



FRIENDS OF GORDION

NEWSLETTER

The 2012 season at Gordion has just ended, and we wanted to share with you the high points of our fieldwork that your support has made possible. As in past years, we devoted more attention to the study of previously excavated material than to new excavations, although fieldwork in and around the citadel continued to occur, as did geophysical prospection. In the course of the summer we worked in more than ten different sectors of the site, and there were over 30 scholars and scientists who were members of the team during our two month season in June and July.

Conservation

Much of our fieldwork focused on architectural conservation on the mound, especially in the area of the Terrace Building (TB) (fig. 1). This zone constituted the most important industrial sector of Phrygian Gordion for nearly 400 years, between *ca.* 900 and 500 BC. Within the rooms of the building was an abundance of equipment for textile and grain processing, with some rooms containing between 500 and 600 loom weights, and at its height the area could have accommodated roughly 300 workers, most of whom were probably women. The stone foundations have been increasingly disintegrating since their discovery by Rodney Young in the 1950s, and we launched a new plan to conserve them three years ago.

The work was overseen by Elisa del Bono and Angelo Lanza, as it has been since the beginning of the project, and we again thank the 1984 Foundation and



Figure 1: The Terrace Building at Gordion during conservation. The Early Phrygian Gate is visible to the left, and the elite burial mounds toward the top. (Photo by Andrea Berlin)

the Kaplan Foundation for their invaluable support. Ten walls from room TB-1 and four from TB-2 were treated during the current field season. Masonry conservation included consolidation of fractured blocks using grout injection and re-attachment with epoxy resins; stone pinning with stainless-steel bars; new stone replacement; and installation of stainless-steel cables to stabilize in place splayed blocks (figs. 2–3). The tops of the restored walls have been protected by the installation of a soft capping system formed by a geofabric layer (*Typar*) and a mud-brick frame, into which sod of a shallow rooted



Figure 2: Angelo Lanza consolidating one of the wall blocks of the Terrace Building. (Photo by Elisa del Bono)



Figure 3: Angelo Lanza reassembling one of the blocks of the Terrace Building.
(Photo by Elisa del Bono)

perennial vegetation (*Poa*) has been inserted.

We also began planning for a major restoration project dealing with the Early Phrygian Gate, the principal entrance to the site and one of the best-preserved Iron Age gateways in Asia Minor (fig. 4). Although the stone walls of the building are still preserved to a height of nearly ten meters, there is a significant bulge in the masonry on one of the sides that will endanger the entire wall if it is not stabilized soon (fig. 4, on the right side). This will be one of our major projects in conservation during the next three years.

Our most interesting object conservation project involved the reconstruction of a tortoise shell from a destroyed Middle Phrygian building beneath Tumulus E, deposited *ca.* 700 BC, which was discovered while moving material from the old pottery depot. The conservation work was carried out by Elizabeth LaDuc, whose internship at Gordion was generously supported by the Kress Foundation. The tortoise shell has 14 carefully drilled holes and is probably the soundbox of a *chelys* (tortoise shell lyre) (fig. 5). Although often depicted on Greek vases, very few actual lyres have survived from antiquity, making the recovery of the one at Gordion all the more important.



Figure 4: The Early Phrygian Gate Building, looking east. The bulge in the masonry is visible to the right. (Photo by Meredith Keller)



Figure 5: Conservation intern Elizabeth LaDuc conserving a tortoise shell lyre from beneath Tumulus E. (Photo by Jessica Johnson)

Geophysical Explorations

The use of remote sensing, such as radar and magnetometry, has completely transformed our understanding of Gordion's city plan and topographical development during antiquity, and remote sensing activities this summer were extensive. There were two geophysical teams: one from the National Aeronautics and Space Administration (NASA) in Washington DC and one from GGH Geophysics in Freiburg, Germany. Both teams used magnetometry, which involves walking over fields with a machine that measures variations in the magnetic fields of buried structures (fig. 6). In this way, we can prepare a map of the buildings and streets that still lie buried, as

long as those features are not much deeper than three or four meters.

The GGH team focused on the area between the Gordion citadel mound and Kuş Tepe, the large mound that lies on the city's northern border. This forms part of the Lower Town, an area of 25 hectares (nearly 62 acres) that surrounds the citadel. The mound of Kuş Tepe was originally a large mud-brick fort that was destroyed in the Persian attack during the 540s BC, and the siege mound that the Persians built against it can still be seen on its northern side.

The magnetic prospection conducted around Kuş Tepe yielded several striking discoveries (fig. 7). A gate in the city fortifications at the northeast was detected, as was a road leading up to the gate which



Figure 6: Daniel Slayback of NASA conducting magnetic prospection near Tumulus MM.
(Photo by Compton Tucker)



Figure 7: The latest magnetic prospection results from Stefan Giese and Christian Hübner (GGH). The Citadel Mound lies near the center of the image; Kuş Tepe is at the top. The black and red lines indicate fortification walls.

appears to branch off into three different roads, two of which move toward the fort at Kuş Tepe. South of the Kuş Tepe fort there seems to have been an additional fortified area, indicated by traces of a fortification wall and of buildings protected by that wall. It seems unlikely that a new fortified area would have been established south of Kuş Tepe after it was destroyed by the Persians, so we should probably interpret it as a second fortified district linked to the Kuş Tepe fort during the Middle Phrygian period. This is one of the areas targeted for excavation in the future.

