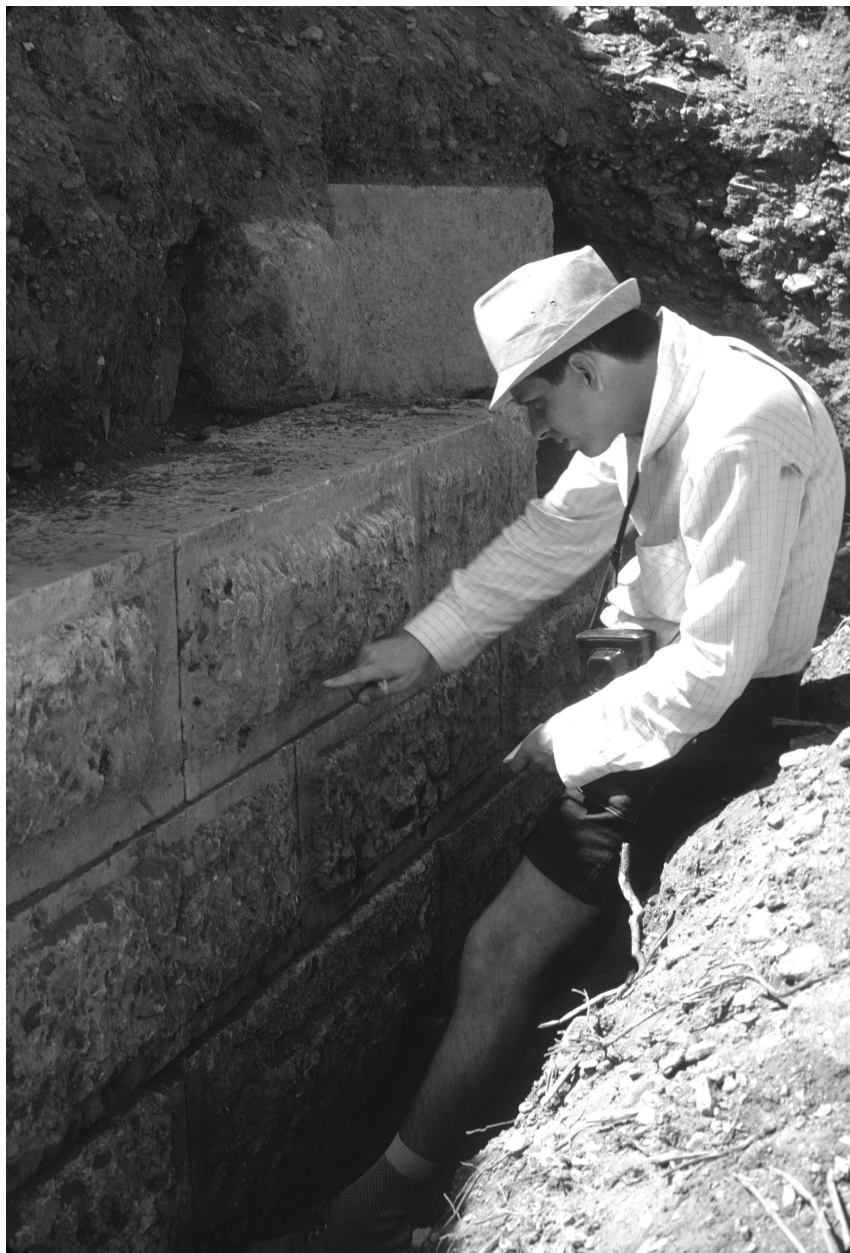


In Memoriam Roberto Gusmani



Roberto Gusmani, inspecting the masons' marks on the Lydian limestone terrace walls on the acropolis of Sardis, in 1972.
Photograph by Crawford H. Greenewalt, Jr.

We grieve that Roberto Gusmani, the world's foremost scholar of the Lydian language and author of dozens of books and articles on historical linguistics, died on October 16, 2009, one day short of his 74th birthday.



SECOND NEWSLETTER FROM SARDIS, 2009

CONFIDENTIAL — NOT FOR PUBLICATION

April 30, 2010

This has got to be the latest second newsletter you have received, and I hope the tardiest you ever will receive. Apologies!—you deserve more timely news about what’s been going on. The end of the season brought satisfaction on many fronts. When we last left Randy Souza (University of California at Berkeley) in his trench on Field 49, near the center of ancient Sardis, he was in the midst of a deep fill of earth, perhaps cleanup of debris from the earthquake in 17 AD (as we’ll assume for the time being). He dug through this Roman debris down to a stone pavement, presumably the floor in use when the earthquake struck (**Fig. 1**). This stopped him dead in his tracks, leaving nowhere to go in his narrow, deep sondage. It seemed a bit discouraging, that further excavation would produce more of the same—Roman walls, pipes, perhaps more broken glass and a few beautiful objects like the patera handle, but not answers to our larger questions. The alignment hypothesis that had prompted excavation here turned out to be a surveying mistake. The limestone blocks that had looked so promising in the beginning of the season (masonry built of squared limestone blocks being characteristic of Lydian monumental buildings at Sardis, and not of Roman) turned out to be reused in a Roman mortared rubble wall; the blocks could have come from anywhere.

