Archaeological Exploration of Sardis

SECOND NEWSLETTER FROM SARDIS 2016 November 22, 2016

Dear Friends and Supporters,

The first, catch-up newsletter you received in October could only begin to outline this season's work, and the remainder of the summer passed in a whirlwind of discoveries. Will Bruce (Gustavus Adolphus College) and Güzin Eren (Boston University) have been excavating on the "Field 49" terrace in central Sardis for eight years now, but there is always something new and exciting. Güzin, working at the tip of the hill, has the most spectacular view (fig. 1). This season she has been digging beneath a series of Hellenistic and Roman rooms, including a fill dating to the Achaemenid period when Sardis was the capital of the western satrapy of the Persian empire (fig. 2). This layer of earth dating to the late sixth century BC is particularly interesting because in contrast to the areas dug by Prof. Hanfmann along the banks of the Pactolus, where Persian remains are common, here in central Sardis we find almost no remains from the Persian period, between Cyrus' capture of Sardis in 547 BC and the Hellenistic era of Alexander the Great and his successors. This two- or three-century gap, during which the city center seems to have been almost abandoned, is one of the most puzzling aspects of the history of Sardis. What could induce the Persians not to occupy or rebuild the city center? What happened to the Lydians who lived within the city walls? And does this gap really exist? We have dug such a tiny percentage of the site; can we make such generalizations?

Fig. 1. Güzin's view over the Hermus Valley to Bin Tepe and the Tumulus of Alyattes, the Gygaean Lake, and the mountains of northern Lydia must have delighted the ancient inhabitants as they delight us. In the foreground are the excavations in Field 55.

Fig. 2. Güzin excavating through the history of Sardis. At the top of her trench are late Roman rooms; the walls to left and right are massive Hellenistic foundations. The workmen stand at the Persian layer in which the iron scale armor was found, after the removal of part of a Hellenistic foundation. Güzin, below, is troweling to distinguish later from earlier Lydian strata. At the bottom is the early Lydian mudbrick wall; the gaps in the wall originally held timbers, probably to support an upper story.

Fig. 3. Architectural terracotta revetments from Field 49, including the one depicting a chariot found by Güzin this year (in upper left). To its right is the snake decoration from the chariot of another such revetment, and in the center and lower right, a charioteer and a dog from other plaques and two tiny fragments of hooves, these running the opposite direction. These plaques presumably all decorated a single building on this hill in the sixth century BC, but the fragments were found scattered widely after the area was systematically demolished.

Fig. 4. The Lydian Building Reconstruction built in the 1970s and 1980s incorporated tiles depicting such chariots, based on ancient examples.

Güzin's trench, though, bears witness to the presence of the Persians, and so it is of special interest. She finds only small amounts of pottery dating to this era, not walls or real occupation debris; the majority of the finds are much earlier, apparently dug up and thrown back here, perhaps as inhabitants searched for valuables among the ruins of the former palace of Croesus. This season she found bits and pieces of elite buildings, such as marble wall blocks polished to a buttery-smooth surface but then terribly burned and broken (presumably by Cyrus' troops), fragments of two immense marble basins, and part of a figural terracotta revetment depicting a chariot horse (figs. 3-4).

But her most interesting find of the summer is a mass of iron scales from an armor corselet. She has been finding individual scales and small groups in this trench for some years now, but this year's haul produced more than 1200 scales, including one clump of about 400 small scales still corroded together in their original arrangement (figs. 5-6). The scales were crafted in different sizes and shapes to fit different parts of the body, and were probably sewn to a shirt of cloth or leather. Such corselets are seen in Assyrian and Egyptian reliefs, and examples have been found at Near Eastern sites (fig. 7). Such individually-crafted suits of armor would have been specialty items belonging only to the elite troops or to the central palace. Most of the armor was found in this enigmatic Achaemenid fill; but is it a Persian corselet, or a Lydian one dumped here with the other detritus? We're still not sure.

