GIZA PLATEAU MAPPING PROJECT

Mark Lehner

Between January 31 and May 7, 2009, the Giza Plateau mapping project team worked at the flagship Heit el-Ghurab (HeG) site (aka Lost City site) and up on the Giza Plateau at the Khentkawes Town (KKT), the settlement attached to the monument of Queen Khentkawes I (fig. 1).[1] We embedded the Ancient Egypt Research Associates (AERA) Advanced Field School for Supreme Council of Antiquities (SCA) inspectors in our excavation program from February 7 to April 2, 2009. Co-field directors Mohsen Kamel and Ana Tavares oversaw the excavations.

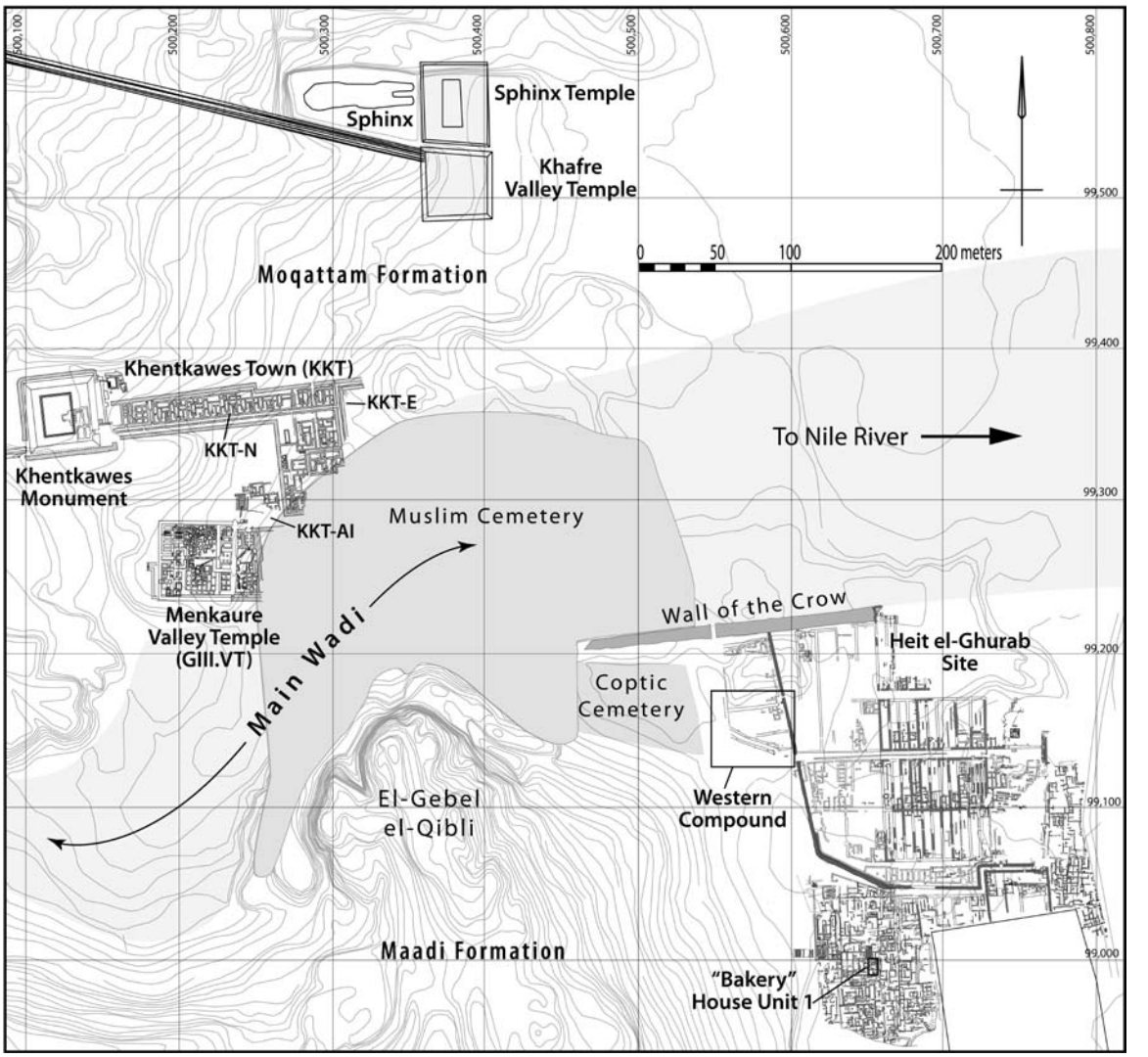

Figure 1. Topographic map showing the area around the Khentkawes Town and the HeG site. The contour lines are at 1-meter intervals

Heit el-Ghurab (HeG)

At the Lost City site (fig. 2), we investigated the Western Compound and, to the south in the Western Town, House Unit 1, possibly the residence and workplace of an administrator.

Exploring Terra Incognita: The Western Compound

Until now, the northwestern section of the site, which includes the Eastern and Western Compounds, has remained largely terra incognita, except for the fieldstone walls that we mapped in 2001. We targeted the Western Compound (fig. 3) for excavation in 2009 for two reasons. Lying immediately south of the Wall of the Crow and at a higher elevation than much of HeG,

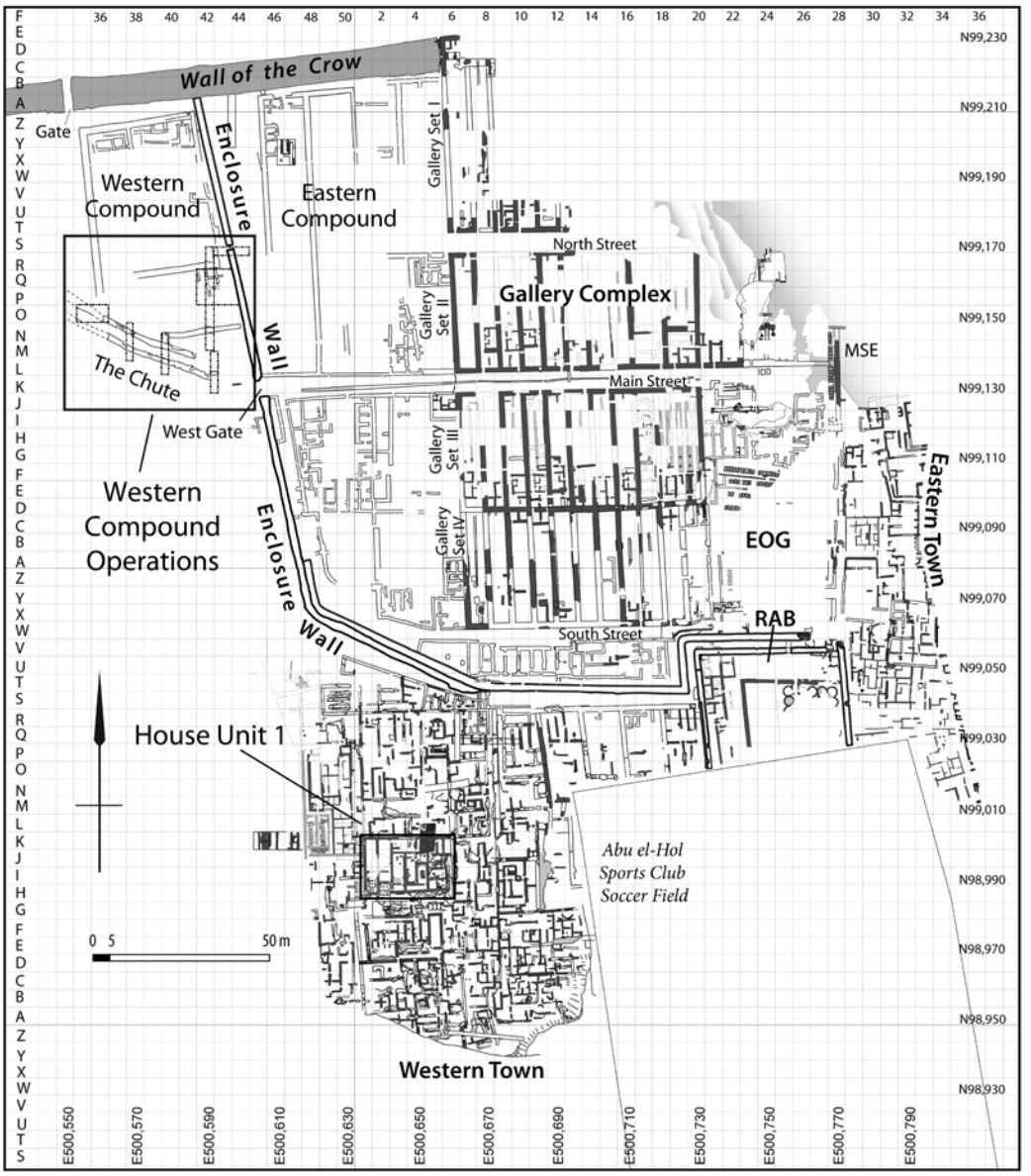

Figure 2. Plan of the Heit el-Ghurab (Lost City) site

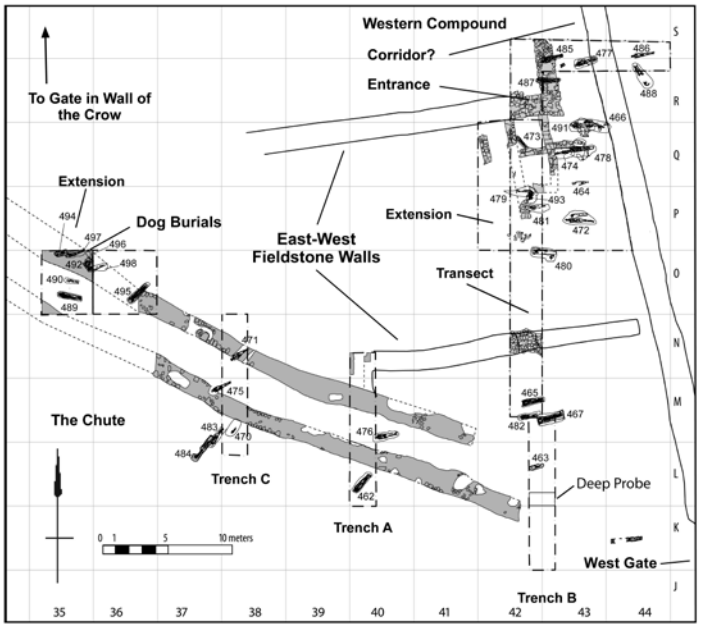

Figure 3. Plan of the Chute and Western Compound operations. The elongated oval features are burials (numbered 462–498)

