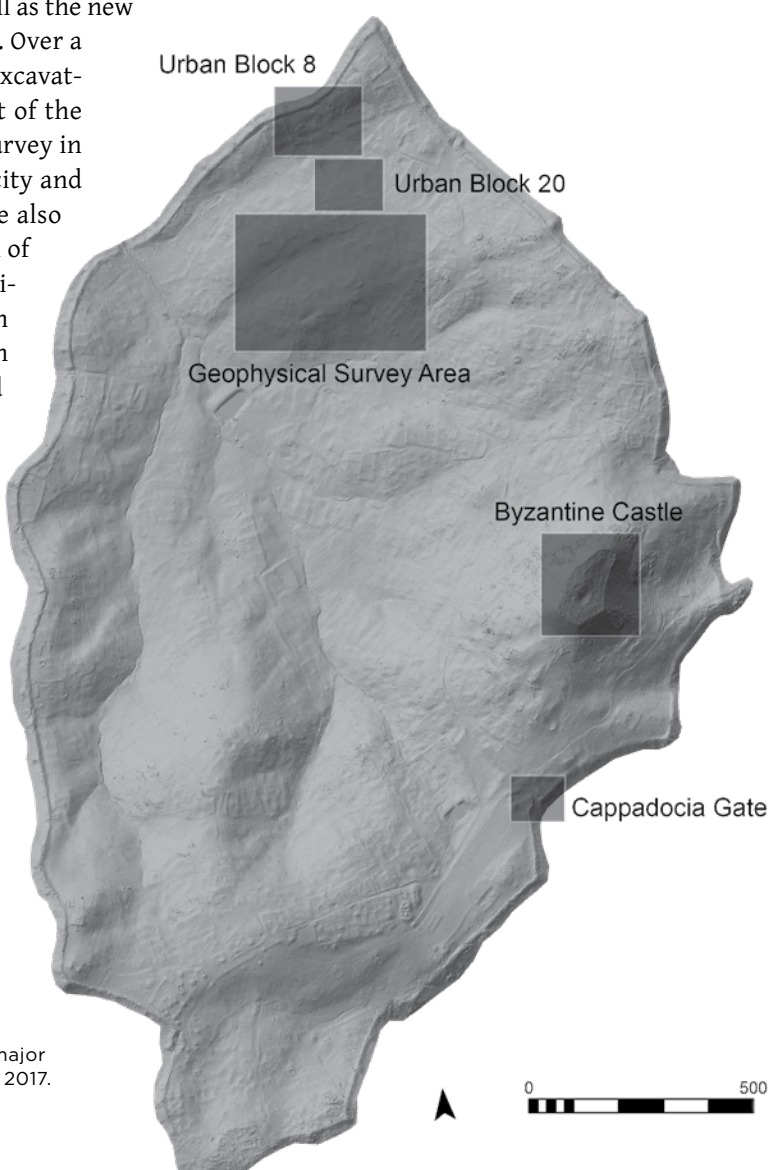




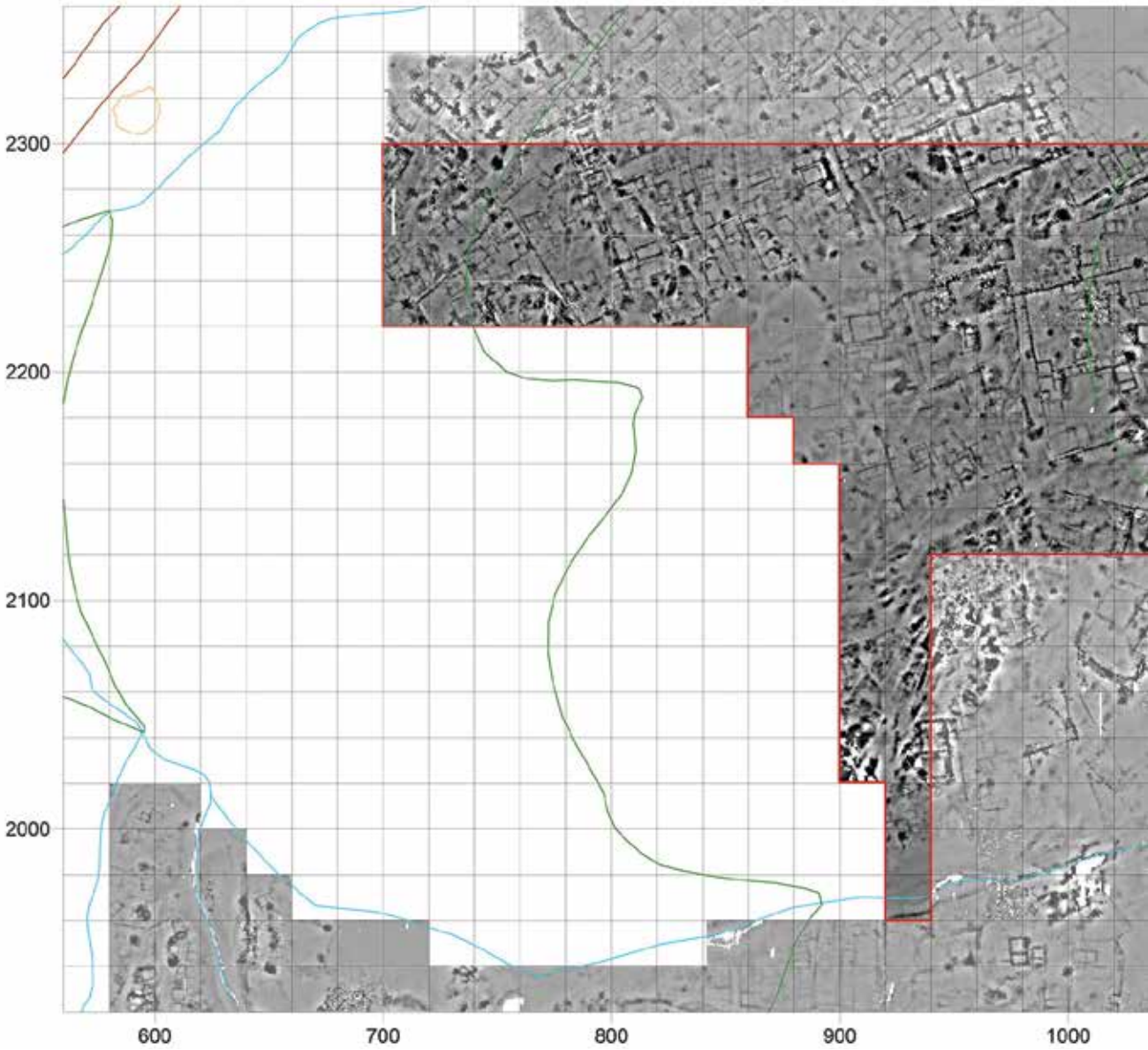
KERKENES PROJECT

SCOTT BRANTING | kerkenesproject.org

The 2017 season at Kerkenes marked twenty-five years of exploration of this very important late Iron Age city in central Anatolia by the current project. During this quarter century of research, the large-scale geophysical surveys and the development and use of innovative technologies by the project have received global recognition. This continued in 2017, the first full season undertaken with funding from both the Merops Foundation and the National Science Foundation as well as the new Kerkenes geophysical field school. Over a two and a half month season, we excavated two areas of the northern part of the city and undertook geophysical survey in the north-central portion of the city and in the Byzantine castle (fig. 1). We also continued our important program of monitoring and maintaining previous restoration work, undertaken with Oriental Institute support, in the southern part of the city and finished preliminary analysis of future restoration plans. This on-site work complimented post-excavation analysis by a growing team of specialists, cleaning and care of excavated materials by our conservation staff, and a program of infra-structural improvements within the excavation compound. In addition, expanding outreach and student involvement are but some of the highlights from this very productive season.



RIGHT: Figure 1. Map of the locations of major work at Kerkenes in 2017.



ABOVE: Figure 2. Results of the 2017 geophysical survey in the north-central portion of the city.

GEOPHYSICAL SURVEY

During the beginning of the 2017 season, we accomplished twenty-seven days of geophysics at Kerkenes during the months of May and June. A total of 64,800 sq m (6.48 ha) was surveyed by our team aided by the new geophysical field school (fig. 2). The main area of survey with the city this year connects two large areas of earlier resistance surveys. The first of these, in the central portion of the city, has been the focus of recent seasons of survey. The second is an area in the far northern portion of the city, around the urban block that has been the focus of our excavations since 2011. Joining up these two areas allowed the project to develop a more expansive building-by-building plan of the city around the ongoing excavations, particularly in areas where the burning during the final destruction of the city was less intense.

