

The
Archaeology and
Art of
Ancient Egypt

Essays in Honor of David B. O'Connor



Volume II

Edited by
Zahi A. Hawass
and Janet Richards



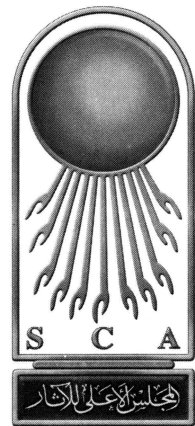
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Beds for Bowabs in a Pyramid City¹

Mark Lehner

*The Oriental Institute, University of Chicago
Harvard Semitic Museum*

Freya Sadarangani

Ancient Egyptian Research Associates

In her *Bostron Globe* article of October 24, 2005 Megan Stack described the influence of *bowabs*—doorkeepers—in the social world of Egypt’s capital, Cairo: “improbably, they are some of the most powerful players in Cairo society.” The bowabs derive their power from knowledge of all comings and goings, and therefore the relationships of the people who move through the doorways that are their domain. The bowabs search the trash, not only for useful material that they can reuse, or recycle, also for the information that discarded material may convey.

So while performing all sorts of menial tasks for the higher status residents—carrying heavy items and fetching consumables—the bowabs potentially exercise a great deal of leverage, even on the “elite,” or on those who might seek information, to the immediate influence and profit of these doorkeepers. Stack quotes an expatriate resident of Cairo, new to the system: “It’s really interesting how the servants control the masters.”

The *bowabs* control whether a tenant will be hassled by panhandlers or police, whether deliveries reach the door, how quickly plumbers materialize, whether parking or taxis are available at the crucial moment. In short, they can make life smooth or impossibly harried (STACK 2005).

The postings at doorways are often inherited. Often hailing from distant villages, where they sometimes support wives and children, “once they become *bowabs*, the men relinquish time and space of their own. They doze on and off through the night, curling up close to the door so they’ll be roused by any disturbance.”

Stack’s article simplifies a social role within a complex cultural tradition. Yet it resonated with our experience of *bowabs* while living and staying in Cairo. Walking Cairo streets, we saw *bowabs* sleeping near or across a doorway between public space and the restricted interior of a building.

The Heit el-Ghurob Settlement at the Giza Pyramids

The article about Cairo bowabs and the power of a door posting drew our attention to a simple architectural configuration we have encountered in our excavations of what must have been one of the first urban layouts in the area that Cairo now spans (LEHNER 2002). We have found low platforms, horizontal or at a slight slope, which we believe on the basis of parallels at other Pharaonic settlement sites (LEHNER 2002: 41, n. 17), are bed platforms across or near doorways at a 4,500-year old settlement 400 m south of the Great Sphinx at Giza.

We should properly name this ancient settlement *Heit el-Ghurob*, after its most prominent still-visible feature. The *Heit el-Ghurob* (Wall of the Crow), a large stonewall, some 200 m long, 10 m high, and 10 m wide, with a prominent gate, is the defining feature of the site forming its northwestern boundary, and the name by which this tract of low desert was long known to local inhabitants. The site lies at the eastern base of the Gebel el-Qibli. The ancient settlement dates from the middle to late 4th dynasty (LEHNER and WETTERSTROM 2007).

Four large blocks of long mudbrick galleries form the centerpiece of the settlement (Fig. 1). Fieldstone structures, including bakeries, flank the Gallery Complex east, west and south. These structures are embedded in occupation layers that contain much evidence of food production. Three streets run straight east to west through the complex. North Street and Main Street, as we have named them, separate Gallery Sets I and II and II and III. A two-meter thick fieldstone wall encloses this ensemble on the west and south. On the east, we excavated a thick mud brick wall for a length of 20 m north to south in 2006 and 2007. This wall may complete the enclosure.

Another large enclosure, the so-called Royal Administrative Building (RAB), lies off the southeastern corner of the Gallery Complex. The RAB contains a sunken court of silos, probably for storing grain. We found sealings that include the names of Khafre and Menkaure, builders of the Second and Third Giza Pyramids, and mud tokens from a complex of rooms in the northwestern corner of the RAB. This complex, the sealings, and the central storage facility suggest accounting and administration functions. To the east of the Gallery Complex and the RAB, a series of small chambers and courts form the "Eastern Town." To the south of the Gallery Complex, and west of the RAB we found a series of five large modular enclosures, oriented north to south, containing courts and magazines. These enclosures were probably functional extensions of the RAB. Farther south and west a maze of walls shows in the surface of the ruin field. These seem to comprise a series of large, elite houses of the "Western Town."