the area remained dry in 2008 when a rising water table saturated other areas of the site. At that time, it was one of the few areas we could investigate without damaging the site. However, before we began excavations in 2009, the whole site dried out as a result of a program launched by the SCA to pump out groundwater at Giza. Nonetheless, we stuck to our decision to explore the Western Compound since we still knew nothing of it eight years after mapping the area.

Our goals in excavating the Western Compound were to establish the chronology, phasing, and function of the area and to explore a corridor of fieldstone walls, dubbed "the Chute," running northwest–southeast along the southern end of the compound. We began with questions. Was the Western Compound a provisional storage zone, like the water depot known from the entrance to the Workmen's Village at Amarna? Or did the Western Compound simply contain food-production facilities, especially bakeries? Did the occupants use the Western Compound as a holding area for the large numbers of animals consumed by people in the Lost City settlement, as indicated by Richard Redding's analysis of animal bone from our excavations over twenty years? Was the Chute used to funnel animals to slaughter, as suggested by the corridor configuration, which resembles a chute in an abattoir?

The Late Period Cemetery

Before we could explore the Old Kingdom deposits in the Western Compound, we had to wait for our osteo-archaeology team to excavate the dozens of Late Period burials that we encountered in our trenches. As a result, our fieldwork here was cut short, and we were unable to do as much as we had planned.

We expected to encounter some burials, but did not anticipate how much time they would require for proper excavation. The northwest section of the site is punctuated with thousands of burials dating from the Late Period (664–525 BC) into Roman times. In previous seasons, Jessica Kaiser and her osteo-archaeology team excavated close to 300 burials, producing systematic information on a corpus of 2,500-year-old human remains. In the Western Compound, the density of burials and their fragile, delicately painted mud coffins required careful excavation, consolidation, and lifting. Progress was frustratingly slow. During our 2009 season, the osteo team excavated seventeen burials within the Western Compound and nineteen in the Chute, as well as one in KKT.

Dog Burials

During our final days of excavation, we discovered a cache of eight dogs layered on top of one another in a burial pit (fig. 4). The two adults on the top showed signs of mummification. A black substance with imprints of linen wrappings enveloped their skeletons, while the bodies appear to have been tightly wrapped. The other dogs, young adults and puppies, were not tightly wrapped, but a gray powdery substance adhered to the bones, suggesting a possible inexpensive treatment for burial. Most likely the person who buried the dogs intended them as a votive offering. In the Late Period, people buried thousands of mummified ibis birds, falcons, baboons, cats, cows, bulls, shrews, small reptiles, amphibians, jackals, and dogs. Such animal cemeteries are large and numerous at Saqqara, but the only animal burials at Giza are a cache of ibis mummies and another of shrew mice. The burial of a hunting dog was recorded in a relief on a chapel block reused in tomb G 2188 (Reisner 1936), but its original context was never actually located.

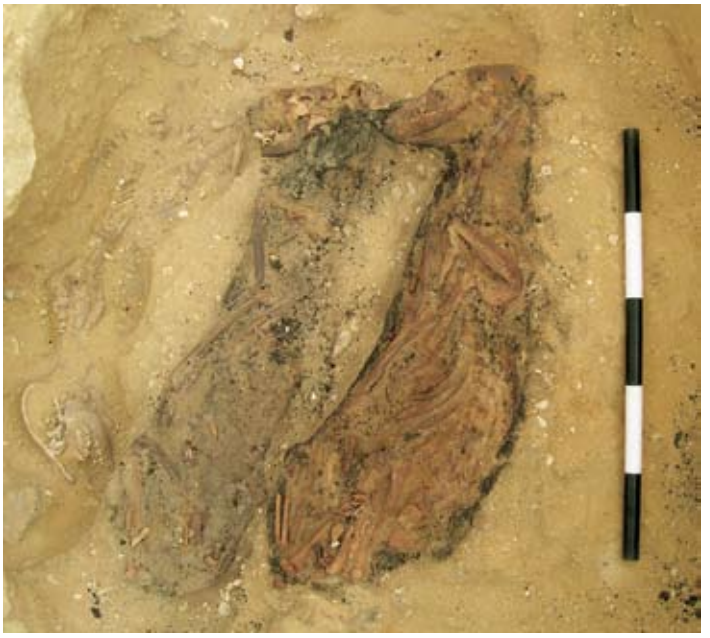

Figure 4. Dog burial at beginning of excavation. Photo by Ayman Damarany

Old Kingdom Burials

Among scores of Late Period burials, we found two Old Kingdom graves dating close to the time people lived here. Lying under small chambers belonging to the later phases of Old Kingdom occupation (see below), these simple burials predate the limestone structures. They may have been poor people interred in free ground outside the Enclosure Wall. When builders expanded the settlement, they built their walls over the earlier graves. We must add these to three other Old Kingdom burials that we have found at the HeG settlement site. They could be outliers to the crowded "Workers' Cemetery" that Zahi Hawass and the Giza Inspectorate have excavated up the slope from our site.

Old Kingdom Landscaping, Compounds, and More Bakeries

We carried out the work in the Western Compound in two separate operations: the Western Compound and the Chute. The Advanced Field School students specializing in excavation techniques excavated the Western Compound, supervised by Freya Sadarangani, James Taylor, Essam Mohamed Shehab, and Rabee Eissa Mohamed. The plan was to clear down to the Old Kingdom floor level, along a transect beginning on the north in our grid square 3.S42, just where we saw a break through the Enclosure Wall (fig. 3). Because the break roughly aligns with North Street, 60 m (197 feet) to the east, we thought it might be a gate at the end of that street. The transect crossed two thick fieldstone walls that run east–west across the southern end of the Western

Compound and ended on the south at the eastern end of the Chute. We thought this trench would give us a section across all these Old Kingdom structures.

The team revealed another north–south wall, running parallel to the Enclosure Wall, possibly forming a corridor. This wall attached to the eastern end of one of the east–west fieldstone walls. Just where the two walls might connect in a 90-degree corner, a large dump of Old Kingdom pottery, disturbed by Late Period burials, obscured the possible intersection. However, the team was able to see an entrance that had been blocked by an enormous dump of sherds.

The entrance opened into the southeastern corner of a large space, extending 45 m to the north and 34 m to the east, taking up the northern two-thirds of the Western Compound, enclosed by thick walls. After the southern wall of this space had stood for a long while, people built thinner fieldstone walls up against it, forming small chambers, which were filled with dark ash and fragments of bread pots — yet more bakeries, which we can add to the dozens we have located elsewhere across the site (fig. 5).

Figure 5. Stone walls uncovered in the Western Compound. View to the northwest. The Wall of the Crow and its gate can be seen in the background. Photo by Jason Quinlan

As much as the numerous Late Period burials hindered a broader exposure of the Old Kingdom structures, the grave sections gave us valuable archaeological information. We could see in the burial cuts "tip lines" where baskets of fill had been dumped. This dumping raised the surface 2–3 m above the floor level of the Gallery Complex to the east.

From our work in the Western Compound, we learned that people began raising the surface in the northwestern area of the site before they built the Enclosure Wall. Sometime after they put up this wall, they built the structures in the Western Compound. People, rather than natural forces, continued to raise the area west of the Enclosure Wall by dumping sand. We also discovered that the opening in the Enclosure Wall was not an entrance or gate, but rather a gap that someone hacked through the wall.

The Puzzling Chute

The Chute starts 12 m west of West Gate and disappears on the northwest at the limit of our clearing (figs. 3, 6). Since uncovering and mapping the Chute in 2001, we have drawn a dashed line from its northwestern end to the gate in the Wall of the Crow, thinking it could be the principal conduit into the site. The fact that the passage between the walls is so restricted and then simply stops at an open area before West Gate led to the hypothesis that people used it to control, and perhaps count, animals brought to the site for slaughter, possibly in the open area.

Figure 6. The parallel stone walls of the Chute. In the background Main Street shows as a linear depression. View to the southeast. Photo by Mark Lehner

Ashraf Abd el-Aziz supervised Noha Hasan Bolbol, Amy McMahon, and May al-Haik. The goals of their excavation were to learn more about the date and purpose of the Chute, as well as to determine if it turns north to feed into the Gate in the Wall of the Crow.

The team excavated three trenches perpendicular to the Chute, Trenches A and C along its length and Trench B at the eastern end. Their stratigraphy established that the Chute walls are contemporary with the walls of the Western Compound.