At the very end of the season Güzin exposed more of the Early Lydian mudbrick wall at the bottom of her trench. In previous years she concluded that this wall is even earlier than the early boulder terrace wall here, but she found no pottery that would date the wall more closely. On the last day of the season, though, she reached a small area of floor behind the wall and discovered that it is covered with burning and charcoal, hinting at a destruction level. Such destruction levels are particularly

Fig. 5. Conservators Brian Castriota and Chantal Stein (both Institute of Fine Arts, NYU) cleaning scattered scales of iron armor in Güzin's trench.

Fig. 6. Carol Snow (Yale University Art Gallery) and Emily Frank (Institute of Fine Arts, NYU) sort through the iron armor scales which Güzin has found over the past few years.

important and exciting since they often preserve pots and other artifacts that would have been carried away had the room been abandoned peacefully. Although there was no such pottery in the tiny corner she excavated, and not quite enough charcoal for a good carbon-14 date, it holds out the possibility of a well-preserved early Lydian deposit, a period we know little about.

A new area was opened this summer by Erin Lawrence (University of Wisconsin-Madison and now UC-Berkeley) on the eastern slope of the hill where a pair of limestone blocks hinted at a terrace wall. One important discovery of her trench was that the bedrock here is very close to the surface; the archaeology, therefore, is compressed into a shallow depth, and she found many different phases of Roman walls, Hellenistic walls and robbers' trenches, and perhaps some of the early Lydian boulder wall, all within a meter or so of modern ground level (fig. 8). This provides very important information about the natural topography of the hill, and how much the Lydians and later cultures had to work to transform it into its current flat-topped plateau.

Fig. 7. Our fragments originally belonged to a corselet of iron scale armor like this one, found at Idalion on Cyprus, and made from about 6800 scales. (photograph by Ove Kaneberg, Medelhavsmuseet, Stockholm).

Fig. 8. Erin Lawrence found the footprints of at least two people wearing hobnail boots in the mortar of the early Roman terrace. She writes in her report: "one individual's footprint is a woman's size eight, while the other would wear a dainty child's size nine."

Fig. 9. Will Bruce painstakingly dissects the centuries of building here in Field 49. The nicely-built wall next to him is a Hellenistic terrace wall built of reused Lydian limestone blocks. The Lydian phase seems to survive below. Around it are Hellenistic and Roman walls of different phases, some only revealed now that he has removed the later Roman structures. The dark layer of earth in this section just to his right seems to be a Hellenistic destruction level, which we look forward to excavating next year.

In his trench near the middle of the hill, Will Bruce continues to explore a bewildering complexity of walls, floors, drains, and other features of Hellenistic and Roman Sardis, which intersect and cross-cut each other like Erin's, rather than being built one on top of the next. This makes it very difficult to distinguish whole rooms or buildings (fig. 9). The only way to properly understand the area is to take the structures apart carefully and systematically, which is always stressful. The dismantling went smoothly this season, though, and there are hints of excitement to come: a Hellenistic burned layer with roof tiles and pottery, perhaps another rich destruction layer, awaiting another season.

But while waiting for permission from Ankara to dismantle those walls, Will began excavating in a corner of his trench where he had previously reached almost sterile Lydian terrace fill. He had left this area in order to excavate in areas that might preserve the buildings on top of the terrace, but with work elsewhere put on hold, he jumped the gun in this corner. He found that the neatly, artificially laid sloping layers of gravel and mudbrick debris go much deeper than we had ever expected (fig. 10), and most exciting, that the pottery from this fill, which should date this massive urban enterprise, is surprisingly early. The few painted sherds from Will's tiny sondage are hard to date more exactly than "early