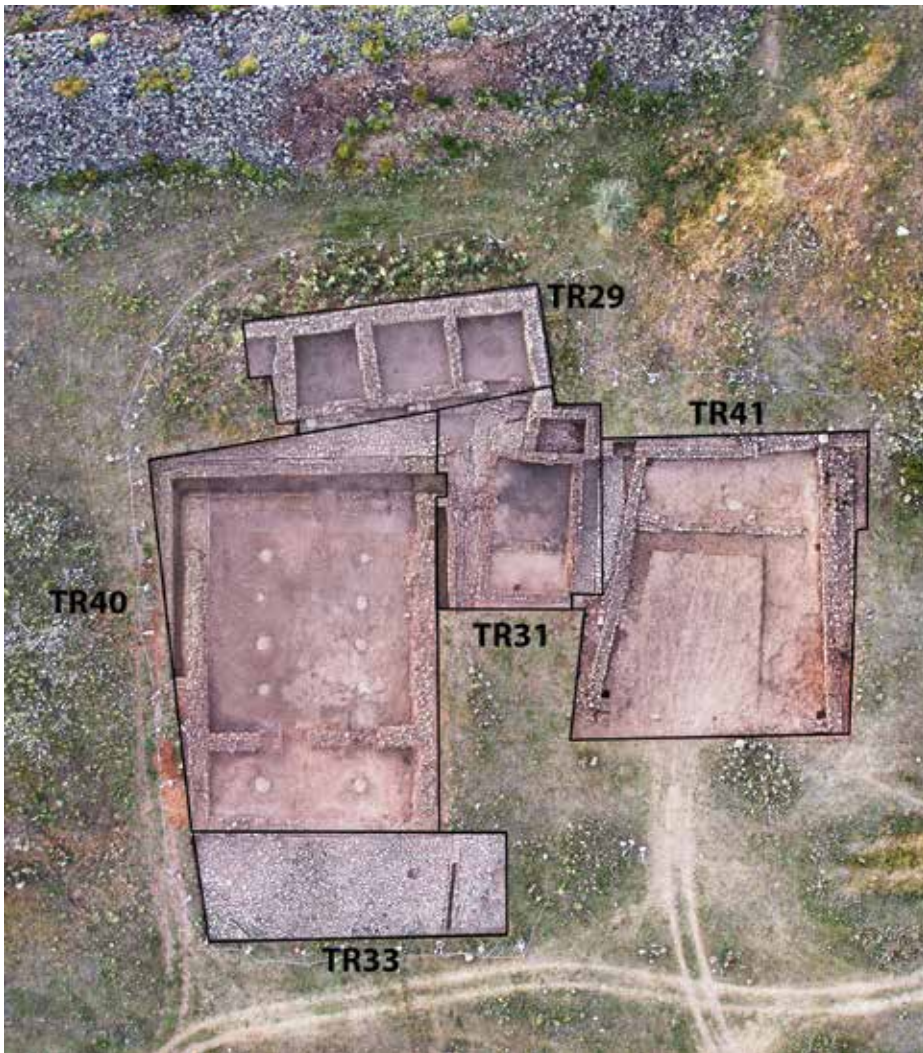
In addition to this work in the main city, we also undertook one day of survey high up on the Byzantine castle. This portion of the site had not previously seen geophysical survey. We used this small area of resistance survey to test the potential of Electrical Resistance Tomography (ERT) methods for revealing information about the shape and depth of the underlying bedrock. While the resistance survey test did not prove as successful in mapping the plan of the interior of the castle as it has within the Iron Age city, the ERT methods we hope to employ in future seasons do appear to have a good chance of mapping the bedrock and the earthen fill that provided a foundation for the castle. We plan to use ERT in transects across the castle in 2018.

We also were able to assist the Uşaklı Höyük team, lead by Stefania Mazzoni, by providing our resistivity equipment and expertise to them for resistivity surveys on their high mound in early May. Facilitating the work of other archaeological projects, as well as the work of the Yozgat Museum as we did last year in a nearby Roman bath complex, has been a hallmark of the Kerkenes Project since 1993. We are proud to be able to continue that tradition of collaborative outreach.



EXCAVATION

Excavations at Kerkenes took place over two months in 2017 and in four different trenches: Trench 40 (TR40), Trench 31 (TR31), Trench 41 (TR41) (figs. 3 and 4), and Trench 42 (TR42) (figs. 4 and 5). TR40, TR31, and TR41 are all located within Urban Block 8 while TR42 is located 130 m away in Urban Block 20. All four of the trenches are located in the northern portion of the city. Within Urban Block 8, excavations have now encompassed a total contiguous area of 1,500 sq m, a quarter of the total 6,000 sq m extents of this urban block. The full clearance of this entire urban block, in conjunction with the ongoing program of extensive soil sampling, would provide us with a much better understanding of how people lived within one of the 757 urban blocks, the range of activities they undertook on a daily basis, and how they used the buildings and outside spaces. During excavation in each of the four trenches, photogrammetry continued to be used by our excavators to develop 3-D models for recording purposes. The use of 360° cameras this year helped to make this process more efficient, allowing daily 3-D models to be generated throughout the excavation season.



