

GIZA PLATEAU MAPPING PROJECT

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The Giza Plateau Mapping Project (GPMP) carried out its 2005 fieldwork at the Giza Pyramids in Egypt from January 8 to May 31 and from September 13 to December 13. During the first period we carried out most of our clearing, mapping, and excavation of two Pyramid Age settlements: the Khentkawes Town (fig. 1) and the extensive Workers' Settlement at Gebel Qibli in the zone south of the Wall of the Crow (called Heit el-Ghurob by the local residents). Designated Area A, this site (fig. 2) has been the main focus of our work since 1988. From January 21 to March 17 we integrated the Giza Field School for Supreme Council of Antiquities inspectors into our excavation program.

Expanding Our Operation: The Khentkawes Town (KKT)

The expansive settlement that we have been mapping and excavating south of the Wall of the Crow did not exist in isolation. On the other side of the wall, across the wadi now covered by the Muslim cemetery, the L-shaped mudbrick settlement of the Khentkawes Town (KKT) lies 30 m north of the Menkaure Valley Temple (GIII.VT). The modular houses of the KKT are arrayed in a long east–west enclosure along a causeway leading to the mastaba tomb of the Fourth Dynasty queen, Khentkawes. At the eastern end, this long “leg” turns south where more structures occupy an east–west “foot” that is built on two levels, with an upper western terrace of dumped lime-

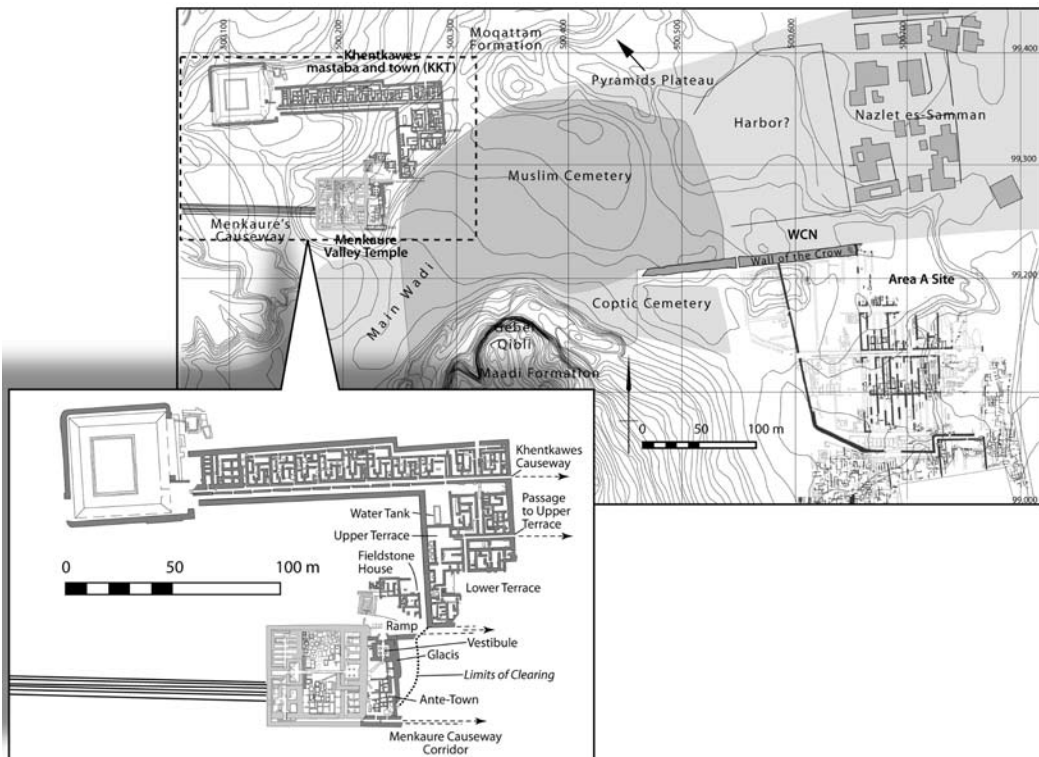


Figure 1. Map of the Giza Plateau showing the Khentkawes Town (KKT), Menkaure Valley Temple, Main Wadi, and Area A, the Workers' Settlement. Topographical map prepared by Peggy Sanders, Archaeological Graphic Services. The KKT and Menkaure Valley Temple maps prepared by Wilma Wetterstrom from Selim Hassan's and George Reisner's maps

