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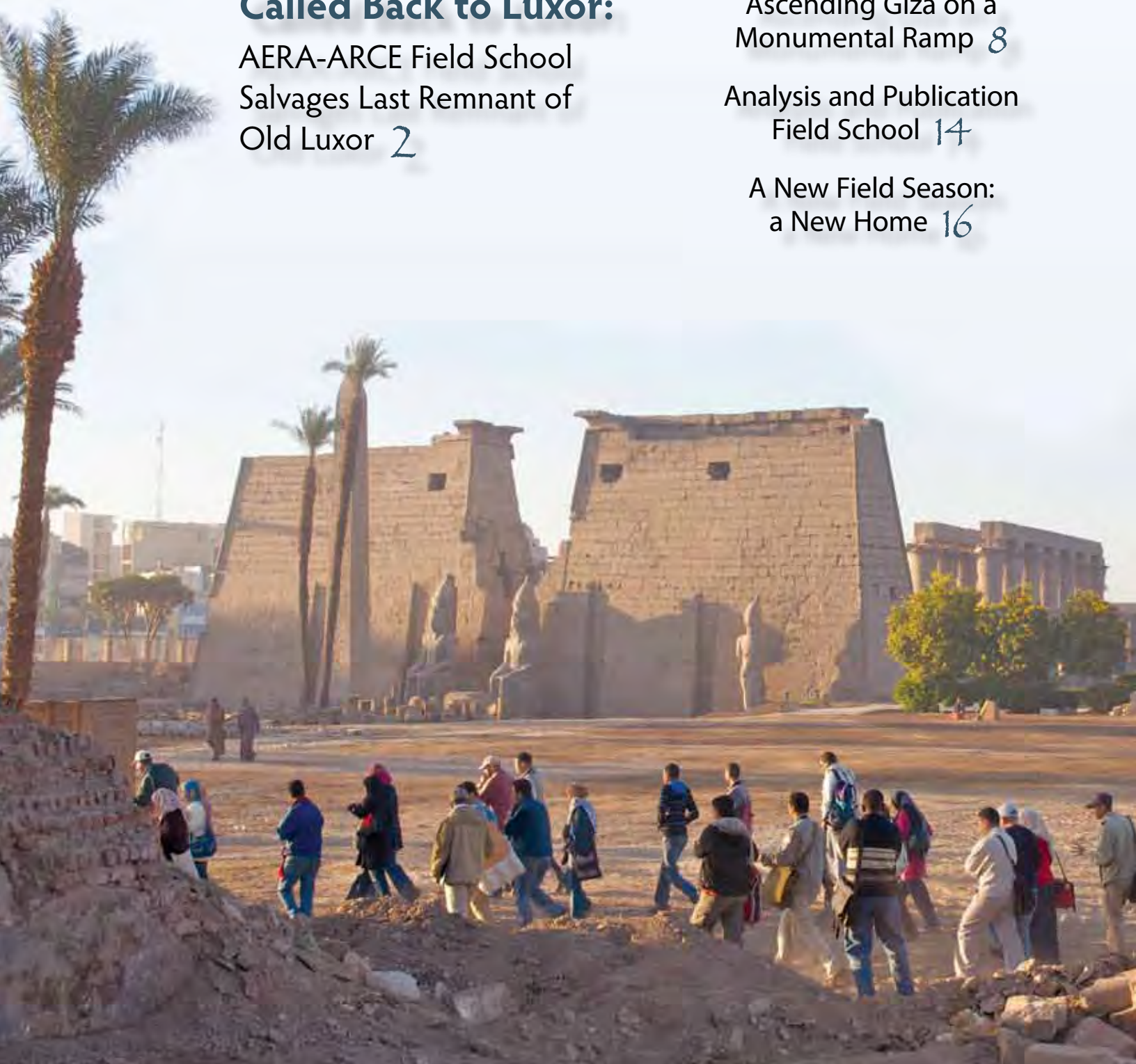
Called Back to Luxor:

AERA-ARCE Field School
Salvages Last Remnant of
Old Luxor 2

Ascending Giza on a
Monumental Ramp 8

Analysis and Publication
Field School 14

A New Field Season:
a New Home 16



Called Back to Luxor: The Salvage Archaeology Field School-2

Early January 2010 found an AERA team in Luxor within a stone's throw of the Nile River, atop a long mound nearly two stories high. The mound, a chunk of old Luxor, encompassed 2,000 years of stratified buildings and living floors. The team—instructors and students of the second AERA/ARCE Salvage Archaeology Field School (SAFS-2)—had a mandate to take the mound down to ground level in seven weeks, excavating stratigraphically; that is, recording and excavating each single deposit separately.

Rising Again to a Call from Luxor

Last year when we laid plans for our 2010 field season, we did not envision a Luxor mission. In October, however, Mansour Boraik, General Director of Luxor for the Supreme Council of Antiquities (SCA), put out a call for help. The last remnant of the old town mound within the Luxor Temple archaeological preserve was coming down as part of the redevelopment of the site for tourism.

Old Luxor rose upon a mound of its own building, demolition, dumping, and rebuilding. By medieval Islamic times, the town had risen within and around Luxor Temple seven meters (23 feet) above the level of the New Kingdom floor and even higher to the north.

Starting in the 1880s, antiquities authorities cleared the town from inside the temple. Between 1958 and 1962 they removed most of the old town mound to the north, demolishing nearly

2,000 years' accumulation of houses and settlement deposits, 7 to 9 meters (23 to 30 feet) thick, dating from Roman, medieval, and early modern periods. The authorities left standing a piece of the mound behind two early 20th century "palaces" that cut down into the deposits.

Mansour asked AERA and the American Research Center in Egypt (ARCE) for help in removing what was left of the mound while continuing to train SCA inspectors. This training had begun with the first AERA/ARCE field school in rescue archaeology in 2008 (see AERAGRAM 9/1) when we excavated farther north along the Avenue of the Sphinxes (see photo on page 6).

So, with the approval of Dr. Zahi Hawass, Vice Minister of Culture and SCA Chairman, we launched a second salvage field school excavation. As with SAFS 2008, our task was to save information from archaeological deposits slated for complete removal.

In less than three months, Co-Field School Directors Mohsen Kamel and Ana Tavares pulled the SAFS-2 together. They could not have done this without the help of Dr. Gerry Scott, Director of ARCE, who provided emergency funding; John Shearman, ARCE Associate Director in Luxor who provided trucks, transportation, tents, and team lunches; and Janie Abd al-Aziz, Grants Administrator, who provided financial advice and reviewed the budget.

Tackling the Mound

On January 9, 31 students, 14 supervisors, 3 professional contract archaeology instructors, and 60 workers assembled for the first day of the mission. Students came from a large pool of applicants whom we had interviewed in November. The supervisors, all SCA inspectors, had graduated from the AERA Beginners and Advanced Field Schools and worked with the first SAFS in Luxor.

For the first few days, students and supervisors practiced basic surveying and recording skills, as workmen cleared away debris from the recent demolition of the southern palace. Normally, we spend more time with basics in our Beginners Field School. But the SAFS-2 had a mission, and if they did not carry it out, information might be lost forever!

The excavation students, in four teams, took to the mound with only a few days of basic training. They found themselves learning to swim, so to speak, after being thrown in the water. The work quickly became very hard and demanding.

Two SAFS-2 teams mapped the features showing in the sides of the mound. In the eastern face, the 1958–62 excavations chopped through a very large mudbrick building (Structure 3), with five gaping rooms full of mudbrick tumble. On the west the removal of one of the palaces exposed the cut through the mound that the palace builders made



Before the SAFS-2 team tackled the mound, workmen cleared rubble that had been strewn over it when an adjacent building was demolished.

a hundred years ago. Here much modern refuse filled spaces between what was left of the walls.

Two other excavation groups mapped the top of the mound (the “Summit”), while one group worked at the southeastern corner documenting the “Red Zone” of burnt earth left by industrial activity during the Roman period. They also recorded a wide trench that a University of Chicago team, directed by Donald Whitcomb and Janet Johnson, excavated in 1985.

Layers Through Time

The excavations on the Summit were like an elevator descending through time down into a standing island of Luxor life that once spread hundreds of meters along the Nile. With truly professional efficiency, under the guidance of Field Director Mohsen Kamel and Senior Archaeologist James Taylor, the team took down this testament of bygone times.