One doesn’t want to just remove a feature without fully understanding it; but sometimes the only way to understand something in archaeology is to dig it away. So with some trepidation, that’s what Randy did—and immediately under the pavement, he found the pot of gold at the end of the rainbow (metaphorically speaking): a line of beautifully worked limestone blocks, clearly in situ and not reused, and very probably belonging to another Lydian terrace wall like that on ByzFort (**Fig. 2**). By the end of the season he had excavated down to the base of this wall, and found a stone platform in front of it. A layer of limestone chips over this platform—probably debris from building the wall, and so providing a date for its construction—produced only Lydian pottery, suggesting a date in the first half of the sixth century BC, the height of the Lydian empire, and contemporary with the ByzFort terrace.

This explains the reused blocks in the Roman wall: the Lydian wall stayed in use into the Hellenistic and Roman periods (parts of it were plastered over with Roman wall plaster), but was partly destroyed in the earthquake of 17 AD. A wall was then rebuilt on exactly the same orientation, and other walls built using reused Lydian blocks. Randy expanded his trench, and found that the

limestone wall was preserved better further south; and in the last days of the season, as Robert Horner was drawing the terrace wall and its Roman successors, he noticed the tip of a limestone block in the bushes beyond Randy's trench. A quick clearing showed that the Lydian terrace is preserved right to the top of the slope, more than 12 feet high (**Fig. 3**). We had chosen the absolute worst place to try to find it, where the wall was destroyed almost down to its foundations. But all's well that ends well, and this gives us an exciting new fix for exploration next summer.

Just over the hill, Tiziana D'Angelo (Harvard University) continued excavating the Hellenistic fill of the theater, discovering more fragments of terracotta figurines of Cybele like those found here in the last three seasons. This reinforces the notion that a sanctuary of the local goddess must have been located somewhere nearby in the Hellenistic period, before the theater was built. But the real excitement came when she began uncovering the earlier levels below, belonging to the Lydian house excavated by Patrick Crowley and Lillian Stoner in recent years. Her trench seems to have encompassed exactly one room, with a door on the east to last year's space (**Fig. 4**). Most of the room seems to have been taken up by two large mudbrick benches or platforms; narrow corridors led down the center and around the edges of the room, and these corridors were filled with broken and burned pottery, loomweights, and other artifacts—another treasure trove of closely dated Archaic Lydian artifacts, and a fascinating look into life at Sardis at the height of the empire. It was more than usually difficult to distinguish Hellenistic intrusions from erosion deposits from the destruction level, and Tiziana did a heroic job, resorting (for the first time at Sardis) to using a vacuum cleaner and portable generator to clear the dust from the delicate sherds (**Fig. 5**). Time ran out at the end of the season, however, before she could lift all the pottery; bags and bags of cleaned but unsorted sherds await the conservators next summer, and there is still more to excavate next summer, carefully buried under geotextile, earth, and roofing.

Among the objects that came up intact are a Corinthian warrior aryballos, appallingly badly painted (as so many of them are), but datable to the middle years of the sixth century BC, and so providing our first solid evidence that the destruction of this house was part of the Persian sack of Sardis in about 547 BC (**Fig. 6**). We had suspected this earlier, but based only on local pottery, which is not as closely datable as Corinthian or Athenian. Two tiny but exquisite fragments of an Attic black-figure cup, probably also dating to the mid-sixth century, makes our mouths water at the prospect of finding more.

A mysterious item from the destruction layer is an intact skyphos of the most standard Lydian type—painted with streaky glaze, with a reserved band near the rim. In the fire that destroyed the house, part of the skyphos was burned; and like flame bringing out a message in invisible ink, it brought out a design that would have been invisible before: the hindquarters of a lion, and a bit of filling ornament and bands below. Was the painter just doodling on this cup, and then painted over it with streaky glaze? Nobody here has ever seen anything quite like it.

We now have two rooms of this house, connected by a door (**Fig. 7**). As architects Robert Horner (freelance architect, Seattle) and Nathaniel Schlundt (Ball State University) drew up the plans of Randy and Tiziana's trenches, it became apparent that although they are more than 500 feet apart, the two sectors shared a common orientation. This might be coincidence—except that further survey of unexcavated walls on Field 49, and restudy of the plan of this area drawn by Tom Howe in 1982, revealed other walls, probably of both Lydian and Roman periods, oriented exactly the same way. It

seems as if the house in the theater, the terrace wall on Field 49, and buildings in between, were built on a planning system we hadn't previously recognized, oriented 11.2 degrees west of north (**Fig. 8**). So although we didn't find the alignment we had expected to find at Field 49, we found something different and even more interesting. This new alignment, extending from the monumental terrace on Field 49 to the house in the theater, is one of our best clues about large-scale urban organization of Lydian Sardis, and one we can follow up next summer.