To the northwest of the Lower Town lay another district usually referred to as the Outer Town. Limited excavations by Mary Voigt produced evidence of domestic habitation, but the region has never been well understood. Several years ago, Ben Marsh of Dickinson College speculated that the area was fortified, and this summer we found additional evidence that bolstered that proposition. Magnetometry detected another fortification wall that surrounded the Outer Town, as well as indications of dense habitation, much denser than one finds in the Lower Town. This was probably where the majority of Gordion's population lived.

The NASA team turned their attention toward the fields of tumuli that lay along the main road to the citadel. Many of these lie in the center of cultivated fields, and the continuous plowing over and around the tumuli has endangered the wooden tomb chambers contained within them. In order to safeguard the tumuli, we need to be able to demonstrate to the authorities that the tomb chambers that are most threatened by the plowing are still intact and have not been robbed. Altogether, twenty tumuli were surveyed with magnetic prospection, and in many cases the tomb chambers were found to be still intact. We plan to excavate several of these in the course of the coming years, but in the meantime, we

can make a strong case to the authorities for measures that will increase their protection.

The fields of tumuli that surround the citadel of Gordion have unfortunately been the target of looters since antiquity, and this year was no exception. A considerable amount of attention was focused on a tumulus that lies 11 km from Gordion, where the NASA team had conducted magnetic prospection in 2011. An inspection in July of this year revealed that looters had dug a tunnel nearly 36 m long into the tumulus, where they reached the stone packing that surrounded the wooden tomb chamber. Since this was discovered toward the end of the season, we closed the tomb with earth and stone and collapsed the tunnel; rescue excavations may begin next year.

A second tumulus near Dümrek (nearly 25 km to the north of Gordion) was attacked by looters with a bulldozer. The up-

per section of a well-preserved corbeled roof was damaged, but the majority of the tomb chamber escaped destruction. Subsequent rescue excavations by Vahap Kaya of the Museum of Anatolian Civilizations in Ankara yielded a two-chambered stone tomb of Hellenistic date that was measured and drawn by Penn archaeology graduate student Sam Holzman (fig. 8). Very few well-preserved stone tomb chambers of Hellenistic date have been discovered in this area, so the excavation was an important one, and we are all thankful to the Museum of Anatolian Civilizations in Ankara for acting so quickly to protect it.

The New Pottery Depot

Those of you who have visited Gordion will be well aware of the dilapidated state of the pottery depot that has served the Gordion Excavations for the last 60 years. The mud-brick structure may have been



Figure 8: Penn Archaeology graduate students Sam Holzman and Lucas Stephens measuring the newly excavated Hellenistic tomb near Dümrek. The tomb was excavated by the Museum of Anatolian Civilizations in Ankara. (Photo by Brian Rose)

state of the art when Rodney Young constructed it in 1958, but the shelves have been inadequate for many years, and the ceiling has threatened to collapse for even longer. The construction of a new depot, or Çanak Palas ("Pottery Palace"), as it is usually called, was essential, and we were able to build one during the summer of 2012 with the assistance of several generous sponsors, including the 1984 Foundation, the Selz Foundation, Limak Construction, Yenigün İnşaat Sanayi ve Ticaret AŞ, Limak Yatırım Enerji Üretim İşletme Hizmetleri ve İnşaat AŞ, İC Üçtaş İnşaat Sanayi ve Ticaret AŞ, Haşemoğlu İnşaat Sanayi Ltd. Şti., Aydiner İnşaat AŞ, and the Turkish Ministry of Culture and Tourism (figs. 9–11).

We owe a great debt to many other individuals who played a critical role in the completion of this project. Dr. Charles Williams and Dr. Crawford Greenewalt, Jr.[†] championed the project from its inception, as did Prof. Bülent Gültekin of the University of Pennsylvania and Ebru Özdemir of Limak Construction. The building was beautifully designed by Yavuz Öz-kaya and the new depot's assembly and organization were tirelessly overseen by



Figure 9: Aerial view of the excavation compound at Gordion. The new pottery depot is at the top of the photo. (Photo by GGH)



Figure 10: The Gordion excavation compound with the new pottery depot to the left. (Photo by Brian Rose)



Figure 11: The interior of the new pottery depot. (Photo by Richard Liebhart)



Figure 12: The courtyard of the Gordion excavation compound during the celebration of 25 years of fieldwork by Ken Sams and Mary Voigt. (Photo by Shannan Stewart)

Richard Liebhart, Gareth Darbyshire, Jessie Johnson, Lucas Stephens, and Ken Jordan. Such a facility will be indispensable when excavation resumes again next year, and there is now abundant space for the processing of new discoveries there as well.