The Chute consists of two parallel walls forming a passage 2.40 to 2.80 m wide. Each of the two walls, approximately 1.45 m wide, is built of uncoursed limestone blocks, with two "skin" walls holding a core of mixed material, including stone, sand, and broken pottery. The team excavated successive street surfaces inside the Chute, lying at approximately 18.08 m above sea level.

Trench B revealed that the space between the eastern end of the Chute and West Gate was an open area in which a series of trampled surfaces developed upon layers filled with large quantities of animal bone — from cattle and sheep in an upper layer and mostly from sheep in a lower one. The layers might indicate that people indeed butchered animals in front of West Gate. However, the walls of the Chute rest upon these trampled surfaces and thus postdate them. The results at best indicate that the inhabitants might have slaughtered animals in the area where people later built the eastern end of the Chute.

Where Goes the Road?

One of our goals was to determine whether the Chute turns north to the Gate in the Wall of the Crow (fig. 2) or continues to the northwest. To find out we cleared a thick sand overburden to the west as close as we could to the modern Coptic Cemetery. Here on line with the gate in the Wall of the Crow we found two very disturbed humps of stone, the remains of the Chute, indicating that it continues on its trajectory to the northwest. Perhaps this is already too far west-northwest to make a turn toward the Gate. Unfortunately, the end of digging was upon us before we could resolve this question.

Deep Probe and Ancient Landscaping

Could there have been an older Chute, remains of which lie underneath the walls we mapped? To assess this possibility, we excavated a deep probe trench 2 m below the base of the Chute walls in Trench B (fig. 3). The probe descended about 40 cm lower than the general floor level at the lower northern ends of the galleries. Below the animal bone layers (mentioned above), the probe showed thick dump deposits. People had intentionally filled and raised the area. This evidence for ancient landscaping is one of the most important results of our excavations in the

northwest section of the site. The dumped layers of desert clay under the eastern end of the Chute and the dumped sand layers under the Western Compound show how massively people altered the terrain. We see similar extensive remodeling of the ancient landscape in other areas of the site, such as along the Wall of the Crow and in the Royal Administrative Building. We should not be surprised at the impressive scale of the artificial landscaping in a settlement of Giza Pyramid builders, for the pyramids and their quarries themselves represent human intervention on a geological scale.

Character of the Western Compound

The Western Compound appears to contain enormous dumps of pottery waste and ash. People built fieldstone walls and chambers, ad hoc, as they dumped, so that some of these structures rest upon already dumped waste, and such waste also covered the structures. In this respect, the Western Compound is similar to Area EOG, an industrial yard east of the galleries, with many bakeries (fig. 2). The Western Compound also resembles the Eastern Compound, with concentrated ashy dumps of pottery waste embedding fieldstone structures, one of which was a bakery Augusta McMahon excavated in 1991. Was the Western Compound a compounding, if you will, of the extensive production facilities, especially bread baking, that surrounded the central Gallery Complex?

The residents of the HeG settlement during its later years seem to have turned to bread baking on an industrial scale. It may be historically significant that the intensification of production, and the signs of its control, occurred in the later phase of occupation, not long before people abandoned this site.

House Unit 1

With great relief, by autumn 2008, we saw that the water table, which had been steadily rising and saturating the site since 2005, was falling as a result of the pumps installed by the SCA and Cairo University. We seized the opportunity to finish excavating House Unit 1 in the Western Town (fig. 2).

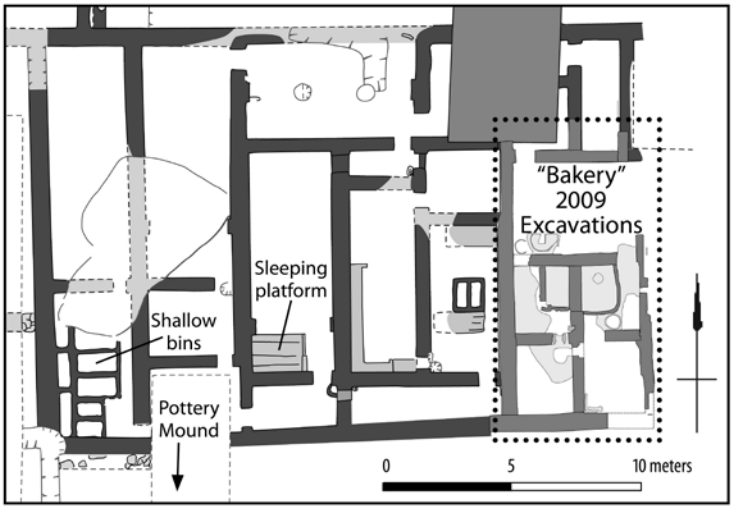

Figure 7. Plan of House Unit 1

House Unit 1 (fig. 7), the largest house we have so far found on the site, covers 400 sq. m, with approximately twenty rooms/spaces, including very large rooms, well-laid floors, traces of red and black paint on the base of the plastered walls, and a master bedroom with a sleeping platform for two.

Yukinori Kawae, assisted by Manami Yahata, continued the excavations of House Unit 1 that they had carried out over four seasons between 2004 and 2007. When Kawae had to

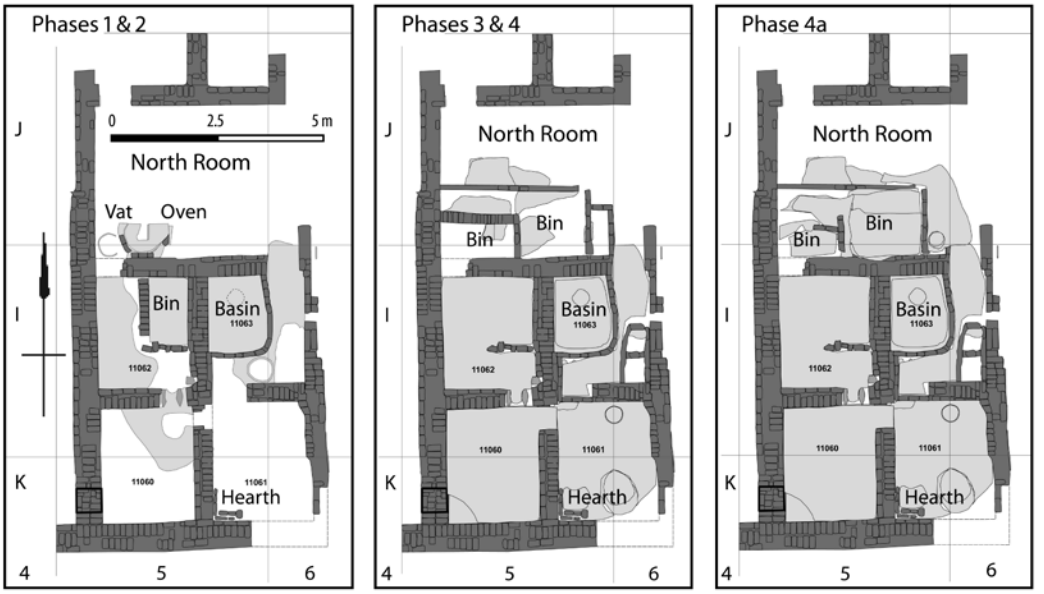

Figure 8. House Unit 1, phases in the "bakery"

leave unexpectedly mid-season, Freya Sadarangani took over. Advanced Field School students supplemented the team. They worked in the last unexcavated component within the house, the eastern end. We had dubbed it the "bakery" because, unlike the rest of the house with its well-laid floors, the chambers were buried in dark ashy fill that the residents allowed to accumulate over time, as we have seen in bakeries elsewhere on the site.

During its lifetime, the bakery went through a succession of renovations. The team identified at least four phases of remodeling and occupation (figs. 8–9), but they were unable to complete the excavations. The North Room initially included an oven and vat standing side by side. Later the residents built a rectangular bin around this area, followed by another, smaller bin. Over time ash accumulated, the floor rose, and the occupants built a small bin directly over the top of the oven, the vat, and the large bin. As a result of rebuilding and accumulation, the latest floors within the bakery are 60 cm higher than the other floors of House Unit 1.

Figure 9. House Unit 1 at the completion of excavations. View toward west. Photo by Jason Quinlan

In the two small chambers in the mid-section, the residents built more low bins. The one in the eastern room was a basin, with a sunken floor sloping down to a center hole where the occupants probably stuck a small pottery vat. Yet another vat and a smaller set of two bins were added later in the southeast corner.

The basin, vat socket, and small bins in this room are very similar to installations in the bakery we found east of the Pedestal Building during 2006 and 2007. They may have served the same function, which we speculated was malting. In this process emmer or barley grains are soaked in water and spread out on a cool, moist surface to sprout. Sprouting activates enzymes that convert the starches in the grain to sugar to support the growth of the emerging seedling. To halt sprouting before the seedling consumes the sugars, the grains are dried in warm air. In House Unit 1, workers might have used vats sunk into the floor of the basins for soaking grain, which they then spread out across the basin within the low rim, while excess water drained back to the socket or a vat.

Hearths in the southern rooms were probably used for baking and cooking. In the southeast chamber the hearth was lined with mud accretions against the southern and western walls. The structure is very similar to the hearths built against the southeastern corners of the bakeries we excavated in 1991. In the southwest chamber, ash with pottery and bone filled the southeast corner, which was scorched. In the northwestern corner, the team found a simple platform made of two pieces of limestone and one of granite.

Bakery or Brewery?

The preponderance of low bins and vats suggests that the "bakery" may have had as much to do with malting, hence brewing, as baking. Other evidence suggests that people might have devoted this complex to beer production. It connects via a long corridor to a room in the southwestern corner of the house with a set of eight shallow bins, like the ones we proposed were used for sprouting. Immediately south of this corridor, we found large quantities of beer-jar fragments in a massive dump we called "Pottery Mound."