Güzin Eren (Middle East Technical University, Ankara), deep in her trench by the highway at sector MMS, continued to explore the stretch of early Lydian fortification exposed earlier in the season. Underneath this, there was no trace of any earlier monumental structures, only a series of floors cut by refuse and other pits, dating broadly to the seventh century BC, whose complex stratigraphy Güzin expertly dissected (**Fig. 9**). This doesn't mean there wasn't a fortification somewhere nearby, of course, but there is no evidence for it at present.

Finally, up on the Acropolis, Will Bruce (University of Wisconsin-Madison) continued to excavate that deposit of interesting Lydian and Persian-period pottery, rooftiles, architectural terracottas, and other artifacts, down to bedrock without any trace of foundations. Among the finds were many more rooftiles and other architectural terracottas, including more small fragments of a round acroterion in the shape of a gorgoneion, whose nose was discovered by Marcus Rautman (University of Missouri) when he noticed the looter's pit here two years ago (**Fig. 10**).

No more Archaic coins were found this year (not to complain about only 2!), but at the very end of the season, permission arrived from Ankara to have the three coins analyzed by scanning electron microscope, with EDX for elemental analysis. Prof. Dr. Bulent Önay, of the Metallurgy and Materials Analysis Department of the 9th of September University in Izmir, and his student Esra Dokumacı, very kindly spent an entire day in his laboratory analyzing the coins (**Fig. 11**). The question was, what is the composition of these coins, and how do they come to look the way they do? In general, Lydian electrum coins like that found by Will are about 55% gold and 45% silver. They therefore contain much less gold than the natural alluvial gold in the Pactolus, which has 70% or more gold (all explained in Andrew Ramage and Paul Craddock's *King Croesus' Gold*). This has suggested to some that although the coins were valued as if they had the full gold content, the Lydians were deliberately "diluting" the alloy when minting their coins, and so making significant profit on their invention. We wanted to learn the overall composition of these coins, and see whether they indeed contained the usual amount of gold. But we had other questions, too. A 55/45% alloy of gold and silver resembles silver more than it does gold; and the core of these coins (visible under a microscope where the coin split on the edges when struck) does indeed look very silvery. But the surfaces of these coins look golden, because just the outer skin contains a higher proportion of gold than the rest of the coin. This is usually understood as the result of natural depletion: prolonged burial in the ground dissolves some silver from the surface of the coin (since silver is more reactive than gold), leaving a higher proportion of gold in the outer layer.

The scanning electron microscope can take very high magnification photographs, showing details and wear patterns of the surface, and can also determine the elemental composition of the surface, micron by micron (**Fig. 11**, below). I won't dwell on the details, but the very preliminary results seem to show that the golden surface was not the result of natural surface depletion, but was

deliberately achieved after the coins were struck, and before they went into use. Abrasion and cuts go through this enriched surface into the silvery core beneath, showing that the enrichment predates the use of the coins. Were they somehow treated to make them appear as if they contained a higher proportion of gold? We hope to continue these analyses in the future.

As always, Michael Morris (Metropolitan Museum, New York) was involved in a thousand projects around the site: studying and planning the conservation of the Lydian mudbrick fortification wall, advising on roofing, conserving artifacts from Late Roman basins to the marker on top of the Tumulus of Alyattes. His main push, however, was the restoration of revetment on the Marble Court, which he began last season. With Teoman Yalçinkaya, Elizabeth Gombosi (Sardis Office, Harvard University), Greenie (University of California at Berkeley), and others, he worked out the basic pattern of revetment, the types of marble, and where to do the reconstruction (each corner had its advantages and disadvantages, and all four were considered); and particularly, how to attach the revetment without damaging the building. Teoman located a firm near Izmir that specializes in revetting modern buildings, and together they worked out a program. As so often, once things got moving, they really sped along (**Fig. 12**). The plan was to do the podium this year, and the lower colonnade next season; but the revetment firm figured that they could do the whole thing in one go, and that's what they did. A half-dozen skilled workers and a truckload of marble arrived at the site, and soon they had the scaffolding constructed and were hard at work. We watched as day by day the corner of the Marble Court gleamed whiter and whiter. This was at the very end of the season, and unfortunately we all had to leave before the project was completed, but Teoman's pictures (**Fig. 13**) give a good sense of the finished project, and there will be a surprise waiting for us, and you, when you next visit the site.

In addition to their other duties as recorder and architect, Brianna Bricker (University of California - Santa Barbara) and Nate Schlundt continued to design information signs for visitors. Güzin and Teoman provided translations; Teoman found a manufacturer in Izmir who could print the signs on aluminum plaques, and by the end of the season, they had created and installed seven beautiful new signs, with explanatory texts, newly drawn plans, and photographs, set up in the Bath-Gymnasium complex, the Synagogue, PN (both church and gold refinery), the Temple of Artemis, and general introductory signs at the excavation house and parking lot (**Fig. 14**).