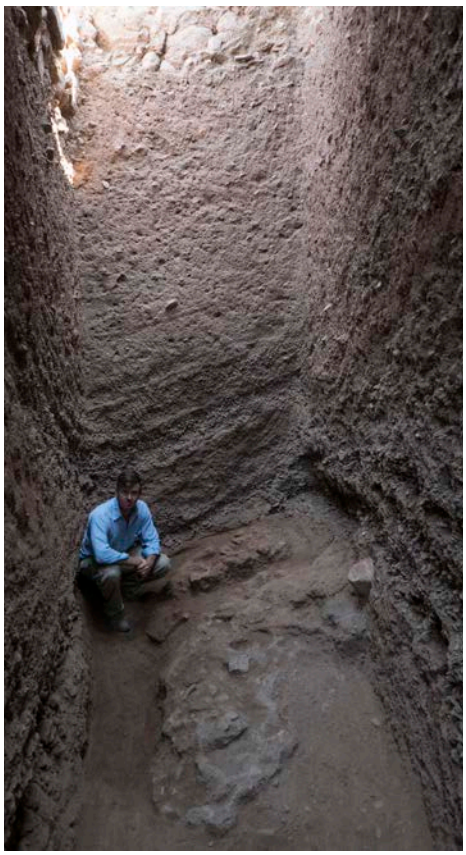


Fig. 10. In one corner of his trench Will dug through more than 16 feet of Lydian terrace fill, consisting of sloping layers of gravel (seen in the section behind him) to reach natural ground some 23 feet below the modern surface. Here he has cleaned off a lens of ash and mudbrick debris, containing what seems to be Bronze Age pottery. This has probably been brought in from somewhere else, however, and dumped here as part of the Lydian terracing operations.

Fig. 11. Lauren and her workmen stand on the pavement of her newly-discovered road and possible gate. The "spolia wall" behind them ends neatly, framed by reused inscriptions. The massive toppled block in the lower right is another reused inscription, with a cutting on one corner which Baha realized was to hold a wooden framework. The square hole in the butt end of the spolia wall received the bar to close the gate.

Fig. 12. The earth offers unexpected treats: Lauren DiSalvo discovers a small head, perhaps a female deity, from a small statue or frieze.

Lydian," equivalent to the Geometric period and earlier in Greece — the eighth or ninth century BC or even earlier — the shadowy, semi-mythological era before the historical Mermnad dynasty founded by Gyges. Even more surprising among these nondescript sherds was the discovery of fairly large pieces of Bronze Age pottery, a period hardly represented here or elsewhere at Sardis.

Coming at the very end of the summer, Güzin's and Will's discoveries offered us tiny but important hints that under important and fascinating Hellenistic and Roman buildings, this hill preserves remains from the early Lydian period. This era at Sardis is known up to now only from deep excavations in the 1960s outside the Lydian city walls, at sectors House of Bronzes and Pactolus Cliff. But this season offers signposts, possible opportunities to learn about the origins of the Lydians and the rise of the city center in the Early Iron Age before the Mermnad dynasty. This period is little-known at any site in this part of the world, and any discoveries we make offer the potential for great contributions to knowledge.

Down the hill in Field 55, Frances Gallart-Marqués (Cornell University alumna) and Lauren DiSalvo (University of Missouri-Columbia) are working at the other end of Sardis' history, the late Roman period and the end of urban occupation at Sardis. They have made great strides towards understanding the late antique buildings that were built from the ruins of a Roman sanctuary of the imperial cult. A wall built from reused marble blocks, inscriptions, statue bases, and other pieces from the sanctuary (fig. 11) is impressive, but we have wondered: what was its purpose? Was it part of a building? What kind of building? Did the wall continue, or just stop here? It is so deeply buried that answering these questions is a major undertaking. After four seasons of digging almost sterile junk washed down from the slopes above, Lauren finally reached bottom: a marble-paved road running straight up the valley towards the acropolis. The pavement is deeply rutted by the heavy carts that trekked up and down over the centuries, and countless pipes and drains running under, through, and over the pavement demonstrate the obvious, that all the rainwater from the catchment uphill had to flow through this gap between the stadium and the sanctuary of the imperial cult, causing constant drainage problems.

