



❧ FRIENDS OF GORDION ❧

NEWSLETTER



Figure 1: The Polatlı Municipality's hot air balloon by the Midas Mound. Photo by Gebhard Bieg.

This past year witnessed the successful conclusion of the Penn Museum's multi-media exhibit, "The Golden Age of King Midas", which celebrated 65

years of fieldwork at Gordion. Nearly 50,000 visitors came to the exhibit during the ten months in which it was on display, and the public programming

that accompanied it succeeded in placing the Phrygian kingdom in a broad-based Mediterranean and Near Eastern context for the first time. This



Figure 2: Aerial view from balloon of the Citadel Mound, looking southwest. Photo by Gebhard Bieg.

comprehensive focus on Phrygia will soon be continued at Gordion itself, where the Turkish Ministry of Culture of Tourism plans to quadruple the size of the site museum, thereby highlighting the large number of innovations in architecture, ceramics, metalworking, and architectural decoration for which the Phrygians were responsible.

Visitors to Gordion have typically experienced difficulty in perceiving the scope of settlements at the site since they are most easily comprehended from the air, as you can see in this short video by Penn graduate student Lucas Stephens: https://www.youtube.com/watch?v=eA_lTWwkDNc. But this problem too has now been solved. The municipality of Polath, our closest major city, has inaugurated weekly hot air balloon rides over Gordion and the surrounding burial mounds in an

attempt to present the archaeological site in a more engaging way to the residents of and visitors to the area (figs. 1, 2). This new feature ties into the recent establishment of a new hiking and cycling route, the Phrygian Way, that links Gordion to the ancient rock-cut facades and tombs in and around Midas City, thereby introducing visitors to Phrygian culture and to the roadways that once connected their settlements. All of this complements our Cultural Heritage Education Program that introduces students and teachers in the region to archaeology and historic preservation, to which we will return later in this newsletter.

As in 2016, we were again fortunate in having a successful campaign balanced between conservation and excavation. Although we focused primarily on Gordion's city plan and

fortifications during the Early, Middle, and Late Phrygian periods (9th-6th centuries B.C.), a new partnership with the Museum of Anatolian Civilizations allowed us to expand our research to two monumental burial mounds or tumuli that lay some distance from the Citadel Mound. This year nearly forty scholars and scientists worked in six different sectors of the site and its environs during June, July, and the first half of August.

Architectural Conservation and Restoration

The first monument that one sees when approaching the Citadel Mound is the monumental Early Phrygian Citadel Gate, whose stone walls still rise to a height of 10 m (figs. 2-5). This appears to have been the principal entrance into

the citadel from its initial construction in the 9th century through at least the fourth century B.C., when it probably went out of use. Despite the ravages of armed conflict and earthquakes, it still remains the best-preserved Iron Age citadel gate in Asia Minor.

When the gate was seriously damaged by the earthquake of 1999, the Turkish Ministry of Culture and Tourism asked us to develop a program for emergency intervention in order to ensure that the building would not deteriorate any further.

This project, expertly supervised by Elisa Del Bono and Angelo Lanza, has required us to remove the upper twelve courses of stones that sustained the greatest damage, row by row, and to reinsert them once they had been conserved. This erection of a 10 m high scaffold topped by an aluminum gantry crane made it possible for us to safely remove the damaged stones from the south bastion and conserve them next to their original position.

The damaged blocks were consolidated with epoxy injections and the insertion of stainless-steel bars, while stainless-steel straps were installed in blocks along the 8th, 10th, and 12th courses in order to anchor these blocks to the core of the wall (fig. 4). Since the beginning of the project, we have conserved 112 damaged blocks, and thirty conserved blocks have been placed back in their original position on the gate with the aid of a crane (fig. 5).

There was additional intervention along the east wall of the South Bastion, where the stones had also become unstable over the course of centuries. These stones were essentially rectangular and laid in discernible courses, but the height of the stones in a single row could vary considerably. Consequently, the ancient architects



Figure 3: Architectural conservation of the Early Phrygian Citadel Gate, looking northeast toward the Midas Mound. Photo by Brian Rose.



Figure 4: The team returns a conserved block to its original position on the Early Phrygian Citadel Gate. Four steel straps are visible on the wall. Photo by Brian Rose.

inserted smaller “chinking” stones into the resulting interstices to create a smooth face, all of which would have been camouflaged in antiquity by a layer of mud plaster. Many of these smaller stones had fallen during a succession of earthquakes, and the larger stones had

cracked as a consequence. The latter were stabilized this year with micro-injections of epoxy, and new chinking stones were inserted in the open joints around them.

The 2018 season will witness the completion of this project, with all of the



Figure 5: Conservator Angelo Lanza repositions the seventh course of conserved stones on the Early Phrygian Citadel Gate. The Midas Mound is visible in the background. Photo by Gebhard Bieg.

conserved stones set back in place and covered by a “green cap” of shallow rooted grass over a layer of geo-textile. This will prevent water from entering the masonry and further damaging it, in that the roots will absorb the water during the rainy season, but will not grow deep enough to penetrate the masonry. None of this elaborate conservation would have been possible without the generous support supplied by the J. M. Kaplan Fund, the Merops

Foundation, the C.K. Williams II Foundation, and the Selz Foundation, and it is difficult to find the words to thank them adequately.

Terrace Building Complex

The Early Phrygian citadel’s industrial quarter, or “Terrace Building Complex”, served as a center for food preparation and weaving activities on the Citadel Mound (fig. 2). The complex

in question consists of two parallel structures, each of which would have been approximately 100 m long and positioned on either side of a 16 m wide court. An accident at or near one of the building’s hearths probably caused a major fire ca. 800 B.C., judging by the pattern of the destruction, and the carbonized seeds discovered within the building suggest that the event occurred during the summer, when the winds would have quickly fanned the flames.

The Terrace Building has been one of our primary projects in conservation since 1999 because the walls had been so badly damaged in the conflagration. The fire caused the walls to splay, and the stones are badly cracked in most cases. This summer we produced rectified elevations of the walls in the northern part of the complex to document the extent of the damage, which is severe. Field documentation also included the identification of stone types and a complete survey of the masonry, as a prelude to future conservation. The walls of six of the eight rooms in the complex have now been conserved, and we will start on the remainder next year.