Research in the camp progressed in the latter part of the summer. Andrew Ramage (Cornell University) worked through more of the pottery and other finds from the Lydian Trench in HoB for his final publication of the sector. Fikret Yegül (University of California - Santa Barbara) continues his publication of the Artemis temple, and new ideas and interpretations are being bandied about; more on that next season, we hope. Ulf Weber (Friedrich-Schiller-Universität, Jena, and Didyma Excavations) returned to study the mason's marks on the Artemis temple to learn about how the temple was taken apart and re-erected in its long and complex history.

Another big push at the end of the season was the depot move. In record time, Sheila Nightingale (City University of New York), Alexia Margaritis (Cornell), Annie Austin (Harvard), Ferhat Can (Middle East Technical University), and Elizabeth Gombosi transferred all the remaining artifacts from the old depot to the new: everything from boxes of context pottery, animal bones, and crates of wall plaster, to human skeletons, to the detritus of Sardis camp life in the 1960's, ancient drawing equipment, an old Ouija board with labels in (made-up) Lydian, drawn up by Mario de Chiaro in 1963. This nearly brings to an end the long process of renovating the compound: the hundreds of thousands of artifacts of the past half century are now all stored in fireproof depots, in clean, sealed containers, checked and re-

inventoried. In celebration, Annie and Teoman arranged a nighttime soiree with a local molybdomancer — a traditional Turkish practice of divination, in which the practitioner pours molten lead into a basin of water, and reads the shapes of the solidified lumps: an utterly fascinating survival of ancient shamanistic beliefs. The old lady sang and chanted, and diagnosed and purged Elizabeth, Sheila, and Annie of any spirits that might have lingered from their years among the artifacts and dead bats (**Fig. 15**).

So the summer came to an end, mid-stream in developments from microscopic scratches on coins to the urban plan over a millennium, the revetment of the Marble Court in full swing, the depot cleared and Teoman poised to renovate the building. But things did not particularly slow down in the fall—they simply moved venues. In the last newsletter I mentioned that the Vedat Nedim Tör Museum of the Yapı Kredi Bank in Istanbul was planning an exhibition of Lydian art and archaeology. They have a long tradition of archaeological exhibitions, accompanied by richly illustrated catalogs, essays by specialists and lavish color photographs. This exhibition, “The Lydians and Their World” (“Lidyalılar ve Dünyaları”) is the eleventh such show they have put on, and (they tell us) one of the more ambitious. As the title suggests, the theme is both Lydia in its homeland, Sardis and environs, and also the spread of Lydian culture through western Anatolia under the short-lived empire of Alyattes and Croesus, and associated Lydian finds from many other sites.

Bureaucratic difficulties delayed the exhibition by a month, but on February 19 the catalog was written, edited, and printed, the objects gathered from museums all over western Turkey and installed in their vitrines, and the doors opened to the public. The designers at the museum created impressive dioramas, of the Pactolus River, complete with gold glitter, flowing through the exhibition hall, a Lydian collecting gold with a sheep’s fleece, and a house/workshop with gold workers, housewives, and others (**Fig. 16**). Wall texts explain the history and geography of Lydia. And Şennur Şentürk, the director of the museum, had (by leaping bureaucratic hurdles we will probably never know) persuaded museums all over Turkey to lend an amazing collection of artifacts: an entire hoard of Lydian electrum coins from Gordion, discovered by Greenie himself in 1963; a hoard of Lydian, Persian, and Greek coins from Old Smyrna, displayed with the lydion in which they were found; newly discovered Lydian coins from Ephesus, Kelainai, and Sardis (both of the coins found this summer are in the exhibition); Lydian and Lydianizing pottery from Miletus, Ephesus, Gordion, Düver, and elsewhere. Sardis was well represented, with pottery and household objects from recent excavations, beautiful jewelry and a lovely ivory head found by the Butler expedition. Spare tiles from the Lydian Building Reconstruction were set up as a miniature building. The skull and right arm of a casualty of the battle with the Persians (the hand still clutching a stone!), which Briana Feston and Julia Sybalsky (New York University - Institute of Fine Arts), and Sheila Nightingale had worked so hard to restore at the end of the summer (**Fig. 17**) was one of the hits, engaging visitors from schoolchildren to the Minister of Culture of the Republic of Turkey (**Fig. 18**). We hope to have copies of the catalog available (at a discount) from the Sardis office soon.