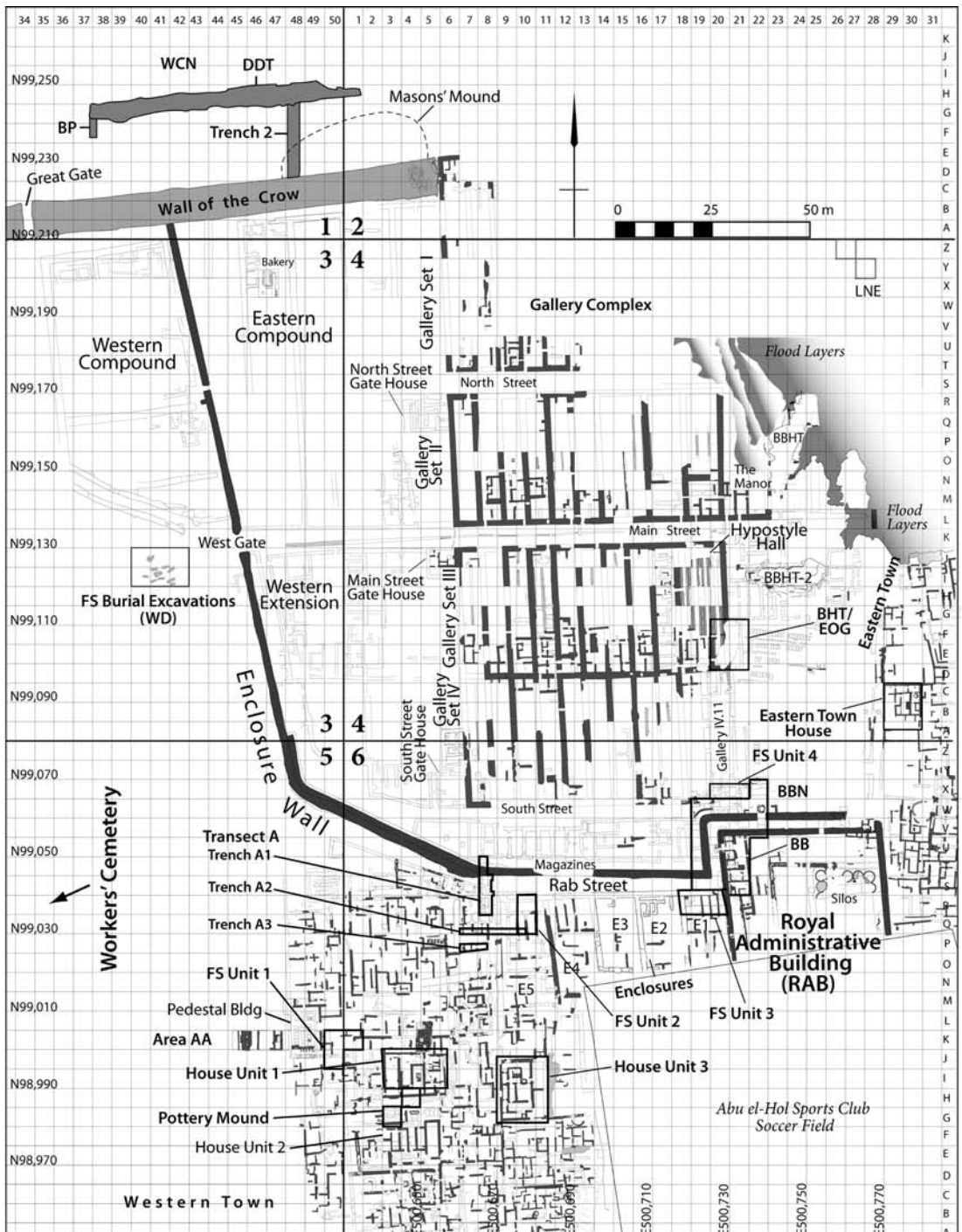


Figure 2. Map of the site, June 2005, showing field school excavation squares and Giza Plateau Mapping Project excavation operations

stone debris. When George Reisner (1931) excavated the GIII.VT between 1908 and 1910, he uncovered a town that grew in front of the valley temple and eventually invaded the interior court. People occupied this crowded little settlement in two major periods from the late Fourth Dynasty until the end of the Old Kingdom. In 1932 Selim Hassan (1943) excavated the nearby KKT. He

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Figure 3. Workmen clear the foot of the Khentkawes Town (KKT). The Khentkawes Mastaba stands in the background

also expanded Reisner's exposure of the separate cluster of houses at the front of the GIII.VT, a kind of ante-town to the community inside the temple.

We know very little about the relationship between the GIII.VT settlement and the KKT or about the life-span of the KKT or any other aspect of this community. Thus, one of our goals was to learn more about the period that people occupied the town, which has long been assumed to date to the Fourth Dynasty. We also wanted to determine the state of preservation of the KKT, since the town was left unprotected after Hassan's excavations, and over the years much of the structure has eroded away. Finally, we hoped to investigate the question of whether KKT and the Workers' Settlement were similar in date, materials, construction, and function.

Clearing and Mapping

Our work focused on the eastern end of the KKT and the interface with the ante-town at the front of the GIII.VT (fig. 1, inset map). We cleared the area down to the remains of the Old Kingdom (fig. 3), which Pieter Collet and Mark Lehner mapped at 1:20 to augment Selim Hassan's published 1:200 map, the primary record of his excavations of the KKT. When Hassan exposed the KKT, the walls stood waist high. We found that in the succeeding seventy-three years the mudbrick walls on the upper terrace in the northern portion of the "foot" had severely eroded, and in some places it had vanished, except for the last millimeters of mudbrick. The walls on the lower terrace were better preserved. They may have comprised one or two large houses that spanned both terraces. Granaries (now completely eroded away), ovens, a large rock-cut water tank, and magazines occupied the area of the upper terrace in the northern end of the KKT "foot." In the area between the southern end of the KKT "foot" and the GIII.VT we uncovered a mud-paved

ramp that slopes steeply down to the east. Farther south, we found that the eastern wall of the ante-town is a virtual glacis (a slope running up to a fortification) that drops in a very steep slope to the east, down to the level that the modern Muslim cemetery now covers.

The KKT and GIII.VT lie on the northern shoulder of the Main Wadi cutting between the Moqattam and Maadi Formations of the Giza Plateau. We see evidence that at various times in the past the wadi flooded from intermittent rain, which may have threatened the GIII.VT settlement, the KKT, and the settlement south of the Wall of the Crow.

At the end of the season we placed clean sand over the area where we had removed the thin overburden. We left intact a barbed wire fence that we had erected around the KKT and GIII.VT to protect it from camel and horseback riders who had been cutting across the KKT before we began work. The fence restricted the riders to the contractors' road along the new high security wall around the modern cemetery.

Work in Area A

We cleared and mapped north of the Wall of the Crow and at the western edge of the Western Town. We carried out intensive excavations in ten different areas: north of the Wall of the Crow (WCN), House Unit 3 in the Western Town, East of the Pedestal Building (Area AA), Pottery Mound (PM) in the Western Town, Transect A and the Western Roadway (WRW), West Dump (WD) burials, East of the Galleries (EOG), north of the Royal Administrative Building (BBN), and Royal Administrative Building interior northwest corner (Area BB). In addition, we surveyed the Late Period cemetery on the north side of the site. Each of these operations we describe below.

Wall of the Crow North

The Contractors' Trench: DDT

When we visited Cairo in October 2004 to interview applicants for the field school, we found a large, deep trench that contractors excavated with a mechanized excavator about 19 m north of the Wall of the Crow (fig. 4). The contractors who were building the new high security wall excavated this trench to prepare a foundation for the cement walls of a corridor from the town to the modern Muslim and Coptic cemeteries. Work was suspended. The trench cut down through archaeological and geological layers containing much information about the local cultural and environmental history. Recording the stratigraphy in this huge, unexpected trench (designated DDT) became one of the main operations of the 2005 season.

The DDT trench, 4.5 to 7.0 m wide and 90.5 m long, ran roughly parallel to the Wall of the Crow (WOC). Located 19 to 24 m north of the Great Gate in the WOC, it extended eastward to a point about 14.8 m shy of the east end of the wall. The west end of the trench turned and ran south to meet the eastern corner of the north side of the Great Gate. Here the trench was shallow. But in the long stretch parallel to the WOC, it sank more than 2 m below the ancient compact surface that we exposed in our 2004 operations to reveal layers below that surface.

Derek Watson supervised work in the DDT trench with Ali Witsell. Ken Lajoie investigated the layers from his perspective as a geologist. Pieter Collet drew the entire north and south sections at 1:20. His drawing of the south section, a total length of 64 m that penetrated below the Old Kingdom compact surface, is 3.2 m long. Witsell and Watson drew selected patches of the sections at 1:10. The team color-coded some 200 features, each requiring description on our

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Figure 4. The 64 m long deep segment of the DDT north of the wall of the Crow. In January 2006 we removed the spoil heaps (left)

recording forms. Altogether they recorded more than 500 stratigraphic features from the contractors' trench.

