



ARCHAEOLOGICAL EXPLORATION OF SARDIS

FIRST NEWSLETTER FROM SARDIS, 2021

July 21, 2021

Dear Friends and Supporters,

We are so fortunate to be here at Sardis again, in the midst of a busy and exciting field season at this extraordinary site. Preparations were tense in the spring as the pandemic grew and ebbed, and I would have laid better-than-even odds that we would have to call the season off, or at best have a bare-bones season as we had in 2020. But with lots of help from the Turkish Ministry of Culture and Tourism, the Turkish Ministry of Foreign Affairs, from Harvard University, and from many friends and colleagues, Bahadır Yıldırım (Harvard Art Museums) and I were able to get the necessary permissions to hold a diverse season of digging, depot and lab work, study and publication. It's always a pleasure to meet with old friends again in these familiar and stimulating surroundings, but a particular joy this year after so many

months of isolation. We came with big plans, but a smaller team than usual for social distancing. And while wearing masks in the field is sweaty and dusty, and nobody likes having their noses and throats swabbed every week for PCR tests, we do enjoy eating alfresco in the gentle breeze beneath the stars, with the company of our fast-growing but relatively well-behaved new puppy, Bubbles, and a growing crowd of hungry cats and kittens.

We're excavating in some of the same sectors as in previous years. Will Bruce (University of Kansas) is again on Field 49, cashing in on his many

years of investment in careful dissection and removal of Roman and Hellenistic levels. These were interesting and productive (see the articles in 2019's publication about Hellenistic Sardis, *Spear-Won Land*, edited by Paul Kosmin and Andrea Berlin); but after careful documentation, we removed late strata in order to excavate what remains of the Lydian palace beneath. It may be over-confident to say "palace" with such assurance; but the building Will is exposing is worthy of the name. He now has part of a huge structure, perhaps a terrace or entrance. A short stretch had been discovered a few years ago by Julia



Fig. 1. At our newly shaded tea and meal table Bubbles succeeds in getting attention and treats from conservator Michael Morris.



Fig. 2. On Field 49, Will Bruce has uncovered the single surviving course of a monumental wall belonging to the Lydian palace—turning a corner in the center of the photo, white limestone at left, dark rougher stones beyond. Will (striding at right) cleans the top of the destruction level with a new battery-powered leaf blower, removing every speck of dust and bringing out the colors and details of the complex fallen brick debris. Architect Micah Tichenor (Barton Ross Architect) draws the small mudbrick platform in front of the Lydian wall, while Burçin Güzel (standing, Ege University) helps Ehsan Behbahani Nia (seated, University of Wisconsin-Madison) measure the Hellenistic wall built out of Lydian blocks.

Fig. 3. This photo shows better the variety of finely-worked Lydian blocks built into the Hellenistic wall on Field 49, and the challenge Ehsan faces of drawing all its textures and details. For instance, the long smooth block in the middle of the wall has a slightly differently-worked square in its center where, in the block's original use, a handling boss was left protruding to help shift the block into place, and then was trimmed away, leaving only its shadow in differently-oriented chisel marks. Such handling bosses are rather rare in Lydian masonry. Ehsan broke his foot just a couple days before he was scheduled to fly, so he was frustratingly laid up in the US for the first part of the season, but now gamely makes his way on crutches down into Will's trench to draw, helped here by Baha's son Yunus (in the cool sunglasses), with Baha watching.

Judge, made of beautifully cut limestone masonry as fine as anything found at Sardis so far. The wall turns a corner, and we expected the fine limestone construction to continue into the undug area, so in typical Sardian fashion, it didn't. Instead, the construction turns to rougher boulders, using the expensive limestone only for the corner. But that's interesting too. There are other signs of "low-bid" construction here, with exterior work done to the most exacting precision, but the interior of the wall filled with loose rubble with big cavities between the stones. This has the side effect of making the wall an ideal home for a family of snakes that sometimes comes out to visit Will and his workmen.

In front of this wall, Will has dug down to the very top of a layer of red burned mudbrick and black charcoal, which we believe is the destruction layer from the Persian capture by Cyrus in 547 BC. (After years of controversy, this date was just confirmed this spring by a new re-reading of a Babylonian tablet in the British Museum.) Peeking through the destruction debris is a rectangle made of a single row of mudbricks and filled with gravel, the stub of some taller structure that has almost completely eroded away. Its significance is unclear; I envision a sort of platform against the terrace wall, for a human or perhaps a divine guard; but we really don't know yet. We anxiously await Will's excavation of the red destruction debris and exposure of this final moment of the Lydian empire, when Croesus was captured or killed, his city burned and

abandoned. In other parts of Sardis this destruction layer has produced remarkable assemblages of pottery and other artifacts, and even human casualties, buried and protected from erosion and looting by a thick layer of debris. This is our first exposure of undisturbed destruction debris on this hill, but the layer seems very thin and eroded, and we so far have no hints of any rich deposits of artifacts beneath.