We are still examining the pathways through the complex, and the question of access into different enclosed spaces. We are constrained in such analysis by the fact that we have recovered most of the ground plan of the settlement from the traces of walls in the surface of the ruins, after we removed the sandy overburden, rather than by detailed excavation, so we may be missing many doorways and some major walls.

In parts of the settlement where we have excavated intensively through the "mud mass"—the collapsed and disintegrated material from the mudbrick and field stone walls—we have found low platforms, just wide and long enough for a person to lie down, sometimes in alcoves. These resemble platforms that archaeologists have identified as sleeping or bed platforms at other ancient Egyptian settlement sites (LEHNER 2002: 41, n. 17). In certain places at the Heit el-Ghurob settlement, these platforms are either right across doorways or located in some strategic configuration with doorways, magazines, or pathways through the structures.

Beds for Bowabs in a Pyramid City

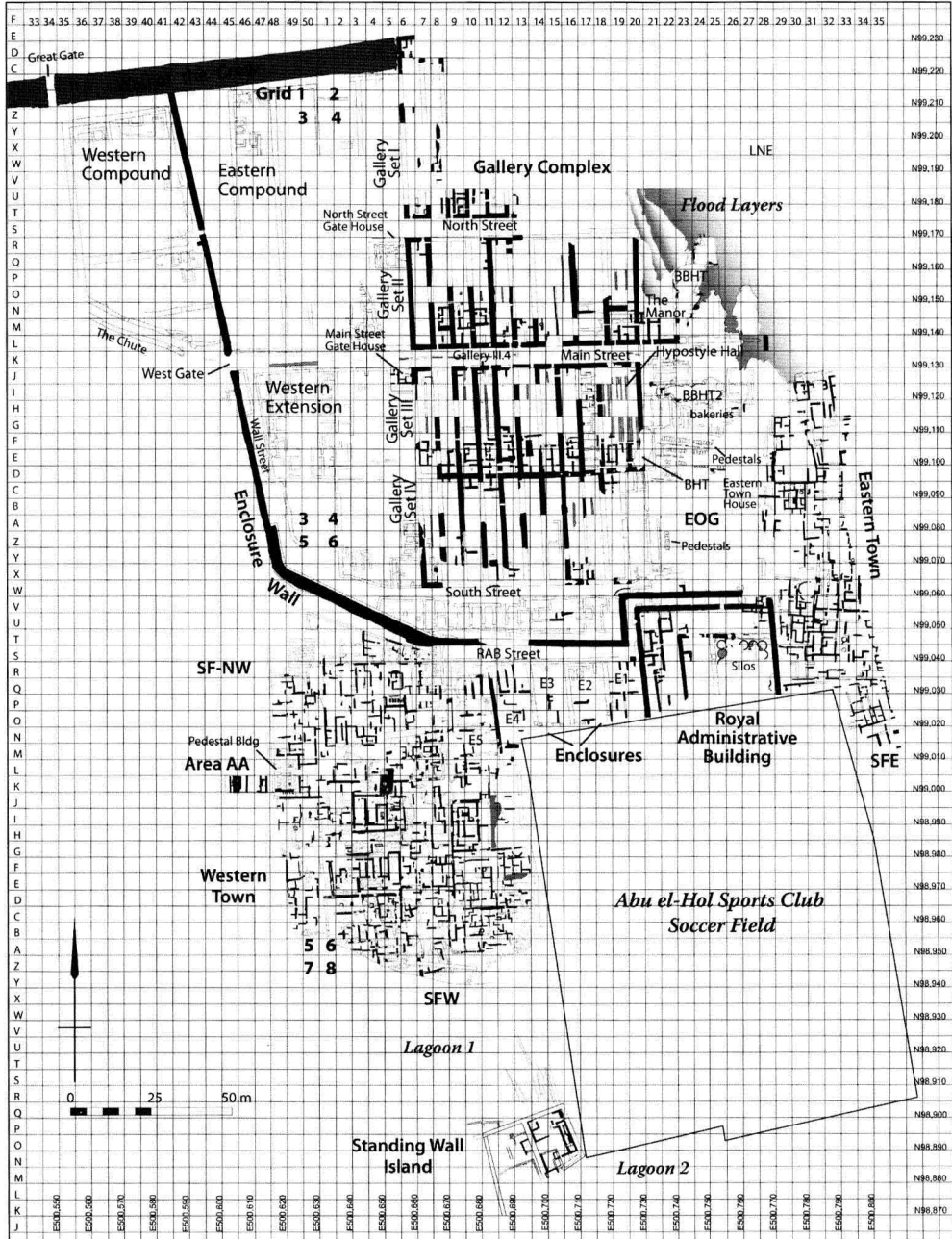


Fig. 1: General map of the Heit el-Ghurub settlement site.

Porter's Room in the Hypostyle Hall

We found one example of a low platform across a doorway in the southwestern corner of the Hypostyle Hall (Fig. 2). This compound at the eastern end of Gallery Set II features an open area, 23.40 m long by 10.6 m wide, with five sets of low benches separated by troughs running north-south across the open floor. The builders embedded limestone column bases under the center bench of the central three sets of troughs and benches. The bases supported slender columns, probably of wood and about 23 cm in diameter, spaced every five cubits (2.62 m). A corridor runs north into the columned hall from a doorway in the far southwestern corner. Four narrow rooms take up the southern part of the hypostyle enclosure. Two chambers on the east have the low troughs and benches along the walls. The chamber on the west, 2 m wide and 4.4 m long, lacks these features. A low bench, 1.8 m long and .80 m wide, extends across a doorway in the eastern end of the southern wall of this chamber. The platform would have necessitated a step up, and then a step down, for anyone passing through the doorway.