The sections on the northern and southern sides of the DDT showed a compact layer of masons' debris forming a hard surface that we had first encountered during the 2004 season in our excavations north of the WOC. This indurate, sandy surface extends from an ancient, artificial mound (Masons' Mound) at the east end of the north side of the WOC to the Great Gate through the wall, about 100 m to the west. The contractors' trench cut through a second, older layer of compact limestone chips and granite dust, separated from the first by a layer of sand. The Fourth Dynasty workers probably formed this older surface around the same time they built the WOC, some 19 m south of the trench. Brick-lined hearths, burned patches, ceramics, and a pan-shaped, shallow pit with a uniform lining of gray alluvial mud were among the features in the lower masons' debris layer and are probably the remains of the builders' camp.

The DDT cut across several pits that might be channels created by water flowing down the wadi. One prominent channel showed in section near the east end of the north side of the trench. The channel, 4 m wide and 60 cm deep, was filled with fluvial sand, water-sorted fine gravel, and cultural material. Near the opposite end of the trench in the southern face, our crew found a second channel or pit with cultural debris and natural layers of gravelly sand deposited and sorted by running water. This second depression could belong to the same channel cut by the other end of the trench, a sinuous channel that ran roughly longitudinally from west to east.

The sandy layer that separates the two compact layers of masons' debris and the channels might reflect a hiatus, possibly due to flooding, in the work on the Wall of the Crow. When the builders resumed their work, they prepared a new, higher surface of limestone debris. In 2001 we

came to a similar conclusion — that wadi flooding interrupted construction — after studying the layers in our Deep Trench, which we excavated on the south side of the WOC in Area WCS.

Trench 2 (T2)

To find the relationship between the stratification in the contractors' trench and the northern base of the WOC, Derek Watson, assisted by Aneis Hassan, excavated Trench 2, 3 m wide, from the contractors' trench to the WOC (fig. 5). Trench 2 cut through the low, western edge of Masons' Mound, which we discovered in the 2002 season at the east end of the north side of the WOC. We located the trench in order to learn more about this mound of artificially dumped limestone.

From the Trench 2 sections, it is clear that the upper levels of the mound consist of a series of slanted, thin, contrasting layers. These are basket tip lines, left by workers dumping out baskets of stone and mud debris. The tip lines angle down to the south at about 40° toward the WOC, which is very different from the situation we discovered in our Deep Trench operation on the south side of the wall during 1991 and 2001. There the lines tip down away from the wall, indicating that workers discarded chipping debris as they dressed the masonry face. The debris composing Masons' Mound, on the other hand, was intentionally dumped in order to create the mound. Below the tip lines we found a fieldstone wall that retains a base of mud and rubble.

Why did the ancient builders mound up this pile of stone debris? It might have been a construction ramp. Another possibility is that the builders intended to prevent wadi floods from undermining the WOC.



Figure 5. Trench 2 at the western end of Masons' Mound, which rises from the upper horizon of masons' debris. We laid out Trench 2 just where a prominent channel (from wadi flooding?) cut through the lower horizon. The upper horizon and masons' mound covered the sandy fill of the channel. View to the south

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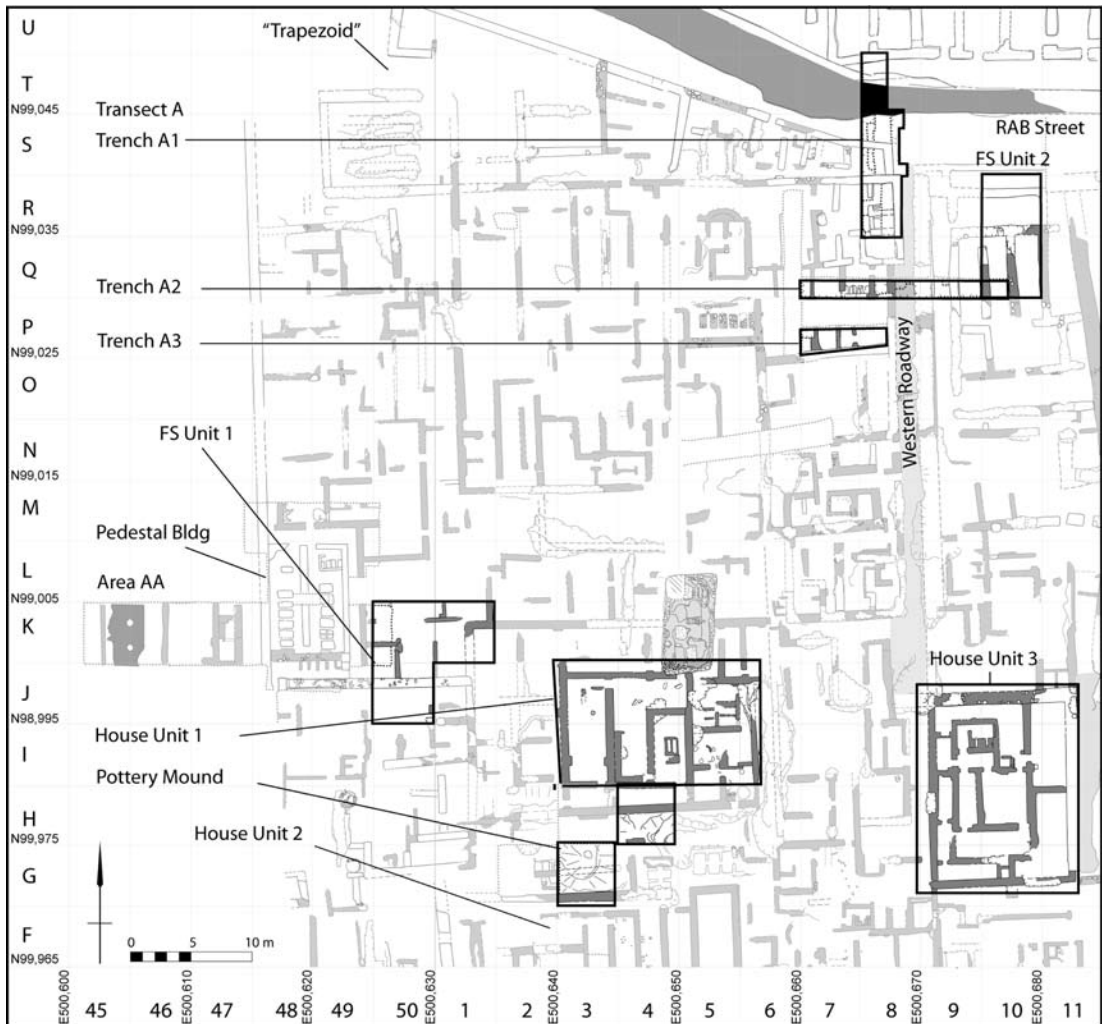