Another possible connection to brewing may be a set of pedestals, similar to those we have found across the site, under Pottery Mound and in a court south of the "bakery." We hypothesize that jars and pedestals functioned together to effect evaporative cooling to keep grain cool and moist in a jar or other container, a stage preliminary to spreading out on a cool bin floor to allow continued sprouting.

If we could ascertain some degree of specialized work with brewing or malt production, it would be the first, and so far only, facilities for beer production that we have found across the site, whereas we have found dozens of bakeries. It will be interesting to see how this evidence of specialized beer production associated with House Unit 1 plays out in our continued excavations.

The Khentkawes Town (KKT) and the Menkaure Valley Temple (GIII.VT)

Expecting a wealth of information and new discoveries at the Khentkawes complex (fig. 10), where we have worked since 2005, we placed the core of the excavation team here. We were not disappointed. On the east we uncovered a striking arrangement of terraces, ramps, and stairways, and a very deep basin, which probably belong to Khentkawes' funerary complex. In the town, we completely excavated one of the houses and discovered that people may have abandoned the settlement for some time and then reoccupied it. To the south we pursued the elusive stratigraphic link between the Khentkawes Town and the Valley Temple of King Menkaure, possibly

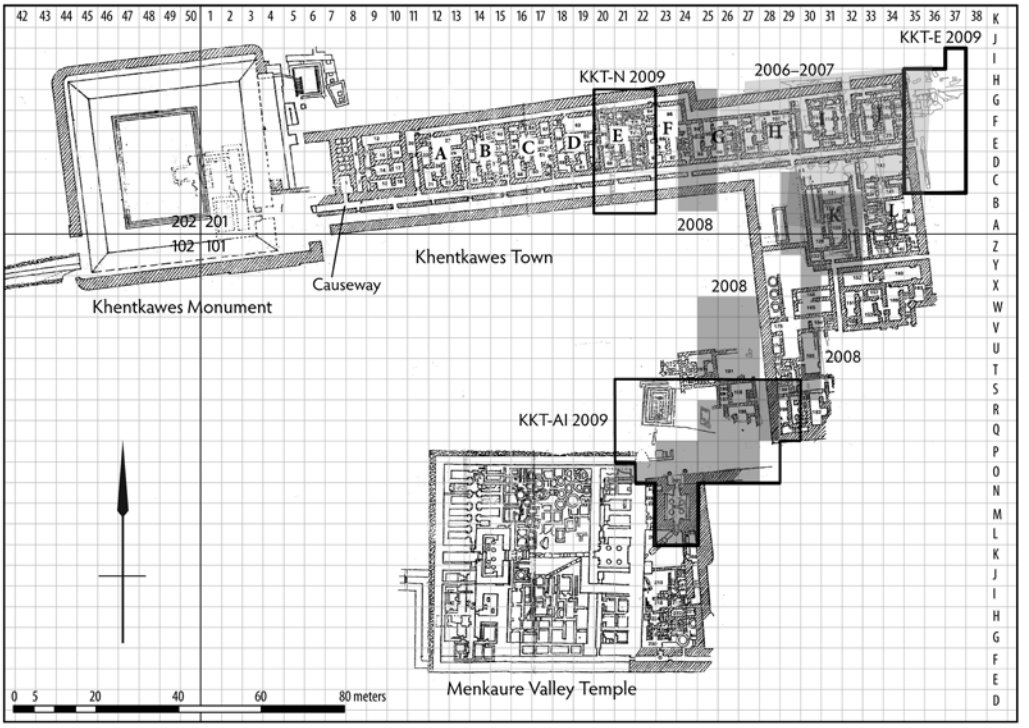

Figure 10. Plan of the Khentkawes Town (KKT) and Monument and Menkaure Valley Temple. AERA operations in 2009 are outlined in black, 2008 operations shown in gray, and 2006–2007 in light gray. The houses in KKT are indicated with letters. The KKT map is from Selim Hassan's original 1942 publication. The Menkaure Valley Temple map is from George Reisner's 1931 publication

Khentkawes' husband or father, and revealed a monumental approach ramp and another deep basin.

KKT-N: House E

For three seasons we have been gradually clearing and mapping the houses in the Khentkawes Town where Egyptologists have long thought priests lived. This season we seized the chance to excavate one of the better-preserved houses that remained after Selim Hassan's large-scale excavations in 1932 (Hassan 1943). We expanded our knowledge of the phasing and layout of this part of the town by dissecting a cross section of the causeway.

Khentkawes' town planners laid out eight houses along the north side the causeway. The western six houses (A–F) share the same general plan; the four houses on the east are smaller. Two larger houses (K–L) lay south of the causeway. We mapped the scant remains of the eastern houses in 2007. During 2007 and 2008, we progressively cleared southward across the foot of the town and westward along the causeway. In 2007 Lisa Yeomans and Pieter Collet recorded the meager traces of houses I–J, where many of the walls had been scoured down to bedrock. During our 2008 season, Collet continued clearing and mapping westward.

During 2009 Lisa Yeomans, assisted by Hanan Mahmoud, carried out the work in House E (figs. 11, 12). The structure covers approximately 189 sq. m (15.70 × 12.05 m), about mid-range between the area of the Eastern Town House (100 sq. m) and House Unit 1 (400 sq. m) at our HeG site (fig. 2). Yeomans and Mahmoud identified six discreet phases of occupation and

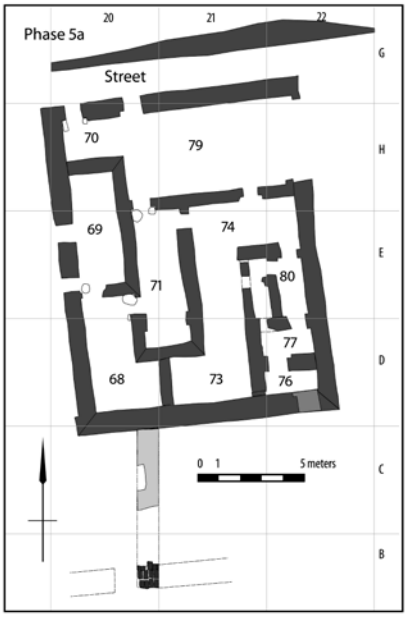

Figure 11. Plan of Building E, Phase 5a, Khentkawes Town, recorded by AERA excavators. The room numbers are those assigned by Hassan

structural modification (fig. 13). Originally the house had four elongated, north–south rooms, and one transversal room (74) opening from an open courtyard (79), which was shared with the neighboring house, House F to the east. A doorway on the north opened to a street along the town Enclosure Wall.

The main entrance, on the southeast, opens to a zigzag succession of small chambers (76, 77, 80), typical of Old Kingdom houses and shrines, which provided privacy from the street. These lead to a central room (74), a vestibule possibly left unroofed, from which doorways open north to the open courtyard (79) at the back of the house, another leading to a chamber that Hassan (1943) called a "kitchen" (73) and the third leading to an elongated room (71). The kitchen (73) showed substantial evidence of burning that left thick ash over the floor and damage to the western wall. The room may have been open or only partially covered with a light roof to allow smoke to escape.

Hassan designated Rooms 68 and 69 as bedrooms. However, we found a number of hearth features against the eastern wall of Room 69, opposite a doorway from Room 67 in House D, including pottery, bone, and burnt fish bone that suggest that Room 69 shared cooking facilities with people in House D. However, Room 68 could have been a bedroom, with a bed in an eastward niche. We have found bed platforms within niches that turn off a main room in the HeG site, and bed platforms within niches are known from ancient Egyptian houses at other sites.

Hassan described Room 71 as the "living room," but it might have served as another bedroom. At the southern end, pilasters define a niche, the width of the room. In House Unit 1 in the HeG site, the large central room was also configured with two pilasters defining a niche (fig. 7). A bed platform tucked in the niche suggests it was for sleeping.

In the first phase (5a) of House E, the builders framed two entrances to the street on the north. In the next phase (5b), they blocked the northern entrances of the house and partitioned off a small room (70) in the northwest corner (fig. 13). About this time, builders put up an east–west wall on the street to the south. This wall now formed the southern border

Figure 12. Building E, Khentkawes Town. Silos constructed in Phase 5c appear in the foreground. View to the southeast. Photo by Jason Quinlan

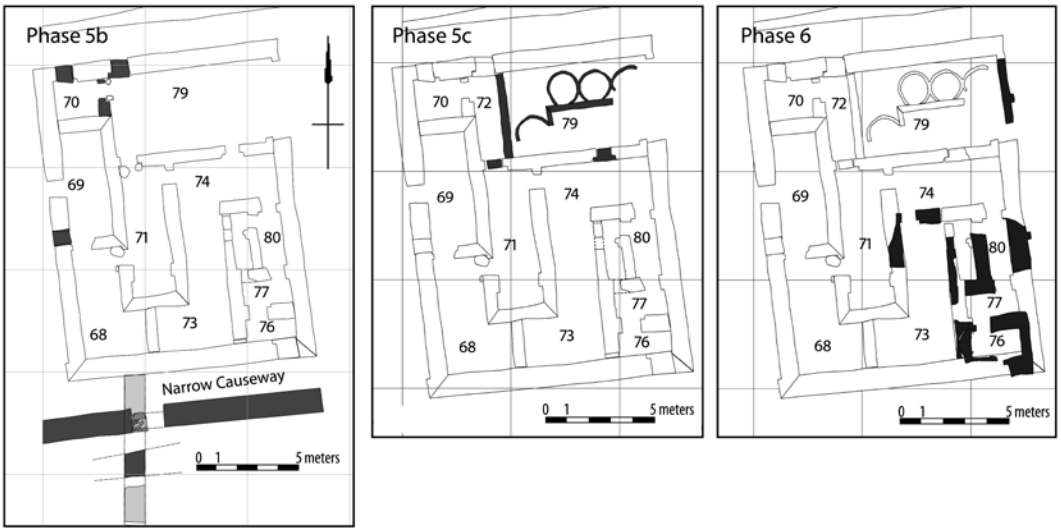

Figure 13. Phases of occupation and renovation in Building E, Khentkawes Town. Changes in the walls in Phases 5b through 6 are shown in dark gray

of a narrower causeway running straight from the doorway of Queen Khentkawes's chapel to the valley complex (see below).