LEFT: Figure 3. Aerial photograph of the excavation areas of Trenches 29, 31, 33, 40, and 41.



ABOVE: Figure 4. Aerial photograph of the excavation areas of both Urban Block 20 (foreground) and Urban Block 8.

LEFT: Figure 5. Aerial photograph of Trench 42.



ABOVE: Figure 6. Stone-edged bin to the west of the western wall of the large building in Trench 40.

TR40 covers nearly the full extents of a very large columned building within Urban Block 8. It is one of the largest buildings known in the ancient city. Work in 2014, 2015, and 2016 had uncovered the entire floor area in both the 75 sq m antechamber and the 260 sq m inner room. Excavation in 2017 concentrated on two areas in the back of the inner room, in a 1.5 m wide bin area discovered in 2016. We knew in 2016 that this 30 cm deep bin area continued through an extension of the line of the inner faces of the eastern and western walls of the building beyond their northernmost extents. It was unknown how far the bin extended past the line of the inner faces of two walls, how the bin related to these sidewalls of the building, or what was the purpose of the bin.

The continued excavation of the bin through the western wall of the large hall revealed several answers to these questions. The bin, with its sloping stone edge, continued across the 1.2 m northern end of the western building wall and then curved down along the outer edge of the wall, with plastering of the outward face of the wall noted above the top of the bin. It then continued south, along the outer edge of the wall for 13 m before ending in an east-west cross wall that abutted the western wall of the building (fig. 6). Mean-

while, the northern terracing wall, located on the northern side of the bin, reaches a corner just beyond the northwestern corner of the western building wall. It continues from there to the south, defining the western edge of the bin, at least as far as the east-west cross wall. The terrace wall does not now appear to be the outside edge of the building, but instead bounded a lower leveled space within which the building was constructed. The bin may have functioned as a channel to divert runoff water, coming from the surrounding terrace fill, around the large hall's walls and floors. Further analysis in 2018 of the systematic soil samples collected in 2016 and 2017 from across the large hall and the bin should help to confirm or refute this interpretation. They also may allow a better understanding of whether or not the bin area was covered.

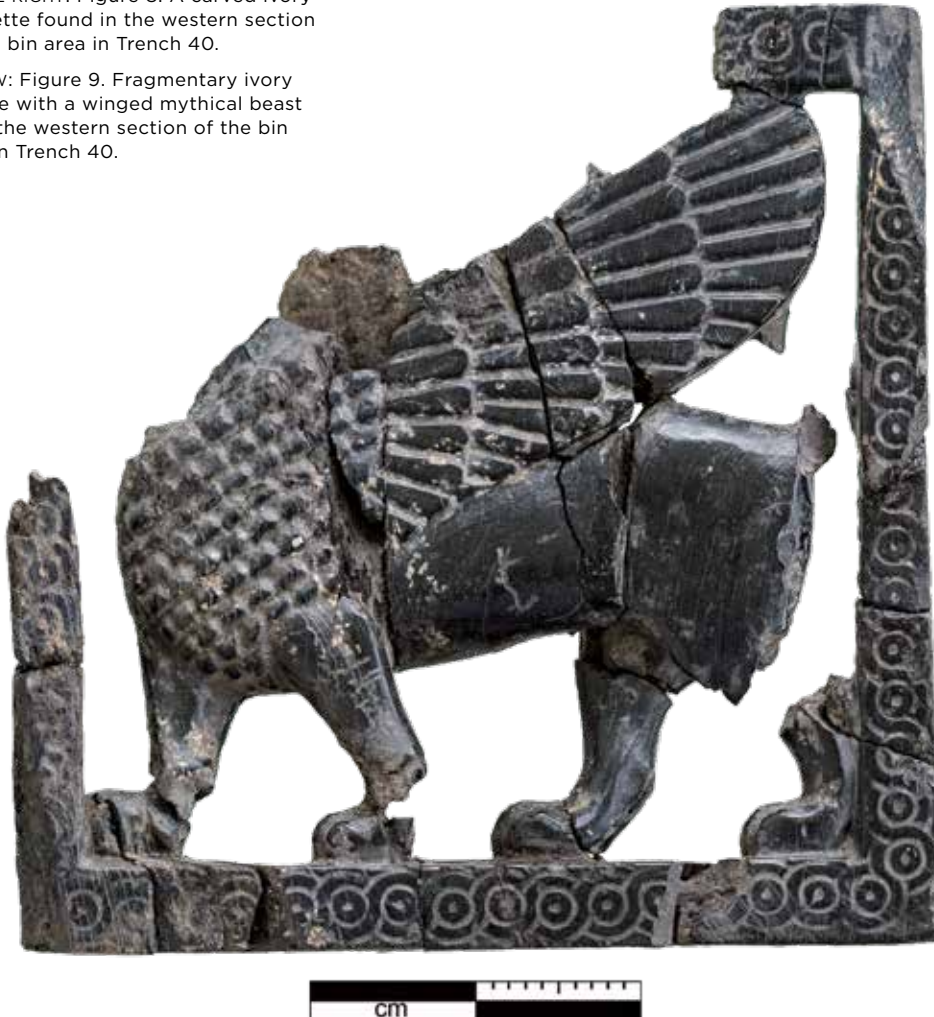
Within this western section of the bin area a number of objects were discovered. These included a number of carved objects in ivory, bone, and antler. At least seven carved antler rosettes were found lying flat along a surface in the bin (fig. 7). Additionally, numerous pieces of small worked bone cylinders were found across the area and a carved ivory palmette (fig. 8) was uncovered and pieced together. Portions of several ivory plaques were found including a plaque with a winged mythical beast (fig. 9), at least one plaque with a floral design, and a strip of worked ivory that may have been