The fine masonry and valuable contents of the buildings on top of this terrace apparently attracted looters and stone-robbers for centuries after the destruction, leaving almost nothing for us to find; Will's is the best-preserved area we have found so far. But finely-cut stone blocks from Lydian buildings were reused later in Hellenistic structures, and those reused blocks are even more beautifully trimmed than the masonry he has in situ. They are also made of marble, finer and harder than limestone, and very rare in Lydian architecture. Recording and studying these reused spolia is the job of architect Ehsan Behbahani Nia, who is drawing at a large



scale a Hellenistic wall built entirely from spolia, and examining the chisel marks, clamp cuttings, and other details of the earlier stones to tease out what he can about the palace to which they once belonged.

Two teams are excavating on the terrace below, called Field 55, in the Late Roman house which occupied the site of one of Sardis' most important early Roman sanctuaries. In 2019 we had dug part of a marble-paved courtyard, and one ambitious goal of this year is to excavate the rest of this court. Hakan Aycan (Ege University) began the trench, and when he had to leave for the excavations at Klaros, Frances Gallart Marqués (recently of Harvard Art Museums) took over. Frances is now uncovering



Fig. 4. Below, at the Roman house in Field 55, Frances Gallart Marqués is studying the fallen columns and masonry that buries the pavement of her courtyard. The marble floor at right was excavated in 2019; the green shelter protects the wall painting slumped from the wall of the court.



Fig. 5. Süheyla Şimşek (Ankara University), Sevinç Akça (Sart), and Jen Kim (Autry Museum of the American West) cleaning and consolidating the wall painting in Frances' trench. The wall painting is still covered with mud, and the wall has been split by the final earthquake and the two halves displaced by some inches.

Fig. 6. Frances with some of the well-preserved wall painting after the conservators have finished, which mimics expensive yellow-, red-, and purple-veined marbles.

fallen columns and collapsed brickwork that fill much of the courtyard, slowly filling out our picture of this richly-built space. Reflecting the wonderful Late Roman love for variety, she has one carefully-carved Ionic column capital, and an equally well-carved Corinthian capital; both were probably reused from earlier buildings. Nearby is another fallen marble block, reused in a wall of the house but once a very distinctive inscription. The mason had a peculiar way of writing his S's backwards—and this made it instantly apparent that this was the top half of an inscription published a couple years ago by Georg Petzl, now built into a late phase of the terrace wall nearby. This helps us link the construction of different areas.

Frances and Hakan have satisfyingly found the west wall of the court, showing that it was almost 40 feet across—an impressive space—and decorated with brilliant frescoes imitating colored marble. The fresco is quite well preserved in places, but in other spots, has slumped into the earth in front, mixed with fallen painted plaster from the ceiling.

This wreckage is the detritus of the seventh-century earthquake that left the house, and much else at Sardis, in ruins, never to be cleared or reoccupied. This dramatic change in fortune from a thriving (or at least standing) house to a pile of rubble often misleads me into thinking of this earthquake as the end of the ancient city, or at least the lower city; the acropolis is a completely different

story. But Frances and Hakan found fascinating evidence of later occupation here, in the form of two Byzantine lead amulets and a lead seal. One amulet, and probably the other as well (it's damaged), depicts on one side a small face surrounded by serpents' heads, and on the other side, a rider led by an angel trampling and spearing a fallen figure. As Marcus Rautman (University of Missouri) explains to me, they are of a relatively well-known type: the side with the face and snakes may represent (and on other examples is labeled as) "Hystera," or "womb," which was believed in antiquity to wander and cause various ailments (in men as well as in women!). On the other side, the fallen figure is the she-demon Gylou or Abyzou, who harms children



Fig. 7. One of the two lead amulets as just discovered by Frances, uncleaned and still hiding its fascinating story.

Figs. 8–9. After cleaning, one of the amulets reveals itself: the head with snakes, not Medusa but a uterus; and a rider spearing a she-demon on the back. The other amulet is much harder to read but seems similar. The lead artifacts have been coated to make them safe to handle.



Fig. 10. In a small room off Frances' court, Gencay is teasing out the history of the space, such as the dividing wall built over the remains of an earlier lime-slaking pit still filled with white quicklime.