Houses Intermingling

One of the most significant discoveries of our 2009 season is that what we perceive as separate house plans at some points in time were "intermingled" houses (figs. 13–14). These "separate" houses had rooms that were more easily accessible, or only accessible, from the house next door. Room 69, a "bedroom" in House E, could be more easily accessed through two open doorways from House D to the west. Room 79, Hassan's "reception hall" of House E, was completely open to the northern end of House F to the east during all but the last period (Phase 6) that people lived here. In fact Room 79 was for much of the time one very long court that continued east to span the entire width of House F. Hassan's map shows that the most direct access into this court was a doorway from the northern street into the part of the court spanning House F. At some point the occupants built walls to subdivide the western end of this court within House F into two small chambers, Rooms 83 and 84. We do not know when these walls went up since we have not yet excavated House F. But we suspect it was during Phase 6 of House E, when people made the thin north–south wall that closed Room 79, now with round silos, probably for storing grain, on the east. Even at this point, the most direct access into the granaries at the northern end of House E was through the doorway in the northern wall of House F. In fact, Lisa Yeomans' preliminary chronological

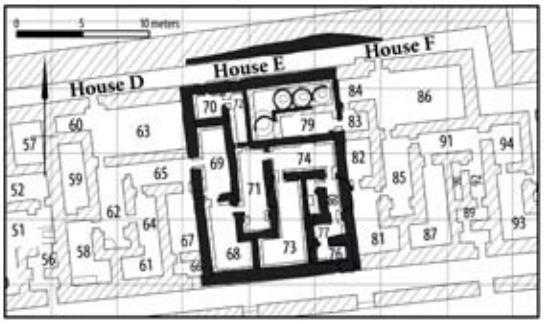

Figure 14. Khentkawes Town, Building E, phase 6 plan superimposed over a digitized version of Hassan's original map

phasing suggests that people blocked both of the two doorways through the northern wall of House E in Phase 5b, and then, in Phase 5c, they built the silos in Room 79. But they screened this storage off from the northwest corner of Building E with a thin wall (creating Room 72). Eventually they blocked the doorway through the southern wall of the silos court (Room 79) into the rest of House E via Room 74. If we correctly understand this sequence, people completely blocked access to the silos from inside House E, while making them fully accessible to House F. During Phase 6 they further limited access to the silos by erecting across the east end of the courtyard a thin wall with a door. The silos remained inaccessible to House E.

Hassan's map of the Khentkawes Town indicates no lateral access via doorways between Houses A, B, and C (fig. 10). However, doorways or openings allowed passage through four houses, D to G, without going into the northern street or causeway. Could what we perceive as four separate house plans have been occupied by one extended household at some period? Unfortunately, Hassan's map is not entirely reliable. We cannot be certain that the complex of rooms along the northern side of the Khentkawes causeway functioned as distinct structural and social units.

Abandonment and Reoccupation

Another significant discovery this season was that the Khentkawes Town may have been completely abandoned, perhaps for a considerable time. Evidence of abandonment has cropped up each of our three seasons of work, but it was particularly striking this season in House E and in the southern causeway and street during Phase 6 (fig. 13).

In House E people rebuilt and created walls using mudbricks different from those of the earlier building periods. The bricks are smaller and formed of brown sandy silt with a slight reddish tint, as though the soil had been burnt. Builders also used these small bricks to make a thin wall screening off the court with silos (Room 79). In this period the northwest corner of the house was now totally inaccessible, as all doorways had been blocked (in Phases 5b–c). The residents used the small brown bricks to repair major parts of the walls in the small chambers inside the southeast entrance, and the walls of Room 73, the kitchen, which might have suffered heat damage from long contact with cooking fires.

The causeway and street to the south were resurfaced at least three times. The original southern town Enclosure Wall was drastically cut down and its north side cut back, leaving only a patch of its characteristic large bricks of dark clay. It looks as though people robbed the bricks, as we know they did in much of the HeG site, for reuse elsewhere. People eventually rebuilt the wall over a thick layer of disintegrated brick and silt, perhaps generations later, on the same line as the earlier Enclosure Wall. They used small reddish brown bricks and small local limestone fragments as casing for a debris-filled core, a cheap way to fill out a 2.22-meter-thick wall.

Reoccupation of the town was not haphazard. Here and there throughout the settlement, masons rebuilt old walls that had been cut away and built new ones using the same small, reddish brown bricks and local limestone pieces. It is possible that a tax exemption or a re-endowment of the Khentkawes funerary cult encouraged people to move into the deserted town, as happened with the settlement inside the Menkaure Valley Temple to the south during the reign of the Sixth Dynasty pharaoh Pepi II.

KKT-E: Khentkawes Valley Complex

Queens of the pyramid age were buried in small pyramids and mastabas next to the large pyramid of the king. They usually did not have causeways leading from the chapels attached to their

tombs or valley temples. Not only did Khentkawes I have a causeway, but we are also finding a valley complex with access ramps and quite possibly a harbor. She may have been one of those rare queens who, at the end of a dynasty, took the throne as king in her own right. Her titles can be read either "Mother of the Two Kings of Upper and Lower Egypt," or "Mother of the King of Upper and Lower Egypt, and King of Upper and Lower Egypt." Khentkawes I must have lived and ruled at the end of the Fourth Dynasty and built her tomb in the final years of our HeG site. She may have been Menkaure's daughter or a wife (or both).

Valley Complex for Khentkawes I

Until 2007 no one knew why the Khentkawes Town turned abruptly south forming an L-shape. During our 2007 season, we discovered a deep quarry cut that limited the

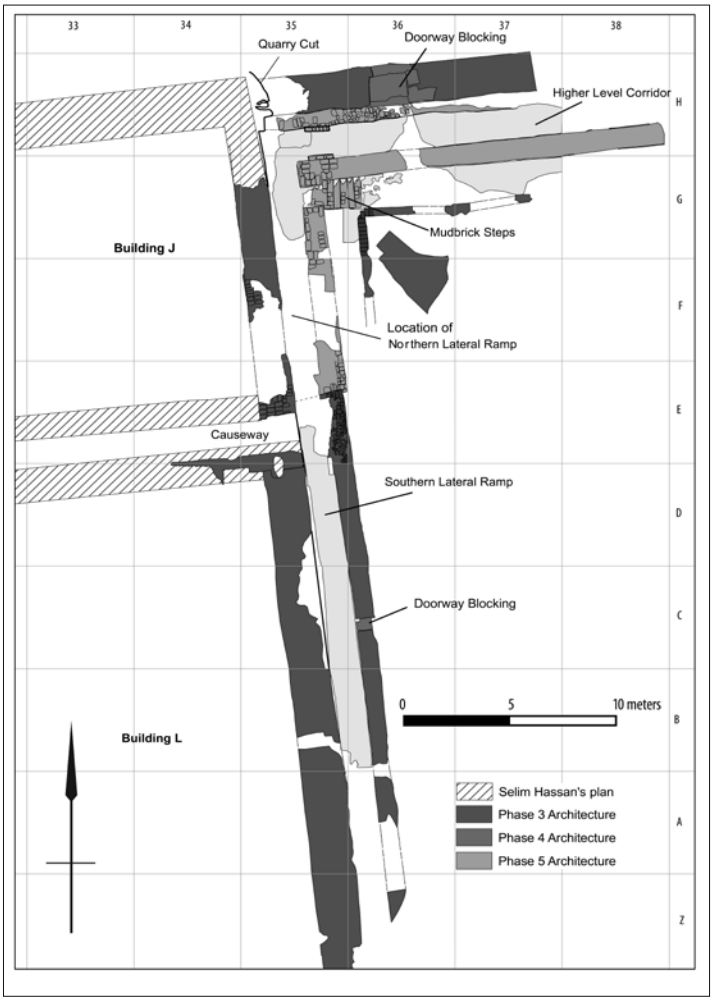

Figure 15. KKT-E 2009 operation. The Khentkawes Valley Complex, Phase 4–5. The Northern Lateral Ramp had not yet been built, but its future location is indicated

Figure 16. KKT-E 2009 operation. Clearing over two seasons revealed the Khentkawes Town Valley Complex. The Town sits above on a bedrock plane. Lateral ramps ascend the bedrock face to the threshold of the Khentkawes causeway. Photo by Mark Lehner