ABOVE LEFT: Figure 7. One of the antler rosettes found in the western section of the bin area in Trench 40.

ABOVE RIGHT: Figure 8. A carved ivory palmette found in the western section of the bin area in Trench 40.

BELOW: Figure 9. Fragmentary ivory plaque with a winged mythical beast from the western section of the bin area in Trench 40.





ABOVE: Figure 10. A carved ivory disk from the western section of the bin area in Trench 40.

an inlay. Ivory discs were also found with compass drawn decorated circular banding (fig. 10). These have parallels in discs found in a cache from the Temple of Artemis at Ephesus, a link strengthened by worked astragali also discovered in the antechamber of this same building at Kerkenes during an analysis of the bone recovered in 2014. Finally, a portion of a shallow ivory bowl or mirror with squared areas for inlays around the edge was discovered in the northwestern corner of the bin area (fig. 11). The inlay areas exactly match two small gold inlays discovered this season from the same area of TR40 and one gold inlay discovered in 1996 within the doorway of Room 1 of the long multi-roomed building

directly to the north of this large hall. A notch out of the corner of the inlay from 1996 may even be from an individual prying the inlay free during the destruction of the city, prior to dropping and losing it in the doorway. The connection between the bowl and this inlay suggests that at least some of the ivory pieces found within the bin may have originally been stored within Room 1, a room that also yielded the famous ivory plaque discovered in 1996.

The excavation of the continuation of the bin to the east through the line of the inner face of the eastern wall of the building yielded a slightly different result. The bin to the east also continued 2.5 m, along the northern end of the eastern building wall. However, at least in the last phase of the building, it did not curve down between the outer edge of the eastern wall and the northeastern corner in the terracing wall. Instead, an east-west cross wall was constructed flush with the northern most end of the eastern wall, effectively blocking off a narrow 1 m wide stone paved slot just outside the eastern wall. A portion of the slot was excavated this year within TR31. This narrow slot may have been used to direct water away from the wall and floor of the hall, as a narrow drain ran down through the stone paving (fig. 12). However, it is quite different in composition from the bin running down the outer face of the western wall. A flat stone floor was found in the base of the bin and there is no evidence for the sloping bin stones found elsewhere in the bin area. Instead the outer face of the eastern wall continues down to the floor and was plastered to the floor. Within the extension of the bin to the north of the east-west cross wall, pottery and bone, similar to that noted in this portion of the bin that was uncovered in 2016, was found amongst the burning from the destruction of the city. In addition, a copper alloy arrowhead, copper alloy disks, an ivory inlay, and a fragment of a sandstone bowl were found in this eastern bin area. Within the slot outside the eastern wall in TR31 there were additional sherds along with a small bent iron sickle and fragments of grinding stones. Work in 2018 will continue the excavation of the slot to the south and may clarify the drainage situation along the eastern side of the large building.