In the first week, they came into intimate contact with the detritus of early 20th century life left by palace servants in the ruins of their small quarters (Structures 1 and 2): old letters, bottles, clay pigeon houses, and even magical spells. A hundred years ago, masons built the walls of these back rooms on foundations of reused sandstone and alabaster blocks with hieroglyphic fragments taken from pharaonic monuments—perhaps pieces of Luxor Temple itself. They set the foundation stones into the ash and mudbrick debris layers left from the destruction and abandonment of the previous phase.

The SAFS-2 teams, working their way down layer by layer, next pulled away a black velvet shroud of ash draped over the entire Summit, a covering that disintegrated and billowed up into their faces. The extremely fine powder, noxious to the lungs, required all excavators to wear surgical masks. By day’s end these dedicated diggers looked like chimney sweeps!

Fragment of an Ancient Neighborhood

The team worked down through the mudbrick tumble, enormous debris-filled pits, and collapsed roofing left from the



Taking down the mound, from the top clockwise: Mapping the summit of the mound prior to excavation. Clearing the west side of the mound. Mapping the floor of a medieval building. The mound nearly down to ground level with a Roman Building exposed.

LTM 2010
 CONTOUR MAP
 Pre excavation



Ashraf Abd el-Aziz, instructor, and Ahmed Hassan Amin



Mohamed Naguib Reda, ceramics supervisor



Momen Saad, supervisor



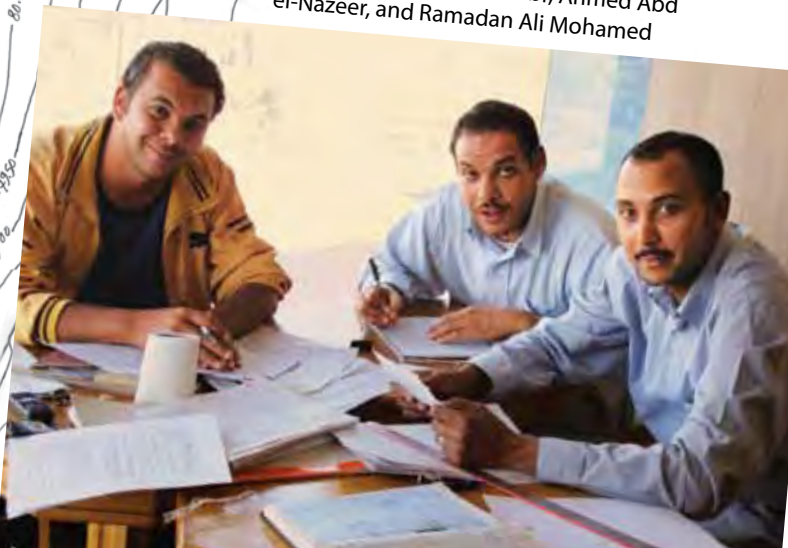
Mahmoud Abdellah Mohamed



Marwa Nour el-Din Ahmed



Mohamed Abd el-Aziz Gabr, Ahmed Abd el-Nazeer, and Ramadan Ali Mohamed



Contour drawing of the Luxor Town Mound prior to excavation. Prepared by SAFS-2. All photos on pages 4 and 5 by Jason Quinlan.



Shaima Montasser,
supervisor



Susan Sobhi Azeer, objects registrar

Roman Period Complex in Phase

By the end of the season, the excavators on the Summit had brought the mound close to the mandated ground level and “into phase” with the structures articulated by other field school groups in the eastern, western, and southern sides of the site.

The Luxor Town Mound was now like the skeleton of an overturned boat. One long, thick wall ran keel-like north to

Field Director Mohsen Kamel uses the auto-level to take elevations.

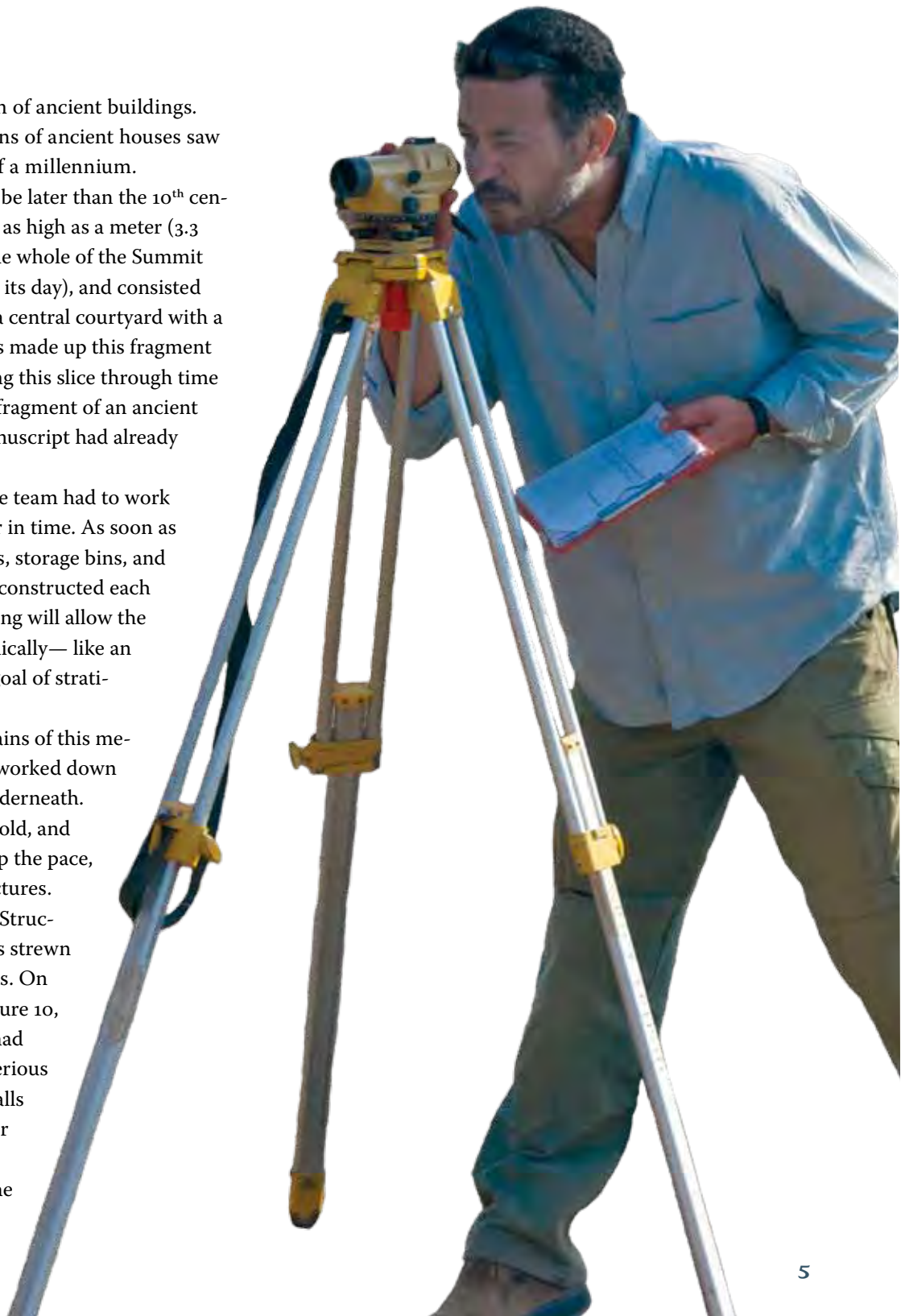
destruction of the next oldest horizon of ancient buildings. By the end of January, underlying ruins of ancient houses saw light for the first time in possibly half a millennium.

Provisionally, this complex cannot be later than the 10th century in date. Its mudbrick walls stood as high as a meter (3.3 feet). The complex extended across the whole of the Summit (and who knows how much farther in its day), and consisted of at least 11 rooms arranged around a central courtyard with a red brick floor. Parts of several houses made up this fragment of an ancient neighborhood. Capturing this slice through time in old Luxor was like grasping only a fragment of an ancient papyrus text, while the rest of the manuscript had already vanished forever.

But there was no time to linger. The team had to work on as the “elevator” descended deeper in time. As soon as they had mapped the walls, grain silos, storage bins, and pavements, SAFS-2 team members deconstructed each piece. Their three-dimensional mapping will allow the whole to be put back together—graphically—like an archaeological LEGO set. Such is the goal of stratigraphic excavation and recording.