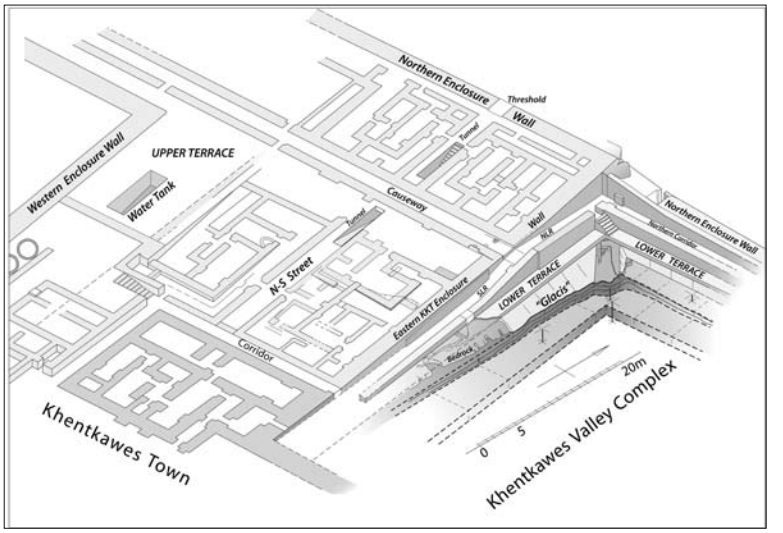

Figure 17. Isometric drawing of the east end of the Khentkawes Town and the Khentkawes Valley Complex. Drawing by Mark Lehner

eastern extent of the town. The eastern Enclosure Wall ran flush along the edge of the cut. But, below, to the east, we found evidence of a large mudbrick complex buried deep under sand (figs. 15–17). In our 2009 season, we excavated 20 m along the north and 45 m along the west sides of this complex. We uncovered a lower terrace formed of crushed limestone over bedrock, retained by mudbrick walls. The open area in front of these walls drops 3 m to bedrock. We believe that this sand-filled depression is a basin that opens to the east.

From the depression, a stairway ramp leads up to the lower terrace, and from there another stairway leads to an upper corridor along the north and west sides of the basin. At the bottom of the stairs and in our excavation of the northern corridor, we found deposits of hundreds of votive miniature ceramics, similar to those archaeologists have found outside pyramid temples.

On the south, from the lower terrace a long north–south ramp ascends along the face of the bedrock ledge to the threshold of the queen's causeway at the east edge of the town. Builders later added a second ramp to the threshold from the north. We need to investigate this arrangement further, but we can suggest, based on its position, size, and layout, that it is the valley complex and harbor for the funerary monument of Queen Khentkawes.

KKT-E Excavations

Daniel Jones and Kasia Olchowska supervised the excavations in the area east of the Khentkawes Town (KKT-E). At the beginning of the 2009 season, they faced a mass of mudbrick tumble sloping to the south and east in the northwestern corner of the bedrock ledge. The thick eastern and northern Enclosure Walls had collapsed down to the southeast, better preserving the lower walls in this corner against forces of erosion that scoured the walls to the south.

In an early phase, builders made the Southern Lateral Ramp (SLR), rising between the eastern edge of the KKT-E town terrace and a parallel mudbrick wall (fig. 15). The builders filled the north–south corridor with crushed limestone to make a floor surface ascending to the causeway at an 11-degree slope. At the top of the Ramp, just south of the causeway threshold, a jamb projects from the corridor wall to make a restriction, possibly a doorway. Later the builders created a corridor raised above the level of the lower terrace and running north from the high end of SLR, then turning to run east for a distance of 12.40 m. The corridor is practically the same width as the Khentkawes causeway.

Still later the builders constructed the Northern Lateral Ramp (NLR) within the northern corridor, but because of the higher floor level of the corridor, its incline is half that of the SLR, rising at around 4 degrees over a length of 8.41 m. At the northern end of the NLR corridor, a doorway opens onto a stairway of six steps that descends to the lower terrace. The builders may have intended the northern corridor as a continuation of the causeway passage around the queen's valley complex, just as the Menkaure causeway corridor went around the king's valley temple on the west and south.

As we cleared the clean sand during our 2009 season, we realized that in order to create the lower terrace, the builders extended the remains of a bedrock quarry ledge with crushed limestone debris held in place by mudbrick retaining walls. The lateral ramps, the northern corridor, and the stairs rest on this lower terrace. From this level the bedrock drops again into a deeper depression.

The upper terrace on which the KKT is founded slopes down from north to south following the natural dip of the limestone bedrock strata, while the lower terrace is roughly level. Builders added the lateral ramps to bridge this difference in elevation.

We found a second stairway ramp embedded in the slope at the northwest corner of the terrace. The ramp descends at a slope of 20 degrees down into the clean, wet sand filling the basin at the base of the terrace. At the southern end of our clearing, we noted cuttings into the bedrock foundation of the terrace that might indicate where another stairway or ramp ascended as a complement to the one on the north.

Temple Harbor? The Very Deep Basin

In the depression below the complex, we cleared an area 30 m long (north–south) by 15 m wide (east–west) on the north, narrowing to 6 m wide on the south, where we were constrained by a road and the modern cemetery. It is hard to convey the immensity of the sand deposit that filled the KKT-E area and the great depth of the queen's valley complex. At the beginning of our 2009 season, the sand mounded up to around elevation 24.00 m above sea level. Our deepest probe reached 14.60 m above sea level, where we had to stop because of the water table. The drop of 9.4 m made this one of the deepest, most dramatic excavations we have ever undertaken at Giza.

At the bottom of our 2009 excavation, sand still filled the depression. Four drill cores that we made with a hand augur suggested that the bedrock bottom of the basin steps down toward the east. The core farthest out into the basin hit bedrock at about 12.50 m above sea level, which is our best estimate of the elevation of the Fourth Dynasty Nile Valley floodplain. Based on the erosion of the mudbrick retaining wall of the lower terrace, we estimated that water could have filled the basin to a total depth of 3.17 m.

The results from our previous seasons' work north of the Wall of the Crow (fig. 1) nearly 300 m due east of the Menkaure Valley Temple suggested that this temple could never have fronted directly onto Nile waters. Access to the Nile lay 700 to 800 m to the east across a terrace at 16.30 m above sea level, close to the level of the lower terrace in KKT-E, built on natural, desert wadi deposits. We found no evidence of Nile alluvium for up to 20 to 30 m north of the wall. Now, 50 to 100 m north of the Menkaure Valley Temple, we have evidence of a very deep cut into the bedrock reaching down to Old Kingdom floodplain levels. But our four cores so far show no silt that Nile floodwaters would have left at the bottom.

The artificial 90-degree cut into the bedrock at KKT-E, which drops the surface nearly 10 m, must continue at least 50 m farther east of our 2009 excavations. Exposed bedrock with rock-cut tombs continues much farther east just to the north of the open area east of KKT.

The stone Wall of the Crow forms the southern boundary of this open area, which takes in the mouth of the wadi between the Moqqatam Formation limestone outcrop on the north and the Maadi Formation knoll on the south. The 2500 BC surface 20 to 30 m north of the Wall of the Crow must have remained high and dry as an artificial terrace of limestone debris. We did not find the northern edge of that terrace. It is possible that farther north, we would find a large Fourth Dynasty cut that the builders made through the natural wadi sediments, and perhaps a wall they used to hold it in place. The edges might form the southern and northern sides of a basin that delivered water to the eastern foot of the terraced Khentkawes Town and perhaps to the town and valley temple of Menkaure.

Attached to the eastern front of the Menkaure Valley Temple (GIII.VT), we exposed the "glacis" of the eastern enclosure wall of the Ante-town as low as 16.00 m above sea level. Immediately beside the glacis, a broad ramp ascends to the Ante-town and temple. We have not seen the eastern ends of the broad ramp or the glacis, which disappear under the modern road and Muslim cemetery. If the depression or basin east of the Khentkawes Town extends 100 m south, it would reach the broad ramp. It is possible that the terrace we found in our 2004–2006 clearing north of the Wall of the Crow is the shoulder of a broad depression that delivered water to both the Khentkawes and Menkaure Valley complexes.

KKT-AI

One of our main reasons for working at KKT has been to determine how this town related to the settlement within the Menkaure Valley Temple (GIII.VT) just to the south. Reisner (1931) established with his excavations in 1908–1910 that people occupied the GIII.VT, and the Ante-town in front of it, until the end of the Sixth Dynasty. Hassan (1943) mentions houses of a later phase in the eastern part of KKT, but largely assumed that the queen's town dated to the late Fourth Dynasty. In 2005 we began work in the area between the KKT and the GIII.VT, the "interface" (KKT-AI), in order to establish the stratigraphic and chronological links between the two.

The only archaeological map known of the interface area, the one Hassan published in 1943, shows an empty area. But our 2005 clearing exposed a broad mud-paved ramp, which Hassan mentioned as a "causeway." Over three seasons we gathered a wealth of information on both settlements, but the stratigraphic link proved elusive. In 2008 we found the "Cut," a broad, irregular, west–east trench backfilled in ancient times with sandy limestone gravel. This deep, irregular canyon gouged out the northern side of the Ramp and removed the crucial deposits that link the settlements of Khentkawes and Menkaure. During 2008 we also cleared the second vestibule of the GIII.VT on the south side of the Ramp. Located at the northern front of the GIII.VT, Vestibule 2 opens north onto the upper end of the Ramp. In 2008, we left a large swath of post-1932 sandy overburden covering the northern upper end of the Ramp and filling a stone-lined basin, Water Tank 2, adjacent to the Ramp on the north.

In our 2009 operation, Mike House and James Taylor, assisted by Kate Liszka, Hanan Mahmoud, and Nagwan Bahaa Fayeza, removed the remaining post-1932 overburden and excavated strategically located trenches to resolve questions about chronology and stratigraphy.