We understood this platform across the doorway as a curiously enlarged threshold, until we began finding similar platforms elsewhere on the site in domestic contexts that suggest these were sleeping or bed platforms. We found these platforms in what we interpret as private, domestic contexts, such as in the small "Eastern Town House" (WETTERSTROM 2004) and in House Unit 3 in the Western Town (LEHNER, KAMEL and TAVARES 2006: 74, fig. 13).² We also found such platforms in structures that are less obviously domestic or private, in the sense of a discrete house or domicile. Some of these platforms are associated with doorways. These findings suggested to us the hypothesis that the platform across the doorway in the southwestern corner of the Hypostyle Hall might have been for sleeping and guard duty. The chamber would have housed a doorkeeper. The platform in this case is less certainly for sleeping than the examples we discuss below. If it was for sleeping, the platform would have been less for guarding traffic through the doorway into this chamber, and more for keeping watch over the southwestern entrance into the hall.

In other places (discussed below) in the settlement, the platforms appear to have been strategically placed for guarding or monitoring people or spaces, or traffic into and out of these spaces.

Bed Platforms in Gallery III.4

The first low platform that we identified as a sleeping platform turned up in our excavations of Gallery III.4, the fourth gallery from the west in Gallery Set III, south of the thoroughfare we call Main Street (Fig 3). In 2001 Ashraf Abd al-Aziz supervised excavations in squares 4.J10-11, which take in the entrance into this gallery from Main Street (ABD AL-AZIZ 2007). The floor of the doorway slopes down into the gallery from the higher level of the paved surface of Main Street. At the inside eastern corner of the doorway, Abd al-Aziz found a piece of limestone with a round, grooved hole in which the pivot pin of the door turned.

Inside the gallery doorway thin walls of mud and stone enclose a foyer (A). Between the foyer and the West wall of this gallery (B), Abd al-Aziz excavated a low platform formed of mud, one meter wide (north-south) and just long enough for a person to stretch out. The platform is only 8 centimeters off the floor at the East end, and slopes up to 20 centimeters high on the western end. We interpreted this as a sleeping platform on the basis of similar platforms known from ancient Egyptian houses from later periods and other sites (LEHNER 2002: 41, n. 17)(Fig. 4). The most notable parallels are the similar platforms in the houses of the small industrial settlement southeast of the Menkaure Pyramid that Abd al-Aziz Saleh excavated (SALEH 1974: 142, fig. 1, pl. 27a). These are also sloped, and they are probably contemporary with the Heit el-Ghurob settlement.