Bahadır Yıldırım's (Sardis Office, Harvard Art Museums) keen eye recognized that the huge toppled

Fig. 13. Eve Mayberger (Institute of Fine Arts, NYU) and Chantal Stein cleaning the iron sword and other finds fallen from a marble table, whose single griffin foot is still in situ against the wall. Four other iron swords were found in the adjacent room in 2005.

blocks here, with rough cuttings for wooden timbers, must have belonged to a gate closing off the road. Baha's reconstruction suggests that the spolia wall was part of a late Roman internal fortification or division within the city, something we had never suspected, but must now pursue further.

Lauren also explored the strata under the "taverna" excavated last year, whose floor was littered with bronze vessels, marble tables, and other fancy dining equipment, to learn about the earlier phasing and history of the room. Her crew found so many coins, though — sometimes 50 a day — that she quickly outpaced the conservators' ability to clean them, and they had to leave hundreds of coins to be cleaned next season. This rich harvest of small change is a bit overwhelming; they are mostly tiny *minimi* worth next to nothing in antiquity, but valuable evidence now for monetary circulation in the fifth, sixth, and seventh centuries AD, and for the history and phasing of this area.

On the terrace above Lauren's area, Frances completed the excavation of a second well-preserved late Roman room, which had been burned and buried under earthquake debris in the seventh century AD. This room had been mostly excavated in the last couple years, but it still held a few surprises: along one wall was a collapsed marble table with a griffin foot, and next to it, probably spilled from the table, an iron sword and a few other implements (fig. 13). The room to the north (illustrated in your first newsletter) was painted in imitation of of colored marble revetment; this room was decorated completely differently, in abstract floral patterns.

Outside these neatly painted, tile-floored rooms, though, she found something of a mess of less regular spaces. One room seems to have been a latrine; another was a courtyard with a wide door, and was probably being repaired when it was leveled by an earthquake and abandoned, to judge from floor and window tiles piled neatly against the wall awaiting installation, and unused column shafts and window mullions on the floor (fig. 14).

Conor Fagan (University of Missouri-Columbia) was in charge of exploring the monumental arch discovered a couple years ago just outside the Synagogue. Conor opened an area in front of the arch to find more of its fallen remains, and succeeded beyond my expectations. At the edge of his trench just by the modern road, he uncovered the south wall of the street colonnade, revealing for the first time the full width of this main avenue through Sardis: 97 modern feet (29.6 m), or exactly 100 Roman feet (fig. 15). Among the collapsed and broken blocks from the arch are more voussoir blocks from the central, 43-foot (13-meter) span (again, apparently the widest span of any known freestanding Roman arch). Like the voussoir blocks

Fig. 14. The courtyard outside these painted rooms contained building materials such as a window grill and columns, waiting to be installed. Pedestaled above the column shafts is a window mullion, probably fallen from a window in the wall behind. The vertical brick structure on the right could be a collapsed staircase leading up to a second story.

Fig. 15. Conor Fagan's team excavating the mass of blocks fallen from a monumental arch into the Roman avenue. At the back is a wall with a door in it, perhaps leading into a shop now under the modern highway. On the other side of the highway is the temporary roof covering the Lydian fortification, which will soon be replaced, we hope, with a permanent structure.

discovered in the last couple years, many of these are reused column drums from the temple of Artemis; one of them, miraculously, is the inscribed keystone from the top of the western vault — corresponding to the inscription found two years ago belonging to the east face of the arch (fig. 16). Among the blocks are many decorative elements which help in the restoration of the building, but the drawing by Brianna Bricker (University of California-Santa Barbara, included in the first newsletter) remains tentative.

