters. We are also indebted to this year’s SCA Student Coordinator, Sara Zaia, who kept us up to date on countless happenings on campus and beyond.

For upcoming events next academic year please check our website, <https://archaeology.harvard.edu>, including our calendar. And questions may be sent to us at sca@fas.harvard.edu. We look forward to putting COVID-19 behind us, returning to the field, and hearing from many of you about your projects for future issues in *In Situ*!

Peter Der Manuelian
SCA Chair; Barbara Bell Professor of Egyptology
Director, Harvard Museum of the Ancient Near East
Director, The Giza Project

In Situ Spring 2020: Edited, typeset, designed, and produced by
Peter Der Manuelian.

Front cover image: The Chalcolithic–Bronze Age mound at Girdi
Abdulaziz in January 2019. Photo by EPAS; see page 3.

Back cover image: Aerial view of the Giza Pyramids. Photo by AirPano,
2011; see page 32.

Anonymous was a Woman: Illuminating the Writing and Art of Religious Women in the Middle Ages

Christina Warinner and Alison Beach

New advances in the physical and archaeological sciences have enabled the remarkable identification of a skilled female artist who died more than 900 years ago. The chance finding of hundreds of lapis lazuli crystals found embedded within her dental calculus were the key to the discovery.

At a Glance

1. Religious women played an important role in medieval book production and religious art, but poor record preservation and medieval conventions of humility have reduced their visibility in the historical record.
2. Archival detective work, including approaches such as comparative handwriting analysis, is steadily uncovering women scribes and artists whose identi-

ties had been previously subsumed under the veil of “anonymous.”

3. Advances in archaeological science have led to the development of a new method for identifying scribes and artists in medieval cemeteries.

From 1988–1992, the stone foundations of a small, medieval Frauenkloster were excavated on the grounds of the Landesmuseum für Klosterkultur in Lichtenau, Germany (figure 1). The excavation was organized by the Westphalian Museum of Archaeology as part of a renovation plan for nearby buildings, and during the course of the excavations, the architectural remains of a 9th–14th-century women’s religious community were uncovered, consisting of a church, chapel, and a parish cemetery. Like many women’s communities from this time, little is known about it. Archaeological evidence suggests that its

stone church was first constructed in the 9th century and expanded around the 11th or 12th century. The few surviving fragmentary records, dating to AD 1244, 1264, and 1278, describe it as a small house of Augustinian canonesses attached to a church dedicated to St. Peter. It was destroyed in a 14th-century fire, leaving behind few traces of the women who once lived there beyond a broken comb, a spindle whorl, and a cemetery.

During excavations, the remains of approximately 150 individuals were removed and transferred to the University of Mainz, where they became part of the university’s



Figure 1. Stone foundations of the Dalheim Frauenkloster. The Frauenkloster was excavated in 1989, revealing a large medieval cemetery along its northern side (partially beneath the modern building in the photograph). Until its destruction in a 14th century fire, the Frauenkloster served a small religious community of approximately 14 women. Photo by Christina Warinner.

archaeological research and teaching collections. Twenty years later, facing space constraints and university budget cuts, they were slated for cremation and reburial when they found a new home at the University of Zürich in the Institute for Evolutionary Medicine (IEM) under the direction of Dr. Frank Rühli. And that is when I first came to work on the rather remarkable Dalheim skeletal assemblage.

Medieval cemeteries in Europe are important to biological anthropologists, in part because they provide a rare opportunity to study many individuals from a single time and place, and through bioarchaeological and genetic analyses, they have provided unparalleled information about the history of health and disease—from patterns of bone loss during aging to the identification of the cause of the Black Death. In 2010, I began working with the Dalheim

assemblage in a study on oral health and periodontal disease. Specifically, the goal of the project was to determine whether dental calculus preserved sufficient DNA from dental plaque to be able to identify the bacterial pathogens involved in periodontitis during the Middle Ages. We accomplished this goal and more, discovering that dental calculus is in fact the richest known source of ancient DNA in the archaeological record and reconstructing the genome of *Tannerella forsythia*, a species of bacteria associated both today and in the past with periodontal disease. But along the way we made an unexpected discovery—the presence of thousands of tiny, brilliantly blue crystals embedded within the dental calculus of an otherwise unremarkable woman who had died in middle age (figure 2), a woman now known only by her burial code: B78.