Fig. 11. Conservators Ameya Grant (NYU/IFA Conservation Center) and Süheyla Şimşek carefully excavate and lift a shattered glass window in Gencay's room. Although the room was empty and apparently uninhabited, its windows had not been salvaged, although window glass was expensive in antiquity, perhaps suggesting that the house was not really abandoned.

and pregnant women out of jealousy since she cannot herself conceive. The Holy Rider (Solomon or Saint Sissinius) spears and destroys this demon, so protecting the wearer of the amulet from harm. Inscriptions on similar amulets call upon the womb, “black, blackening...”, to settle in its proper place, or proclaim “help the womb,” “for the benefit of the womb,” or quote from one of the Psalms. Such amulets may have been intended to protect pregnant women and women in childbirth, but were probably used by other people as well. For somewhat similar amulets in the Harvard Art Museums, <https://hvr.dartmouth.edu/o/191293> and <https://hvr.dartmouth.edu/o/72428>.

While Frances uncovers a huge marble paved courtyard, Gencay Öztürk (Ege University) is focusing on a small adjacent room. This is a sort of Agatha Christie situation: all the doors to this room are blocked, and it preserves, like Frances' courtyard, the remains of the final earthquake, including a scatter

of window glass. He is also uncovering further precious evidence for the long history of this house: a late wall that subdivided the room into smaller spaces; beneath this, a big rectangular pit filled with white quicklime, probably belonging to some large-scale renovation project here. These changes in how a space was used over time, from a living chamber to a closed-off semi-industrial workspace to a subdivided, rather plain

yet well-lit room, give us essential elements in understanding the broader developments of the fortunes of this long-lived house.

Excavation of the enormous Roman arch at the western entrance to the city, in front of the Synagogue, has ended or at least paused while we document what has been uncovered so far. The arch—the largest in the Roman world so far as I know—collapsed in the same earthquake



Fig. 12. Drone views like this one are now an almost daily part of the recording of the excavation, giving us a broad perspective of, in this case, how the house collapsed in the final earthquake (note the two columns fallen side by side) and allowing us to follow the progress of the excavation day by day.



Fig. 13. John Sigmier photographing the scatter of blocks of the monumental arch. The circular targets help to align the photographs in the computer. The block in the foreground preserves the flutes from its original use as a column drum from the Temple of Artemis, and also the fasciae from its reuse as a voussoir of the arch. “Where’s Waldo” fans can find at least three other fluted blocks in this photo.

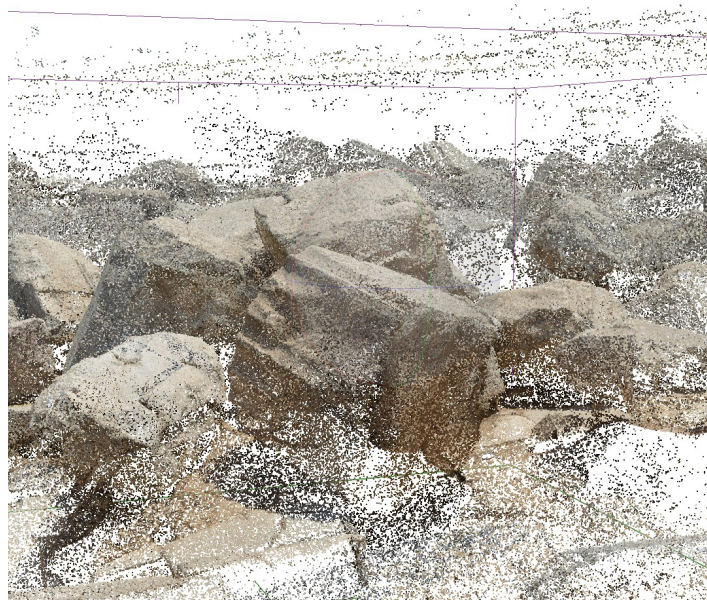


Fig. 14. This “sparse point cloud” from one of John’s photogrammetric models shows the same blocks at a very low resolution. When he has access to more powerful computers he can combine the regions and refine the model to show every tool mark and detail of each block.

that brought down Frances’, Hakan’s, and Gencay’s house, leaving a pile of shattered marble blocks. As so often at Sardis, many of these were reused from earlier buildings—for instance, most of the voussoirs of the central bay were carved from Hellenistic column drums from the Temple of Artemis, perhaps leaving the original semicircular flutes proudly visible on the face of the arch. And it seems that the arch collapsed

and was rebuilt at least once. So every one of these blocks has its own long and complex story to tell of use, reuse, and repair; and teasing out these stories is made more difficult by my own reluctance to lift them from the ground, since their scatter blocking the main entrance to Sardis is itself an important part of this story.