The excavation of the marble avenue, and the unexpected discovery of the monumental arch, was begun as part of the "Touristic Enhancement Project" to protect, clarify, and open to visitors the area around the Synagogue and the Lydian Gate and Fortification. Another excavation related to this project was nearby in the "drain" under the Synagogue, which we wish to reuse to carry away rainwater from the Synagogue roof when it is built. Hakan Aycan (Aegean University) took on this difficult (but blessedly dark and cool) project, and he cleared the stretch under the building. This too proved to be unexpectedly interesting: the "drain" is enormous, almost 8 feet high and almost 6 feet wide, well-built with a stone floor (fig. 17). This is too big for a drain, and there are no inlets in the original construction. Rather, it might have been built as a cryptoporticus, an underground passageway for pedestrian

Fig. 16. Bahadır Yıldırım, Teoman Yalçınkaya, Conor Fagan, and Brianna Bricker inspecting the fallen keystone of the arch (in the lower left, the inscription invisible on the underside of the block). The three-ton block fell perhaps 60 feet in an earthquake and is embedded in the marble pavement, displacing the pavement block to its left. The inscription records the erection of a statue of Dionysos, similar to the inscription found fallen from the other side of the arch, which mentions a statue of Herakles.

Fig. 17. Hakan Aycan and government representative Necla Okan in the "Synagogue drain." Too broad and tall for even a Roman drain (and not connected to any waterworks in the Bath), it may have been built as a passageway. The wheel ruts visible in the pavement belong to an earlier use of those blocks, as the ruts don't line up and some run crosswise.

Fig. 18. Carol Mattusch explains the sculpture molds from HoB and the technologies of bronze casting during one of the seminars that are an important element of camp life.

traffic, previously unsuspected and hinting at much else we do not know.

As always, some of the most exciting discoveries are made in camp, sometimes among material excavated decades ago. Last summer, Nancy and Andrew Ramage's study of a group of coarse terracotta molds from the 1961 excavations in sector HoB (for "House of Bronzes") prompted a lot of interest among the staff, as they seemed to belong to a life-size bronze statue; and this summer, Carol Mattusch (George Mason University), an expert in the technologies of ancient bronze sculpture, came to study the molds in more detail (fig. 18). Andrea Berlin (Boston University) and Kathleen Lynch (University of Cincinnati) have studied the pottery and stratigraphy of the deposit. They all conclude that the molds were used to cast a life-size human figure, probably a draped man, sometime after 420 BC, when Sardis was a Persian satrapal capital. Such finds of workshop debris from Classical statues are rare and valuable evidence for this art; it is also exciting to learn more about this little-known period of Sardis' history: while the ancient city center lay in ruins, artists outside the old fortification walls were nevertheless creating expensive bronze statues.

Andrew's and Nancy's work brought in other specialists as well. As mentioned, until this year, HoB had produced the evidence of the earliest occupation of Sardis in the Early Iron Age and Bronze Age. An international team of experts

Fig. 19. Andrew and Nancy Ramage, Gül Gürtekin-Demir (Aegean University), and Michael Kerschner (Austrian Archaeological Institute) studying one of the Early Iron Age skyphoi from the deepest levels at HoB. Not shown in this picture are Prof. Nezih Aytaçlar and Ümit Güngör (both Aegean University).

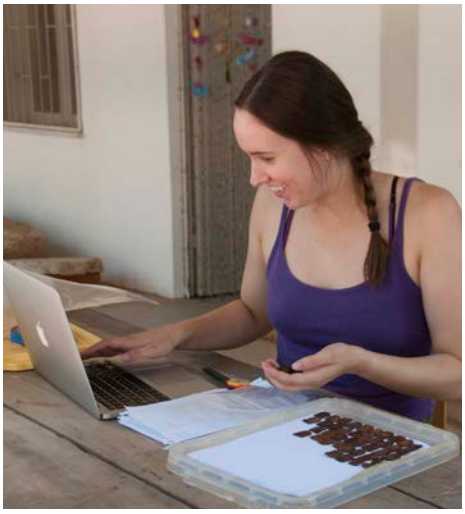


Fig. 20. The season runs smoothly thanks to the hard work and organizational genius of the depot staff, Elizabeth Pate (Harvard University) and Jessica Plant (Cornell University): here Jessica recording iron corselet scales.

came here for a two-day seminar on Archaic pottery from HoB (fig. 19). This sector is rich in ceramics of all kinds, local and imports from the Bronze Age through the Hellenistic period, and the two intense days of discussion and exchange of ideas and questions were extraordinarily stimulating for all. Silvia Amicone (University College London) and Lars Heinze (University of Cologne) came to study cooking pottery from Sardis, while Andrea Berlin continues her wide-ranging study of Hellenistic Sardis from a material, primarily ceramic point of view. Numismatist Jane Evans (Temple University) arrived in July to find Lauren's mint of small change running full bore, and she pitched in with triage and coin cleaning in addition to identifying the 300+ coins already cleaned.