RIGHT: Figure 11. A partial ivory bowl or mirror from the western section of the bin area in Trench 40.



Additional excavation was undertaken in TR31 within Room 4, the smallest room excavated thus far within Urban Block 8. In 2012 the threshold to this room was uncovered and in 2016 the entire 3.26 × 2.36 m extents of the room were defined. It is located just down from Room 3, which has been identified as a food preparation area. In 2017 excavations were completed in this room uncovering an original stone paved surface, as well as later reworking of the room (fig. 13). This later phase saw the replacement of the stone floor with a partially plastered floor noted about 16.5 cm above the stone paved surface. Only a few pieces of pottery, including a portion of a trefoil jar, and bone were found in this room. Additional analysis of the collected soil samples in future seasons may yield more evidence for how this room was used.



ABOVE: Figure 12.
The stone-paved
slot excavated in
Trench 31.

BOTTOM RIGHT:
Figure 13. Room 4
fully excavated
within Trench 31.



ABOVE: Figure 14. Trench 41 as seen from the southwest.

TR41 was situated to the east of TR31, beyond Room 5 and a paved area outside of it, which both were uncovered in 2016. The remainder of this paved area was excavated in 2017 as part of TR41. The entire 18×20.9 m extents of TR41 continued to the east from this paved area, across a long northeast-southwest orientated wall, and over a large multi-level outside space running up to a terracing wall that appears to define the easternmost extents of the urban block (fig. 14). The northern end of TR41 was defined by an east-west wall running across the urban block roughly in line with the northern terrace wall first encountered in TR40. Within this wall, a threshold was excavated in the northwestern corner of TR41. This threshold appears to allow access from the paved area in TR41 and TR31 to an as yet unexcavated area to the north of TR41.

The large open area beyond the long northeast-southwest wall, which forms the majority of TR41, was comprised of two distinct areas of different elevation connected by a four stair stone staircase. The staircase is located at the western end of a shorter east-west terracing wall that supports the 12.8×5 m upper area. Little of the surface of this upper area was preserved, but the irregular bedrock that protrudes up into this area in places does suggest that the terracing was an attempt to provide a fairly level surface for activities despite the uneven bedrock in this area. Where the stretches of surface were preserved in the northeastern corner bone, ceramics, and wood were found. Two sandstone blocks, ca. 45×30 cm and 35×30 cm, were found lying flat just in front of the western wall of the area, 1 m from the top step of the staircase. Excavations in the larger lower elevation area, to the south of the terrace wall, were started in 2017 and will be completed in 2018.

Finally, TR42 was opened within Urban Block 20, an urban block just to the south of Urban Block 8. This excavation will provide comparative information, using the same methodology, on the use of space within a different type of urban block. Urban Block 20 appears in the geophysical data to show a more haphazard arrangement of buildings, including structures that may be spilling out of the urban block over the course of the life of the city. In 2017, a 7×7.5 m area of Urban Block 20 was excavated as TR42 (fig. 5). It was situated to investigate a two roomed building located adjacent to a longer wall that marks a change in elevation within the urban block. None of the floor surfaces of the two rooms were preserved, but clusters of pottery as well as an iron dart were recovered.

CONSERVATION AND LABORATORY ANALYSIS

Conservation remains a key priority of the Kerkenes Project, both within the current excavations and in attempting to maintain structures from excavations undertaken by earlier teams. A major focus of this work is developing a conservation plan to try and maintain portions of the Cappadocia Gate, which was excavated and partially restored a decade ago with the Oriental Institute's financial support. This work has always been complex due to the intense fires that destroyed the gate in antiquity, with the internal wooden support structure of the walls and towers completely burned away. This has allowed the rubble core of the walls and towers to spill past the large facing stones that still stand over 3 m high in places. The only reason the walls survived thousands of years is because the entire area was backfilled by the collapse of the wall and upper portions of the towers at the time of their destruction.

Different methods of restoration were tried in four sections of the gate in 2009–10. This restoration work requires yearly maintenance with the replacement of smaller fitting stones to prevent loss of stones, bulging, and eventual collapse. Unfortunately, for two years in 2012 and 2013, when we were not issued a permit, no such maintenance was performed. Between 2014 and 2015, the current team performed the yearly maintenance under the museum permit, but noticed bulging already in the restored stonework from the lack of maintenance in the two intervening years. Since 2016 and the issuance of the new excavation permit, the project has performed the yearly maintenance and has used photogrammetric methods developed in 2014–15 to closely monitor changes in the restoration. In 2017, we extensively cleaned the entire gate area alongside the yearly maintenance process. In addition, we developed a preliminary plan for the stabilization of areas of the gate in collaboration with restoration architects in our team leadership from Abdullah Gül University. This plan is based on the photogrammetric data and is currently being discussed with engineers. We plan to finalize and submit the plan for the commission's approval in 2018–19.