Once they had “captured” the remains of this medieval neighborhood, Summit teams worked down through demolition and ash layers underneath. After seven weeks in the wind, dust, cold, and then extreme heat, they had to pick up the pace, now frantic to reveal underlying structures.

On Summit north they uncovered Structure 9, a series of chambers with coins strewn across the floors and a pot full of coins. On Summit south, they uncovered Structure 10, where the remains of vaulted rooms had seen heat so intense from some mysterious industry that the three-meter-high walls (almost 10 feet) had literally melted, or vitrified. Long drips of silica from the molten mudbrick ran down toward the scorched-red floors.



south for the length of the mound. Perpendicular walls to the west defined the vitrified and coin-strewn chambers of Structures 9 and 10. Perpendicular walls to the east formed the chambers of Structure 3.

One SAFS-2 team of excavators had been working in Structure 3 all season. At the southern end they found holes punched through the thick keel-wall between the vaulted, vitrified chambers of Structure 10 and the lower-lying chambers of Structure 3, in which they found bins, benches, and bakeries with round ovens and hearths in small niches.

Meanwhile, the team at the southern base of the mound had expanded from Structure 11 under the Red Zone, at the southeast corner, to the southwest. Here they revealed Structure 12, which included a beautifully plastered, painted room of the Roman period, complete with decorative apsidal niche. The whole complex appears, provisionally, to date to the Roman period.

Mission Accomplished!

The second Salvage Archaeology Field School finished excavations on February 25 with its basic mission largely accomplished in seven weeks. The team stratigraphically excavated the remnant of

the Luxor Town Mound nearly down to its western base, just slightly above the level of the nearby corniche (river road).

The work had been tricky and precarious: in places the Summit was only 2.10 to 3 meters (7 to 9.8 feet) wide. Excavators had to be careful not to tumble off the edge while troweling, drawing, writing, bagging artifacts, and photographing, often in clouds of ash and dust whipped up by wind. The work had been physically hard, up and down the mound many times a day, standing long hours in precarious positions, hacking away with mattocks or scraping with trowels (archaeologists and workers together).

During the final, eighth week, SAFS-2 members bore down on the less glamorous, but utterly essential, post-excavation chores. They processed their data, producing a good quality archive (including hundreds of drawings and stratigraphic feature forms) and prepared a full assessment report, documenting what they found. They knew all of this was critical if we were to leave Luxor confident that others could take up where they left off. Much archaeology remains to be done on the ancient town inside the Luxor Temple enclosure.

The success of SAFS-2 reinforces our realization that the field schools, so gen-

erously supported by the American Research Center in Egypt (ARCE) through USAID funds, can be a formidable—yet efficient—archaeological force.

Acknowledgements

The SAFS-2 was supported by the American Research Center in Egypt (ARCE) Egyptian Antiquities Conservation Project (EAC) funded by USAID (EAC award number EAC-23-2009). We would like to thank Dr. Zahi Hawass, Undersecretary of State and Secretary General of the Supreme Council of Antiquities (SCA); Dr. Sabry Abd al-Aziz, General Director of Pharaonic and Coptic Monuments; and Mansour Boraik, General Director of Luxor. For helping to coordinate the field school interviews and for communications with inspectorates throughout Egypt, we thank Shabaan Abd al-Gawad of the SCA administrative office.

For financial support and advice we thank Dr. Gerry Scott, ARCE Director; John Shearman, ARCE Associate Director Luxor; Michael Jones, EAC Project Director; and Janie Abd al-Aziz, Grants Administrator, and Laura Shawky of ARCE.



Luxor Temple (left), Avenue of the Sphinxes (right), and the last remnant of the Luxor Town Mound, adjacent to the remaining early 20th century “palace.” Beyond lie the Nile and the West Bank. Photo by Jason Quinlan.



2,000 Years of Pottery Begin to Fill a Void



Autos, clothes, appliances—most of the things people manufacture—change over time. An object’s style can peg it to a particular time period. An avocado green GE refrigerator shouts late 1960s to early 1970s; a stainless steel GE fridge says 2000s and later.

Ceramics are no exception. Indeed, pottery probably has changed more over time than other classes of artifacts. Early on, archaeologists discovered that they could use pottery sequences—the gradual change in pottery styles over time—for dating sites. Archaeologists working in Egypt rely heavily on pottery sequences for assigning a first approximate date to surface finds and for fine dating features

and strata within sites, even more so since pottery is the most ubiquitous find class at any Egyptian archaeological site.

When we began the SAFS-2, published ceramics sequences for Roman through modern times were lacking in the Luxor area.* So the Luxor Town Mound offered a unique opportunity to develop a local sequence that was sorely missing. Because it was stratified, spanning more than 2,000 years with successive well-preserved architectural/archaeological phases, and was about to be carefully excavated, the Luxor Town Mound was the ideal source for ceramic sequence material. We could date the pottery by its precise archaeological context and establish temporal relationships between different types. As it turned out, the mound yielded an extraordinarily large, diverse collection of ceramics—including a remarkable quantity of whole pots—from all levels, providing exceptional material for the sequence.

Our dedicated ceramics team eagerly took on this challenging opportunity. The ceramicists, supervisors, and SAFS-2 ceramics students processed thousands of sherds, documenting the pottery with

comprehensive records of all attributes, such as shape, dimensions, clay type, color, porosity, and hardness. With the help of the SAFS-2 students specializing in illustration, they prepared 700 drawings.

The team’s efforts form the basis for developing a ceramic sequence, but one that is still highly preliminary and needs more work to tease out the intricate differences between the pottery assemblages in the various habitation layers of the site. With just seven weeks for analysis, the ceramicists only had time to process a limited amount of material from selected contexts critical for dating. They have not yet “worked out” the sequence, nor have they looked at the pottery from throughout the entire mound, nor established the range of types from the contexts they did study. That information will also be crucial for determining activities in the settlement.

When the ceramicists complete all the analysis during future study seasons, their ceramic sequence, covering almost 2,000 years of Egyptian history, will become an extremely important reference and fill a void in the archaeology of the Luxor region. The ceramic sequence will probably be the most valuable product of the SAFS-2 work.

Above: Elham el-Taweil glues a pot back together. Photo by Jason Quinlan.

*Tôd, a site in the Luxor area, furnished material from the Ptolemaic up to the Early Islamic Period. However, these ceramics came from contexts that were not well stratified.

Salvage Archaeology Field School-2

Archaeology Teams

1. SUPERVISORS: James Taylor, Saad Bakhit Abd el-Hafiz, and Ali Mohamed Ahmed Ibrahim. STUDENTS: Megahid Abd el-Mawgoud Mohamed, El Zahara Ragab Mahmoud, Khadija Ahmed Ali Mohamed, Ibrahim Ahmed Metwalli Mohamed, and Shaimaa Mahmoud Shahat.
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3. SUPERVISORS: Ashraf Abd el-Aziz, Daniel Jones, Rabea Eissa, and Hussein Rikaby. STUDENTS: Mahmoud Salim Mohamed, Ahmed Hassan Amin,

Osama Moustafa Mohamed el-Nahas, Mohamed Mansour Boraik, and Amr Zakaria Mohamed.

4. SUPERVISORS: Daniel Eddisford, Shaima Montasser, and Mohamed Ahmed Abd el-Rahman. STUDENTS: Mostafa Mohamed Saleh Taha, Mohamed Hussein Ahmed Hussein, Abdel Rahim Mahmoud Ahmed, Mohamed Zarad Shaaban Hassan, and Marwa Nour el-Dine Ahmed Mohamed.

Illustration Team

SUPERVISORS: Yasser Mahmoud Hussein, and Hassan Ramadan Mahmoud. STUDENTS: El Sayed Mamdouh el-Sayed, Said Ebrahim Abd el-Hamid el-Assal, Entesar Mohamed Eid Saif el-Deen, Adel Kamel Tohamy, Haibatallah Abdallah Mohamed, Amel Nasr Mohamed Ewieda, and Mahmoud Abdellah Mohamed.

Ceramics Team

SUPERVISORS: Aurelia Masson Berghoff, Bettina Bader, Pamela Rose, Elham Ahmed Mohamoud el-Taweil, and Mohamed Naguib Reda. STUDENTS: Ahmed Sadiq Tawfiq, Mohamed Mostafa Abdallah, Ashraf Sobhy Rezkallah, Atef Ibrahim Ali, and Mostafa Amin Mostafa.