One of the festive high points of the season was a party in mid-July celebrating the new Çanak Palas as well as 25 years of fieldwork by Ken Sams and Mary Voigt (figs. 12–13). This gave us an opportunity to bring together our associates from the Museum of Anatolian Civilizations in Ankara, the municipal government in Polatlı, and the Ministry of Culture and Tourism. The director of the Ankara Museum, Dr. Melih Arslan, spoke in tribute to the achievements of both Ken and Mary, followed by informal tours of the new pottery depot.

Exhibitions

One of the most exciting developments of the summer was the conclusion of a new memorandum of understanding between Penn and the Turkish Ministry of Culture and Tourism that will allow the discoveries from Gordion's "Midas Mound" to travel to Philadelphia for an exhibit on the Phrygians in 2016. The material includes the majority of the material found in the tomb by Rodney Young in 1957, most of which has ever been exhibited in the US. Several of the dazzling discoveries in the tombs of Lydia (usually referred to as the "Lydian Treasure") will also be featured, which means that we will be able to show you a side of Gordion that you may never have seen before.

Publication

The excavation house was filled with researchers working on a wide variety of manuscripts, including Phrygian and Hellenistic stratigraphy, topography, and



Figure 13: Ken Sams and Mary Voigt. (Photo by Kathleen Lynch)

architecture, and pottery of the Late Phrygian and Hellenistic periods. As I mentioned last year, the years between 2010 and 2012 have witnessed the publication of six new monographs relating to the archaeology of Gordion, with two more (Ken Harlan on Gordion Coins and John (Mac) Marston on Gordion's ancient environment) scheduled to be published next year.

The autumn of 2011 witnessed the long awaited publication of *The New Chronology of Iron Age Gordion*, which is the prod-

uct of a multidisciplinary research program dealing with the extensive Iron Age destruction level at the site. The history of Gordion's Destruction Level is almost like a detective novel, with multiple subplots, conflicting evidence, and, occasionally, sound and fury as the evidence for the destruction was interpreted and re-interpreted. Unraveling all of the associated archaeological threads has required several decades as well as the talents of a group of scholars with wide-ranging expertise. The

new analyses indicate that the destruction occurred 100 years earlier than we had thought, in 800 BC, and was the result of a fire that quickly got out of control rather than a foreign invasion. What this means is that we now need to look at Gordian, and much of the ancient Near East, in a completely new way.

Appearing in the fall of 2012 will be *The Archaeology of Phrygian Gordian, Royal City of Midas*, the proceedings of the conference that was held at Penn in 2007. The conference contained papers that spanned six centuries of Gordian's history and included talks on the regional exploitation of wood, flora, and fauna in antiquity, as well as the consistently fluctuating interaction between the site's inhabitants and the landscape. The new volume will contain 18 articles that provide a synthetic overview of all of the research that has occurred at Gordian since 1950, including the relations between Lydia and Phrygia.

The article on Lydia and Phrygia was written by Crawford Greenewalt, Jr., or "Greenie", as he was fondly known, who died shortly before the volume was sent to the University Museum press. Many of the most significant publications in Anatolian archaeology during the last half-century

have been skillfully guided by Greenie's hand, although one does not often find tangible evidence of the extent of that guidance in the publications. Greenie never allowed the full acknowledgement of his contributions to a book or article to appear, even though he contributed years of his life to editing, supplementing, and improving the manuscripts that all of us were writing. In other words, we were able to mature as scholars because he was willing to use the enormous breadth of his knowledge and vision to bring our scholarship to a level that it would otherwise not have reached. He will be greatly missed by everyone at Gordian, at Sardis, and in Mediterranean and Near Eastern archaeology.

Our work during the 2012 season was made easier due to the energetic support of our representative, Mr. Mehmet Akalin of the Museum of Anatolian Civilizations in Ankara, Dr. Melih Arslan, the Museum's director, and his associate Halil Demirdelen. We also extend warm thanks to the General Directorate for Cultural Properties and Museums, especially Mr. Murat Süslü and Mr. Melik Ayaz, for their assistance and guidance.

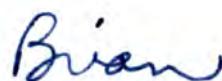
I would like to close by noting that our work and our discoveries are directly de-

pendent on your generous support, and none of the accomplishments highlighted in this newsletter would have been possible without your help. During the summer we were fortunate that several Friends of Gordian visited the site and offered their advice, encouragement, and assistance. We hope to be able to share our results with even more of you during this year—both in lectures in the US and at Gordian itself. You'll find the latest information about the project on our website:

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

Thanks again, and we look forward to welcoming you to the site!

With best wishes,



C. Brian Rose

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The *Friends of Gordian* support the ongoing activities of the Gordian Excavation Project, which include site conservation, fieldwork, and publications of the latest discoveries. All *Friends of Gordian* receive the annual newsletter that provides information about the results of the season's work. *Friends* are especially welcome at Gordian 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 Gordian by making your tax deductible donation at <http://sites.museum.upenn.edu/gordion/about/friends>