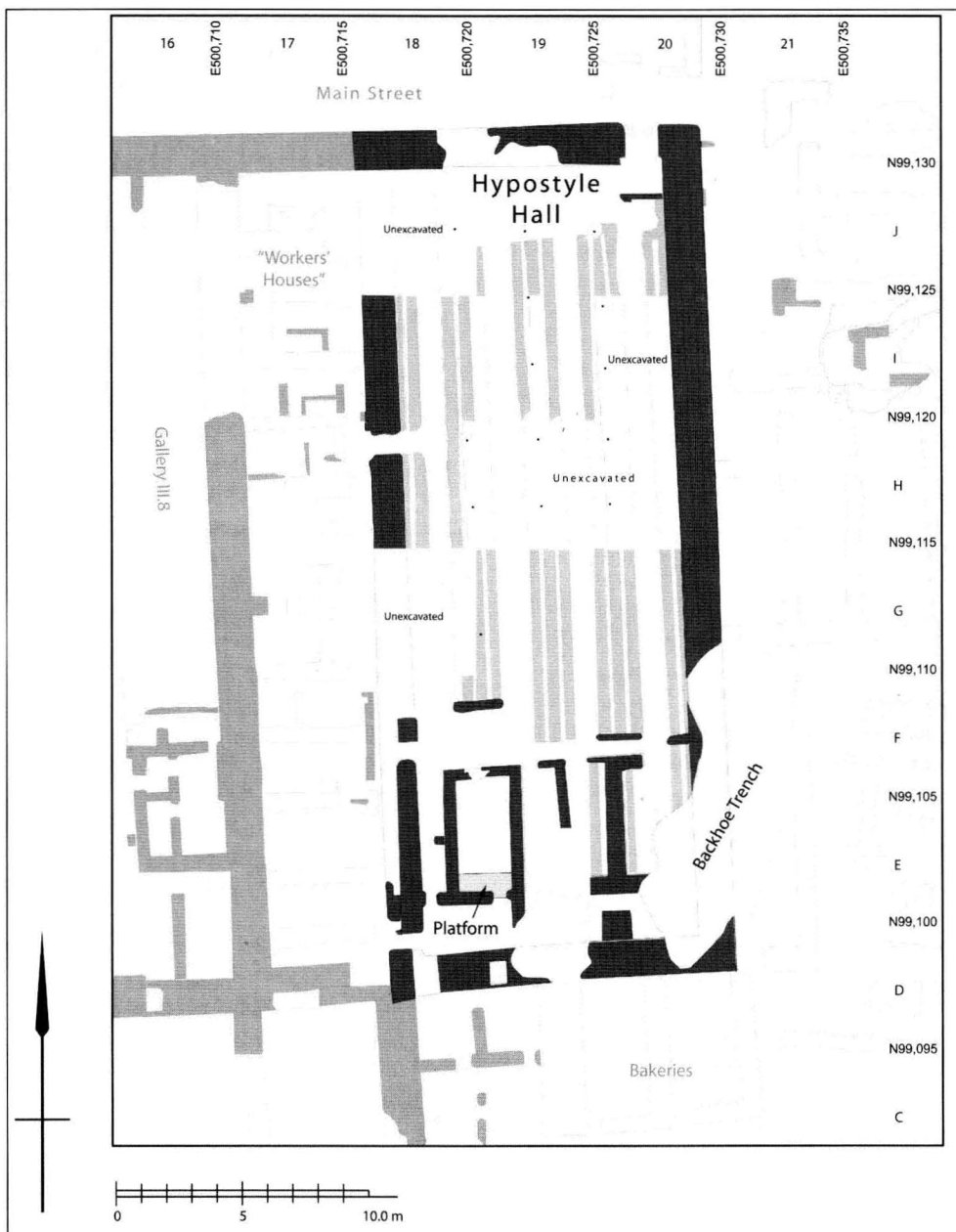


Fig. 2: Plan of the eastern end of Gallery Set III with the Hypostyle Hall highlighted.