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Surveyor: Mohamed Abd el-Baset
Objects Registrar: Susan Sobhi Azeer
Photographer: Jason Quinlan
Archivist: Manami Yahata
Accountant: Safinaz Ouri
Bookkeeper & Administrator: Mari Rygh

Ascending Giza on a Monumental Ramp

Since 2005 we have been exploring two settlements at the southeastern base of the Giza Plateau—the Khentkawes Town and the Menkaure Valley Temple community—where people lived during the final years of the Heit el-Ghurab site (HeG, a.k.a. “Lost City of the Workers”). George Reisner¹ excavated the Menkaure Valley Temple between 1908 and 1910. He found evidence of squatters who had moved up against the front of the temple and then into its court. Selim Hassan² excavated the Khentkawes Town in 1932, first along the causeway leading east from the queen’s monumental tomb and then in the “foot” of the town, where it turns south and nearly meets the Menkaure Valley Temple.

From Reisner’s reporting we know that people lived in and around the Menkaure Valley Temple for more than 300 years, until the end of the Old Kingdom. But Hassan published the Khentkawes Town as primarily a 4th Dynasty settlement, with only vague indications that people stayed on into later dynasties.

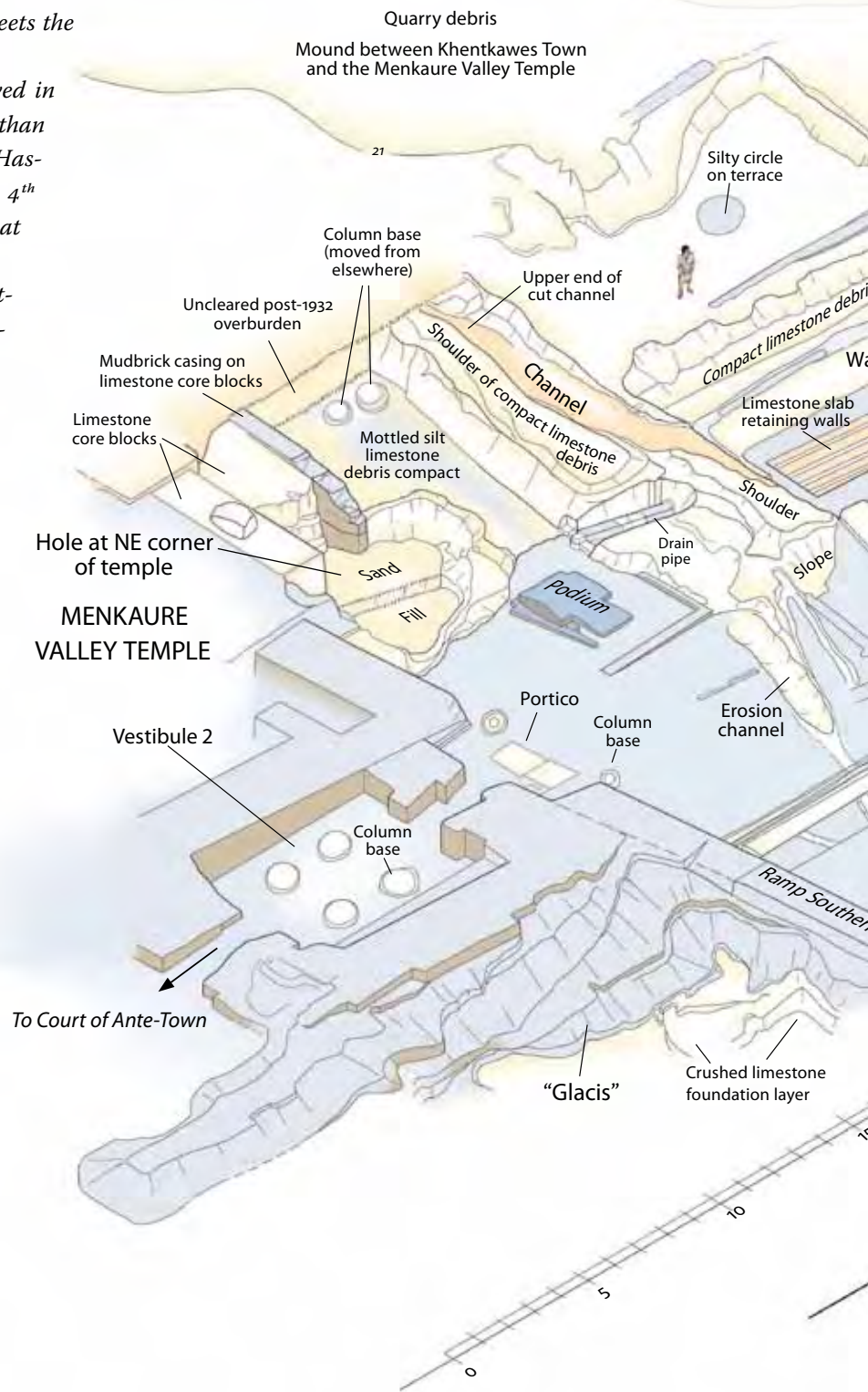
To find more evidence of the history of the Khentkawes Town and to compare the life span of both settlements with the HeG, we focused our work on the interface between the Khentkawes Town and the Valley Temple, hoping for a stratigraphic link.

Four seasons of systematic clearing, excavation, and survey have yielded an abundance of new information that shows the Khentkawes Town was indeed very long lived, possibly with a period of abandonment followed by reoccupation.

But we did not expect that the interface between the two communities contained such a monumental, terraced landscape, with a broad ramp that might have served as a primary access up into the Giza Necropolis.

In the last issue of AERAGRAM (10/2) we reported our discovery of the Khentkawes I valley complex at the eastern end of the queen’s causeway. We found that the town fronted onto a deep basin that may have functioned as a harbor, at least during flood season. People ascended from the basin to the causeway and town by way of long corridors, terraces, stairs, and ramps.