Our third conservation area was conducted in tandem with the Museum of Anatolian Civilizations in Ankara and involved the tumulus of Bel Kavak, nearly 25 km to the north of Gordion. The tumulus had been attacked by looters who damaged what had been a well-preserved corbeled limestone roof of the main chamber. Subsequent rescue excavations by the Museum of Anatolian Civilizations yielded a two-chambered stone tomb of Early Hellenistic date, built of both granite and sandstone, which you can see in an axonometric view by Penn graduate student Sam Holzman (fig. 6). As Sam has observed, one of the most striking

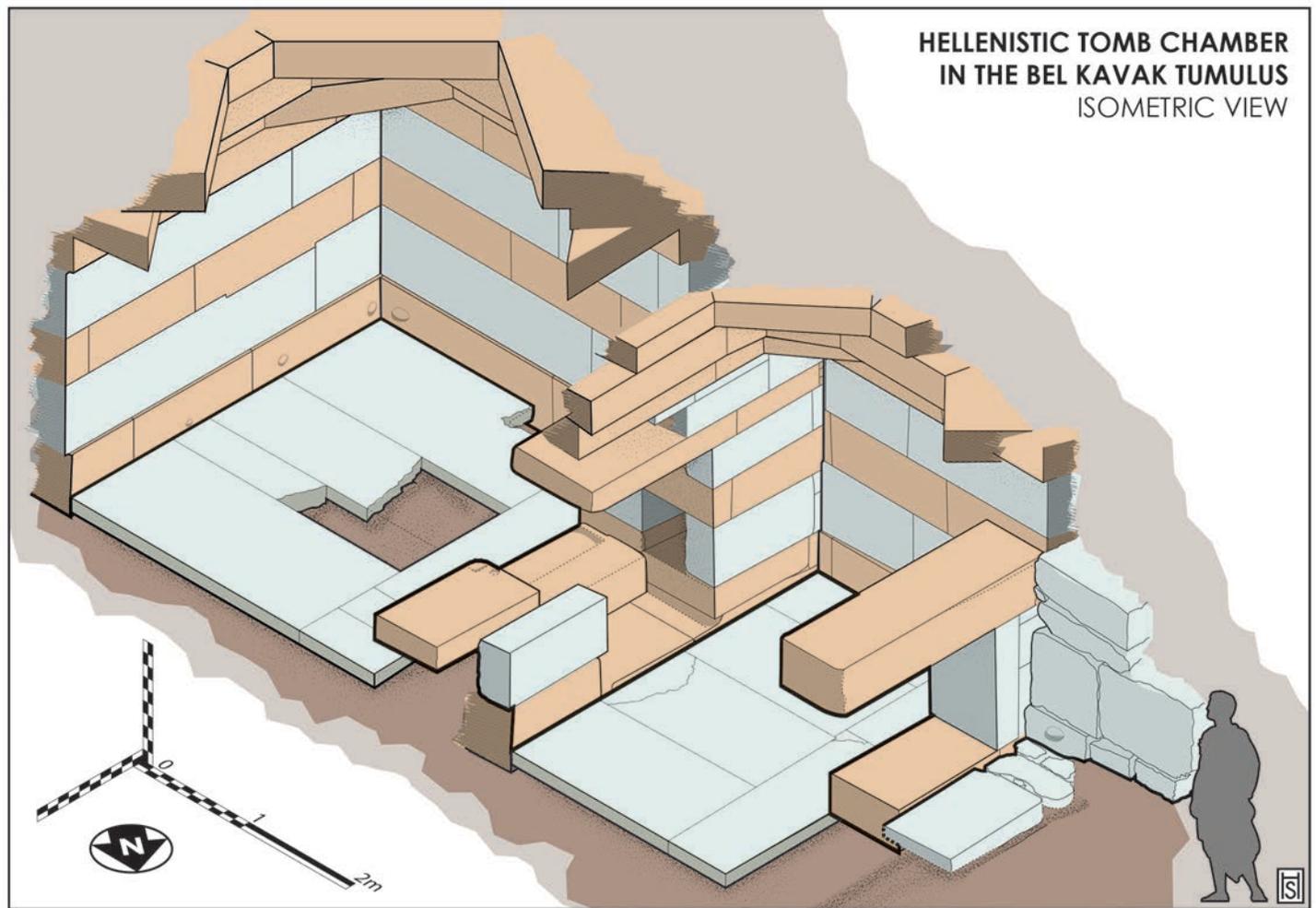


Figure 6: Isometric drawing of the Hellenistic tomb chamber in the Bel Kavak Tumulus. Measured and drawn by Sam Holzman.

aspects of the tomb is its polychrome scheme, with bluish-white limestone for the floor slabs and wall stretchers, and a yellowish-orange granite for the binders, corbels, and door lintels.

Since the tomb chamber lay in a remote location, it was dismantled by Ankara Museum archaeologists and transported to the Gordion Museum for eventual reconstruction, although a number of the blocks had already been broken. The blocks that we conserved measured up to 2.40 m in length, and the conservation treatment involved the insertion of stainless-steel bars across the breaks, as well as the injection of liquid epoxy mixed with

calcium carbonate inside the fracture (fig. 7). All of the principal blocks of the chamber are now stable, and the reconstruction can proceed. It is worth noting that Phrygian tomb chambers were built of wood between the 9th and 6th centuries; there is then a hiatus in monumental tomb construction for nearly two centuries, and when they begin again ca. 300 B.C. the chambers have changed to stone.

Excavation: The South Gate in Area 1

Reconstructing the original appearance of the most imposing

buildings on Gordion's citadel is not easy since none of them survives intact, nor do many of their foundations. Our best guide is provided by Gordion's two known gates, the Citadel Gate and the South Gate, which is why we have made their conservation such an important component of our fieldwork. The ongoing restoration of the Citadel Gate, on the eastern side of the mound, has already been described. The South Gate is a new discovery, lying on the southern side of the citadel near the Mosaic Building, a large Persian administrative center. In the course of the last five seasons, excavators Simon Greenslade and Sarah Leppard have



Figure 7: Angelo Lanza conserving the damaged stones from the Bel Kavak tomb chamber. The Midas Mound is visible in the background. Photo by Brian Rose.

uncovered a long roadway, previously unsuspected, that was flanked by massive stone walls and probably in use for over 600 years, from the 9th through the 3rd century B.C. The plan is far more complex than that of the Citadel Gate, and there are still many outstanding questions, but this year's excavation yielded a wealth of new information.

Altogether, we have uncovered an area measuring 42 x 27 m, which has revealed part of a gate complex that was built in the Early Phrygian period (9th century B.C.), rebuilt in the Middle Phrygian period (8th century B.C.), and rebuilt yet again in the Late Phrygian period (late 6th century B.C.) (figs. 8-13). Several of the Early Phrygian walls were robbed in the course of subsequent construction, but they are still among the best preserved within the gate complex, with a height of over 4 m, and most of the Middle Phrygian

walls are also well preserved.

The exact configuration of the Early Phrygian gateway is still unclear. A road oriented northwest-southeast led into this area and then turned at an angle toward the west, where it had a fairly consistent width of 6 m. The southern side of this roadway was marked by a substantial fortification wall nearly 3 m wide that was supported by a large glacis or stepped terrace wall over 2.5 m in height (fig. 9.1). The wall on the road's northern side (figs. 9.2, 10) is one of the best preserved within the gate complex, with a height of nearly 4.40 m, and it features a masonry technique similar in many respects to that of the main Citadel Gate. The wall is slightly battered, and a layer of burned wooden beams had been inserted between every three horizontal courses. This was presumably done to provide the wall with greater flexibility, and the fact that so much of it is standing after

nearly 3,000 years is perhaps indicative of the technique's effectiveness.