Figure 2. The lower jaw of Dalheim individual B78 showing the heavy dental calculus buildup on the teeth. Hundreds of lapis lazuli crystals were found embedded within these deposits. Photo by Christina Warinner.

Blues of the Middle Ages

The color blue is rare among natural minerals. During the Middle Ages, only a handful of blue mineral pigments were known, among them ultramarine, a pigment refined from the ornamental stone lapis lazuli (figure 3). Mined from a single source in Afghanistan, lapis lazuli was traded overland to artistic centers in the Islamic world, where it would have been refined through oil flotation into costly ultramarine and then shipped by sea to Europe via Venetian merchants—a journey of more than 2,000 km. Cheaper blues were also known, such as the common copper carbonate azurite, and at various times and places vivianite, cuprorivaite (Egyptian

blue), and cobalt smalt were also available (figure 4). Blue minerals were highly prized as pigments in medieval art, and one of the most striking contrasts between late Roman and medieval art is the vibrant proliferation of blue in the latter.

When we first observed the blue crystals in the dental calculus of B78, we didn't quite know what to make of it. Anita Radini, then a graduate student on the project, was the one who made the initial discovery. Under the microscope, she had first observed a wide variety of microdebris in the dental calculus of B78, including wheat starches and plant tissues from long-forgotten meals, microcharcoal likely originating from smoke or soot, yeast cells, and degraded organic material. Such accumulations of the detritus of everyday life are commonly found in dental calculus and have been observed even in Neanderthals. But scattered across the calculus of B78, and often deeply embedded within it, she observed something never seen before—numerous vibrant blue particles, each smaller than the width of a human hair (figure 5).

Teaming up with microscopist Monica Tromp and physicist Roland Kroger, we applied scanning electron microscopy energy dispersive spectroscopy (SEM-EDS) and micro-Raman spectroscopy and identified the elemental composition and mineral structure of the crystals as lazurite, $(\text{Na,Ca})_8[(\text{S,Cl,SO}_4,\text{OH})_2(\text{Al}_6\text{Si}_6\text{O}_{24})]$, the mineral responsible for giving lapis lazuli its blue color. We also discovered that one of the colorless minerals co-associating with lazurite was phlogopite, $\text{KMg}_3\text{Al-Si}_3\text{O}_{10}(\text{F,OH})_2$, a type of mica that only co-occurs with lazurite in natural lapis lazuli stone. Moreover, the lazurite and phlogopite we observed were finely ground, suggesting they had entered the mouth of B78 as a prepared powder, such as a pigment.

But these findings raised far more questions than they could answer, and most importantly why was there lapis lazuli pigment in the dental calculus of a

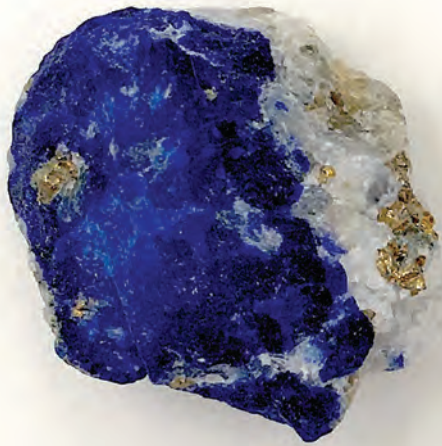


Figure 3. During the European Middle Ages, Afghanistan was the only known source of the rare blue stone, lapis lazuli. Lapis lazuli contains different minerals that contribute to its unique appearance, including lazurite (blue), phlogopite (white), and pyrite (gold). Photo by Christina Warinner.



Figure 4. Blue mineral pigments known to artists of the Middle Ages: ultramarine (lapis lazuli), azurite, vivianite, cuprorivaite (Egyptian Blue), and cobalt smalt. Photo by Michelle O'Reilly.

woman buried more than 900 years ago in a rather small and out-of-the-way place like Dalheim? For this we needed the help of historians, and we turned to Professor Alison Beach, a leading expert on women's monastic communities in medieval Germany.