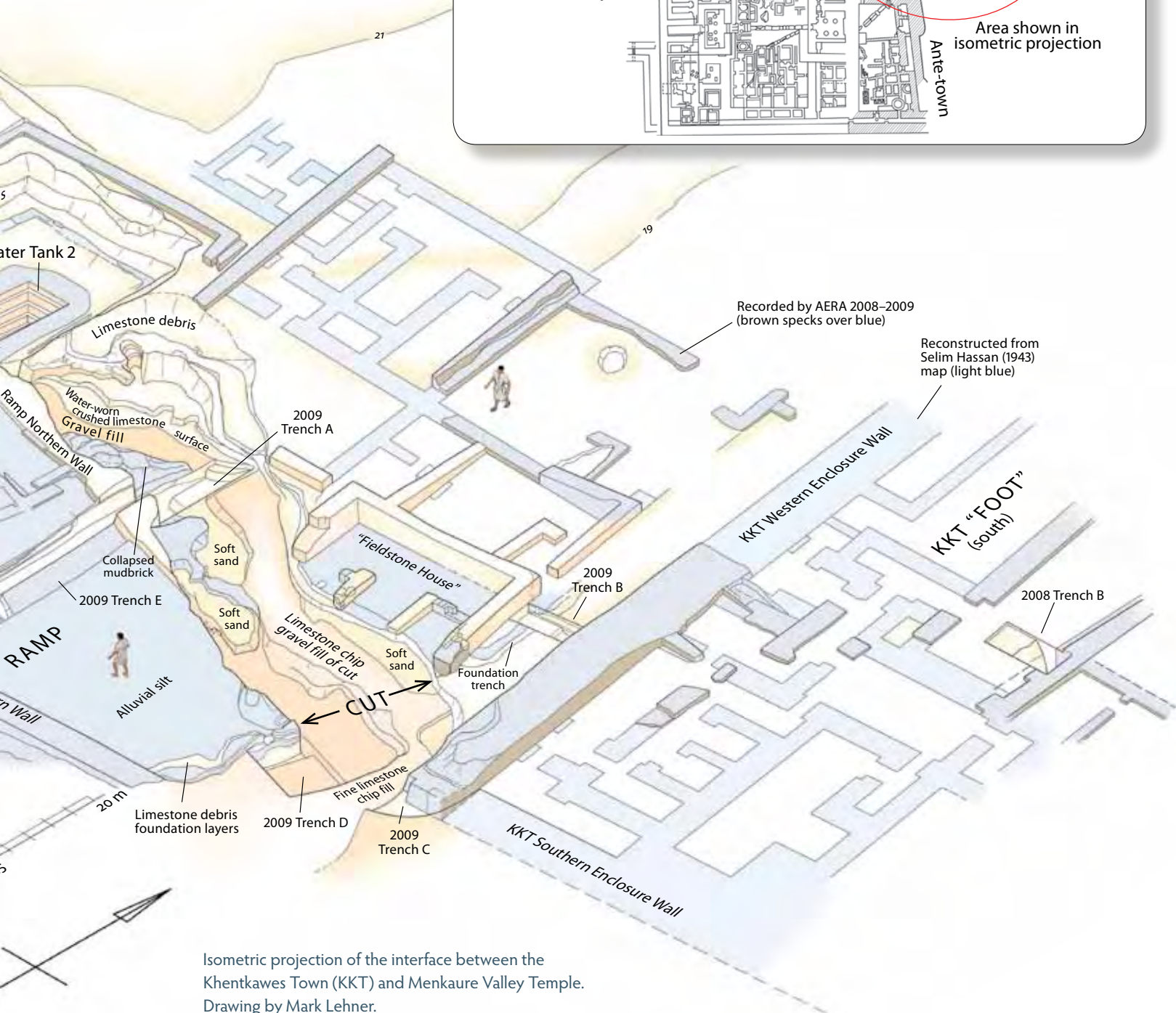
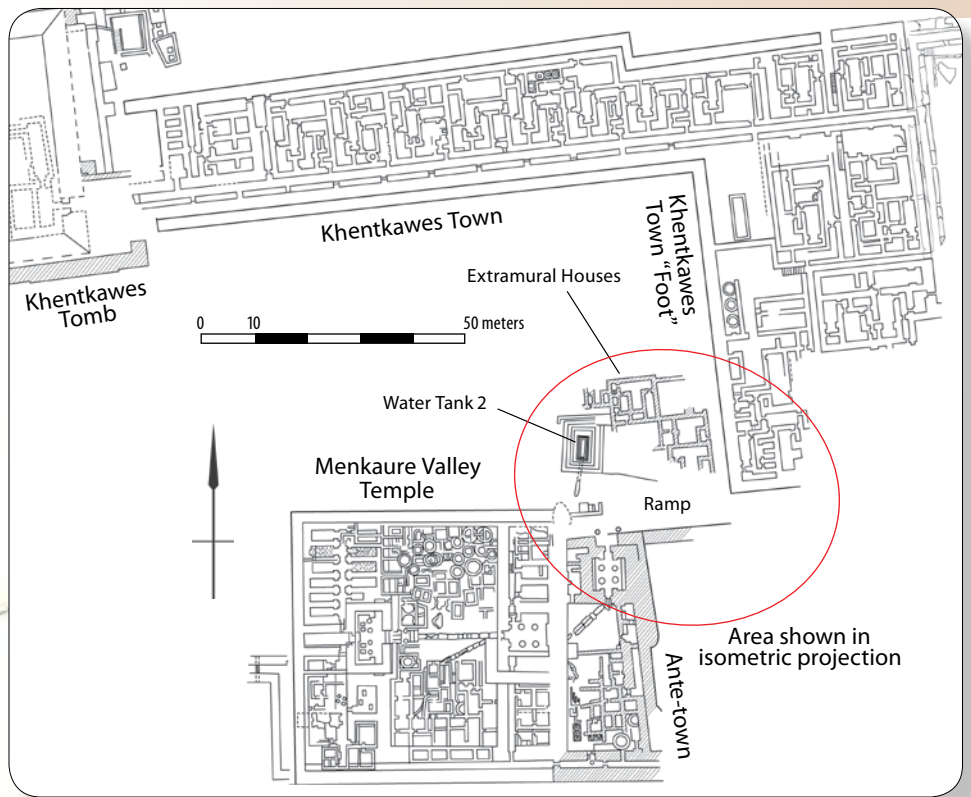
In this issue we report on our findings of the monumental access that passes over an even larger ramp up through the interface between the Khentkawes Town and Menkaure Valley Temple. The interface structures must have conferred upon the residents the role of gatekeepers of the necropolis. But just at this connection between the two settlements, a large canyon-like cut frustrates our hopes for a stratigraphic link, while offering tantalizing clues about climate change and the history of these communities.



1. Reisner, George. 1931. *Mycerinus, the Temples of the Third Pyramid at Giza*. Cambridge, MA: Harvard University Press.

2. Hassan, Selim. 1943. *Excavations at Giza, 1932–1933*. Vol. IV. Cairo: Government Press.

Selim Hassan's published map of the Khentkawes Town and the Menkaure Valley Temple leaves blank the "interface" between them, with the slightest indications of what is, in fact, a truly monumental landscape, albeit built in limestone quarry debris, mudbrick, and small-block limestone masonry, rather than the massive stone blocks of the pyramids, mastaba tombs, *(continues on page 10)*



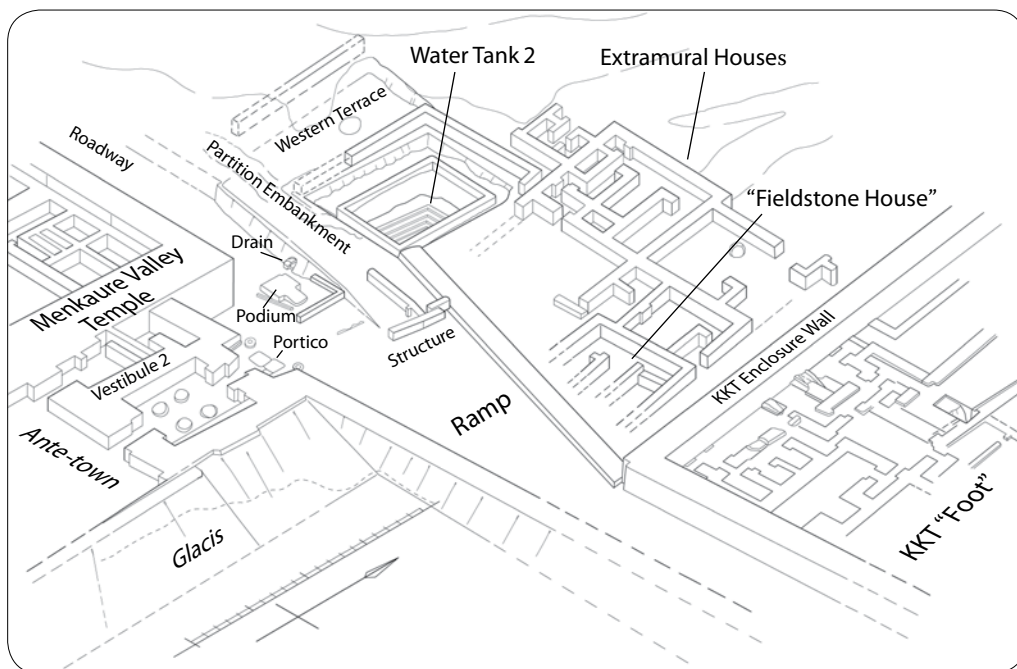
Isometric projection of the interface between the Khentkawes Town (KKT) and Menkaure Valley Temple. Drawing by Mark Lehner.

Ascending Giza

(continued from page 9)

and temples on the Giza Plateau. A broad ramp, walled on both sides, ascends east of the Menkaure Valley Temple from a lower level (now under the modern cemetery), giving access to the temple and houses west of the southern extension of the Khentkawes Town. At the top center of the Ramp, a low platform, dubbed the “Podium,” and to the north a large stone-lined basin we call “Water Tank 2” were possibly used in burial rites. The portico and second vestibule of the Valley Temple open at the top of the Ramp on the southern side.

In 2005, our first season at the Khentkawes Town and Menkaure Valley Temple settlements, we exposed the lower end of the Ramp, which had never been mapped. In 2008 we continued work on the interface area, but left a portion of it buried under the post-1932



Reconstruction of the interface between the Khentkawes Town and Menkaure Valley Temple before the erosional channel we call “the Cut” took out the northern side of the Ramp. Drawing by Mark Lehner.

overburden. This season we finished clearing and mapping the entire area of the interface.