Part of the northern wall on the eastern side of the roadway was also uncovered, near the bend in the wall, although the construction technique is very different (fig. 9.3). The stones are organized in a stepped format, not unlike the glacis in principle, although the tread of the steps is between .50 and .70 m, whereas those of the glacis are less than .20 m. This format was presumably chosen as a more effective way of holding back the tremendous weight of the mound to its north.

Between these two walls there appears to have been another street or conduit that led north into the citadel (fig. 9.4). The turn toward the north of the Early Phrygian wall (fig. 9.2) is unmistakable, even though much of it has been robbed and the area was filled in during subsequent construction in the 8th c. B.C. The most striking feature of this discovery is that it matches the orientation of the street that Rodney Young reconstructed along the center of the Citadel Mound. How far into the mound the newly discovered street extended is unclear, but its existence during the Early Phrygian period, at least on the southern side of the mound, can no longer be doubted.

Major changes occurred in the eighth century B.C., following the conflagration that enveloped a large part of the citadel ca. 800 B.C. The street leading to the north (fig. 9.4) was closed and filled, so there was now only one roadway, leading toward the west, with its width varying from 5.5 m to slightly over 8 m. The southern side of the road, which had been defined by the Early Phrygian fortification wall and glacis, was covered by an enormous bastion that was 8 m thick and at least 20 m long (fig. 9.5). A complementary



Figure 8: Aerial view of the Phrygian roadway in the South Gate complex in Area 1 (9th-6th c. B.C.), looking northwest. See Figure 9 for plan.
Photo by Gebhard Bieg.

bastion also 8 m thick was constructed on the opposite side of the road at the east (fig. 9.6), thereby creating a fan-shaped entrance for the road.

The large Early Phrygian wall along the north side of the road (fig. 9.2) continued in use with no apparent modifications, and it was joined to the eastern bastion by a new and much

more carefully built wall (figs. 9.7, 10) that closed the conduit leading to the north. Like the other new Middle Phrygian walls at Gordion, this one was constructed of polychromatic stones, primarily red, yellow, gray, and white, and the stone chips removed when the blocks were trimmed became part of the rubble packing behind them.

The wall continues from west to east for a distance of 11 m, then angles toward the southeast for another 8.5 m, ending in the east bastion (fig. 9.6). What is most striking about this wall, still preserved to a height of over 2.50 m, is carefully finished ashlar masonry, which is even more meticulously executed than that of the main Citadel

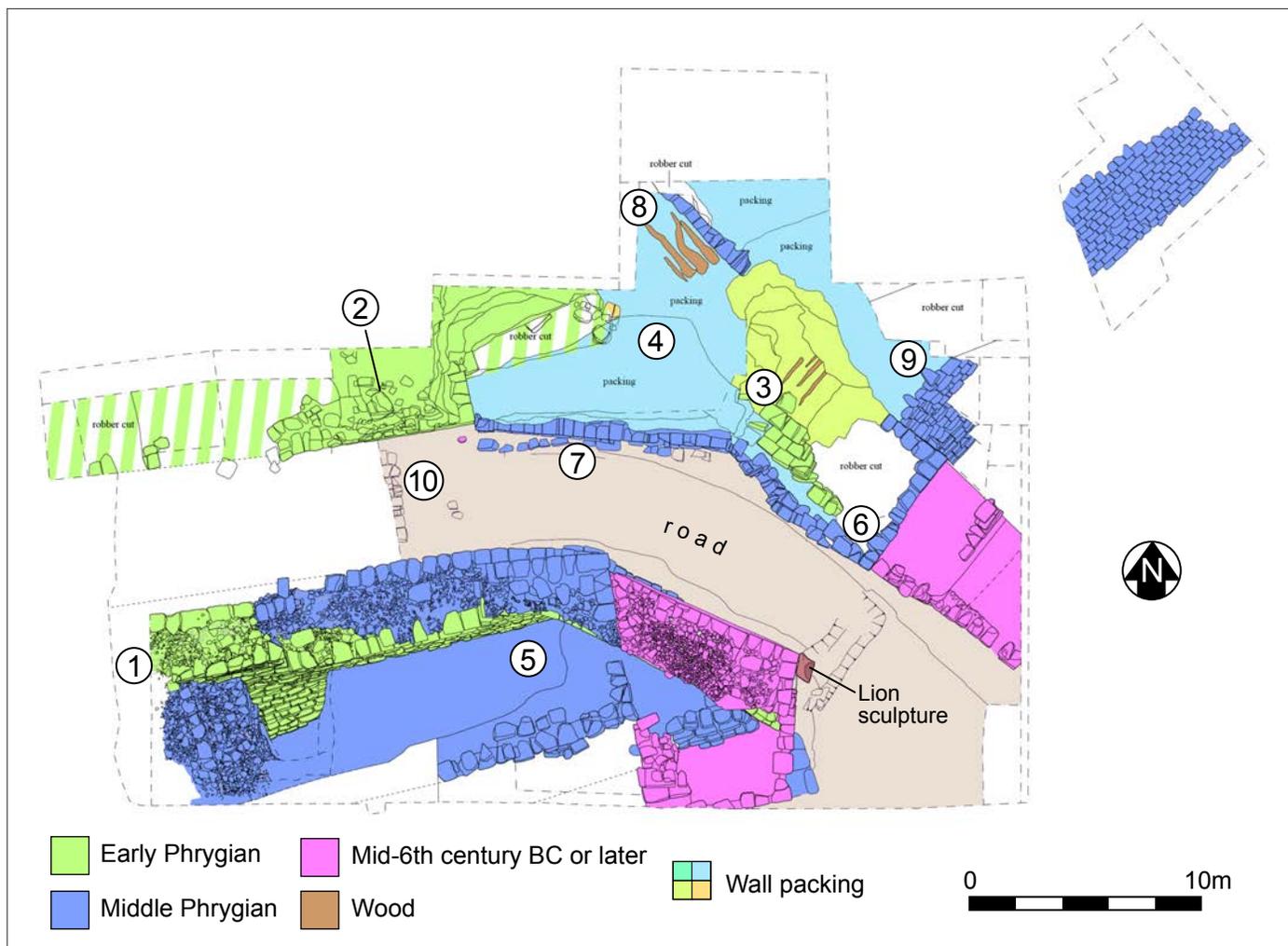


Figure 9: Color phase plan of the Early, Middle, and Late Phrygian components of the South Gate complex in Area 1 (9th-6th c. B.C.). Plan by Simon Greenslade.

Gate. The wall must have been constructed in the 8th century B.C., which is a date far earlier than the style would have led us to propose, and it demonstrates the skillful technique of Gordion's masons at the beginning of the Middle Phrygian period.