The components of the interface comprise a truly monumental landscape, albeit built in limestone debris, mudbrick, and small-block limestone masonry (fig. 18). Below I describe the features that we cleared and mapped during the 2009 season: the southwestern corner of the

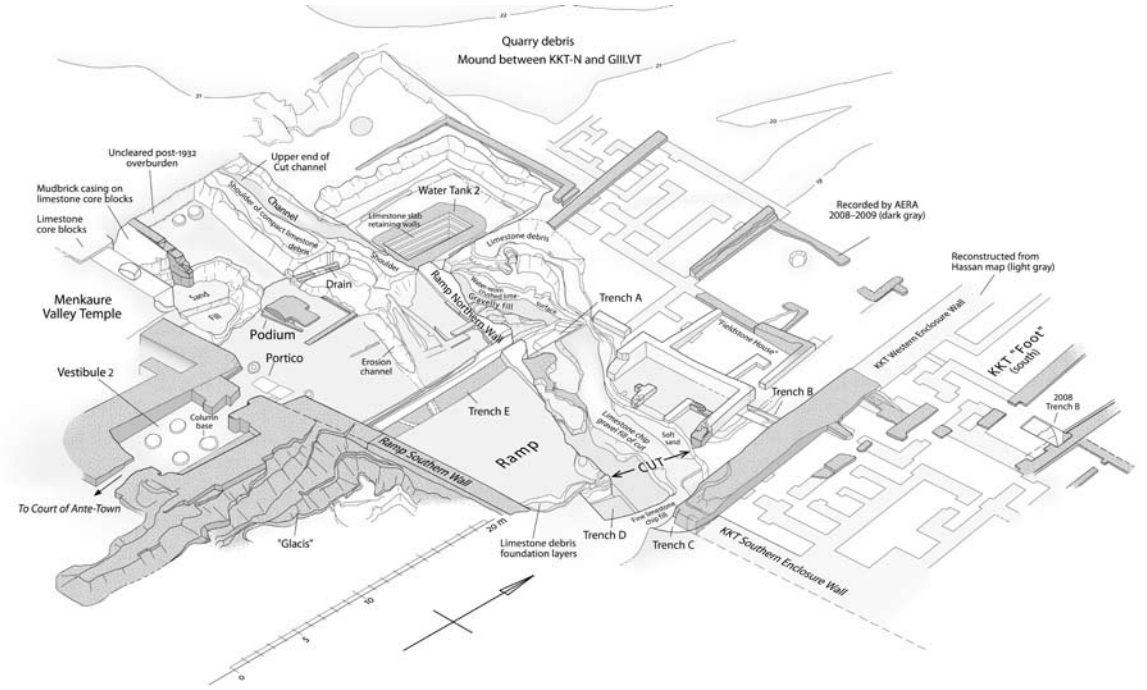

Figure 18. Isometric drawing of the Ramp area in the KKT-AI operation. View to the west. Drawing by Mark Lehner

Figure 19. Water Tank 2 and the KKT-AI operation. View to the south. Photo by Jason Quinlan

Figure 20. The Ramp area in the KKT-AI operation. View to the west. Photo by Jason Quinlan

southern end of the KKT "foot," the section of the settlement that runs to the south nearly touching the GIII.VT, the extramural houses, Water Tank 2, the Ramp, the Cut, and the Podium, a low platform at the top of the Ramp (figs. 18–20).

KKT Foot

In 2009 we cleared as far as we could south along the western Enclosure Wall (2.30 m thick) of the "foot" of the Khentkawes Town (KKT-F), exposing the very southwestern corner of the wall, where it turns to run east. According to Hassan's 1943 map, he followed the wall for about 13 m to the east, picking up the chambers and small magazines built into the interior of this corner of the KKT. We were able to trace the southern side of the corner for only 1.80 m because of the post-1932 overburden that supports the road around the modern cemetery.

In Trench C, we excavated a triangle, 1.86 × 2.18 × 2.52 m, along this stretch of the southern face of the KTT-F Enclosure Wall, taking in the modern embankment on the southeast and the Cut on the northwest. We found the Enclosure Wall preserved to a height of around 60 cm at the corner. In this short exposure, the Enclosure Wall shows a rectangular projection, or buttress, 52 cm (1 cubit) deep, about 87 cm wide, and only 35 cm from the corner. At some point in time, people filled in the southern face of the wall to the east of the projection so as to make the projection flush with the wall. But they left the corner notched, or rebated, by 52 cm.

It became apparent after our 2009 clearing and mapping that the KKT western Enclosure Wall strikes a near perfect perpendicular to the southern wall of the Ramp, which also functions as the northern wall of the Ante-town. This suggests that builders created the Ramp and the KKT-F along the same axes or orientation, with the same shift about 6 degrees west of true

north that we see in the whole KKT. The general orientation slightly west of north is shared by the entire HeG settlement south of the Wall of the Crow. This orientation is noticeably different from that of the GIII.VT, which, like the Giza Pyramids and temples, is oriented closer to the true cardinal directions.

Extramural Houses

Hassan's 1943 map shows two house-like buildings between the KKT-F and Water Tank 2. We cleared and mapped the remains of most of the southeasterly unit, built of fieldstone, and part of the structure to the northwest, built of mudbrick. In the rectangular space between these units on the northeast in our grid squares UT26–27, we cleared and mapped ephemeral traces of mudbrick walls that might have made the two units a single complex. On Hassan's map more walls extend west of the northwestern unit and north of Water Tank 2. Farther west, Cairo University excavated in 1980 the deflated walls of a fieldstone building, about the size of these units. So the extramural settlement might have been fairly continuous along the entire northern side of the GIII.VT.

The easternmost fieldstone unit forms a street or corridor, 2.5 m wide, with the western Enclosure Wall of the KKT-F. We excavated Trench B, 1 m wide, in square R28, across this corridor and determined that the house was built sometime after the KKT western Enclosure Wall. The Cut truncated the eastern extramural house through the entire vertical height of its walls, up to 1 m high, as well as the floors and underlying layers, and obliterated the end of the corridor where a door might have opened onto the Ramp.

Water Tank 2

The builders set Water Tank 2[2] into the southeastern slope of limestone quarry debris piled between the GIII.VT and the northern part of KKT (figs. 18–19). They terraced the limestone quarry debris in four main levels, stepping the surface down into a masonry-lined basin for a total drop of 3.8 m. At the top of Level 1, remains of a mudbrick wall on the north and west sides and northeastern corner suggest that this wall may have once enclosed the entire upper perimeter.

Traces of another mudbrick wall remain on the northern, western, and eastern sides of the next level down. From Level 2, the surface drops about a meter to Level 3, a relatively flat surface, paved with gray Nile silt, around a masonry-lined tank. The slope between Levels 2 and 3 shows an irregular, steep edge with coarser limestone debris, possibly the result of erosion (from lapping water?) or simply the slipping and collapse of a fine crushed limestone render on the face of the slope.

A limestone drain (see below) emerges at Level 3 from under an embankment between the Ramp and Water Tank 2 (the "Partition Embankment," see below). The silt paving of Level 3 meets the back of the flagstones that form the upper perimeter of the masonry-lined tank. In the center of Level 3, the stone-lined tank opens, around 2×5 m. Level 4, the bottom of the tank, is a flat floor of compact crushed limestone. The total depth of the masonry-lined tank is 1.56 m. Masons set five stepped courses of limestone slabs in the sides.

Overall, Water Tank 2 narrows, funnel-like, from around 20×20 m at the upper perimeter, to about 1×4 m at the very bottom, and drops about 3.8 m from an upper rim elevation of around 20 m above sea level to 16.20 m above sea level. Why did its builders begin so wide, and drop so deep?

With the drain emerging from under the Partition Embankment at the edge of the masonry-lined tank, we take the impression that the builders intended the lowest level to be the main

reservoir of water — assuming that water catchment and storage were its functions. The lowest masonry-lined tank could have held a little more than 6,100 liters of water. If water filled the tank up to the brim of Level 2, it would have comprised more than 31,300 liters, enough water for 400 people over 165 days if each consumed two liters a day.

If the inhabitants purposefully filled the tank with water from the Nile or canals to the east, they must have transported the water in pots and shoulder poles (or skins?). Or, did the builders intend that water would come from episodic, torrential rains and consequent desert wadi flooding, flowing in from the west? Any rainwater coming from the west would had to have run down a great mound of quarry debris that fills the area between the KKT and the GIII.VT. Then it would have to flow over an irregular ridge of limestone debris and hit the mudbrick wall along the west side of Level 1. A shallow gulley cuts through the southern low end of the ridge, indicating that at some point water might have flowed here. But any water pouring onto the terrace would flow to the south rather than east into the tank, because of the slope. Otherwise water from the west could enter the tank through the narrow channel through the Drain under the Partition Embankment after flowing east along the road between the embankment and the GIII.VT. But the small width of this channel does not match the immensity of Water Tank 2, and we see no evidence of major water flows in the surface around the southern end of the Drain.

The basin is oriented close to true north–south, like all pyramids and pyramid temples at Giza, and unlike KKT and the Ante-town, which are oriented slightly west of north, as noted above. Thus, Water Tank 2 most likely belongs to the GIII.VT layout rather than the KKT. Along with the Podium (see below), it may have served the cult and possibly the funeral of Menkaure.

The Partition Embankment

A wide embankment, a bar of quarry debris retained by fieldstone walls, separates the top of the Ramp from Level 2 of Water Tank 2. The builders cut back the southern side of the Partition Embankment to build an enclosure around the Podium (see below). The highest point on top of the embankment, as far as we cleared to the west, is about the same level as the terrace west of the Water Tank 2. The embankment narrows from 5.2 m wide at its east end to 4.3 m on the west. A shallow channel (see below) cuts longitudinally across the top of the embankment running east–west.