Figure 6. Map of the Western Town showing 2005 operations

The Western Town

Clearing and Mapping

This season we exposed more of the Western Town, the district that we first uncovered in 2004. We removed the overburden to the east between our Area AA and the Western Town and to the north between Area AA and the Enclosure Wall. The results show in our updated site map (fig. 2). We carried out our first excavations in Area AA in 1988–1989 and 1991, but this exposure of ancient buildings was isolated from the rest of the settlement until this season. We have now filled blank areas in the 2004 site map at the margins of the Western Town (fig. 6). The Pedestal Building in AA, which was some sort of storage facility, was part of a much larger compound that extended north.

We were surprised to find during our clearing that the settlement slopes up steeply to the west. Much more of the Western Town ascends the slope and it appears to be better preserved than the lower eastern parts.

Large House Units

In 2004 we concluded that the Western Town was a neighborhood of large house compounds, possibly the homes of high administrators. In 2005 our Field School Unit 1, supervised by Lauren Bruning, excavated in the squares immediately east of the Pedestal Building and found parts of a complex that might belong to a large house or urban estate. Outside another compound, House Unit 1, which we excavated in 2004, we found red painted plaster fragments in a corridor along the south side of the house. In 2004 we found traces of black paint on walls in the Western Town. Bands of color were common in houses, palaces, and estates during the dynastic period.

House Unit 3

We first excavated House Unit 3 in 2004. Mohsen Kamel resumed the work in 2005 with Freya Sandarangi and Aneis Hassan and found additional evidence that the Western Town was a district of elite homes. House Unit 3 is a large, rectangular complex of interconnected chambers (fig. 7). With a footprint spanning 16.0×12.3 m and encompassing twenty rooms, it was built on a grander scale than houses we have mapped in other areas of the site. Most of the walls are thicker than those in the Eastern Town; the eastern outer wall was over a meter thick and made entirely of fieldstone. A square court in the center of the house served as a light well, probably shaded by a tree growing within the court.

Pottery Mound

We gave the name Pottery Mound (fig. 8) to a substantial pile of occupation waste, laden with ceramics, which accumulated in an enclosure between two large residential compounds, House Units 1 and 2. Yukinori Kawae and Tove Björk supervised excavations of the mound, assisted by Nevine Moussa and Fatma Hussein. They hoped to find evidence of activities in the adjacent houses, assuming that the garbage in the pile came from the occupants of these homes. We recovered flint knives, weaving tools, beads, a possible game piece, ceramics, and abundant animal bone. The most surprising find was that cattle outnumbered sheep-goat. Elsewhere across our site sheep-goat are far more abundant than cattle. While such a finding suggests an “elite” diet, the most numerous type of pottery, represented by thousands of sherds, was the common beer jar.

Beer jars were also the most abundant type in the Pedestal Building and in the house that Field School Unit 1 excavated. This contrasts with the rest of the site, where bread molds predominate. The Ped-

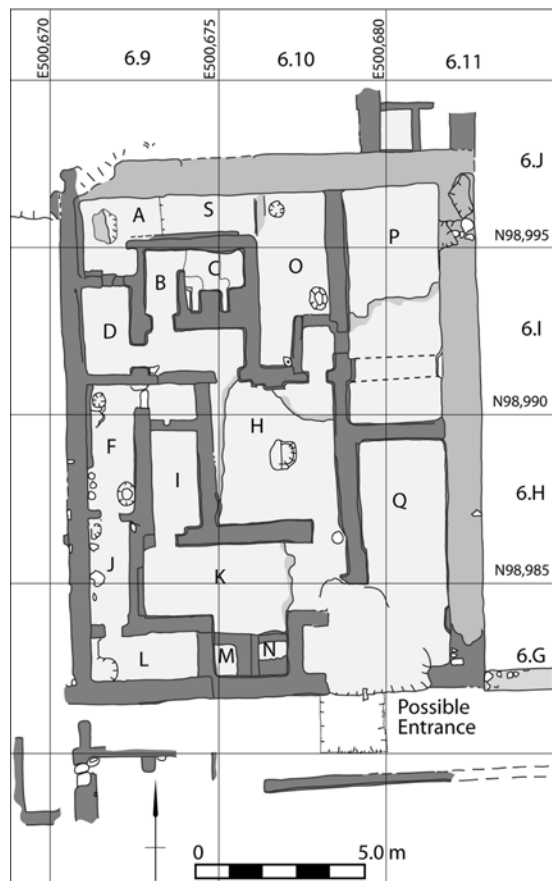


Figure 7. House Unit 3 in the Western Town

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Figure 8. Pottery Mound in profile. We have flipped the image of the western cut to create the composite east–west section. Photo by Yukinori Kawae

estal Building takes its name from the curious pedestals standing in two rows. We have found similar pedestals in other areas of the site and concluded that they were intended as bases for storage containers that straddled two pedestals, allowing air to circulate underneath. Among the clay sealing fragments found in the Pedestal Building, the most abundant type was the jar seal. This association of jars and jar sealings with the pedestals suggests that the compartments on the pedestals stored materials sealed in jars, under dry and relatively dark conditions.

The most remarkable find from the Pottery Mound was an enormous quantity of clay sealings: from only two quadrants (one-half) of the mound we retrieved 2,540 registered sealings, as many as recovered from the rest of the site over all previous seasons. The mud sealings from Pottery Mound included the most formal and sophisticated designs from anywhere on the site and the word for “scribe” appears often. The names Khafre and Menkaure occur on many of the sealings with the name of Menkaure more numerous. The mix of two royal names suggests an accumulated cache of sealings, cleared out and dumped all at once, or in a short time, during a period that saw the transition between the two reigns.

Many of the back impressions (the imprint of the material onto which the sealing mud was pressed) were of twine, possibly from rolled papyrus documents. The Pottery Mound sealings include a large number that John Nolan and Ali Witsell believe to be “box” sealings. They note that “the back surface will have a flat impression (sometimes with a clear wood impression), and the sides and back will show strategic placement of the clay over horizontal or vertical crossing of the twine or string used to secure the package.” Some of the sealings that are inscribed with the royal names Khafre and Menkaure appear to show the impression of a string, about 2 to 3 mm wide. These could derive from rolled papyrus documents.