As in the case of the other Middle Phrygian buildings, the rubble packing behind the walls had been stabilized through the strategic placement of large wooden beams of juniper, which were still unusually well preserved. In figs. 9.8 and 11 you can see three such juniper beams measuring between 2.40 to 3.40 m,

which demonstrates how enormous these binders actually were. The stratigraphic position of these beams indicates that they must have been cut ca. 2,800 years ago, but that will be verified by dendrochronological analysis.

We also uncovered the western end of the Middle Phrygian glacis, or stepped terrace wall, which lies adjacent to the Middle Phrygian East Bastion at the northern side of the road (figs. 9.9, 12). By the end of the summer, we had uncovered 14 stone steps spanning a height of over 3 meters. Here too the builders utilized sandstones of various

colors, including grey, red, and white, so the scheme would have complemented the polychromy of the other parts of the gate. The bastion was clearly built over the steps, so we now know the sequence of construction here.

The road surface per se is composed primarily of compacted colored pebbles, although a series of flagstones were still in place at the western limit of the excavation, the central stones of which have wheel ruts from vehicle traffic (fig. 9.10). Since the remainder of the road must have inclined more steeply as it approached the higher level

of the citadel, it seems likely that the flagstone paving would have continued as it approached the gatehouse.

The location of that gatehouse, however, is still unclear. We have uncovered nearly 30 m of the approach road and have not yet discovered its turn toward the north, which would have led to the gatehouse, nor has remote sensing allowed us to pinpoint its location due to the “noise” created by the extensive amount of stone rubble scattered throughout the area. Nevertheless, we have already received some potentially important clues regarding its appearance. Within a collapse of architectural elements over the approach road were three unfluted half columns fashioned of gray and red stone; a fourth half column of red stone was reused in the Late Phrygian additions to the Gate, so all of them can be securely dated to the Middle Phrygian period. In the adjacent Mosaic Building, also of Late Phrygian date, excavation yielded four reused column bases for half columns of gray and red stone, and although the bases do not fit the colored column shafts, all are probably of the same date and from the same structure. This type of architectural element was not used for any other Middle Phrygian building at Gordion as far as we know, and it is tempting to assign them to the gatehouse. In any event, stone half columns are not attested in ancient Mediterranean buildings prior to the sixth century, so the Gordion examples are particularly significant within the history of ancient architecture, as is their polychromatic format.

Several other discoveries are worthy of note. Set at the entrance to the approach road, on its southern side, was a sculpture of a standing lion facing toward the road, fashioned of



Figure 10: The South Gate in Area 1, looking northeast. The Early Phrygian wall with burned wooden beams is visible at left; the wall at right is Middle Phrygian. The Midas Mound is visible at upper right. Photo by Brian Rose.



Figure 11: Kurtis Tanaka cleaning the juniper beams in the rubble packing at the South Gate (Area 1). They were deposited here in the early 8th c. B.C. Photo by Brian Rose.

a grayish stone (figs. 8, 9, 13). With a length of 1.25 m and a height of more than .80 m, it stands as the largest stone sculpture ever discovered at Gordion.

Although it is heavily worn, the format is dependent on Neo-Hittite lion types and a date in the late 8th century seems likely. How the sculpture was



Figure 12: Ben Abbott measuring the newly discovered Middle Phrygian glacis, or terrace wall, at the South Gate (Area 1). Photo by Brian Rose.

originally displayed is unclear, but both sides of the lion are carved so it was originally free standing and visible from both sides. When the gate was rebuilt in the Late Phrygian period following the Persian attack, it was set against the wall at the approach road entrance, where it would have looked like a relief. Last year, in the same area, we discovered a sculptural fragment with the right paw of a lion that had been executed in red sandstone. Its dimensions are similar to those of the newly discovered gray lion, so a pair of polychromatic lions may also have figured in the decoration of the Middle Phrygian gate.

At some point in the Hellenistic period, the approach road was covered by the collapsed elements of the Mosaic Building, which was situated on the citadel directly to the north of the gate. This structure had probably served as the headquarters of the settlement's

Persian administrator, and we found part of its elaborate decoration in the course of this year's excavation. Foremost among those elements were nearly 1,000 gray and pink ceramic pegs that constituted part of the wall decoration within the Mosaic Building, along with wall revetment plaques that are reminiscent of variegated marble. Over 1,000 of these ceramic mosaic pegs were discovered last year in an adjacent trench, so the level of opulence in that building is becoming even clearer.

As you will have gathered from reading this description, the South Gate trench has been an extraordinarily difficult area in which to work, and none of the results listed above would have been possible without the careful excavation technique of Simon Greenslade, who was assisted by Penn AAMW graduate student Kurtis Tanaka.

Area 4: The Center of the Citadel Mound

Our discoveries in Area 1 were complemented by those in Area 4, which this year yielded an abundance of 6th and 4th century B.C. material, including a nearly complete Middle Phrygian roof from a building destroyed at the time of the Persian attack in the 540s B.C. (figs. 2, 14-18). This trench lies directly west of the Phrygian industrial district, or "Terrace Building Complex", and we began digging there in 2015 because the configuration of the citadel's center was largely unknown. We began at modern ground level in order to obtain a diachronic overview of the succession of settlements, and thus far have documented a Selcuk occupation (13th-early 14th centuries A.D.) with nearly 50 storage pits, two of Early Roman date (ca. 60-120 A.D.), and several of Hellenistic date, spanning the 4th and 3rd centuries B.C.

During the latter period there was housing throughout this area, with one yielding a complete and intact Early Hellenistic pithos, or storage vessel, that was .85 m high. An earlier structure dating to ca. 400-375 B.C. contained what appears to be a cellar with an oven as well as two large circular pits, one of which was bell-shaped and possibly for storing grain. This building had been cut by a much larger pit, also Early Hellenistic in date, in which we discovered the skeletons of at least five dogs, one of which was still fully articulated. One especially noteworthy discovery was a glass face bead of Phoenician type that features a yellow face, navy blue eyebrows, and turquoise hair and beard that are covered by white and yellow knobs (fig. 14).

Below this fourth century house

we found a clay and rubble layer that covered a huge demolition deposit dating to ca. 540 B.C. (fig. 15) In other words, there seems to have been a hiatus in occupation of over 150 years. This deposit contains the debris from what must have been a large public building dating to the second quarter of the sixth century B.C., which had been placed in an enormous pit at least 3 m deep. In addition to burned wood and burned or degraded mudbrick, there was a concentration of broken roof tiles, including pan tiles, covers, ridge tiles, spouted eaves tiles and decorated fragments from raking or lateral simas and pendant frieze plaques (fig. 16).