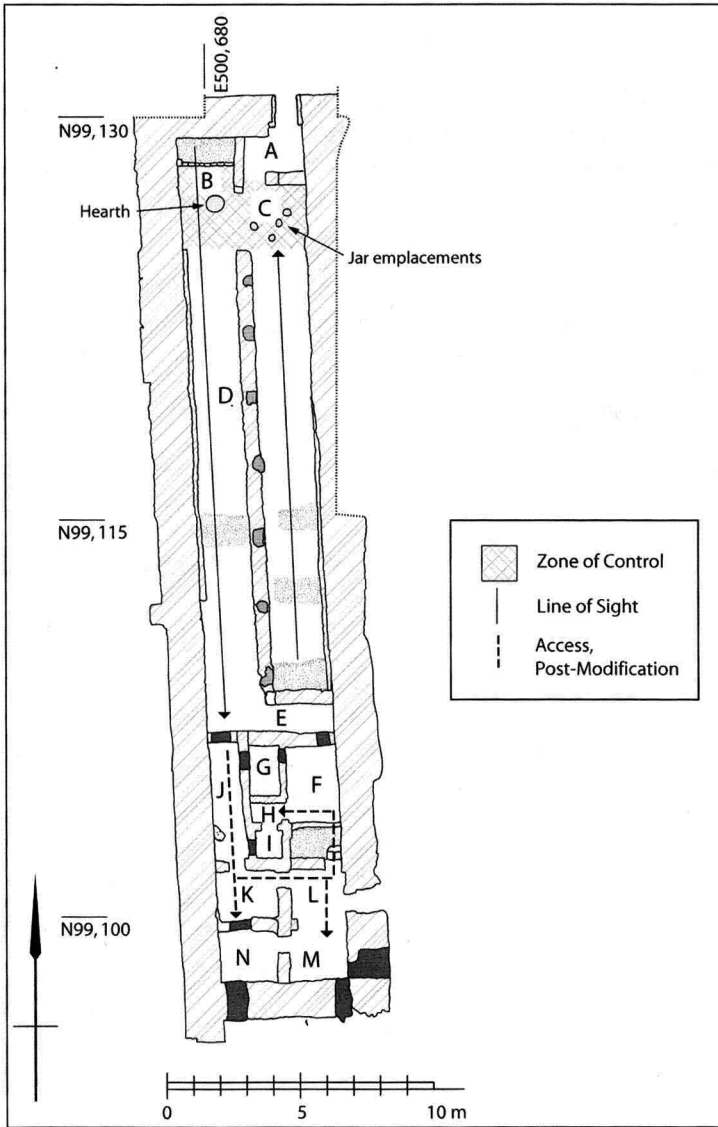


Fig. 3: Plan of Gallery III.4. Lines and arrows indicate sight lines and access route.

In 2002 Ashraf Abd al-Aziz took up the challenge of excavating this entire gallery. The front (northern) 20 m of the gallery (D) is open with a low central bench punctuated by seven holes where slender columns once rose, forming a long, extended front porch or colonnade (ABD AL-AZIZ 2007; LEHNER 2002: 38–41). Here Abd al-Aziz found four more of the curious sloping platforms that could be bed platforms. The high end of these platforms is flush with a little bench or curb about 15 cm wide and 9 cm high that runs along the base of the side walls of the gallery. The ramps slope from the curb down to floor level at a very low grade. They are composed of a marl-alluvial mud mix that is slightly grittier, with limestone flecks, than the surrounding floor and walls. Two ramps run up against the eastern wall of

the gallery. The northern platform is 96 cm wide at the head, or high end, and about 80 cm wide at the foot, or low end. The southern platform has battered sides and is about 1.10 m wide at the head. The foot end of the platforms meet floor level about 34 and 40 cm shy of the central low bench that runs down the center of this part of the gallery. The single platform on the western side of the low bench is 83 cm wide at the top, head end and 1.10 m wide at the base of the head end (the sides have a slope or batter). The foot end is 90 cm and meets the low bench in the



Fig. 4: Ashraf Abd al-Aziz demonstrates sleeping platform in area B at the northern end of Gallery III.4.

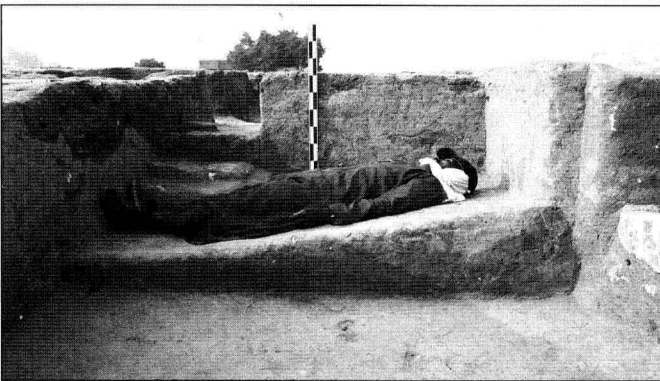


Fig. 5: Sleeping platform in room F toward the southern end of Gallery III.4.

center of the gallery, leaving no intervening floor space. Another platform is built against the partition wall that screens the back “house” part of the gallery.