Using repeated and overlapping designs on the different fragments, John Nolan is now reconstructing several of the compositions on the actual seals that produced the impressions.

Transect A

We know that the Fourth Dynasty Workers’ Settlement grew and evolved over time. One of our goals has been to work out the chronological relationships between its various components. The purpose of Transect A was to determine the relationships between the Gallery Complex, the Western Town, and the Enclosure Wall that separates the two. Dan Hounsell supervised the Transect A excavations with Katherine Bandy, Kathryn Habbot, and Petter Nyberg.

Trench A1 ran north–south across the Enclosure Wall, RAB Street, and south into the Western Town. Just south of Trench A1 we excavated two east–west trenches: A2 and A3. Trench A2 cut across the Western Roadway (WRW), a 1.50 m-wide lane that leads from RAB Street south into the Western Town (fig. 6). From the stratigraphy we determined that the Enclosure Wall was erected sometime after the building of the Western Town and the South Street Magazines. After the wall went up, a roadbed was laid down on RAB Street. Someone then built a trapezoidal

complex of fieldstone walls that extended westward along the northern wall of the Western Town, leaving space for RAB Street, which runs east–west to the Royal Administrative Building (RAB). The northern wall of the “Trapezoid” runs parallel to the bend in the Enclosure Wall. We provisionally referred to the stone building at the narrow eastern end of the Trapezoid as the “Guard House” because it constricts RAB Street from 5 to only 2 m wide and is positioned at a strategic point where this street intersects with the Western Roadway. This location was ideal for monitoring the movement of people and goods into and out of the Western Town and to and from the Royal Administrative Building to the east.

Since parts of both the Gallery Complex and the Western Town predate the Enclosure Wall, we must conclude that at some point it became important to the authorities to segregate residents of the two districts with a thick wall. They exerted further control by building the Trapezoid complex, which constricted RAB Street at the intersection with the WRW, and perhaps by installing a guard.

The Enclosures

E5

A series of five large stone-walled compounds extends from the northwestern corner of the RAB along the south side of RAB Street to the Guard House at the northeastern corner of the Western Town (fig. 9). Two of our Giza Field School teams worked in these enclosures. Field School Unit 2 (FS2), supervised by Justine Gesell, Abd al-Ghafar, and (later) Mohsen Kamel, excavated inside the northern end of Enclosure 5 (E5), immediately east of Transect A. They cleared two narrow, oblong chambers bounded by fieldstone walls. The northern chamber may have opened onto RAB Street, although we did not locate a doorway. The southern chamber, which may have been an open court, was accessed from a long, narrow corridor along the western side of E5. To the south, four long, narrow magazines, which continue south beyond the limits of excavation, open onto a third court flanked on either side by small chambers. The southern courtyard may have been where scribes documented goods moving in and out of the magazines.

E1

Field School Unit 3 (FS3), supervised by James Taylor and Mansour Boraik, excavated inside E1, at the far eastern end of the series of enclosures, next to the RAB. FS3 found a baking facility at the western side of a small courtyard in the northwest corner of E1. Baking pits line the base of the western wall. A raised hearth for stack-heating bread molds occupies the northwestern corner of the small court. On the eastern side of E1, a doorway opens from RAB Street to a corridor that runs south along the western, outer wall of the RAB. Two long, narrow magazines took up the space between the eastern corridor and the western baking court. In the fill of these chambers the FS3 team found roughly hewn and worked alabaster fragments, granite, and other stone exotic to Giza.

The Royal Administrative Building

The Royal Administrative Building (RAB) is a large enclosure surrounded by a fieldstone wall, 2 m thick, covering an area 48 m wide east–west and extending 32 m from its northern wall south to where it extends under the Abu el-Hol Sports Club and soccer field (fig. 9). A sunken court of large silos on the east side of the RAB probably served as a centralized grain storage facility. Open courtyards and small structures crowd along the western wall. The silos and numerous seal-

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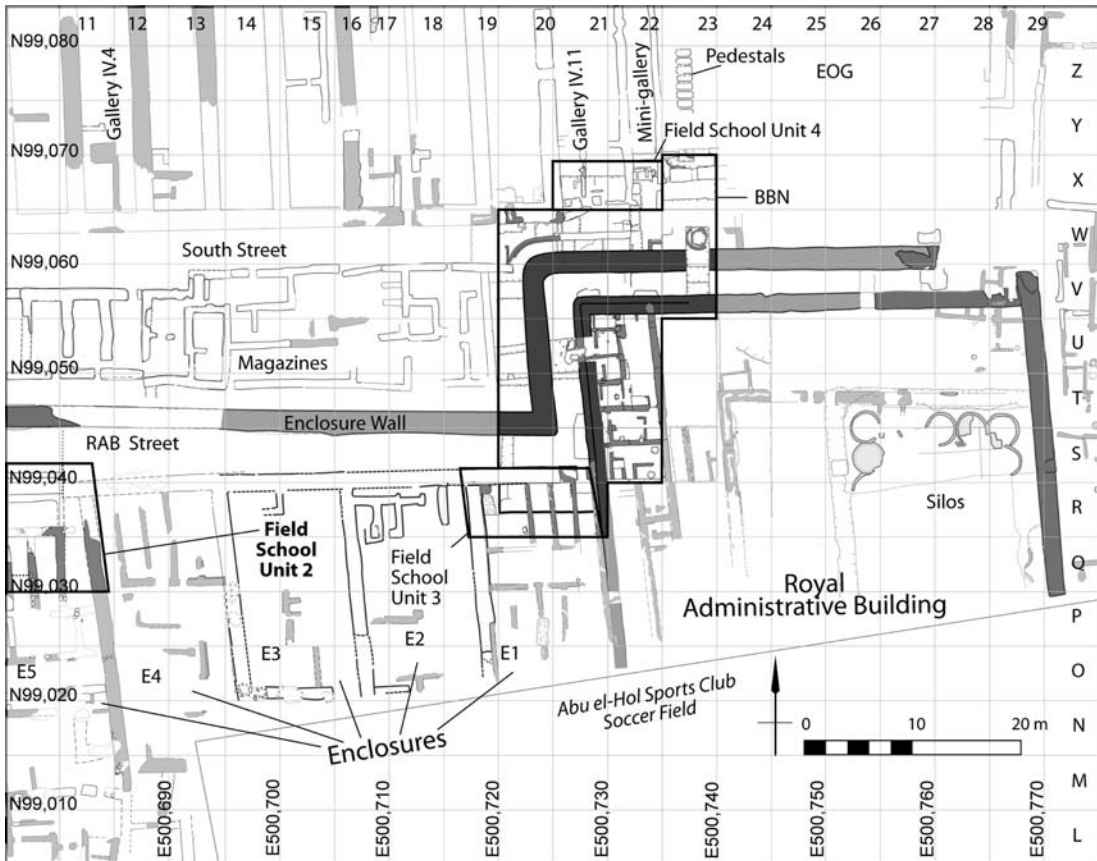


Figure 9. Map showing Enclosures, the Royal Administrative Building (RAB), and our operations just north of the RAB

ings excavated here in 2002, including some bearing the names Khafre and Menkaure, suggested to us that this complex was the site of royal administrative functions, hence the name Royal Administrative Building.