Altogether, approximately 2,600 kilograms, or 5,700 pounds, of roof tile were uncovered, and it is likely that nearly all of the roof can be reconstructed. The brightly painted decoration included a range of geometric motifs, such as stars and scrolls, tongue patterns, and lozenges, but there were also figural examples, including Theseus and the Minotaur as well as a lion and bull (figs. 17, 18). Mixed in with the roof tiles were several fragments of wall painting, and although no clear design could be discerned, there are very few examples of such painted walls at Gordion, thereby further highlighting the importance of this building. Beneath the tiles was an equally extensive assemblage of pottery datable to 560-540 B.C., including a Corinthian kylix, a Little Master Cup, skyphoi, stemmed dishes, and a large amount of Lydian pottery. Consequently, it seems virtually certain that the building in question was destroyed at the time of the Persian attack on the city ca. 540 and subsequently deposited here.

Since so much of the roof is preserved in this pit and the tiles are

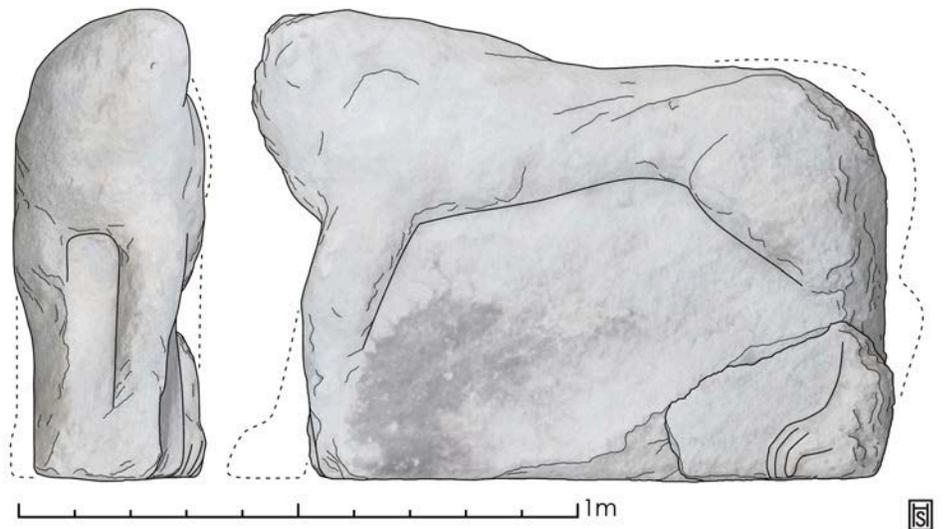


Figure 13: The stone lion from the South Gate (Area 1). Photo by Gebhard Bieg; drawing by Sam Holzman.

largely intact, the building must have been in close proximity, and probably adjacent to the area in which we are digging. Buildings with tiled roofs had been introduced to Asia Minor only ca. 600 B.C., and they were still expensive and exceptional during the following century. What this means is that the newly discovered building and, by

extension, the area to the west of the Terrace Building, was a zone of far greater importance in the sixth century B.C. that we previously thought.

Even more noteworthy are the differences in elevation between this area and the buildings on the eastern side of the citadel. The sixth century B.C. level in the Area 4 trench is at least



Figure 14: The Early Hellenistic glass face bead from Area 4. Photo by Gebhard Bieg.

8 m lower than levels of the same date only a few meters to the east, which highlights how significantly different sections of the citadel's center could vary in height.

It is conceivable that the Early Phrygian street uncovered at the South Gate (Area 1) extended as far as the center of the mound, with the areas to the west and east steadily built up as the street remained at its original level. However, the southern entrance to that street was blocked in the early 8th century, and Rodney Young discovered a similar wall of Middle Phrygian date at the northern end of the citadel along this same line. The street in question, then, cannot have lasted longer than the 9th century, and the sharp differences in elevation in Area 4 therefore still require further exploration.

The layers below the building debris were quite rich in organic material, still full of pottery coupled with traces of evenly distributed burned grain.

There were also large numbers of red deer antlers in the assemblage, a few of which were complete, which probably points to bone working as one of this area's activities during the first half of the sixth century.

We ended the season at a depth of 9.5 m below modern ground level, and we have still not reached a stratum earlier than ca. 600 B.C. The excavation of this trench is one of the most difficult enterprises I have ever seen, and none of these splendid results would have been possible without the careful excavation technique of Sarah Leppard, ably assisted by Işık Abacı and Penn Ancient History Graduate Student Ben Abbott.

The final area of excavation this season occurred at a tumulus lying 11 km to the east of Gordion, and commonly referred to as the Beyceğiz Tumulus. With a preserved height of 17 m, it is the fourth largest tumulus in this area, just after MM (the Midas Mound) at 53 m, the Kiranharmanı Tumulus at 24 m, and Tumulus W, the oldest one known at Gordion, at 22 m high. Beyceğiz was targeted several times during the last few years by looters, who dug a tunnel nearly 36 m long into the tumulus. They fortunately failed to reach the chamber, which is now the focus of a rescue excavation by the Museum of Anatolian Civilizations in Ankara, for which we provided assistance. Since the tumulus is still being explored, there are few details that we can provide here, but the excavation has supplied us with valuable new information regarding the techniques used to build these monumental mounds, and it has been both an honor and a pleasure to work in partnership with the Ankara Museum on this project.

Geophysical Investigations

This year our geophysics team of Stefan Giese and Christian Huebner focused their attention on two key areas: the perimeter of the Citadel Mound and the area of the Outer Town, which is the residential district located at the west of the citadel. In both cases, our intention was to obtain a more accurate understanding of the size and position of the fortifications that surrounded these areas. To do this, they used electric resistivity tomography (ERT), since it has proven to be an especially reliable technique for detecting sub-surface features on the Citadel Mound. Magnetic prospection, valuable though it is, usually records the presence of buildings that lie at a depth of not much more than 2 m, but ERT can detect structures at a depth of more than 8 m below the surface.

All ERT sections taken along the perimeter of the mound revealed high resistivity structures that are clearly part of the citadel's defensive wall during the Middle and Late Phrygian periods (8th-4th c. B.C.), as one can see in the green line in fig. 19. This is a discovery of great significance, in that never before have we been able to pinpoint the precise location of the citadel's defensive circuit despite Rodney Young's extensive excavations, and we were never certain that those defenses encircled the entire mound. Some of our earlier assumptions about the fortifications of the citadel will now need to be revised, such as our interpretation of the back wall of Building A (a Middle Phrygian industrial building) as part of the citadel's fortifications.

Another important discovery relates to the northeast corner of the mound, where the team uncovered evidence for



Figure 15: The assemblage of 6th c. B.C. roof tiles in Area 4, looking south. Photo by Brian Rose.



Figure 16: The assemblage of 6th c. B.C. roof tiles in Area 4, looking southeast.
Photo by Gebhard Bieg.