These platforms in the colonnade are similar to the low platform Abd al-Aziz found in 2001 tucked against the interior north wall of the gallery. The slight slope might have served for a higher head end, perhaps therapeutic for a sleeping body. It is hard to imagine another function for the ramp-like platforms other than sleeping platforms, because at the high head end they meet the blank or solid sidewalls of the gallery, which, at 1.57 m (3 cubits) thick, certainly must have risen at least one story.

The hypothesis that the platforms are beds stimulated the broader hypotheses that many people might have slept under the colonnade of small wooden columns in the long north

ends of the galleries, and that the four large sets of galleries that form the center piece of our exposure of this settlement were barracks for a labor or paramilitary force (LEHNER 2004: 11–12).

Bed Platform in the Rear Gallery House

Abd al-Aziz found a sixth sloping bed platform in room F, which I take as the main room of the house or domicile toward the rear, southern end of the gallery (Fig. 5). The house has about 10 major rooms. Room F was originally entered directly from the east end of corridor E behind the screen wall that extends from the east gallery wall to meet the low bench of the colonnade. Later the inhabitants blocked this doorway, and cut a new doorway through the northern wall of the house at the southern end of the western side of the colonnade (D). Now access to room F was a counter clockwise and circuitous route that began with corridor J and continued via a left turn through rooms K and L, and another left turn into F (Fig. 3).

In the center of the house, three small chambers (G, H, I) to the west of room F show much

evidence of burning. These may have been used alternatively for storage and, given evidence of ash and burning, as hearths. On cold winter nights, anyone sleeping on the bed platform in room F might have enjoyed heat from hearths in these small compartments.

The platform in room F lies across the doorway between rooms L and F. At 1.40 × 1.30 m, the platform is larger than the others in the gallery. It slopes from west down to east. From the low foot end of this platform an irregular mud daub stairway leads up to the back part of the gallery.

As we have seen in other galleries, this back part is divided nearly in half by a partition wall punctuated by two doorways. A later wall divided the western half into two smaller chambers (M and N). As we have also seen in our excavations of the back parts of other galleries, there is much evidence of burning, cooking, baking, or roasting. The walls of the back chambers are reddened by fire, especially apparent on the south walls and in the southeast corners. At some point, the burnt spots were plastered over.

Doorways led from rooms L, M, and N into the next gallery to the east (III.5), and to the gallery to the south in Set IV (IV.4).

Bed Platforms and Control in Gallery III.4

It is very significant that the floor of Gallery III.4 rises from the front (northern) end to the back like ancient Egyptian temples, palaces, and certain houses from other sites and later periods. The floor rises gradually from an elevation of around 15.52 m asl near the entrance of the colonnade, to 15.92 m asl at the south end in the house entrance—a rise of about 40 cm over 20 m. The floor levels of the house itself rise by 78 cm from north to south, with a sudden rise from room F into room L, ascended by small stairs. The total rise in floor level from front to back of the whole gallery is 1.18 m.

We found by trial that 40 people fit comfortably into room D, the colonnaded northern part of the gallery, 20 lying on each side of the colonnade, perpendicular to the length of the gallery. High density occupation of the galleries as a barracks for workers, or for paramilitary or expeditionary forces, fits the unusually high consumption of meat, bread, and ceramic vessels indicated by the huge numbers in our corpora of ceramics, animal bone, and other classes of material culture that we retrieved from excavating about 10% of the area of the Gallery Complex (LEHNER 2002: 34, 68 n. 47).

We can only speculate who slept on a platform slightly raised from the floor, and who did not. At least three of the six platforms were well positioned to monitor movements in an out of crucial doorways. Anyone on the platform in room B, at the far northern end of the western side of the colonnade, was in close proximity to the entrance from Main Street (Fig. 3). This person could monitor the length of the western side, all the way up to the later entrance to the domicile on the far southern end.³ In the same way, anyone on the platform at the far southern end of the eastern side of the colonnade could monitor the length of the eastern side all the way to the entrance from Main Street into the foyer, Room A, and an area of jar emplacements just inside the entrance. This platform is also at the high end of the colonnade, as are the other three within room D, making it easier to monitor down slope and down line to the north, especially if occupants were often supposed to be in horizontal sleeping position.