We now have a complete map of the area. The isometric projection on pages 8–9 shows the interface between the northeast corner of the Menkaure Valley Temple (lower left hand corner) and the “foot” of the Khentkawes Town (right). Fieldstone and mudbrick structures, probably houses, stand outside the Khentkawes Town wall. The Ramp runs diagonally across the page to the west (left).

The Ramp

The erosion channel we call “the Cut” truncated the lower end of the Ramp where it passed the southern end of the Khentkawes Town. By projecting the low, thick shoulder walls bounding the Ramp north and south, we know that here it was about 7 meters (23 feet) wide. (Today the lower end disappears farther east under the modern road around the Muslim cemetery.) At the top, the Ramp broadens to 12.20 meters (40 feet) as it rises on a slope of 6°. The northern side continues west and upward upon the embankment that

makes up the top, southern perimeter of Water Tank 2.

The middle of the Ramp continues beyond our clearing as a road running west on a lower level along the northern side of the Menkaure Valley Temple. Just behind the Podium, this roadbed steps up slightly, and here a stone- and silt-lined drain runs under the embankment to empty into Water Tank 2.

The Ante-town and vestibule at the front of the Menkaure Valley Temple open unto the upper southern side of the Ramp. In fact, the Ramp offered the only access into the Valley Temple during this later phase of building and use. The temple otherwise presented a blank eastern face where the “Glacis” of the Ante-town drops steeply to the east along the southern side of the Ramp.

In constructing the Ramp, workers laid down an extraordinarily thick foundation of limestone and marl quarry debris. When we excavated Trench D at the low east end of the Ramp, the depth of the foundation surprised us. In the large hole at the northeastern corner of the Valley Temple we can see this Ramp foundation in section and here the builders composed the debris



Hanan Mahmoud (left) and Mohamed Abd el-Baset take spot heights in Trench E across the Ramp. Photo by Mark Lehner.



as inward-leaning accretions. We see construction ramps and embankments built in this way elsewhere at Giza.

The Ramp, in fact, may have initially served for hauling up the plateau huge non-local stones, like the granite blocks used in Menkaure's pyramid and upper temple. Workers maintained the Ramp over a very long period of time, as evidenced by successive

resurfacings of thick Nile silt laid over beddings of crushed limestone, eventually adding up to a combined thickness of 60 centimeters (24 inches).

The southern wall of the Ramp strikes a near perfect perpendicular to the western Enclosure Wall of the Khentkawes Town "foot," suggesting that builders created the Ramp and the "foot" along the same axes or orientation, with the same shift about 6° west of true north that we see in the whole Khentkawes Town. (A general orientation slightly west of north is shared by the entire HeG settlement.) This orientation is noticeably different than that of the Menkaure Valley Temple, which, like the pyramids of Khufu, Khafre, and Menkaure, is oriented closer to the true cardinal directions. Notably, the orientation of Water Tank 2 is also close to the cardinal directions, perhaps suggesting it belongs to the layout of the Menkaure Valley Temple more than to the Khentkawes Town.

Above: James Taylor inspects layers of road surface visible in the side of the trench dug across the Ramp. Below: Workers clear the low end of the Ramp. View to the west. Photos by Mark Lehner.



Extramural Houses

Fieldstone and mudbrick structures north of the Ramp and outside the Khentkawes Town Enclosure Wall may have functioned as houses, extramural additions to the Khentkawes Town or Menkaure Valley Temple communities. The erosion channel, the Cut, swept away the southern part of these buildings. We cleared and mapped a portion of this complex, which probably continues beyond our cleared area along the northern side of the Menkaure Valley Temple. Our excavations in Trench B determined that the easternmost house was constructed sometime after the western Enclosure Wall of Khentkawes Town. We do not know if residents had access to the Ramp via a door at the end of the corridor between the Khentkawes Town western Enclosure Wall and the eastern fieldstone building because the erosion channel removed this end of the corridor. At the southern end of the Enclosure Wall

we found traces of a possible socket for a vertical post used with a door, either for access to the Ramp from this corridor, or from the east at the lower end of the Ramp.

Podium

At the top west end of the Ramp, a low, square mudbrick platform, the Podium, stands 30 centimeters (about a foot) above the surface, with a projection to the east resembling a miniature ramp. Erosion undoubtedly has diminished the original structure.

Thin, low walls form an enclosure around the podium on three sides, but they do not all date from the same period. Selim Hassan proposed in his 1943 publication that the Podium was part of the “washing tent” used to prepare Queen Khentkawes’ body for burial.

Hassan based this idea on his belief that Vestibule 2 and the Ante-town were the queen’s valley temple. It is more probable they are late additions to the Menkaure Valley Temple and its settlement. The Podium and its enclosure seem related to the drain leading north under the embankment to Water Tank 2. These features may have served the cult and possibly the funeral of Menkaure.

However, we must also consider the possibility that people used these features to monitor and administer access to the Valley Temple through Vestibule 2, to Water Tank 2, and to the roadway that continues west behind the Podium.

Water Tank 2

Builders set Water Tank 2* into the southeastern slope of limestone quarry debris heaped between the Menkaure

Town. They terraced the slope into four main levels, stepping the surface down into a masonry-lined basin for a total drop of 3.8 meters (12.5 feet). Water Tank 2 could have held more than 31,300 liters (8,269 gallons) if it were filled up to the brim of Level 2, and 132,100 liters (34,898 gallons) if filled to the upper perimeter of Level 1. This is enough water for 400 people over 165 days if each consumed 2 liters a day.

The drain pipe, running under the southern embankment, projects out into Level 3 on the south side of the basin, suggesting that the main reservoir would have been the lowest masonry-lined basin with a capacity of 6,100 liters (1,611.5 gallons).

The drain, 6.7 meters (21.2 feet) long, begins from the roadbed at the top of the Ramp behind the Podium. Since it slopes down 30 centimeters (about 12 inches) under a partition embankment and into Water Tank 2, water presumably was meant to flow from the

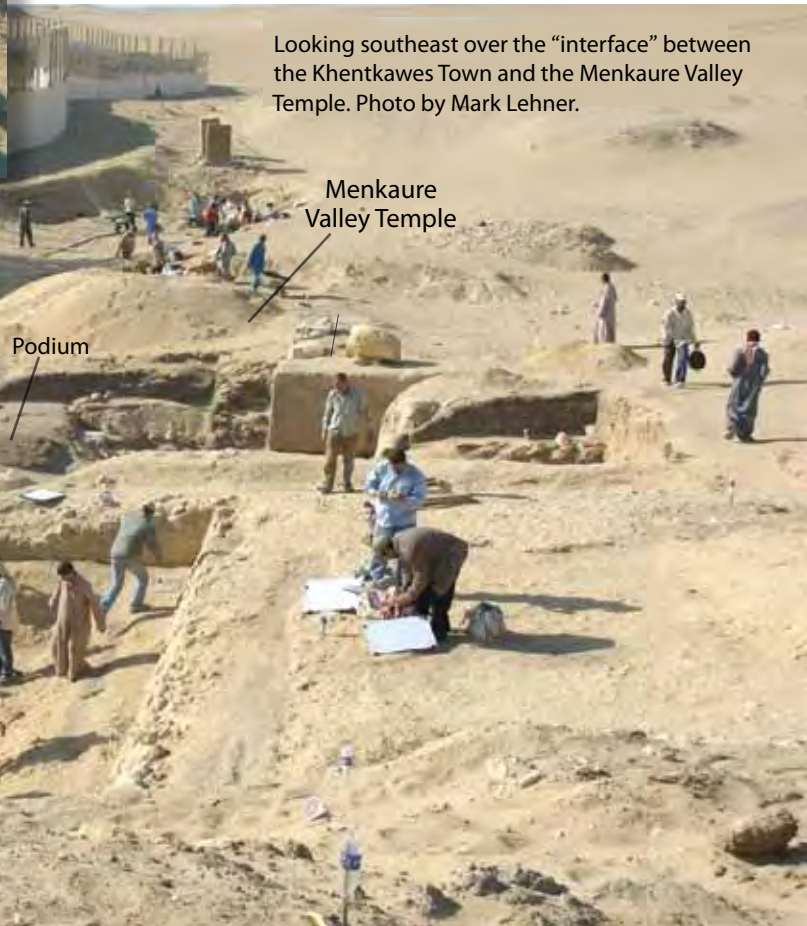
Valley Temple and the northern part of the Khentkawes

*Water Tank 1 is a feature we cleared and mapped within the southern “foot” of the Khentkawes Town.