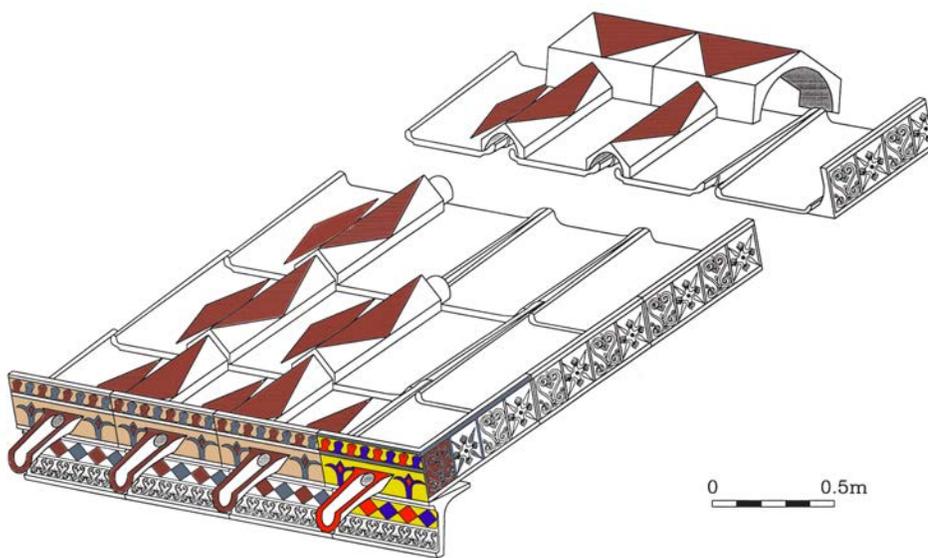


Figure 17: Reconstruction of the roof system in Area 4. Original drawing by Matthew Glendinning adapted by Gebhard Bieg.

another large warehouse or network of storage buildings (the intersecting orange lines in fig. 19). Two others such buildings had been excavated 60 years ago in that area by Rodney Young, who named them the “PPB”, or “Persian-Phrygian Building”. The

most extensively excavated complex measures nearly 30 m square, with four rows of four cellars, each of which is 6 m square. Only the southwest corner of the newly discovered warehouse was recorded by ERT, but we can now see that the entire north side of the mound

was occupied by enormous storage buildings during the Middle Phrygian period.

The Bronze and Iron Age citadels of Asia Minor were regularly equipped with large storage units of this general type. One could cite the agglutinative cellars on the northeast side of the Late Bronze Age citadel at Troy, or the long rectangular units at the Hittite capital of Hattusa. Nevertheless, none had quite same configuration as those of Gordion. It looks as if the warehouses were first built in the early 8th century along with the majority of the citadel’s Middle Phrygian buildings, and then probably expanded in the late eighth century. We can even propose a likely reason for this change: the military campaigns of Midas between ca. 720 and 710 would surely have required a growth in the citadel’s infrastructure, which would have necessitated an increase in the available storage facilities.

ERT was also conducted in the Outer Town, where the team was able to identify, for the first time, the defensive wall that defines the southern side of the district (fig. 20). It looks as if this defensive wall proceeded east and connected to one of the bastions within the defensive wall surrounding the Lower Town, Gordion’s other residential district. We can now confirm that the Outer Town was 44-45 hectares (109-111 acres) in size, and therefore essentially the same size as the Lower Town. What is still unclear is whether the density of occupation in both areas was the same.

Gordion Cultural Heritage Educational Program

For the last three years, the Gordion Project has conducted a cultural heritage educational program under



Figure 18: Jessica Johnson and Cricket Harbeck conserving the roof tiles from Area 4. Photo by Gebhard Bieg.

the supervision of Gordion's deputy director, Ayşe Gürsan-Salzman, in partnership with Halil Demirdelen, Deputy Director of the Museum of Anatolian Civilizations in Ankara, and with the assistance of the Penn Museum's palaeo-botanist Naomi F. Miller. In 2014 and 2015, the program focused on cultural heritage training for students, and in 2016 we shifted to local educational leaders, especially the teachers and administrators from secondary schools near Gordion.

In 2017 our goal was to assess the effectiveness of the programs conducted during the last three years and to engage in strategic planning for the future. In the course of the season, three workshops were held with 20

local teachers and officials from the municipal government of Polatlı, which is the region's political and educational center (fig. 21). The workshops included the deputy mayor, cultural and educational officers, the director of the Polatlı Chamber of Commerce, and members of various civic associations.

The goal of the workshop was to build partnerships with officials in preserving Gordion and its cultural landscape through programs aimed at students, teachers, and the general public. The programs included presentations by members of the Gordion team as well as Halil Demirdelen, several local teachers, the deputy mayor, and the Director for the Promotion of Historic Sites. Among

the subjects discussed were social/cultural activities for local residents to be held at the Gordion Museum, programs focused on training local students to be tour guides at Gordion and in the surrounding area, and the ways in which promotion of the site could be tied to the marketing of local agricultural products and women's handicrafts.

In general, the new programming is intended to turn the local residents into more energetic stakeholders in the protection of the region's cultural heritage. There was unanimous agreement on a cooperative and synergistic partnership between the Gordion Archaeological Project and the municipal and civic institutions in