And finally, the fall and winter brought great changes in the Sardis office. As you know, Elizabeth Gombosi officially retired at the end of the year; unofficially, though, she is very much part of the team, and will be returning this summer to the depot and her other haunts. The new head of the Sardis office is Dr. Bahadır Yıldırım (**Fig. 19**). Baha got his PhD from the Institute of Fine Arts at New York University, writing his dissertation on the reliefs from the Civil Basilica at Aphrodisias. He worked at Aphrodisias through much of his graduate career, and has extensive experience in archaeological excavation. He then was chosen as director of the American Research Institute in Turkey center in Ankara, and from 2002 until 2008 kept that institution running smoothly, and helped all American

archaeologists working in Turkey in innumerable ways. He was instrumental two years ago when we were transferring the directorship of Sardis from Greenie to myself; without Baha's help in Ankara, this would have been an endlessly difficult proposition, but he managed to smooth out all the bureaucratic wrinkles and pitfalls. In 2008 Baha returned to Aphrodisias, becoming field director of the excavations, senior research scholar, and head of the Aphrodisias Office and Archive at the Institute of Fine Arts at NYU. We are indeed most fortunate to have Baha as expedition administrator: one could not hope to find a more qualified, or a more pleasant person to take charge of the Expedition at Harvard, and we all welcome him to Sardis!

The summer field season is coming up all too quickly, and I promise you will not have to wait so long before another newsletter. To all of you, thanks for your continued interest and support.

Nick Cahill

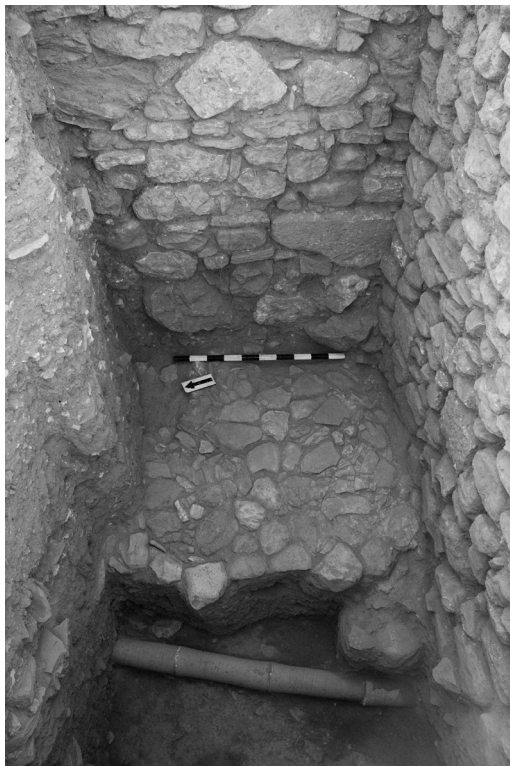


Fig. 1. A dead end? Randy Souza strikes a Roman stone pavement in his trench in Field 49, perhaps belonging to a building destroyed in the earthquake of 17 AD.

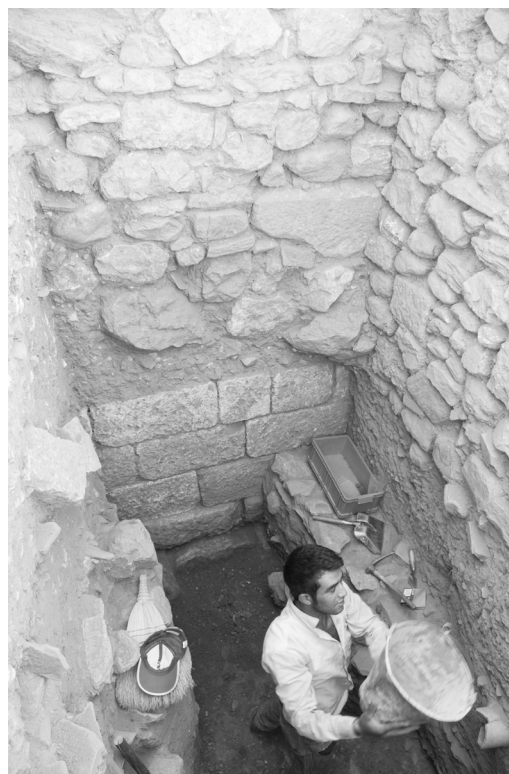


Fig. 2. Not yet... Under the stone pavement is a Lydian terrace wall of squared limestone blocks, probably dating to the sixth century BC.