Additional areas of the site were also the focus of conservation efforts in 2017. We cleaned the old excavation areas in the palace and made repairs to the fence. We also constructed and installed new sign panels, used to direct tourists to areas of the site, in the southern part of the city after winter winds had sheared off two of them. Our conservation staff also removed election graffiti that had been painted by unknown individuals on stones just outside the city walls. This work was in addition to our annual maintenance of restored walls in the city. Within the excavation depots, our trained conservation staff pressed on with the conservation and preservation of new and existing objects and materials. This includes a major effort of repacking, for long-term storage in new depot rooms, the pieces of stone carvings excavated between 2003 and 2011. We also continued to repack iron material within the depot to help in their long-term stabilization.

Team specialists working on floral, faunal, ceramic, metal, and dendrochronological analysis were also present on the site this year. Work in each of these areas was required based on materials recovered by the excavations and our long-term research design. Of particular note was the dendrochronological samples collected from TR40 in 2016 and 2017. These samples have sufficient tree rings to be further analyzed to try and date the city and to help anchor a broader dendrochronological based dating system for all of Turkey. We are currently working with the Ministry of Tourism and Culture and with the Yozgat Museum to export these dendrochronology samples for this further analysis. University students working with the project, from both Turkey and abroad, spent time with not only the excavations but also with these different specialists and with the conservation team.

FACILITIES AND INFRASTRUCTURE IMPROVEMENTS

We made significant improvement to the facilities within the excavation compound in Şahmuratlı Köyü in 2017. We installed a system of security cameras in the excavation house in 2017, at the request of the Turkish Ministry of Tourism and Culture. In addition, within the depots we installed new shelving in several storage rooms, rooms that were then used in the rehousing effort of the stone fragments excavated between 2003 and 2011. This allowed a reorganization of the large upper room of the stone depot into areas for specialists working with the current excavations, which in turn freed up areas within the main depot for conservation team activities and instrumentation. Finally, we installed a rain barrel to collect water, which can then be used by the project's flotation machine for the recovery of botanical and faunal material from excavated soil samples. This will help the project to better deal with water issues that are an annual problem in the village.

In addition to these improvements, we constructed a new garage in the main excavation compound, with ample storage rooms for project tools and equipment. This has been a need for several years. Other improvements we made during the 2017 season include emergency repairs to the roof of the Erdoğan Akdağ Visitor Center, replacement of some of the project's solar panels, and repairs to the new road leading up to site. The Yozgat Governor and the Sorgun Regional Governor were of great help this season in several of these improvement efforts.

OUTREACH

During the 2017 season, presentations on Kerkenes were made to local school children in Sorgun at the Mehmet Akif Ersoy Ortaokulu and at the Yavuz Selim İlk Okulu. We also coordinated with the Kültür 2000 Koleji school from Istanbul as they researched and then visited Kerkenes, as their class project for the year. They plan to present on Kerkenes in Istanbul and around the world in the coming year. We also collaborated with the Yozgat Tourism Bureau providing recordings for a mobile application to guide tourists through Yozgat's cultural sites. Finally, as has been the case at Kerkenes for many years, the project actively incorporated both Turkish and foreign students to train a new generation of archaeologists on the cutting edge techniques developed and used by the project.

ACKNOWLEDGMENTS

We are very grateful for the support of the Ministry of Tourism and Culture during the 2017 season. In particular, we are indebted to Necip Becene of the Yozgat Museum who served once again as the Ministry Representative. We received excellent advice from Hasan K. Şenyurt, Director of the Yozgat Museum, and the entire museum's staff helped to facilitate this work. In addition, we received support from the Yozgat Governor Kemal Yurtnaç, the Sorgun District Governor Dr. Mustafa Altınpınar, the Sorgun Mayor Ahmet Şimşek, the Şahmuratlı Mayor Turan Baştürk, and the Sorgun Administrative Director Metin Kayhan. Financial support of this work was received from the Merops Foundation, the National Science Foundation (NSF) Grant Award #1624105 "Investigation into the Social Organization of an Early City," the University of Central Florida, and private donors. We are always happy to welcome new partners in this important long-term research effort. No work would have been possible without our dedicated team included collaborators and students from around the world and throughout Turkey.