Kate Liska maps the Podium. View to the southeast. Photo by Mark Lehner.



Looking southeast over the “interface” between the Khentkawes Town and the Menkaure Valley Temple. Photo by Mark Lehner.



High Security Wall

Menkaure Valley Temple

Vestibule

Podium

Ramp

The Cut

Water Tank 2

roadbed just above the Podium into the basin. It is hard to imagine that the drain, only 9 centimeters (3.5 inches) in diameter, through this pipe could deliver much water to the tank. Yet the builders seem not to have constructed any other option for water to flow into the basin given the mound of quarry debris to the west and north of the tank and the height and the thickness of the embankment along the southern side of Water Tank 2. The only other means for filling the basin would have been through human labor: people carrying water in pots on shoulder poles up from the Nile or a nearby harbor.

Though it was not intended in the original design, water might have come into the tank via a shallow channel in the top of the embankment. The channel drifts over the upper edge of the embankment to the north and then cuts deeply through the far southern end of the eastern side. Here people might have diverted water into the tank. But in this case the drain and roadbed, 1.8 meters (almost 6 feet) lower,



must have been filled with sand and debris.

Three-hundred Years

Now that we have properly mapped the monumental features of the interface between the Khentkawes Town and Menkaure Valley Temple, we still ponder the question: How was this area used? What were the functions of the Ramp, Podium, and Water Tank 2. Who lived in the extramural houses?

Whereas the builders of the late 4th Dynasty must have constructed the major features of the interface, we have evidence that some structures on the Ramp date to the 6th Dynasty, nearly 300 years later. People may have abandoned the place for some of this time and then returned, as they did in other parts of the town.

We see indications that in the interim the climate might have become much drier than during most of the 4th Dynasty, and this locale, more arid and desert-like, as it is today.

The canyon-like Cut may have resulted from a combination of flash flooding in this desert wadi plus people's efforts to channel and control that flooding. The latest occupants tried to fix the Cut by filling it with fine, sandy limestone gravel. Not long after their efforts, people abandoned the interface to the drifting desert sand.

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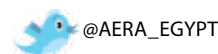
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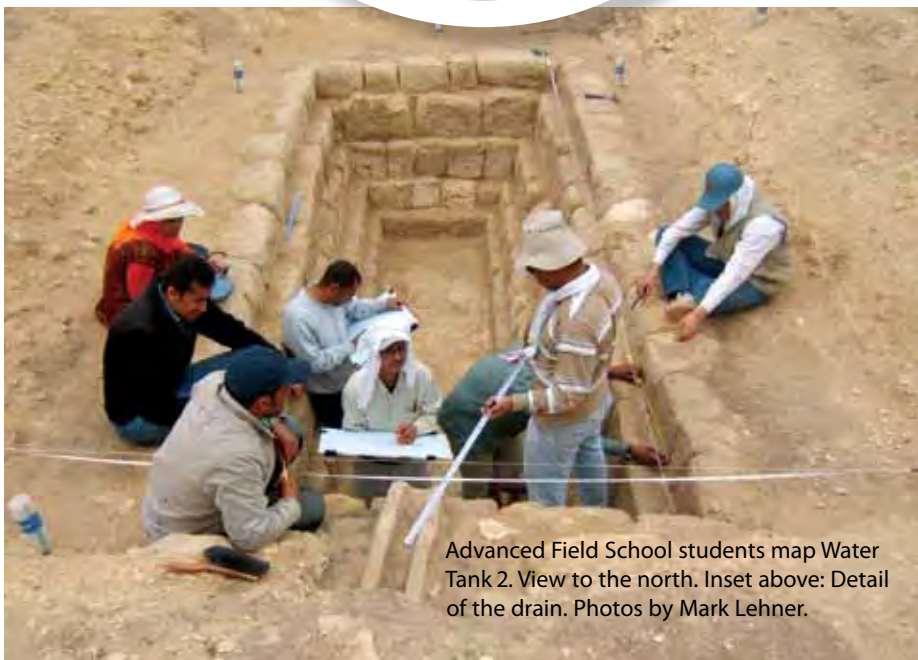
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Advanced Field School students map Water Tank 2. View to the north. Inset above: Detail of the drain. Photos by Mark Lehner.

Publish or Perish: The Analysis and Publication Field School

The expression “publish or perish” usually refers to two possible fates of a young professor in the American university system. The scholar “perishes,” that is, does not get tenure at her university, if she fails to publish her research adequately. Data also “perish” if they are not published. Or rather, they never really “live” because they are not shared with the wider scholarly community. When we excavate a site, we must publish our work.

Supreme Council of Antiquities (SCA) inspectors share this obligation with archaeologists everywhere, as we stress in our AERA-ARCE Field Schools. This season we took our message to publish a step further. In late March, with USAID funding through the American Research Center in Egypt (ARCE), we launched our first Analysis and Publication Field School (APFS), specifically to train SCA inspectors in the skills they need to prepare publications.

The eight-week APFS completes a logical, comprehensive field school

program that includes Beginners, Advanced, and Salvage Archaeology courses.

Getting It in Print

The 29 APFS students specialized in one of six programs: archaeology, osteo-archaeology, ceramics, graphics, zooarchaeology, and archaeobotany. The archaeologists, working in three teams, wrote up areas of the “Lost City” site that field school students had excavated in previous season. The ceramics group worked closely with an archaeology team to analyze pottery from their excavation area. The “osteos” analyzed and wrote up burials that field school students excavated in 2009. The graphics students collaborated with the archaeology groups to prepare drawings and photographs for their reports and lay out all their visual material.



For the first time we offered training in zooarchaeology and archaeobotany as specializations. Archaeobotany student Rabbab el-Gendy prepared a publication on plant remains from AERA’s 2009

Khentkawes Town exca-

vations, while zooarchaeolo-

gist-in-training Rasha Nasser wrote up the animal bone from an area north of the Pedestal Building where field school students worked in 2007.

APFS Co-Field School Director Ana Tavares led the program, taught by a team of ten non-Egyptian teachers and eight SCA supervisors, most of whom had completed two cycles of the field school program plus one or both salvage field schools in Luxor.

Please watch for more information about the Analysis and Publication Field School in the next issue of *AERAGRAM*.

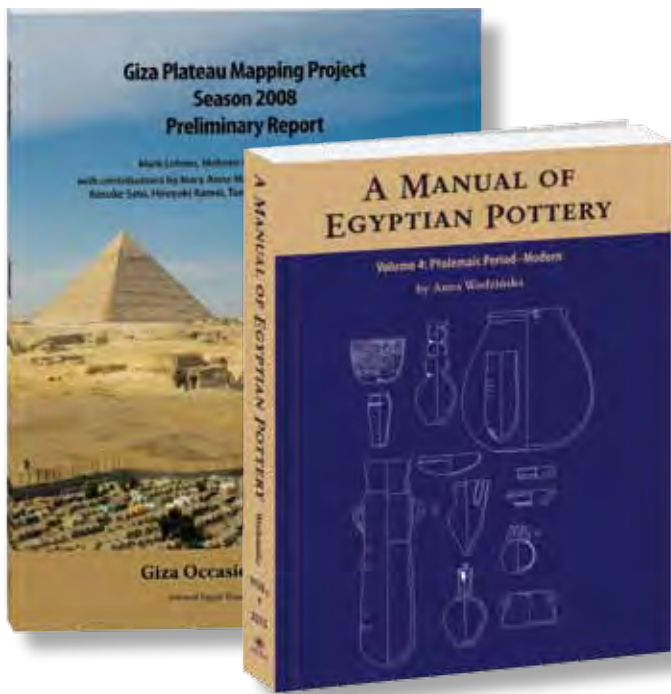
Above: Ceramics student Nermeen Shabaan scrutinizes the fabric of a pot sherd through a hand lens. Below: Osteo supervisor Afaf Wahba (right) shows Mahmoud Ali (center) a radius bone from the arm, while he holds another radius. Student Maha Siah Abd el-Tawib clutches a humerus bone from the arm. Photos by Jason Quinlan.



SAFS Students to Publish KIW

We encouraged the first Salvage Archaeology Field School team to prepare an extensive article on their work at the Khaled Ibn el-Waleed Garden site (KIW) in Luxor in 2008. Field school instructors James Taylor and Freya Sadarangani worked closely with the students to produce a manuscript on the field school salvage excavations of deposits spanning the late 4th century BC to the 15th century AD.