In 2002 and 2004 we excavated a complex of interconnected rooms in the northwest corner of the RAB, covering an area 10×15 m (six excavation squares). We exposed the walls and features of two principal occupation phases. The lower, older architectural configuration predates the thick, outer fieldstone RAB wall. This season Henan Mahmoud, Banu Aydinoglugil, and Pieter Collet mapped and dismantled the walls of the upper, younger phase, designated Structural Complex 1, in the area of the six squares, and Freya Sadarangani worked out the phases of its construction. Sadarangani and her team excavated down to the latest floors of the older arrangement, Structural Complex 2.

Structural Complex 1

We described Structural Complex 1 in previous reports. Here we review and summarize some salient features. Structural Complex 1 is exposed in a strip, about ten cubits wide (from 5 to 6 m) running north–south along the western wall of the RAB (fig. 10). A mudbrick wall that is slightly thicker than the internal walls bounds the complex on the east. Seven interconnected rooms of various sizes fill this strip within the length of our excavations, which took in the northern ends of the southern rooms. The linear room ensemble continues south beyond our excavation boundary. The orientation of the main walls, slightly west of north, follows the western wall of the RAB.

Similar configurations of rooms in an open compound against a very thick outer wall, leaving open interior space, are seen in the Fourth Dynasty industrial settlement southeast of the Menkaure Pyramid and in fieldstone compounds near the Old Kingdom dam at Wadi Gerawi cross the Nile Valley from Dahshur (Dreyer and Jaritz 1983).

Room 1 (fig. 11), which was probably an open court, takes up the northwestern corner of Structural Complex 1 and was mainly a dumping area. A larger open yard extends along the east side of the complex. The major access from the eastern yard into the complex was through an opening with a door into Room 6. Three additional doorways in Room 6, which were also fitted with limestone door sockets, opened to other rooms north, west, and south. Most of the activity took place in Room 6, as indicated by the density and complexity of occupation features, including a hearth and pot emplacements, as well as frequent remodeling of fixtures. A guard may have occupied Room 6 to monitor access to the other rooms.

At some point, the builders added Rooms 8 and 9 onto the east side of Room 1, expanding the complex into the open yard. The occupants next added two rectangular bins into the corner formed by the eastern wall of Rooms 5 and 6 and the southern wall of Room 9. These were in use for only a short time. During a later phase they added a fieldstone wall to form a narrow corridor leading from the south to the entrance into Room 6, but they used the corridor for only a short time. In a late phase of use of the yard, the occupants may have used a grid of small, round, shallow holes in the mud floor to receive the conical bottoms of bread molds, set out to allow freshly baked bread to cool.

When they created Structural Complex 1, the builders used broken stone to significantly widen the outer wall of the RAB compound to 2 m. They may have intended the stone wall to support



Figure 10. Royal Administrative Building, Structural Complex 1. Rooms 8–9 occupy the foreground. The high wall in the far background encloses the Abu el-Hol Sports Club soccer field. View to the southwest

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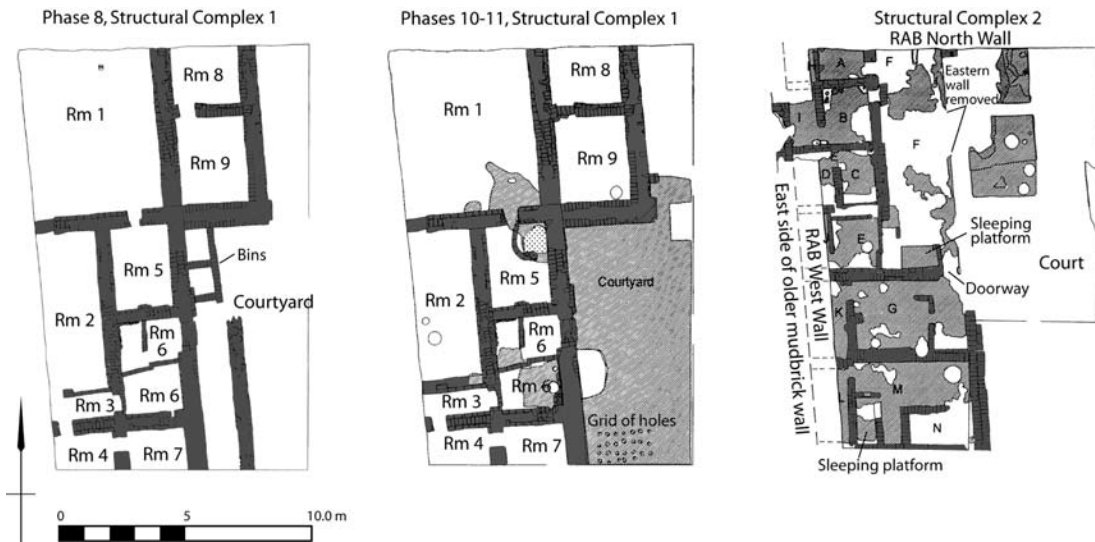


Figure 11. Maps of Structural Complexes 1 and 2. The two plans at the left show two Structural Complex 1 during two different periods. The bins and fieldstone wall of the corridor were covered by a later mud floor of the courtyard, which featured a grid of shallow holes. The plan at the right shows Structural Complex 2. Floors are shown as hatched areas. Drawings by Freya Sadarangani

the weight of a second floor. However, due to the erosion of the site we see only the rubble and remains of a lower story.

Structural Complex 2

The older occupation, Structural Complex 2, included a number of phases and floor levels. This season we excavated only to its uppermost level. The layout occupies relatively the same strip, about ten cubits wide (5.25 m), of rooms running along the length of the outer, western wall of the larger enclosure (fig. 11). In this phase the western wall was of mudbrick and thinner, 60 cm, making the strip slightly wider. The room configuration within this narrow zone is quite different from that of Structural Complex 1. At the northern end, one long north–south room (F) fronts four small, two-room units lined up along the outer western wall. Each unit opens unto Room F and was fitted with a door, evidenced by limestone pivot sockets. We recovered a rich artifact assemblage from the floors of these rooms, including polishers, pounders, mineral pigments, sandstone objects, and chert and flint tools or waste from making tools. The material suggests craftwork in stone and pigment. Room F may have been an outdoor work area, while the small chambers served as storerooms.