So John Sigmier (University of Pennsylvania) is using a combination of high-tech and old-fashioned methods to transcribe and understand these hundreds of intertwining stories. As a first stage, he has taken more than 17,000 photographs with cameras and a drone, and is now building an extraordinarily precise three-dimensional photogrammetric computer model of the scatter. So far, John’s preliminary model consists of 10,435,821 individual points in virtual space. But these are just the basic skeleton onto which we will ultimately create a far more detailed 3D model based on of billions of points—more than one point for every square millimeter of surface area of every

stone. It’s no substitute for the real thing, but the high-resolution digital model will allow us to continue to study the blocks in detail after we return home at the end of the season. We were greatly aided in this process by Phil Sapirstein (University of Toronto), who came to do his own research on Lydian architectural terracottas, but whose understanding and experience in the slightly black magic of photogrammetry was a tremendous help. So John has been out in the hot sun every day, taking pictures between 11:30 and 1:30 for even and consistent light, sketching and measuring the rest of the day, and then overworking a number of laptops in the evenings to process all his data. In the end, he and Ursula Quatember (University of Graz) and Andy Leung (University of Vienna), who could not be here due to the pandemic, will produce traditional pen-and-ink drawings of nearly every block for publication; but the creation of this three-dimensional model is both a great aid in the creation of such drawings, and a critical record in its own right.



Fig. 15. Representative of the Ministry of Culture and Tourism Okan Cinemre, of the Museum of Anatolian Civilizations in Ankara, grins at a bearded male head—Zeus? a herm?—discovered while clearing small amounts of earth remaining among the blocks of the arch. Behind, Phil Sapirstein takes a break from helping John with photogrammetry.

Fig. 16. Yilmaz Bey, Tuana, and Ekinsu examine the skeleton of the old woman discovered in 2019 by Susanne Ebbinghaus (Harvard Art Museums), comparing the bones with photographs of the skeleton in situ.

Fig. 17. The upper right incisor of the skeleton excavated in 2019 by Susanne Ebbinghaus shows a notch, worn into the tooth by the everyday work this elite woman did.



The comfortable excavation compound is again a bustling focus of research. Anthropologist Yilmaz Erdal and his assistants Ekinsu Ulusu (both Hacettepe University) and Tuana Zara Eren (Ege University) continue their studies of human skeletons from Sardis. They started with the skeleton from a Lydian tomb excavated in 2019 by Susanne Ebbinghaus (Harvard Art Museums) in conjunction with the Manisa Museum. The grave had been robbed, but the robbers missed some beautiful gold jewelry, and were not interested in the bones, so Susanne found most of the skeleton, only slightly displaced. It belongs, according to Yilmaz Bey, to an old woman about 35–60 years of age (which counts as old in antiquity, if not so much today), with osteoporosis and osteoarthritis leaving her hunched over. Her marble tomb and gold jewelry place her among the elite, but she was no idle layabout, to judge from the deep grooves in her front teeth which she used as tools to work thread, leather, or some other material. The anthropologists also pieced together bones from a very different context: the earthquake debris from Field 55,

more of which Frances and Gencay are digging now. Unlike the lady from the tomb, these bones had been burned, shattered, and scattered through the area, but careful study allowed the team to reconstruct parts of at least three individuals, including two adults and one child, casualties of the earthquake.

The Sardis Expedition reached a true milestone with the publication last spring of Andrew Ramage's (Cornell University), Nancy Ramage's (Ithaca College), and Gül Gürtekin-Demir's (Ege University) monumental two-volume final report on

two major Lydian excavation sectors, the "House of Bronzes" (HoB) and "Pactolus Cliff" (PC). Prof. Hanfmann began the Expedition in part to help him to study and publish the Lydian pottery from Butler's excavations of 1910–1914. One of Prof. Hanfmann's first goals was to establish a stratigraphy and chronology for Lydian pottery, and HoB and PC were the first sectors to offer that opportunity. Andrew, Nancy, and Gül have brought that excavation at last to a successful fruition. The two volumes, beautifully edited and laid out by editors

Fig. 18. Andrew and Nancy Ramage with their new publication, *Ordinary Lydians at Home: The Lydian Trenches of the House of Bronzes and Pactolus Cliff at Sardis*. You can also find the book at <https://sardisexpedition.org/en/publications/r8>.





Fig. 19. Gül Gürtekin-Demir returns to study the results of elemental analysis of pottery from Sardis, here an East Greek krater from an 8th century BC destruction level at HoB, whose analysis suggests that it comes from Smyrna (Izmir) on the coast.