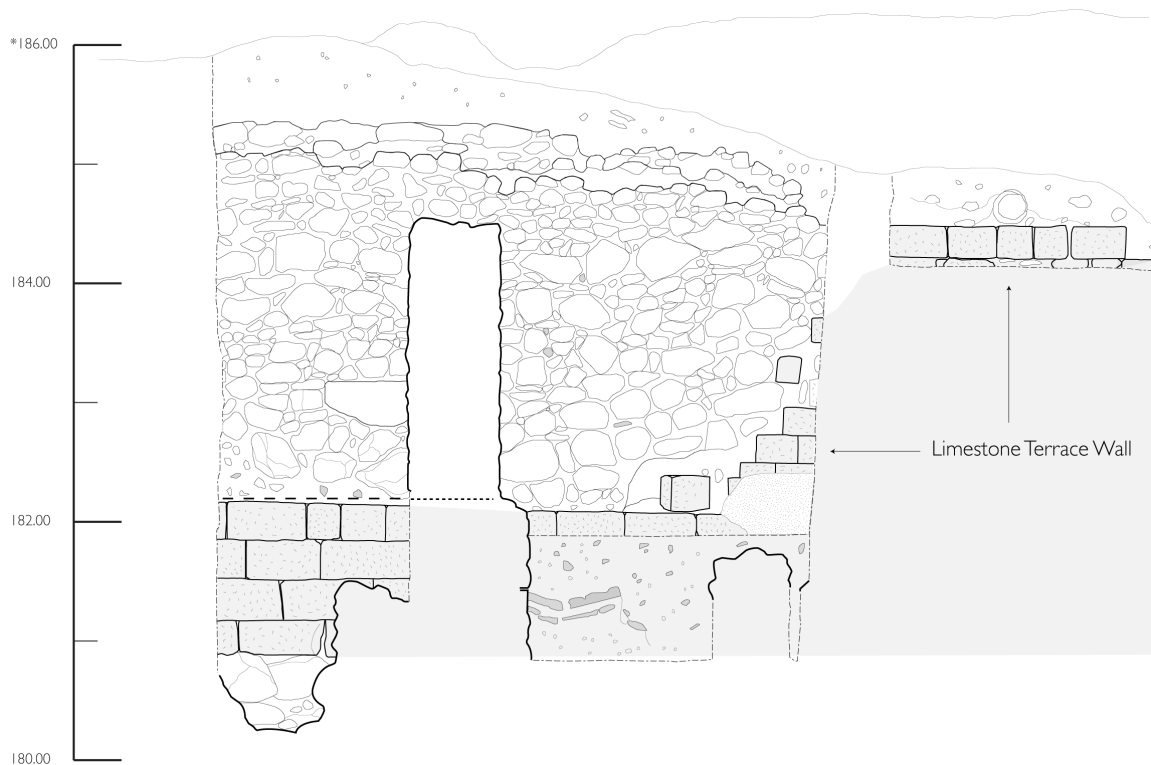


Fig. 3. The Lydian terrace wall turns out to rise to nearly the top of the hill; we excavated at left, where the wall was least well preserved! Elevation drawn by Robert Horner.



Fig. 4. In the Lydian house in the theater, Tiziana D'Angelo and Catherine Alexander clean, draw, and almost dance among the masses of artifacts that litter the narrow corridors between mudbrick benches.



Fig. 5. Tiziana uses modern appliances to clean up an ancient mess - a cooking pot lying upside down, crushed in place as it fell in about 547 BC.



Fig. 6. A small selection of pottery from the Lydian house in the theater: a Late Corinthian aryballos (right), offering a date near the middle of the sixth century BC, and our best evidence that this house was burned, like the houses at the edge of the city, in the capture of Sardis by Cyrus of Persia in about 547 BC; and a skyphos (back, at right), revealing the hindquarters of a lion and a filling ornament emerging as if in invisible ink.