Religious Women in the High Middle Ages

Dalheim was one of the many religious communities for women in Germany during High Middle Ages, a period that extended roughly AD 1000 to 1300. During B78's lifetime, many of these communities were quite small and informally organized, often little more than a cluster of dwellings around a parish church. Other monastic communities were more formally organized, and many followed the 6th-century Rule of St. Benedict. Some housed both women and men under the guidance of a single spiritual leader. The clerics who wrote about these dual-sex communities often enumerated the strict rules put in place to limit interaction between women and men. Direct physical contact between the sexes was carefully restricted to spiritual services such as hearing confessions and celebrating the mass. The primary focus of medieval religious communities was prayer, punctuated by periods of devotional reading and manual labor.

Book Production

One important type of manual labor practiced in many medieval religious communities was copying and painting books. These included the richly

produced books used for Mass, the Divine Office (the daily round of communal prayer) and Biblical texts, as well as for more modest volumes of texts geared toward biblical study and devotion. We know that women were among the scribes who produced these books in the High Middle Ages, as they are named in a variety of written sources, including charters, book-lists, necrologies (lists of the dead used for commemorative prayer), and even in the prefaces to texts that they helped to take down in dictation and copy. In some cases, women identified themselves as scribes or artists in a colophon (a writer's identifying mark), and in a few very rare cases they even left behind a self-portrait (see Box 1).

Medieval Women Scribes and Artists

Records from medieval women's monasteries are generally scarce, and as a result it is unclear how widespread book production was within them. Surviving records from a handful of important centers of book production, however, provide a glimpse of the kinds of scribal and artistic work that women performed during the Middle Ages.

At the monastery of Admont in modern-day Austria, for example, nuns and monks worked together to compose sermons and biblical commentaries in the late 12th century. The monk Irimbert of Admont credits two nuns—Irmingart and Regilind—with secretly writing down the sermons that he preached to them through a small window in their locked cloister. The two women subsequently turned

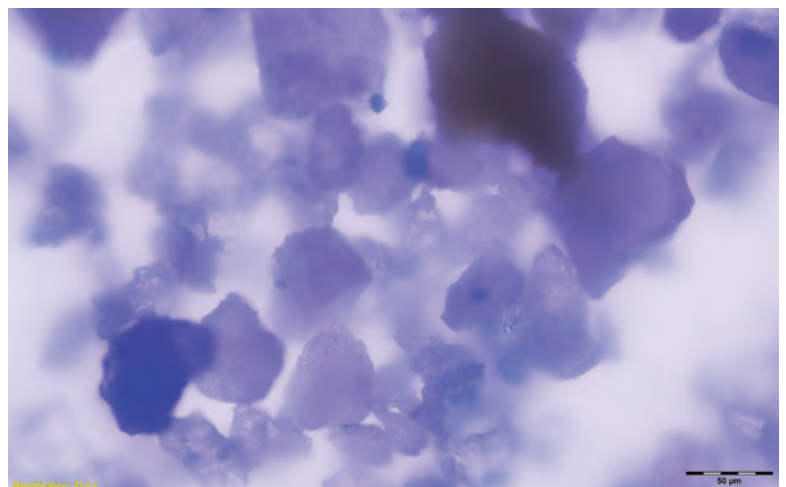


Figure 5. Magnified view of blue lapis lazuli crystals recovered from the dental calculus of Dalheim individual B78. Photos by Christina Warinner and Michelle O'Reilly (left); Monica Tromp (right).

their notes (probably taken down on wax tablets), first into draft manuscripts, and then into polished versions of Irimbert's sermons. These manuscripts are still preserved today. Irmingart and Regilind also collaborated with a number of anonymous nun-scribes, producing several additional surviving manuscripts. While none of these women signed her own name to her work, one 12th-century nun-scribe identified herself while testing out her pen, writing "Ego soror Margareta" ("I Sister Margareta") on the flyleaf of a manuscript used by Admont's women (figure 6).

Lippoldsberg, a women's monastery located just ca. 60 kilometers east of Dalheim, was home to at least one highly skilled female scribe and artist in the 12th century. A letter exchange dating to 1140 to 1168 (nearly contemporaneous with B78) shows Sindold, the monk charged with keeping and correcting the books for the male monastery of Reinhardsbrunn, sending Sister "N" of Lippoldsberg enough parchment, leather, pigment, and silk for the "skillful" production of a deluxe matutinal (liturgical book). Sister N writes back, apologizing for the delay in completing the requested book, noting that she expects to have the work completed by Easter, and complaining that Sindold had not sent enough parchment for the job. Sister N must have had a reputation as a highly skilled producer of deluxe manuscripts to have been commissioned with producing a book for use well beyond her own community.