Kerri Sullivan (Harvard Art Museums) and Brianna Bricker (University of Wisconsin-Madison), present half a millennium of occupation from the Late Bronze Age until the Persian capture of Sardis in 547 BC, with finds from the plainest cooking pots and loomweights to beautifully painted vases and other artifacts. The pandemic (and in Brianna's case, the arrival of baby Lavrentis) kept Andrew, Nancy, Kerri, and Brianna from coming to Sardis this summer, and they are all greatly missed. But Gül is here pushing the study of Lydian

pottery in new directions, working with Michael Kerschner and others on the results of elemental analyses that will help us identify local and imported products, understand local and regional production centers, and illuminate how the manufacture of pottery at Sardis changed or remained consistent over time.

Our next big volume will be Andy Seager's (Ball State) Report on the Synagogue. Marcus, Baha, recorder Christine Muron (Cornell University), photographer Jivan Güner (private

practice), and others are still tying up a few last-minute loose ends for this publication, and Kerri and Brianna are focusing on bringing this out in the near future.

So it is a welcome coincidence that one of the big events of this season is the construction of a protective shelter roof over the Synagogue. About time! you'll say—we have been working on this project for 13 years now! The problem is that the colorful geometric mosaics of the building were lifted and reset in reinforced concrete in the 1970s. But decades of weather and rain have caused the iron rebar inside the panels to begin to rust. They are okay for now, but if we leave the building exposed for much longer, there will be permanent damage which could require drastic intervention. A protective and preventative roof is therefore the best option. We were set to build last summer, thanks to the generosity of Patrick Healy, who donated the funding for the shelter just before the pandemic hit. But the unpredictable summer of 2020 was not a good moment to begin such an undertaking. This year, though, Teoman Yalçinkaya (Sardis Expedition Representative) and Taner Kurtuluş (Artabel) have organized the many subcontractors for this complex task, and taken infinite pains to protect the mosaics and other ancient remains. Architects Troy Thompson (SmithGroup LLC) and Nate Schlundt (Building Conservation Associates) arrived in June to work out final details, and also to make progress on the parallel project to design a similar roof and other protective elements to preserve the nearby Lydian fortification.



Fig. 20. Another project in the conservation laboratory is the restoration of a group of Lydian cooking pots (here with Jen Kim), which were excavated in a Lydian house under the Theater in 2006–2010 but then set aside while the conservators focused on the more glamorous painted and decorated vessels.

Fig. 21. The giant insect-like concrete pump sets up outside the Synagogue and carefully pours the long foundation beam for the protective shelter.

Finally the big day arrived: a huge bug-like concrete pump rumbled into the palaestra of the Bath-Gymnasium complex trailed by a series of concrete trucks, and the operator expertly poured the foundation beams which will support the light steel superstructure with its curved fabric panels. We are now awaiting the manufacture of the steel and the fabric roof panels, bird netting, and other accoutrements. Meanwhile, we are hiding the concrete beam with a shell of imitation Roman masonry, to match the reconstructed walls of the 1960s and 1970s. Teoman found a brickworks that could manufacture custom Roman-style bricks, and the workmen are cutting modern stone to match the piers built of marble blocks that now structure the Synagogue walls.



We will keep you abreast of these and other developments as the season progresses, and send all best wishes for health and safety, and our heartfelt thanks as always for your interest and support.

Nick Cahill
Director, Sardis Expedition

If you would like to be added to our list of recipients of future newsletters, or for more information about our activities and how to support our work, please send an email to am_sardis@harvard.edu.

Past newsletters are available on our web site, <http://sardisexpedition.org>



Fig. 22. Once the beam is poured, Ümit Güngör (Ege University) directs the workmen in building a thin shell of masonry to hide the concrete. The construction of this shell echoes ancient and recent wall construction. Here you see the original white marble piers at the center, connected by walls built of fieldstones and bands of bricks. The two or three courses of weathered pinkish stone on top of the marble, and the top few feet of brick and stone to the left and right, are the reconstruction of the 1960s and 1970s. The new concrete is set on this modern reconstruction, never directly on ancient construction, and then is hidden by two more courses of the pinkish Eskişehir stone, leftovers from the reconstruction in the 1960s which Teoman has salvaged in truly Sardian style. They will then fill in the spaces between piers with fieldstones and modern bricks which Teoman had manufactured to the exact specifications of the original Roman bricks.



Fig. 23. Usta (master mason) Şaban Sönmez trims blocks of Eskişehir stone for the Synagogue, using tools like those used by ancient masons.