We do not know if any doors opened through the eastern wall of Room F because the builders destroyed most of this wall before they built Structural Complex 1 on a fill of demolition debris. On the south side a doorway opened from Room F into Room G. Adjacent to the opening on the south wall there was a raised area that we believe was a sleeping platform. A guard may have been posted here to monitor the comings and goings between Room F and the adjacent Room G.

We found more craft-related objects on the floor of Room G: large pounders, polishers, a limestone door socket that was out of its original place, a complete bowl, and beer jars among other ceramic vessels. A thin wall partitions Room G into a main square chamber, a narrower rectangular vestibule on the east, and a short corridor along the north that leads west toward a doorway fitted with a limestone door socket on the north. This door opened to Room K, which appears to

belong to Room G in a configuration similar to but larger than the two-room units west of Room F to the north.

To the south, a similar complex occupies a rectangular space of the same size. The bulk of it is taken up with Room M. In the southwestern corner of the room a low sleeping platform gives this unit a domestic cast. A door in the western wall opens onto Room L, which lies in line with Room K. In the southeastern corner of Room M, a thin partition wall defines out Room N. As in the later Structural Complex 1, the east side of Structural Complex 2 was an open yard or court.

The builders of Structural Complex 1 probably recycled bricks from Complex 2. Using mudbrick fragments and other debris, they filled between the remains of the earlier walls and built up the floor level. This rebuilding appears to have happened in a short time.

Outside the Northwest Corner of the RAB

Stratigraphic Links

The area just outside the northwestern corner of the Royal Administrative Building (RAB) is a stratigraphic and chronological link between major components of the settlement. Anais Hassan excavated a trench on the north side of the RAB through the 2 m thick Enclosure Wall and ascertained that this stout wall was built after the northern RAB perimeter wall. However, we also found traces of an older, thinner mudbrick wall underneath the fieldstone Enclosure Wall, as well as older levels under RAB Street. On the west side of the RAB we cut a trench through the western RAB fieldstone wall, a continuation of the trench we started here in 2004. Here again we found that the fieldstone Enclosure Wall was built after the western RAB perimeter fieldstone wall and that the 2 m thick fieldstone RAB wall was a capping and thickening of an earlier mudbrick wall, which was about 60 cm thick. It appears that the older mudbrick enclosure wall, at least on the north, and an original thinner mudbrick RAB wall were rebuilt as much more robust fieldstone structures. In a deep probe in the middle of the northern trench, we found intercalated, steeply angled layers of sand and mud, similar to layers in our 2002 deep probe alongside the eastern RAB perimeter wall, which indicate the builders artificially raised the area for building the compound that preceded the RAB.

In our excavations between the two walls we found that traffic on RAB Street around the northwestern corner of the RAB wore a sunken path on the inside of the turn and left a raised shoulder on the outside of the corner.

The stratigraphic relations between the Enclosure Wall and the RAB perimeter wall reinforce our impression that authorities exerted ever more control over the settlement. They capped and thickened the mudbrick wall around Structural Complex 2 to create a massive stone wall for the RAB and Structural Complex 1, perhaps to support an upper story. Traffic from the Western Town moved around the RAB on RAB Street to emerge at the RAB entrance at the northeast corner of the building and at the edge of the Eastern Town. Any goods coming into the RAB would have skirted entirely around the Gallery Complex, shielded from people within by the thick, fieldstone Enclosure Wall.

Three Ways Diverging

At the northwest corner of the RAB, the fieldstone Division Wall was erected parallel to the Enclosure Wall in the middle of South Street. It ran between the Enclosure Wall and the RAB northern wall for a short distance, creating two lanes. One funneled traffic into the South Street Magazines, arrayed along South Street at the southern end of the Gallery Complex. The Division Wall and a curved mudbrick extension created the other lane, a tightly constricted passage that

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reduced the width of the eastern end of South Street from 5 m to slightly less than 1 m, suggesting yet more control over movement within this area. The third way was RAB Street, separated from the narrower lanes to the north by the massive Enclosure Wall.

“Mini-galleries”

Just north of the northwest corner of the RAB, Field School Unit 4 (FS4), supervised by Ana Tavares, excavated the southern ends of two galleries defined by fieldstone walls fronting onto the narrowed South Street. We count the western of these two structures as Gallery IV.11. The two bakeries that we found in 1991 occupy the full width of the northern end of Gallery IV.11. This is the last gallery on the east in Set IV and probably the last gallery to be built. The excavation also extended across the southern end of a kind of mini-gallery to the east of Gallery IV.11. Both long enclosures nearly match the length and appear to be in sequence with the galleries of Set IV (the mini-gallery is a little shorter). But they are of odd widths, 6.00 and 2.26 m respectively, whereas the standard galleries measure 4.6 to 4.8 m wide between thick mudbrick walls. The FS4 excavations revealed these fieldstone “galleries” are very late additions.

At the far southern end of the “mini-gallery” the FS4 team excavated a compartment with pedestal bases, like those we have uncovered in the Pedestal Building in the Western Town and in the open area between the galleries and the Eastern Town (East of the Galleries, EOG). The pedestals served, as elsewhere at the site, as foundations for storage compartments.

Backhoe Trench (BHT) and East of the Galleries (EOG)

This season we returned to an area on the eastern edge of the Gallery Complex where a modern backhoe gouged a large trench (BHT), cutting through the southeastern corner of the Hypostyle Hall, just north of the bakeries that we excavated at the northern end of Gallery IV.11 in 1991. In 2001 we found, at the north end of the pit, parts of mudbrick walls and deposits of what might be Egypt’s oldest known facility for producing faience. The faience-related deposits belong to an older phase that includes an extensive layer of fine, pink, slag-like deposits, speckled with lighter, grayish-green particles. This material resembles waste from faience production at other sites of later periods, such as at Abydos. The faience production was associated with a series of hearths in sunken pits (Nicholson and Peltenburg 2000). During the 2005 season, we exposed more of this pinkish slag over an area of 3×11 m, east of the BHT and recovered a number of faience pieces. It is probably safe to assume that a faience production facility was located nearby.