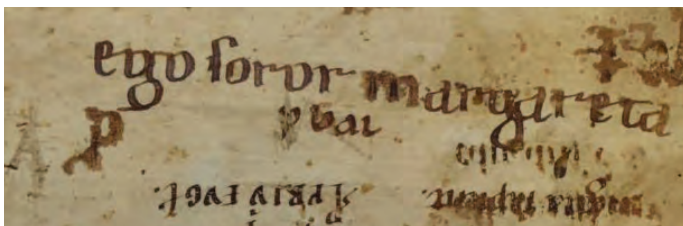


Figure 6. Ego soror Margareta. Photo by Alison Beach.

One of the most well-known women's monasteries was that of Rupertsberg, founded in 1147 by Hildegard of Bingen (see Box 1), who took up residence there in 1150 with eighteen noble religious women. There she composed music and authored books, including the *Liber Divinorum Operum*, which contains more than ten portraits depicting her in the act of recording her religious visions on wax tablets (figure 7). While there is no evidence that Hildegard

herself copied or illustrated any of the many texts that she authored, she did likely supervise the production of a lavishly illustrated copy of her *Liber Scivias* at Rupertsberg. Although the Rupertsberg *Scivias* was lost during World War II, its creation attests to the presence at the monastery of skilled female copyists and artists during Hildegard's own lifetime.

Another 12th-century copy of Hildegard's *Scivias*, now housed at the University of Heidelberg, was illustrated in the late 12th century by two artists who used lapis lazuli pigment to color the many images in the manuscript. Because this latter book was likely produced at the monastery of Zwiefalten, a double monastery known to have had an active scriptorium staffed by the community's nuns in the 12th century, it is possible that these artists were women. The twelfth-century female scribe Mathilda von Neuffen is commemorated in Zwiefalten's 13th-century necrologies as a prolific creator of books for the monastery. A number of liturgical books that are probably in Mathilda's hand are still extant, now preserved at the Württembergische Landesbibliothek in Stuttgart.

The Religious Women of Dalheim

Although no books and very few records survive from the women's community at Dalheim, the finding of lapis lazuli pigment in the dental calculus of B78 suggests that the religious women of Dalheim not only produced books, but produced books of exceptional value and quality. During the twelfth century, lapis lazuli pigment was exceedingly expensive. Refined from raw lapis lazuli stone imported over great distances, it had to be laboriously purified using oil flotation in order to concentrate its blue color, and less than five percent of the raw stone was converted into a functional pigment, a factor that greatly contributed to its price. Access to it at this time would have been rare and almost certainly restricted to religious artists engaged in manuscript illumination.

The discovery at Dalheim adds to a growing appreciation of the role of medieval religious women in the production of books, and it deepens our understanding of female contributions to the spiritual and intellectual revival of the high Middle Ages. On a personal level, though, B78 emerges as something more. Here we meet an individual: a female artist who had been lost to history and was now found. Anonymous in death and with no surviving texts or records to her name, the only clue to her once



Figure 7. Portraits of Guda, Hildegard of Bingen, Gisela von Kerzenbroeck, and Guta of Schwarzenhann. The images of Guda and Gisela are self-portraits. Note that Gisela indicates her identity by adding her name in red ink above her head. Photos are in the public domain.

extraordinary life was the microscopic debris of her pious labor. Her body had become the archive.

Transcending Disciplinary Boundaries

The recovery of a lost artist at the medieval women's community of Dalheim was made possible because archaeologists, physicists, and historians were willing to work together to address a complex problem with open minds and a collaborative spirit. By crossing disciplinary boundaries, we were able to identify evidence where none had been seen before.

Dental calculus offers an unexpectedly rich window into the lives and activities of past people. Forming over a lifetime through the periodic calcification dental plaque, it becomes an archive of our lives, accumulating a diverse range of microdebris that we encounter during our everyday lives. The study of dental calculus offers great potential for identifying not only monastic artists, but all those engaged in 'dusty' arts and crafts, from brick makers

to basket makers to blacksmiths. Recently our team member Anita Radini, now a Research Fellow at the University of York, was awarded a Wellcome Trust research fellowship in the medical humanities to apply this approach to investigate craftworkers in ancient Egypt.