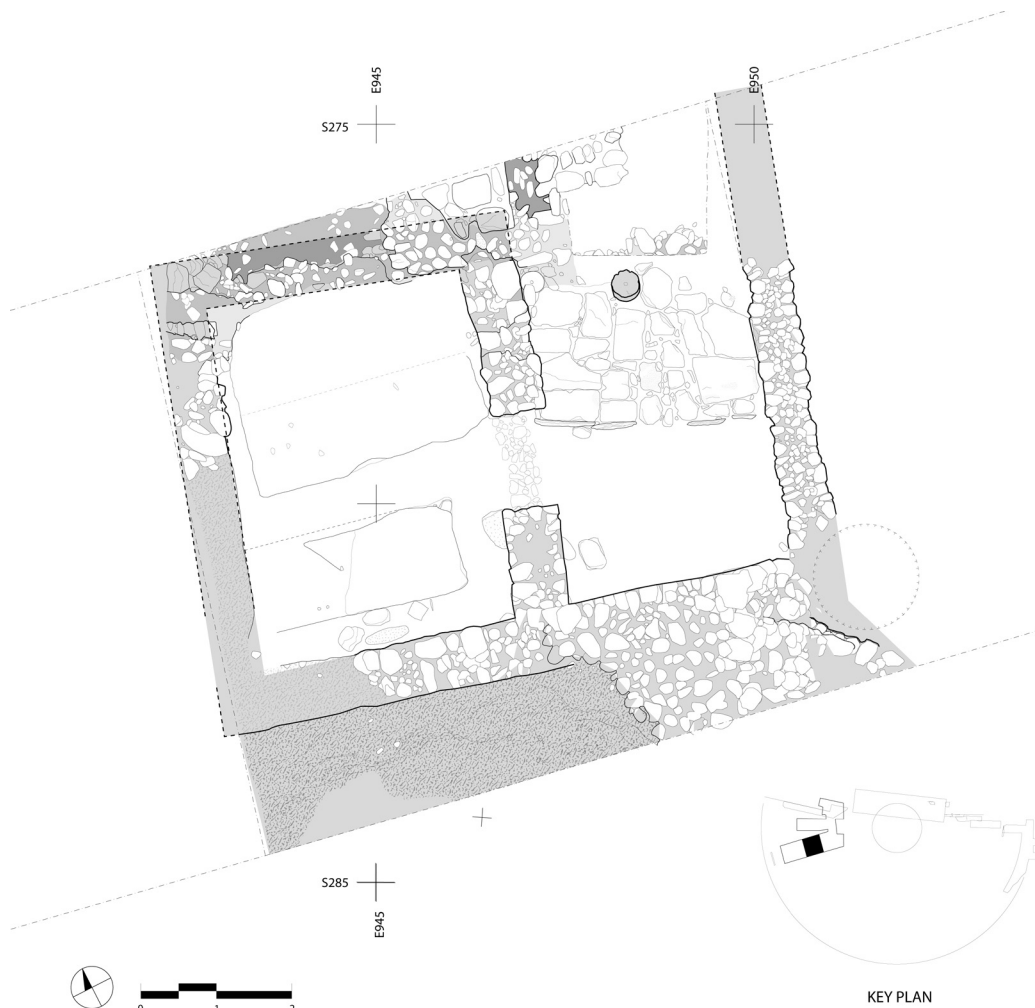


Fig. 8. Plan of the theater and Field 49 to its west. The walls of the new terrace on Field 49 are closely aligned with the house in the theater, and with other walls in between, visible on the surface on in earlier excavations. These alignments hint at a broad system of urban planning for this region of central Sardis in the time of Croesus.

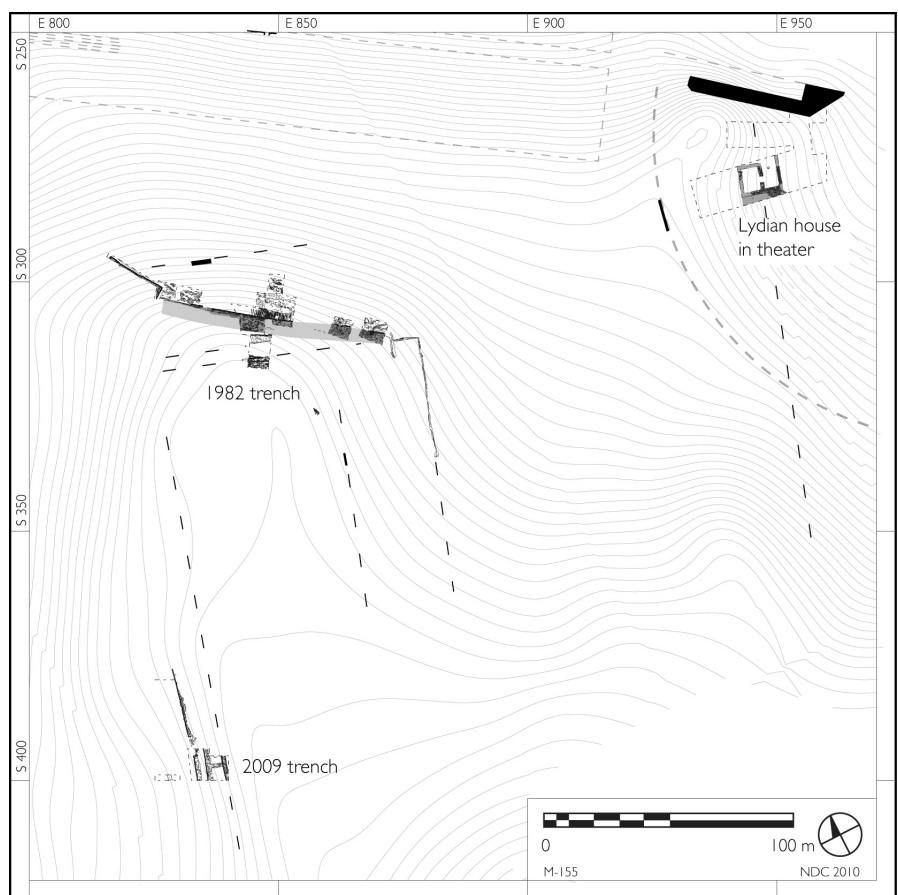




Fig. 9. Güzin Eren plunges from the early, colossal fortification into a complex series of earlier refuse pits of the 7th c BC, a glimpse into the early history of this area of Sardis.



Fig. 10. Reconstruction by Brianna Bricker of a large disk acroterion from the Acropolis, which must have belonged to some very fancy building nearby. On the right, Marcus Rautman at the moment he discovered the first fragment, on an evening stroll two summers ago. The photos are about the same scale, giving a sense of the size of the original acroterion.



Fig. 11. Top: Professor Bulent Öney and student Esra Dokumacı of 9. September University in Izmir, analyzing the electrum coin found this year by Will Bruce (at right). Below, left: detail of the scratch or cut in the lion's cheek; the proportion of gold was significantly lower within the cut, showing that the coin had been enriched before it was damaged. Below, right: detail of the surface of the coin found in 2008, by Pınar Özgüner, at 1000x magnification. The light-colored “boulder” embedded in the surface of the coin is a quartz particle, about a third the size of a grain of sand, and to its right, a “skid mark,” perhaps evidence of polishing.