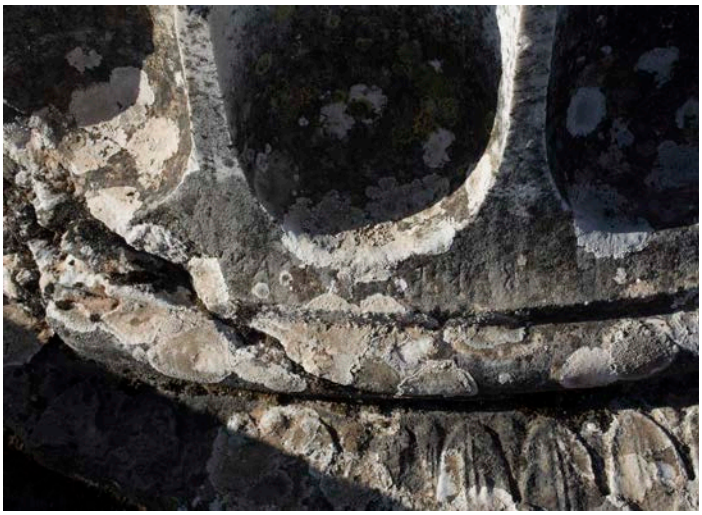
The past few years have seen great interest in the anthropology of ancient Sardians. Yılmaz Erdal, chair of the Anthropology Department at Hacettepe University, and his student Melis Koruyucu have been studying the Byzantine burials from Field 49 and other remains in the depot. Most of the skeletons from past excavations at Sardis had been sent to Ankara, though, as required by former regulations. In 2015 Prof. Erksin Güleç, Chair of the Anthropology Department at Ankara University, very helpfully located these skeletons and arranged to have them sent back to Sardis for study. This forms a unique corpus of the ancient population from the Bronze Age into the Byzantine period, and it represents many years of work ahead of us. Last summer Prof. Güleç and her student İsmail Dinçarslan (Ankara University) studied the Early Bronze Age bones excavated by David Mitten in Bin Tepe back in 1967-1968 (fig. 21). And archaeobotanist Erica Rowan (University of Exeter) is beginning to catch up on years of soil samples carefully saved from excavations, recovering carbonized seeds and other plant remains (fig. 22).

Fig. 21. Prof. Erksin Güleç and İsmail Dinçarslan studying the human remains from the Early Bronze Age cemetery at Ahlatlı Tepecik in Bin Tepe.

Fig. 22. Erica Rowan collecting carbonized seeds from soil samples in a newly-built flotation tank. In the background is a mockup of the mudbrick Lydian Fortification, which we are using to test methods of protecting and preserving the original mudbrick.

Figs. 23 & 24. Three teams of village women continue to clean the temple of Artemis, some working on the columns, others on the massive walls. The work on scaffolding in the hot sun is demanding, but they are incredibly able and committed and have made great progress, transforming the blackened walls and columns into gleaming white, and revealing features not seen since Butler's day.

This is the third year of our five-year effort, supported by the JM Kaplan Fund, to remove the lichen and biofilm from the temple of Artemis, and the experienced team of local women now completely owns the project (figs. 23-26). Conservators Michael Morris (The Metropolitan Museum of Art) and Hiroko Kariya (private practice) oversee and clean the more challenging areas themselves, but the women take on more and more responsibility, assembling and disassembling the tall scaffolding and shade tents around the columns and walls, planning and evaluating the results; they are rightly proud of this pioneering work. Each season sees a great leap: this season was devoted to the standing porch columns and high cella walls, a greater challenge than the low west end where they started. But the results are that much more gratifying, and old photographs of the temple now remind me how blotched and darkened this magnificent building had become. Photographer Sara Champlin (University of Wisconsin-Madison) and assistant recorders Evren Bruce and Sinem Çakır (Aegean University) have been interviewing the team on video to document the project in an oral history. And as an added bonus, we have a new skilled and committed team for future projects.