Today's fragmentary historical record, male biases in record keeping, and the propensity of religious women to leave their work unsigned have conspired to erase many of the artistic labors of medieval women from both scholarly and popular memory. But the finding of lapis lazuli in the dental calculus of B78 at Dalheim turns this narrative on its head and opens new paths for recovering the lost histories of medieval women and other marginalized groups. We are thrilled to be able to carry this work forward and to continue to apply scientific methods and historical detective work to reconstruct lost lives and erased histories.

Sources

- Beach, A.I., 2014. "Mathilde of Neuffen and the Female Scribes of Twelfth-Century Zwiefalten," in *Medieval Nuns' Literacies: The Hull Dialogues*, eds. Virginia Blanton, Veronica O'Mara, and Patricia Stoop (Brepols Publishers, 2014), pp. 33–50.
- Beach, A.I., 2004. *Women as Scribes: Book Production and Monastic Reform in Twelfth-Century Bavaria*. Cambridge University Press, 2004.

Box 1. Notable Female Scribes and Artists of the Middle Ages

Monastic book production was seen as a type of pious labor, and most medieval scribes and illuminators—both female and male—remained humbly anonymous. Women even more than men may have felt the call to humility, and this is one reason that we know the names of more male than female book producers in the Middle Ages. Today, the identities of most of these women scribes and artists are lost to us, but biographical details survive for a few. Below are five notable women scribes and artists from the 10th–13th centuries:

Ende

One of the artists whose work is preserved in a richly illustrated tenth-century copy of the Commentary on the Apocalypse by Beatus of Liébana (originally written in the 8th century) was Ende, described in a colophon as “a painter and servant of God.” Ende may have been a nun at the double monastery of Tábara where the book, known as the Gerona Beatus, was likely produced. Ende worked alongside a male colleague, Emeterius, to produce the illustrations. The Gerona Beatus offers the earliest documented example of the use of lapis lazuli by a female book painter.

Guda

The 12th-century religious woman Guda is one of the earliest medieval artists to have left behind a self-portrait (figure 7). She identified herself as the scribe and painter in a colophon in a book of homilies (commentaries that followed a reading of Scripture): “Guda, a sinful woman, copied and painted this book.” The name of her community, which was located in the Middle Rhine Valley, is unknown. The type of blue pigment that Guda used in the manuscript has not yet been analyzed.

Diemut of Wessobrunn

Diemut was an *inclusa* (a woman confined to an enclosure) associated with the male monastery Wessobrunn in the late 11th and early 12th century. She was also a proficient and prolific scribe, as book lists dating to the 12th and 13th century attest. Diemut copied nearly 50 manuscripts, including Biblical texts, liturgical books, biblical commentaries, and saints’ lives. In ca. 1130, the monastery exchanged a two-volume Bible for an entire estate, suggesting their high value.

Guta of Schwarzenenthann

Guta of Schwarzenenthann was a mid-12th century canoness at the Augustinian dual-sex monastery of Marbach in the Alsace region. Working together with the monk Sintram von Marbach, they produced a manuscript now known as the Codex Guta-Sintram, which served as a prayer book, calendar, medicinal, account of martyrs and a necrology for the monastery. Guta wrote the text, while Sintram provided the illustrations, and portraits of both Guta (figure 7) and Sintram appear in the manuscript.

Gisela von Kerssenbrock

Gisela von Kerssenbrock was a nun at the Cistercian monastery of Marienbrunn in Lower Saxony at the end of the 13th century. Her only surviving work is her sumptuous Golden Gradual (a book for use in the liturgy), which contains fifty-three large decorated initials and more than 200 smaller ones, some painted with gold. Gisela’s self-portrait (figure 7) appears twice within the manuscript.