To explore this older occupation in the EOG/BHT area, Tim Stevens, with Ashraf Abd El-Aziz, Amelia Fairman, and Banu Aydinoglugil, excavated more of the massive dumps of bread mold fragments and other pottery and waste that filled the area east of the galleries and bakeries. We excavated some of the pedestals that occur here in long, parallel rows, which we had mapped and partially excavated in 2004. The pedestals lie embedded within the bread mold debris. Narrow channels run along the bases of the pedestals, fashioned into the surface of the underlying, older layer on which the pedestals were founded (fig. 12). The channels lead to, or run close by, a series of large pits sunk into the lower layer. Since the pedestals sit on the surface of the lower horizon, the inhabitants must have created the pits and channels when they used the pedestals. They may have initially dug the pits to dispose of ceramic and other waste in the early phases of use of the bakeries and pedestals and to maintain the smooth floor upon the lower layers. Perhaps as they intensified production, they could not keep pace with trash pits and simply allowed the waste to accumulate around the pedestals. We found trash pits similar to those in EOG in the area immediately north of the RAB.



Figure 12. Area EOG, view to the northeast. The upper horizon of bread mold gravel and limestone pedestals has been excavated neatly to the top of the lower phase, which included a massive deposit of “pink stuff,” possibly waste from faience production

Burial Excavations and Survey

As part of their training, the field school students excavated and documented eleven Late Period human burials, under the direction of osteologists Jessica Kaiser and Tom Westlin. We selected graves at the high, western edge of the site near the West Dump trench, which we excavated in 2004. Here we expected to find better preservation than in lower lying areas.

Since two burials were doubles, the students helped to retrieve a total of thirteen individuals. It was possible to determine the sex of ten of them; they were equally divided between males and females. Because the burials were well preserved, their pathologies (e.g., dental abscesses, periodontal disease, arthritis, osteophytic growths on the spine) were well documented. On the basis of burial position, orientation, funerary equipment, and coffins, we dated the burials to the Late Period. The orientation of these internments and the lack of disturbance by other graves suggest that this particular location was used as a burial ground for only a short period. The elaborate decoration of many of the coffins, the comparative richness of at least one grave, and the presence of grave goods in burials of adults as well as children suggest that a more prosperous community was buried here than in other areas of the site, where we find very few grave goods.

In addition to the thirteen field school burials, Tove Björk and Petter Nyberg excavated two other burials, both poorly preserved and probably dating to the Old Kingdom, in the Western Town areas of Transect A and Enclosure E5.

The fifteen burials we dug this season are but a few of the thousands that were interred in our site, mostly during the Late Period through the Persian period (712–332 B.C.). The outlines of many burial pits are visible from the surface because of wind, disturbance, and our own clearing. This season we surveyed the burials in alternate 5 m ranges (north–south rows) in the area north of Main Street and west of Gallery Sets I and II. We mapped 630 burials. Based on the ratio of burials we find in surface survey to those we find in the same area after intensive excavation, we estimate that the area north of Main Street and the western part of the galleries could contain as many as 5,670 burials.

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The Late Period cemetery appears to be concentrated in an area that extends from the Wall of the Crow on the north to Main Street on the south. Since the graves stop abruptly at Main Street, with sixteen burials at street level, it is possible that Old Kingdom walls or other features were still visible 2,000 years after the settlement was abandoned. While most of the graves are from the Late Period, we have occasionally found Old Kingdom burials dug into the tumble south of Main Street, suggesting that the poor populations at the end of the Old Kingdom used the ruins for makeshift tombs.

Conservation

In the spring of 2004 we proposed a program to conserve our site and to present some salient examples of the ancient structures. Conservation is necessary to preserve the site for posterity, while showing the structures is important to convey information. A restoration or recreation of ancient architecture generates insights into how people built and used these structures.

We reviewed conservation and restoration work at other sites and concluded that backfilling is the best way to preserve our site. But a blanket cover does not allow us to see the ancient architecture. For this reason, a variety of teams in Egypt have capped walls with new material to protect them while allowing them to be seen. Capping ancient walls drastically changes the dimensions if both the sides and top must be covered. We chose instead to build an exact replica on top of the original with a separation layer between the two. Originally, we had planned to put down sherds as the separation layer. However, because the groundwater has been rising at Giza and continues to do so, our conservator, Ed Johnson, and architect, Günter Heindl, recommended a sand layer at least 30 cm thick to keep the new walls from wicking up moisture.

We chose the Eastern Town House (ETH) for our pilot project because it is a small, discrete compound, a little urban estate with a core house surrounded by small courts for storage and pro-



Figure 13. The completed reconstruction of the Eastern Town House built on top of a thick layer of sand over the ancient house. View to the northwest

duction. Our conservation team of Ana Tavares, Ed Johnson, Günter Heindl, and Ashraf Abd el-Aziz carried out the project. They reconstructed the walls to the exact dimensions as the ancient walls and positioned them exactly over the original walls (fig. 13). Taking advantage of Abd el-Aziz's ongoing Mudbrick Project, a detailed study of the sizes and compositions of mudbricks from the ancient settlement, we made our own bricks the same size and with a similar composition as the original bricks.

The reconstruction of the ETH that now sits on the ancient house compound is inspiring to our team. Our procedure is also reversible. We can simply take down the modern reconstruction and remove the sand. While protecting the original ETH, our reconstruction conveys the form of the original and allows us to appreciate and think about the ancient residents' use of space and proportion.

Conclusions

The 2005 season of the GPMP was a successful harvest of much new information about this extensive Fourth Dynasty Giza settlement. In addition to a full excavation program, we launched several new projects: the ARCE/GPMP field school, the survey of the Khentkawes Town, and our conservation program. We successfully met the challenge, in collaboration with the Giza Pyramids Inspectorate, of salvaging information from the 90 m long, 2 m deep contractors' trench north of the Wall of the Crow. In our 2006 program we hope to continue detailed excavations in select parts of this ancient city to learn more about life at the time when the Fourth Dynasty Egyptians were building the Giza Pyramids. We hope also to carry on with the ARCE/GPMP field school, conservation programs, and resurvey of the Khentkawes Town.

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References

- Dreyer, G., and H. Jaritz. "Die Arbeiterunterkünfte am Sadd al-Kafara." *Leichtweiss-Institut für Wasser Bau der Technischen Universität Braunschweig, Mitteilungen* 81 (1983): 2–20.
- Hassan, Selim. *Excavations at Giza* 4. Cairo: Government Press, 1932–33.
- Nicholson, Paul T., and Edgar Peltenburg. 2000. "Egyptian Faience." In *Ancient Egyptian Materials and Technology*, edited by Paul T. Nicholson and Ian Shaw, pp. 177–94. Cambridge: Cambridge University Press, 2000.
- Reisner, George. *Mycerinus, The Temples of the Third Pyramid at Giza*. Cambridge: Harvard University Press, 1931.
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