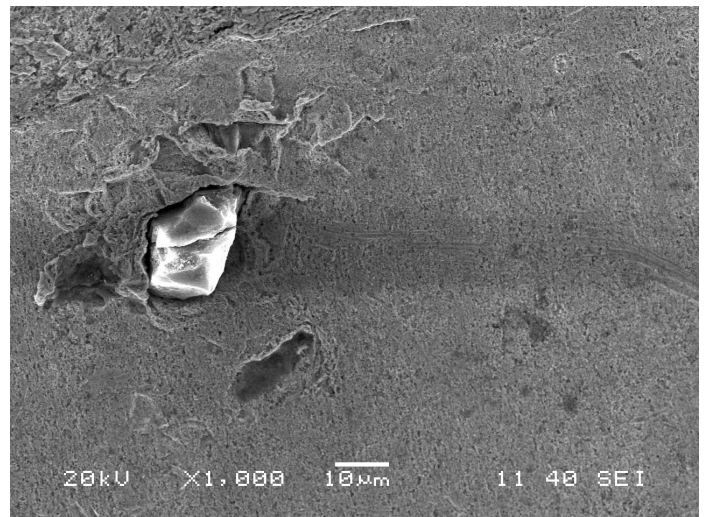
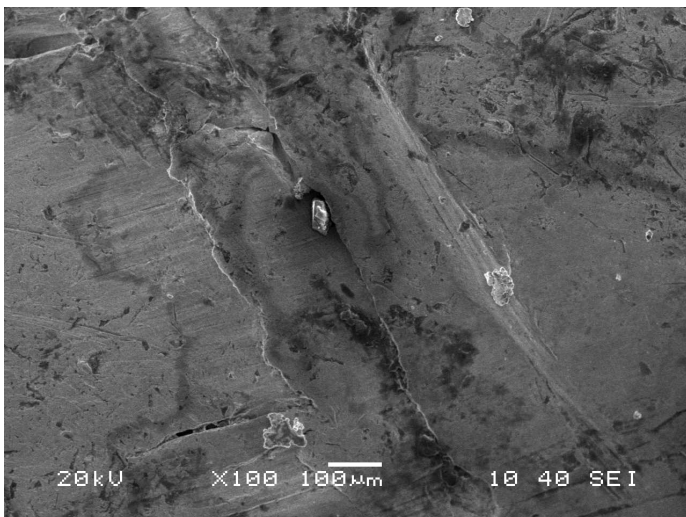




Fig. 12. Once Michael Morris and Teoman had worked out the principles and methods, and found an experienced and competent crew, the construction of the revetment of the Marble Court went remarkably quickly and easily. Photograph by Elizabeth Gombosi.



Fig. 13. By September, the corner of the Marble Court was completed, giving visitors a hint of what the whole building would look like with its original revetment cladding. Easily pried off the walls, broken up and burned for lime, revetment is among the first elements of Roman buildings to be destroyed, and so is much less easily appreciated in surviving ruins.

Fig. 14. Three visiting soldiers were among the first to read the new signs installed at the entrance to the site in front of the Byzantine Shops, Synagogue, and Bath-Gymnasium complex. Photograph by Elizabeth Gombosi.



Fig. 15. Molybdomancy in the depot. We were privileged to witness an increasingly rare skill. A local woman reads patterns in molten lead poured into a basin of water over Elizabeth Gombosi's head, dispelling the ghosts of the newly-empty depot. Expedition accountant Celal Şentürk, Government representative Uğur Terzioğlu, Brianna Bricker, and Briana Feston hold the cloth; Robert Horner, Colin Wright, and Güzin Eren (just out of the picture at right) watch.



Fig. 16. The entrance to the exhibition “The Lydians and Their World,” at the Vedat Nedim Tör Museum in Istanbul. A Lydian collects gold from a Golden Fleece in the Pactolus (with a real, gurgling stream flowing through the exhibition gallery); the cutout figure based loosely on a reconstruction drawing of Lydians refining gold in PN, by Elizabeth Wahle, artist at Sardis in the 1970’s.



Fig. 17. Consolidating the skull of “Flex,” the unfortunate soldier killed in the battle between Cyrus and Croesus. Conservators Briana Feston and Julia Sybalsky took on this last-minute job, with Sheila Nightingale, whose expertise in human bones proved essential in figuring out all the leftover bits. Excavated in 1988, Flex is now on display in the exhibition in Istanbul.



Fig. 18. The Minister of Culture of the Republic of Turkey, Ertuğrul Günay, at the opening of the exhibition, examining “Flex” and other remains of the battle between Cyrus and Croesus. At the right, Tülay Güngen, General Manager of Yapı Kredi Cultural Publications, and Şennür Şentürk, director of the Vedat Nedim Tör Museum.



Fig. 19. Bahadır Yıldırım, the new Administrator of the Sardis Office at Harvard, at the excavation house at Aphrodisias.