- Bos, K.I., Schuenemann, V.J., Golding, G.B., Burbano, H.A., Waglechner, N., Coombes, B.K., McPhee, J.B., DeWitte, S.N., Meyer, M., Schmedes, S. and Wood, J., 2011. "A draft genome of *Yersinia pestis* from victims of the Black Death." *Nature*, 478 (7370), p. 506.
- Campbell NM. "Imago expandit splendorem suum: Hildegard of Bingen's Visio-Theological Designs in the Rupertsberg Scivias Manuscript," *Eikón / Imago* 4 (2013, Vol. 2, No. 2), pp. 1–68.
- Dodds J.D. *The Art of Medieval Spain, AD 500–1200*. New York: Metropolitan Museum of Art, 1993, p. 128.
- Henry, A.G., Brooks, A.S. and Piperno, D.R., 2011. "Microfossils in calculus demonstrate consumption of plants and cooked foods in Neanderthal diets (Shanidar III, Iraq; Spy I and II, Belgium)." *Proceedings of the National Academy of Sciences* 108(2), pp. 486–491.
- Mays, S.A., 1996. "Age-dependent cortical bone loss in a medieval population." *International Journal of Osteoarchaeology* 6(2), pp. 144–154.
- Niemeyer W. "Gründung und Erinnerung in der Geschichte des Klosters Dalheim." *Mitteilungen der deutschen Gesellschaft für Archäologie des Mittelalters und der Neuzeit* 27 (2014), pp. 215–226.
- Oliver, J., *Singing with Angels: Liturgy, Music, and Art in the Gradual of Gisela von Kerssenbrock*. Turnhout: Brepols, 2007.
- Pieper R. *Kloster Dalheim: Eine kurze Geschichte*. Landschaftsverband Westfalen-Lippe, 2000.
- Radini, A., Tromp, M., Beach, A., Tong, E., Speller, C., McCormick, M., Dudgeon, J.V., Collins, M.J., Rühli, F., Kröger, R. and Warinner, C., 2019. "Medieval women's early involvement in manuscript production suggested by lapis lazuli identification in dental calculus." *Science Advances* 5(1), eaau7126.
- Warinner, C., Rodrigues, J.F.M., Vyas, R., Trachsel, C., Shved, N., Grossmann, J., Radini, A., Hancock, Y., Tito, R.Y., Fiddymment, S. and Speller, C., 2014. "Pathogens and host immunity in the ancient human oral cavity." *Nature Genetics* 46(4), p. 336.
- Weis, B., Bachoffner, P., Cames, G., Châtillon, J., Étaix, R., Parisse, M., Popin, M., Siegwart, J., Verheijen, L., Vogel, C. and Will, R. eds., 1983. *Le Codex Guta-Sintram: manuscrit 37 de la Bibliothèque du Grand Séminaire de Strasbourg*. Éditions Facsimilés.
- Christina Warinner is Assistant Professor of Anthropology, Department of Anthropology, Harvard University. Alison Beach is Professor of Medieval History, Department of History, University of St. Andrews.*

Stories from Sardis

Rebecca Deutsch, Frances Gallart Marqués, Matilda "Midge" Scheftel, and Sarah Eisen

The Archaeological Exploration of Sardis (www.sardisexpedition.org) administered at the Harvard Art Museums completed its sixty-second consecutive season of excavation this past summer with the permission of the Ministry of Culture and Tourism of the Turkish Republic. For two and a half months from June until mid-August some seventy students, scholars, and specialists from Harvard, institutions in Turkey and throughout the world, along with over eighty members of the local communities investigated the ancient site in western Turkey, a palimpsest of civilizations with a storied past from the Bronze Age through to the Ottoman periods, and most famous for its role as capital of the Lydian empire. The dig offers students extraordinary opportunities to gain academic, professional, cultural, and life skills while contributing to the entire process of

discovery, archaeological research, conservation, and publication. The following accounts bring to light the experience of undergraduate and graduate students, as well as a post-doctoral fellow at the Harvard Art Museums participating in fieldwork at two areas in the center of ancient Sardis: Field 49 and Field 55.

Field 49

Rebecca Deutsch is a PhD Candidate, Classical Philology, Department of the Classics, Harvard University:

Last summer I had the opportunity to excavate for five weeks at Sardis, an experience which excellently complemented my literary endeavors. I was put in charge of a steep, rocky, and freshly opened trench in Field 49 (figure 1). On my (terrifying) first day, I arrived on the side of a mountain and met my group