The Drain

The builders installed the Drain for a length of 6.70 m from the roadway to the water tank, under the Partition Embankment, as mentioned above. They laid a line of limestone pieces as the base, 26 cm wide, and cut a small channel, 9 cm wide, in the upper surface. The bottom of this little channel slopes 34 cm down from its southern end to its northern end, where the Drain emerges on Level 3 at the upper edge of the masonry-lined tank. Upon the base they laid broader limestone pieces, 35 to 41 cm wide, as a cover that they coated with gray alluvial silt. They then covered the Drain with the Partition Embankment. We see three meters of the length of the Drain exposed on its southern end at the bottom of a trench that someone, probably Selim Hassan's workers, cut through the Partition Embankment to follow the Drain. The slope of the Drain down to the north indicates that its builders intended for any water, or other fluids, to flow into Water Tank 2 away from the roadbed at the top of the Ramp behind the Podium. But, as noted above, the channel of the Drain is incongruously small compared to the immense capacity of the basin. Yet, the builders seem not to have created in the landscape any other option for water to flow into this great tank. The channel across the top of the Partition Embankment and the Cut leading down

slope to the east from the southeastern corner of Water Tank 2 might suggest that water did flow through this alternative route, or that people created the channel and Cut as a conduit for such flow, albeit not one that corresponded to the original design and building.

The Cut

It appears that the Cut begins west of the limit of our clearing. We pick it up as a shallow channel, about 2 m wide, in the surface of the terrace west of the Water Tank 2 and the Partition Embankment. A subsidiary channel diverges on the Partition Embankment and carves a shallow erosion channel through the east end of the embankment and diagonally across the Ramp. The main channel turns to the northeast, where it cuts down through the southeast corner of Water Tank 2. To the east the Cut took away the northern shoulder wall of the Ramp, gouged out walls and floors of the extramural houses, and finally, toward the lower end of the Ramp, turned south and cut across and through the total thickness of the Ramp and its foundation. Trench D showed that the resulting canyon extends down 1.75 m, reaching 15.00 m above sea level.

It is worth noting that sides of the Cut channel are undercut, suggesting flowing water, as streams commonly undercut the outside of bends. However, where the Cut channel meets the western Enclosure Wall of the KKT, it turns south, sparing the wall. It is hard to imagine that, if flowing water created the Cut, it would have left the base of the mudbrick Enclosure Wall unscathed.

Whatever the source of the Cut, it appears that people late in the occupation tried to fix it by dumping large quantities of limestone gravel into the deep channel.

The Ramp

Hassan (1943: 53) referred to the Ramp between the KKT and the GIII.VT as a "broad causeway running westward from the valley." Low walls frame the roadbed of the Ramp on the north and south as it rises at a gentle slope of slightly more than 6 degrees. The Cut removed most of the northern shoulder wall of the Ramp, but the surviving length of 11.60 m stands about half a meter above the latest roadbed. The section in Trench A showed us that the wall is simply a molding in the top of the limestone debris forming the massive foundation of the Ramp. The southern shoulder wall has been scoured by erosion on its south side, but at the eastern end, where it is truncated by the Cut, it is at least 1.55 m wide. As preserved, the southern wall, like the northern one, rises about half a meter above the latest roadbed. On the west, the wall merges with the eastern wall of the Ante-town and may abut it. Trench E showed that the northern face of this wall is founded 1.94 m deeper than the top roadbed of the ramp; it extends down to elevation 15.92 m above sea level, indicating that it served from the beginning of the earliest phase of the Ramp as a retaining wall for the limestone debris of its foundation. Initially the Ramp may have been used to haul stone and other material up the plateau.

We do not know how far the Ramp originally extended east into the valley. It continues under the modern road around the modern cemetery, and possibly under the cemetery itself. We also lack the full width of the Ramp because the Cut took out the northern shoulder wall and edge of the roadbed and truncated the lower end. However, by projecting a line east from the surviving northern shoulder, we get a width of 7 m at the bottom of the Ramp. As the Ramp rises, it widens to 12.20 m at the top, between its northern shoulder wall and the Vestibule. At the top, the Ramp splits into a high road going up onto the Partition Embankment and a low road running from behind the Podium west along the northern side of the GIII.VT.

In constructing the Ramp, workers laid down a foundation consisting of a base layer, half a meter thick, of marl *(tafla)* and limestone debris. Next, a series of layers of dense marl and limestone raised the Ramp an additional 60 cm, followed by a sequence of make-up or leveling deposits capped with compacted silty surfaces. Trench E showed at least five alluvial silt or marl pavements of the roadbed, indicating continued maintenance of the road over an extended period.

The Podium

A low bench or podium, built of mudbricks, stands partially eroded at the top western end of the Ramp. The main section, 1.74 × 1.88 m, rises in the center about 30 cm. A projection extends like a miniature ramp to the east. On the north, east, and south, the Podium is surrounded by an enclosure of low, thin walls. The L-shaped northern and eastern walls, which survive to a height of only 2 to 10 cm, appear to be of a different phase — that is, they probably were built and functioned at a different time than the southern wall.

Hassan (1943) proposed that the Podium was part of the "washing tent" used to prepare Queen Khentkawes' body for burial. He believed that Vestibule 2 and the Ante-town were the queen's valley temple. More likely, they are late additions to the GIII.VT and its settlement. The Podium and its enclosure seem related to the Drain leading into Water Tank 2. These structures may have been built together as part of the GIII.VT and served the cult and possibly the funeral of Menkaure. However, we must also consider the possibility that people might have used these features to monitor and administer access to Water Tank 2, to the GIII.VT through Vestibule 2, and to the roadway continuing west behind the Podium.

Conclusions and Summary

Our work during the 2009 season produced the first detailed map of the interface between the KKT and GIII.VT. We revealed a truly monumental landscape, built of quarry debris, mudbrick, and small limestone blocks. The broad mud-paved ramp leading up to the plateau could have been a major portal to the Giza Necropolis, with the residents serving as gatekeepers. They might have used some of the features in the interface, such as the Podium, to monitor and administer movement in and out of the necropolis.

The area was occupied for over 300 years, to the end of the Old Kingdom, but with a hiatus at some point. The GIII.VT and Water Tank 2 were probably built as part of a single complex as they have the same orientation close to true north. The basin may have served in the funeral and cult of Menkaure. The Ramp, built with a very deep foundation, was used over a long period, perhaps starting as an incline for hauling stone and other building materials up to the plateau. The shoulder walls were constructed along the same orientation as the KKT foot, suggesting that it was intended as part of that layout, or that the KKT and GIII.VT Ante-town were planned and constructed together.

At some point, flash floods, or some other force, breached the wall around Water Tank 2, gouged a chasm (the Cut) across the northern side of the Ramp, and tore away part of the Extramural House complex. In slicing through the Ramp, the Cut destroyed much of the link between the GIII.VT and KKT. While flash floods were most likely responsible for the Cut, people may have contributed by attempting to channel the water. They may even have diverted floodwater into Water Tank 2. It seems that they tried to undo some of the Cut's damage by filling the deep canyon with limestone gravel.

At KKT we discovered that the structure off the eastern end of the town, which we had first glimpsed in 2007, was a complex of ramps and stairs leading from a deep basin up to the queen's causeway. We believe that this was the valley complex of Queen Khentkawes I, located on a harbor that may have been connected to the one in front of the Sphinx and Khafre Valley Temples to the northeast. Deposits of miniature votive ceramics suggest that the complex was used in ritual, probably for the queen's funeral and her cult.

In the KKT, our excavations of a "priest's house" in the "leg" of the town forces us to reconsider the history and function of the settlement. We found that over time Building E opened to the homes on either side, "intermingling," so to speak. Renovations diminished House E by sealing off the northern end, where the courtyard became accessible only to adjacent Building F. The causeway evolved over time as well. During an early phase of Building E, the builders erected a wall along the full length of the "leg" of the settlement inside the southern boundary wall, creating a narrow causeway. The residents of the houses could enter the causeway through doorways and proceed through adjacent openings into the wider corridor on the other side of the new wall. We found compelling evidence that people abandoned the settlement for some time and then reoccupied the town, probably in the Sixth Dynasty, when they rebuilt portions of House E and other areas of the community.

At our Heit el-Ghurab site, we found no evidence to support our theory that the Western Compound served as a holding and slaughter area for livestock. Nor did we find any evidence that the Chute corridor was the equivalent of an abattoir chute. We attempted to follow the path of this corridor to the west, believing that it might turn to the north and serve as a conduit leading into the town from the Gate in the Wall of the Crow to the West Gate in the Enclosure Wall at the western end of the main east–west street through the Gallery Complex. Alas, our season ended before we could excavate as far west as we hoped, but the stretch of the corridor that we exposed did not veer convincingly north and seemed to continue northwest, suggesting that the Chute was not a conduit from the Great Gate in Wall of the Crow.

In House Unit 1 in the Western Town, we were unable to excavate down to the earliest levels, but we identified at least four phases of remodeling and occupation in the five chambers that probably served as bakeries and kitchen areas, as we suspected. We found evidence that here the residents were also brewing. Three rooms included low basins and bins, and, similar to features we discovered elsewhere on the site, they may have been used for malting.

Acknowledgments for 2009 Season

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Notes

[1] A Khentkawes with the same titles was buried at Abusir during the Fifth Dynasty. She is designated II.

[2] We designated as Water Tank 1 a basin in the western side of the KKT-F.