The students completed their manuscript this spring for the Supreme Council of Antiquities journal, *Annales du Service des Antiquités de l’Égypte*, which was founded many years ago to publish the work of the Egyptian antiquities authority.



AERA Publications Rolling off the Presses

Pottery Manual Volumes 3 and 4

Even before our first two volumes of *A Manual of Egyptian Pottery* rolled off the presses last year, our distributor, David Brown Book Company, had already taken advance orders for them at the annual ARCE meetings held in Dallas in April, 2009. Once the books came out, sales were brisk.

In the meantime, author Anna Wodzińska and our Boston publications office worked to complete Volumes 3 and 4. This past March the books went to press.

Anna Wodzińska, AERA ceramicist, started the pottery manual as a quick guide for students in the AERA-ARCE Advanced Field School for SCA Inspectors. Eventually it evolved into four comprehensive volumes, organized chronologically, covering all Egyptian pottery, from the earliest forms to modern ceramics made in Egypt today. For each period, ceramic types are illustrated with a line drawing, accompanied by information on the pot's material, manufacturing techniques, surface treatment, and shape. Anna provides suggested readings as well as a bibliography for each period. Her introductory chapters discuss the basics of pottery manufacture and analysis.

Volume 3 covers the Second Intermediate through Late Period, while Volume 4 spans the Ptolemaic through Modern Period.

David Brown Books sells the manuals on their website: <http://www.oxbowbooks.com/home.cfm/Location/DBBC>. The books are available in two versions: a spiral-bound manual with tabs, designed for field and lab, and a paperback version, with a "lay open" cover.

2008 Field Season Preliminary Report

The fourth volume in our Giza Occasional Papers series, *Giza Plateau Mapping Project, Season 2008 Preliminary Report*, came out last November. By Mark Lehner, Mohsen Kamel, and Ana Tavares, with contributions by Mary Anne Murray, Jessica Kaiser, Yukinori Kawae, Kosuke Sato, Hiroyuki Kamei, Tomoaki Nakano, and Ichiroh Kanaya, the volume reports on mapping and excavations in both the Khentkawes Town complex and the Menkaure Valley Temple Ante-town, as well as survey, mapping, and excavation of burials in the area.

The volume includes the 2008 results of the 3-D laser scanning of the Djoser Step Pyramid at Saqqara, under the combined auspices of Egypt's Supreme Council of Antiquities, AERA, Osaka University, and DEVELO Solutions of Osaka, Japan.

The volume can be purchased from David Brown Book Company at their website: <http://www.oxbowbooks.com/bookinfo.cfm/ID/73390>.

It is available for free download on AERA's website: <http://www.aeraweb.org/gop.asp>.

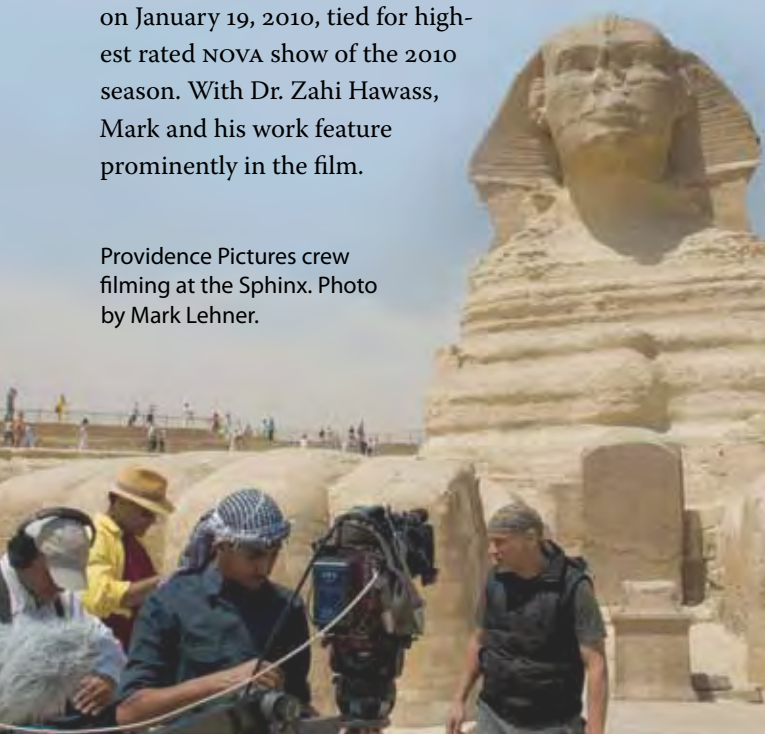
Unraveling the Mysteries of the Sphinx

When Gary Glassman of Providence Pictures set out to make a film about the Sphinx for the public television program NOVA, he knew where to go for help: Mark Lehner, the leading authority on the Sphinx and the first Egyptologist to seriously study it.

Starting in 1978, Mark spent more than five years systematically examining the ancient monument and its surroundings, working first with Dr. Zahi Hawass and SRI International and later with the ARCE Sphinx Project, under the auspices of the American Research Center in Egypt and Project Director Dr. James Allen.

"Riddles of the Sphinx," broadcast on January 19, 2010, tied for highest rated NOVA show of the 2010 season. With Dr. Zahi Hawass, Mark and his work feature prominently in the film.

Providence Pictures crew filming at the Sphinx. Photo by Mark Lehner.



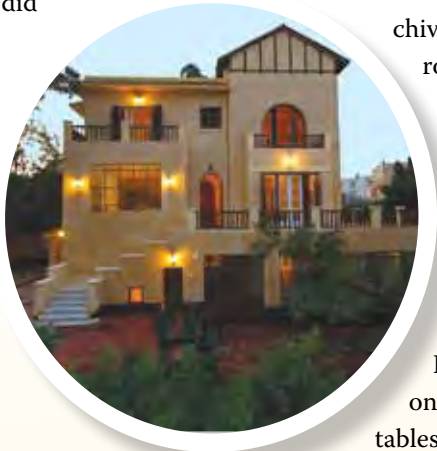


A field school archaeology group works in the open-air classroom on the rooftop of a new staff building. Clockwise from the lower left: Ahmed Shoukri, Rabea Eissa, Amelia Fairman, Shaima Montasser Abu el-Hagag, and Hussein Rekaby. Photo by Jason Quinlan.

AERA Settles into a Permanent Home

Our 2010 season launched in March from our own permanent home a few blocks from the entrance to the Pyramids.

For the first time since we began excavating at Giza more than 20 years ago, we did not have to haul equipment and supplies out of storage and spend days setting up. All was ready at our new AERA-Egypt Center when team members arrived.



Over the past year we had refurbished, updated, and added on to the dilapidated 1930s-era property we bought in February 2009 (AERAGRAM 10/2, p. 16). By March, the villa was ready for its first field season.

It very quickly proved its worth, as we discovered how well the villa met our needs. Up to 60 staff, students, and team members found ample space to work in the lab/classrooms. They easily accessed resources in the well-organized archives. They relaxed in the dining room over meals prepared in the modern kitchen.

The villa performed especially well for the Analysis and Publication Field School (see page 14). The entire class attended lectures in the classroom. Field school groups worked on their projects spread out on tables throughout the villa.

The only shortcoming was that most of the team had to stay in a rented flat or hotel. But we are now drawing up plans for expanding the AERA-Egypt Center with a dormitory that will allow everyone to stay under one roof.

Thanks to our Benefactors

We are grateful to our generous donors whose major gifts made it possible for us to establish the AERA-Egypt Center: The Waitt Foundation, The Ann and Robert H. Lurie Foundation, The David H. Koch Foundation, The Charles Simonyi Fund for Arts and Sciences, The Peter Norton Family Foundation, Dr. Marjorie Fisher, and the Urban Land Institute tour members on behalf of Bruce Ludwig.

Right, from the top: 1) Ceramics instructor Teodozja Rzeuska and Elham el-Taweil find a quiet place to confer; 2) Illustration student Wael Fathi Morsi drafts in the library; 3) Binders of AERA field documents sit neatly organized on shelves in the archives; 4) An APFS archaeology team works in the lounge. Left to right: Mohamed Gabr, Hanan Mahmoud, and Momen Saad. Photos by Jason Quinlan (1 and 4), Yasser Mahmoud Hussein (2), and Alexandra Witsell (3). Above in the circle: The AERA-Egypt Center. Photo by Hani Eskander.



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