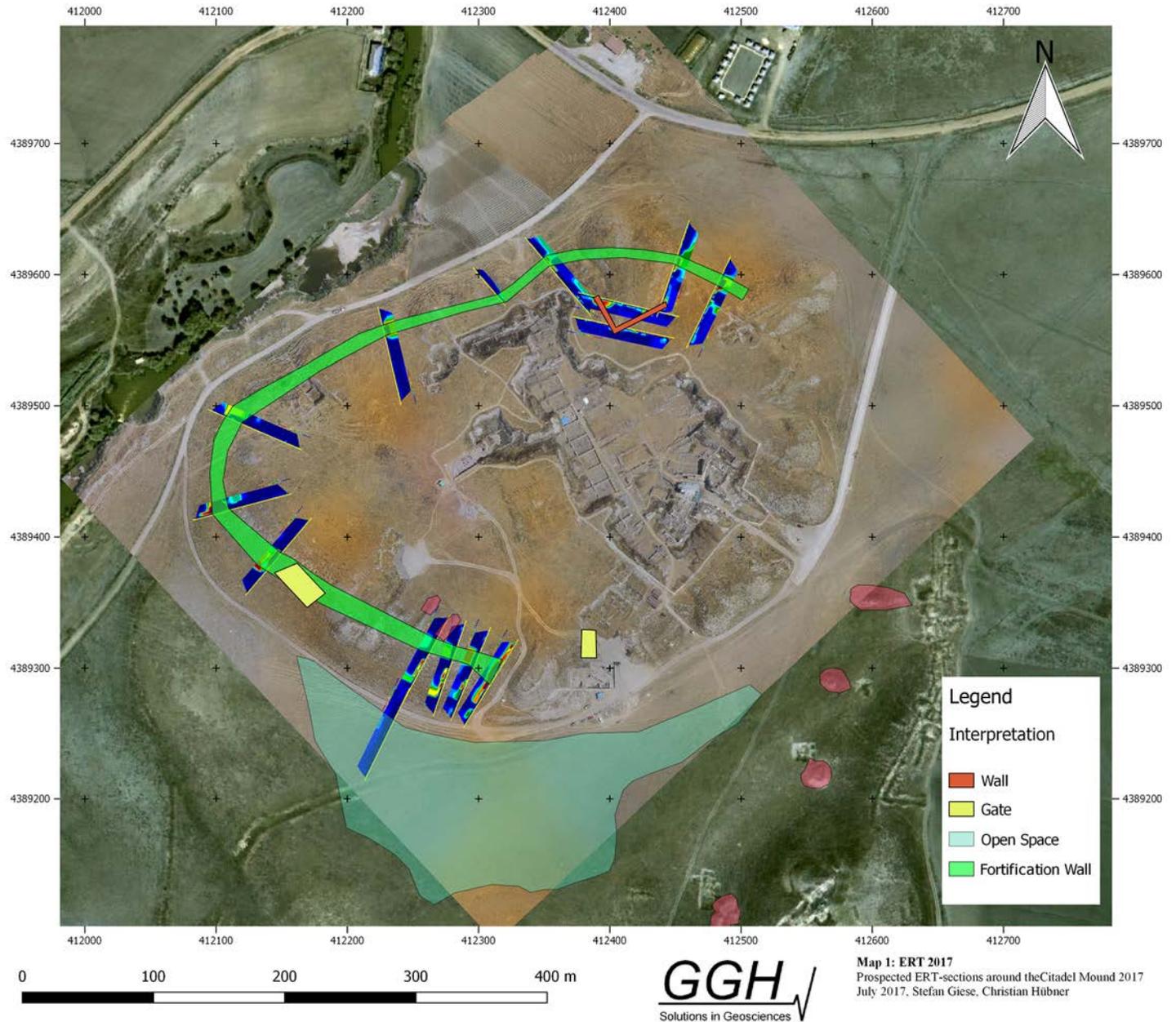


Figure 19: Remote sensing results on the Citadel Mound. The green line represents the defensive wall around the citadel.
Prepared by Stefan Giese and Christian Huebner.

Polatlı, and a synopsis (in Turkish) of the main workshop can be accessed at: <http://www.polatlipostasi.com/mobil/haber/2523/tarihi-korumak-icin-muzakere-basladi.html>

Publication, Staffing, and Notable Visitors

Our work during the 2017 season was made easier due to the energetic support of our representative, Mr. Nusret Çetin of the Museum of Anatolian Civilizations in

Ankara. We also benefited tremendously this year from the periodic visits of Mr. Enver Sağır, Mr. Halil Demirdelen, and Mr. Mehmet Akalın, the Director and Deputy Directors, respectively, of the Museum of Anatolian Civilizations in Ankara, as well as Mr. Mustafa Metin

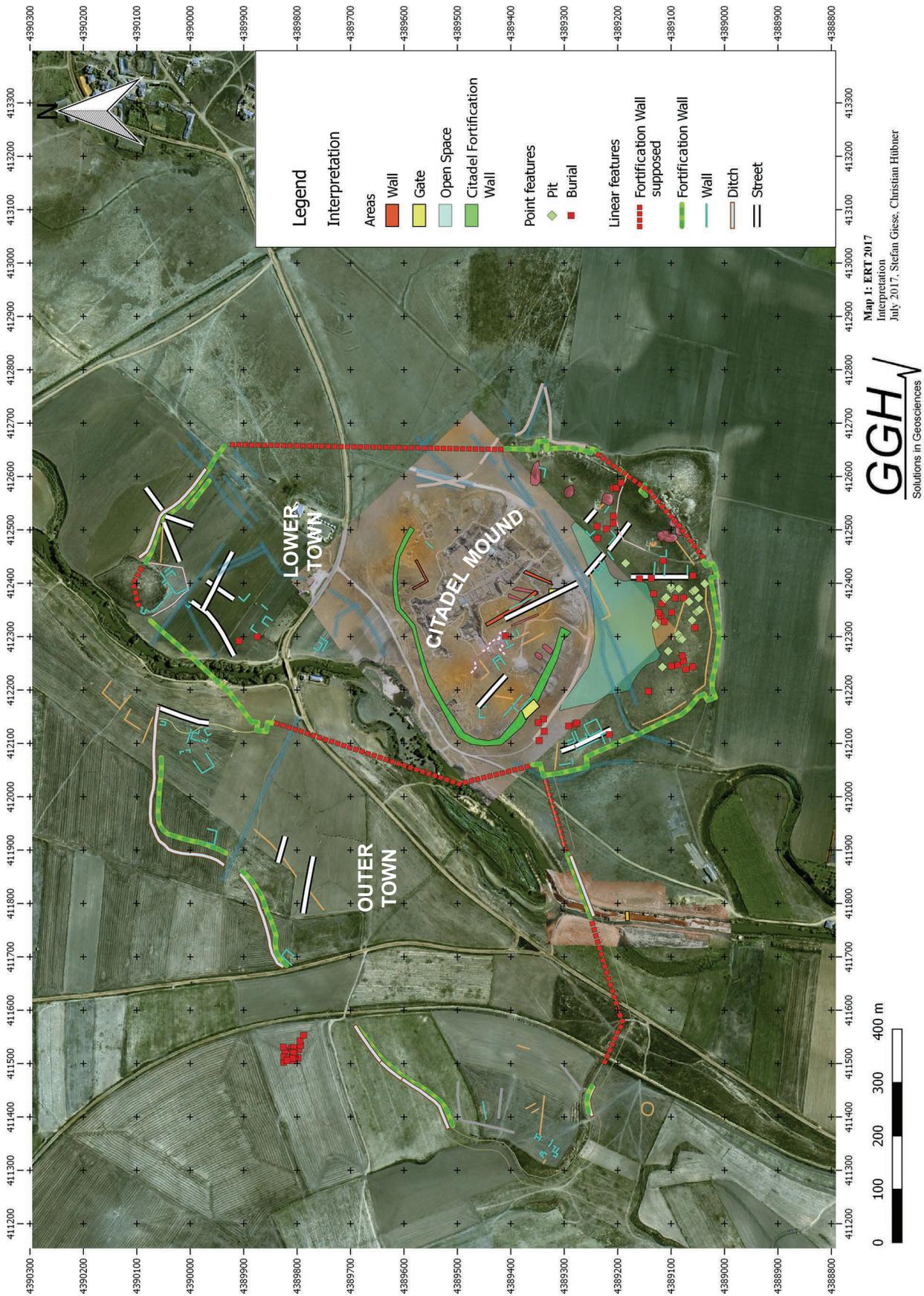


Figure 20: Remote sensing results in the Lower and Outer Towns. Prepared by Stefan Giese and Christian Hübner.



Figure 21: The Cultural Heritage Education workshop in Polatlı, led by Ayşe Gürsan-Salzmänn and Halil Demirdelen. Photo courtesy of Ayşe Gürsan-Salzmänn.