MUMMY LABEL DATABASE (MLD)

FRANÇOIS GAUDARD

During the past academic year, the editors and collaborators of the Mummy Label Database and Death on the Nile projects continued to make progress with various tasks, including completing the database, tracking lost mummy labels, and preparing text editions of unpublished ones. Moreover, they also kept working on subjects related to death in antiquity. For information on these joint projects of the Universitat Pompeu Fabra (Barcelona), the Universidad Complutense (Madrid), and the Oriental Institute of the University of Chicago, readers can consult previous annual reports, available online in Adobe Portable Document Format (PDF):

<https://oi.uchicago.edu/research/projects/mummy-label-database-mld>

On September 20, 2017, Raquel Martín Hernández delivered a lecture entitled “La experiencia de la muerte como proceso iniciático. El caso de los misterios griegos,” as part of the summer course “Morir antes de morir: sociedades y experiencias iniciáticas a lo largo de la Historia,” at the UNED (Madrid). In addition to conducting research at the Universidad Complutense, she is supervising a PhD thesis entitled “La identificación del muerto con Osiris en el Egipto ptolemaico.”

Alba de Frutos García (Universidad Complutense) is currently finishing her PhD thesis, entitled “Profesionales de las necrópolis en el Egipto ptolemaico” (“Funerary Workers in Ptolemaic Egypt”), under the supervision of Sofía Torallas Tovar (University of Chicago) and Alberto Bernabé (Universidad Complutense). It consists of a study of all the family archives belonging to funerary workers, in order to understand the social context in which they lived. Alba also gave the two following lectures: “Los profesionales de las necrópolis en el Egipto ptolemaico,” delivered on June 30, 2017, at the IV Jornadas de Doctorandos de Filología Clásica, Facultad de Filología, Universidad Complutense; and “¿Quién entierra al enterrador? Sobre las costumbres funerarias de los profesionales de la muerte en el Egipto ptolemaico,” delivered on July 14, 2017, at the VII Jornadas de Papirología, Universidad del País Vasco (San Sebastián).

Drawing up a list of lost mummy labels and updating it, as well as contacting museums and private collections around the world to track such labels, took a significant amount of time for Klaas Worp and François Gaudard. They also contacted Trismegistos (<https://www.trismegistos.org/>) to share the results of their investigations. At this point, they still expect to hear from various institutions. The most difficult labels to track include those which were part of private collections, were sold at private auctions, or disappeared, for example, during WWII. In this regard, François established interesting contacts for the MLD by attending the annual meeting of CIPEG (International Committee for Egyptology), dedicated to “The Role of Curators in Museum Research and Exhibits: Tradition, Change, and Looking to the Future,” and held at the Oriental Institute of the University Chicago from September 5 to 8, 2017. He also continued to work on the edition of the Oriental Institute Museum funerary shrouds from the Graeco-Roman period.

RELATED PUBLICATIONS BY TEAM MEMBERS

The following articles have been published, submitted, or are in press:

- Sofia Torallas Tovar, “A lexical Note on the Life of Pisentios.” In *Labor omnia uicit improbus: Miscellanea in honorem Ariel Shisha-Halevy*, edited by Nathalie Bosson, Anne Boud’hors, and Sidney H. Aufrère, pp. 373–380. *Orientalia Lovaniensia Analecta* 256. Leuven; Paris; Bristol, CT: Peeters, 2017.
 - Raquel Martín Hernández, “Faience Mummy Labels Written in Greek,” to be published in the forthcoming issue of the *Zeitschrift für Papyrologie und Epigraphik* (submitted).
 - François Gaudard, “A Greek-Demotic Mummy Label in the University of Cambridge Museum of Archaeology and Anthropology.” In *Hieratic, Demotic and Greek Studies and Text Editions. Of Making Many Books There is No End: Festschrift in Honour of Sven P. Vleeming*, edited by Koenraad Donker van Heel, Francisca A. J. Hoogendijk, and Cary J. Martin, pp. 309–13. *Papyrologica Lugduno-Batava* 34. Leiden, Boston: Brill, 2018.
 - François Gaudard, “Funerary Shrouds from Dendera in the Oriental Institute Museum of the University of Chicago, Part I: OIM E4786,” to be published in a Festschrift honoring a colleague (in press).
 - François Gaudard, “Funerary Shrouds from Dendera in the Oriental Institute Museum of the University of Chicago, Part II: OIM E4789,” to be published in a Festschrift honoring a colleague (in preparation).
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