Figs. 25 & 26. This inscription in the Lydian language on one of the pedestaled columns was hardly legible under the lichen; now we can again read something to the effect that the column was dedicated by Manes (Lydian equivalent of Joe), the son of Bakivaś (a theophoric name related to Bacchus, or Dionysus, god of wine and a native of Lydia).

Fig. 27. Taner Kurtuluş, Nate, Max, and Troy, Michael Morris (behind Teoman), Baha, and Teoman discussing the Touristic Enhancement Project. A great aid in this was a 3D print of the Lydian Fortification, made by Troy from last year's laser scan of the sector. The 1:50 model on the table records each mudbrick and stone in perfect detail and helps us visualize the complex building; it is amazing to hold the largest fortification in Anatolia in the palm of your hand.

Another major part of the season is the "Touristic Enhancement Project," to conserve and protect the Synagogue and the Lydian Fortification, and to open the Lydian Fortification to visitors for the first time. Architects Troy Thompson (SmithGroup LLC), Nathaniel Schlundt (Scott Henson Architect) and Max Golden (Diad Architecture) worked all summer on the final design of the roofs, checking last summer's roof designs against new 3D laser scans of the sectors made last summer by Dennis Daisey (SmithGroup LLC), and consulting with Expedition agent and engineer Teoman Yalçınkaya and with structural engineer Taner Kurtuluş (Artabel Engineering, Izmir), who is producing the final construction drawings (fig. 27). Just as challenging, though, is how to protect the soft mudbrick wall, glacis, and other earthen features that make up the fortification. The architects, engineers, and conservators have designed a system for protecting the fortification with a thin face of new mudbrick, and the glacis with a rammed earth structure which reproduces the original sloping layers, and encloses a staircase leading up to an observation platform on top of the wall, complete with glass floors to view the remains below (fig. 28). It is a complicated and finicky project, but we are approaching the end and hope to begin to build soon.

Fig. 28. Max's computer rendering of the Lydian Fortification by the highway shows the protective "dancing" roofs, the rammed-earth structure that will protect the soft earthen glacis (seen here in a very oblique view) and incorporate a staircase leading to the top of the mound, the platform on top of the fortification with its glass panel to reveal the original structure, and modern mudbrick structures that will protect the original mudbrick of the fortification.

Fig. 29. Birthday celebrations come in all forms: Frances' came on a camel.

The Sardis team is something of a family away from home, with the whole range of family joys of birthdays, graduations, weddings, births, and new jobs, and the sadness of deaths and children leaving for new lives (fig. 29). In these unpredictable times, it is profoundly reassuring to enjoy the company of such a talented, dedicated, and committed group of friends and colleagues, and to enjoy such loyal supporters. We are truly blessed in this, and look forward to sharing the excitement of further discoveries at Sardis with you.

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Upcoming Sardis events:

"City and Empire in Seleucid Asia Minor: Sardis from the King's Peace to the Peace of Apamea"

A conference organized by Paul Kosmin and Andrea Berlin, and the Hellenistic Working Group (reported in your first newsletter)

Harvard University, Thursday-Friday, February 23-24, 2017

Sardis Biennial Lectures:

Nicholas Cahill, "New Digs and Discoveries at Sardis in Turkey"

Two locations:

Harvard Club of New York City, 35 W. 44th St., New York, NY
Monday, March 20, 2017, 6:30 PM

Harvard Art Museums, Menschel Hall, 32 Quincy St., Cambridge, MA
Wednesday, March 22, 2017, 6:00 PM

For further information about these events and to rsvp, please contact the Sardis office at the Harvard Art Museums: am_sardis@harvard.edu or (617) 495-3940.