Figure 22: Gareth Darbyshire discussing the iron vehicle fittings from Tumulus A (ca. 530 B.C.) with Charles K. Williams II and Amanda Mitchell-Boyask (Penn Museum). Photo by Brian Rose.

and Mr. Mehmet Sevin, who supervised the rescue excavations at the Beyceğiz Tumulus. We extend warm thanks to the General Directorate for Cultural Heritage and Museums, especially Mr.

Yalçın Kurt, General Director, Mr. Melik Ayaz, Mr. Mustafa Bozdemir, Mr. Murat Gürül, Mr. Köksal Özköklü, Mr. Umut Görgülü, Ms. Nilüfer Ertan, and Ms. Nihal Metin.

Equally generous in their assistance were the Kaymakam and Belediye Başkanı of Polatlı, Mr. Mahmut Nedim Tunçer and Mr. Mürsel Yıldızkaya, respectively, and Mr. And Atasoy of the Ankara Historic Preservation Commission. Mr. Kadım Koç, Polatlı Belediye Başkanı Yardımcısı, visited the site several times to discuss educational programming in and about Gordion.

The excavation house was filled with researchers working on a wide variety of manuscripts that spanned a period from the Bronze Age through the Roman period. These included Gareth Darbyshire (iron objects, especially those from the cremation burials [fig. 22]); Beth Dusinger (the Iron Age and Persian-period cremation burials and associated finds); Andrea Berlin and Brigitte Keslinke (Hellenistic ceramics); Richard Liebhart (architecture of Tumulus MM); Maya Vassileva (Phrygian bronzes); Tuğba Gençer (Early Hellenistic human skeletal material); Canan Çakırlar and Janine van Noorden (faunal analysis); Billur Tekkök (Roman ceramics); Gül Gürtekin Demir (Lydian pottery); Gebhard Bieg (Küçük Höyük); Jane Hickman (gold objects from the cremation burials); Penn graduate student Sam Holzman (Phrygian wall decoration); and Barış Yılmaz (the “North Cellar”).

The pace of publication is steadily increasing. The catalogue of the *Golden Age of King Midas* exhibit was published by Penn Press last August, edited by Brian Rose and Gareth Darbyshire, and John (Mac) Marston’s volume on Gordion’s ancient environment, *Agricultural Sustainability and Environmental Change at Ancient Gordion*, has also just appeared from Penn Press. Two other monographs will be completed this

year: Phoebe Sheftel's volume on the bone and ivory objects from Gordion, and Gül Gürtekin Demir's study of the Lydian pottery from Gordion. Janet Jones' volume on the glass of Gordion will be finished by the summer of 2018, as will *The Hellenistic Settlement at Gordion* by Shannan Stewart and Martin Wells, and Andrew Goldman's *Roman Gordion, a Roman Military Base in Central Turkey*.

We want to single out several members of the staff without whom this summer's work could not have functioned as well as it did (fig. 23): Katherin Ku (Penn), registrar, assisted by Ken Jordan and Eda Kaygusuz (Marmara University); Gebhard Bieg, photographer; Günsel Özbilen Güngör, illustrator; Joseph Nigro, Brian Norris, and Braden Cordivari (Penn), surveying and mapping; Canan

Çakırlar and Janine van Noorden (Groeningen University), faunal analysis; Naomi Miller (Penn), Emily Miller, and Mac Marston (Boston University), archaeobotany; Brigitte Keslinke (University of Colorado), Andrea Berlin (Boston University), and Billur Tekkök (Başkent University), ceramic analysis; Stefan Giese and Christian Huebner (GGH), geophysics, assisted by Karl-Magnus Melin; and Gareth Darbyshire (Penn Museum), archivist.

The architectural conservation was overseen by Elisa Del Bono, assisted by Angelo Lanza, Giuseppe Bomba, Renzo Durante, Shaghayegh Torkzaban (Penn), and Yusuf Çalıř (Adnan Menderes University). The object conservation work was expertly overseen by Cricket Harbeck and Jessica

Johnson (Smithsonian Institution), with interns Julia Commander (Penn Museum) and Mohammed Lashkri Khudhur (Iraqi Institute for the Conservation of Antiquities and Heritage, Erbil).

The excavation of the Phrygian fortification walls (Area 1) was directed by Simon Greenslade, assisted by Kurtis Tanaka (Penn), and occasionally by Yusuf Çalıř (Adnan Menderes University) and Braden Cordivari (Penn). The trench west of the Terrace Building (Area 4) was supervised by Sarah Leppard, who was assisted by Ben Abbott (Penn), Iřık Abacı (Istanbul University), and Braden Cordivari (Penn). Both Richard Liebhart and Braden Cordivari assisted Mustafa Metin and Mehmet Sevim of the Museum of Anatolian Civilizations in



Figure 23: The 2017 Gordion Project staff. Photo by Gebhard Bieg.

the rescue excavations at the Beyceğiz Tumulus. Eda Kaygusuz and Ken Jordan provided indispensable support regarding the organization of the pottery depot, which was supervised by Gareth Darbyshire. Zekeriya Utğu, our house manager and guard, kept everything running efficiently within the excavation compound and on the Citadel Mound.

Within the U.S., we continually rely on the counsel, guidance, and support of Charles K. Williams, II, as well as Julian Siggers, the Williams Director of the Penn Museum, Amanda Mitchell-Boyask, director of development at the Penn Museum, and the Museum's Board of Overseers.

We would like to close by noting again that none of our accomplishments this summer would have been possible without your

encouragement and generous support. It is a pleasure to acknowledge, in particular, the assistance offered to us by the Penn Museum of Archaeology and Anthropology, the C.K. Williams II Foundation, the Luther Replogle Foundation, and the Merops Foundation. At this particular time, when the cultural heritage of Syria and Iraq is disappearing so rapidly, we're grateful for the investment that you have made in the preservation of the past.

We hope to be able to share our results with more of you during this year, in lectures in the U.S. and at Gordion itself. You'll find the latest information about the project on our website:

<http://sites.museum.upenn.edu/gordion/>

Thank you again and we look forward to welcoming you to the site!

With best wishes,



C. Brian Rose

James B. Pritchard Professor of Archaeology, Penn Museum
Director, Gordion Archaeological Project



Ayşe Gürsan-Salzmänn, Penn Museum

Assistant Director, Gordion Archaeological Project

The Friends of Gordion support the ongoing activities of the Gordion Excavation Project, which include site conservation, fieldwork, and publications of the latest discoveries. All Friends of Gordion receive the annual newsletter that provides information about the results of the season's work. Friends are especially welcome at Gordion and are given guided tours of the site, the excavation, and the museum. Every contribution, no matter how small, enables us to further the cause of protecting and publicizing the site. You can support Gordion by making your tax deductible donation at <http://sites.museum.upenn.edu/gordion/friends-of-gordion/friends-of-gordion/>