These galleries are functionally redundant units. They each contain many of the elements of an ancient Egyptian house: an off-axis entry, a larger more open, “public” front space with columns, a more “private” rear domicile for sleeping, and rear cooking areas. We hypothesize that the house in the back may have been for an overseer of those gangs of young men (*nfrw*) who rotated in and out of service. If so, the overseer’s bed platform in room F controlled movement

into the rear production chambers, whence four doorways allowed traffic into adjacent Gallery III.5 to the east, and IV.3 to the south.

With the change in access from the eastern end of corridor E to the southern end of the western half of colonnade D, access into the rear private chambers, to the adjacent galleries, and possibly to the roof, was monitored from the platform in the niche, B.

We are still investigating the idea that there may have been occupation and activity on the roofs of the galleries, a possibility suggested by the inordinate thickness of the sidewalls (1.57 m, 3 cubits). The occupants might have gone to the roof from over the central chambers G, H, I (by ladder?).

Bed Platforms and Guard Duty in the RAB Complex

We first saw what we thought were the double walls of the northwestern corner of the RAB in 2001. Embedded in the rather level “mud mass,” the patches of stone that had collapsed from the walls looked like buttresses, hence our original area designation, BB for “Buttress Building.” During the 2002 field season, Bob Will and Susan Bain began excavations in the northwestern corner of the complex while Fiona Baker supervised excavations to the east in the sunken court of silos. Paul Sharman excavated around the entrance in the northeastern corner of the RAB (LEHNER 2002: 59–62). Many deposits that we excavated that season came from pits and other features of a period after the RAB had been abandoned. The excavations in the northwestern corner yielded an impressive number of clay sealings, and material related to sealing. Archaeologists who work with ancient Near Eastern civilizations have thought of sealings as an index of administration. Fiona Baker was finding the large centralized storage facility—the sunken court of silos, which certainly appear to be royal in size and character. So we dubbed the whole enclosure the Royal Administrative Building (RAB).

The RAB/BB complex covers a large area, at least 48 × 32 meters (Fig. 1). It continues south 10 to 15 meters into “mud mass” that we have not yet excavated and then under the modern Abu Hol Sports Club and soccer field. Rather than a discrete building under a single roof, it is a large enclosure, within a two-meter thick fieldstone wall that contained complexes of smaller structures, courtyards, and pathways. Five narrower enclosures, E1–5, each about 10.20 meters wide, extend west of the RAB.

In 2004 Freya Sadarangani supervised the continued excavations of the room complex in the northwestern corner of the RAB. That season, within six grid squares in the northwestern corner of the complex, Freya Sadarangani and James Taylor excavated all features pertaining to the upper occupation and structural phases of the RAB. They found a lower lying, older architectural complex under the NW corner of the RAB.

The earlier structural complex directly underlies the later complex. The exact limits of this older earlier complex are currently unknown...the later complex (also known as BB or RAB) will be referred to as Structural Complex 1. The earlier building or complex will be referred to as Structural Complex. (SADARANGANI 2005: 4, 1.12)

The Older Room Complex (Structural Complex 2)

Along the western RAB fieldstone wall, within a strip 15 meters north to south and about 6.25 m wide east to west, we excavated 14 spaces enclosed by walls. These chambers are in phase with an earlier mudbrick wall that runs along the same line as the RAB fieldstone wall, but is much thinner. When the occupants built the fieldstone wall, they capped the earlier mudbrick wall and widened it to the east, Sadarangani designated the 14 rooms A through N. The space to the east

showed no structural features for a distance of 4.5 meters, so we infer this was already an open courtyard in the earlier period, as it was during the later time of Structural Complex 1.

The overall pattern in the northern 8.5 meters of Structural Complex 2 is a very long room, F, with doorways into four smaller, more square chambers, along the west of F, from north to south A, B, C, and E (Fig. 6). Limestone pivot sockets for swinging doors are fitted into one lower corner of the doorways, which are about 52 cm (1 cubit) wide. The chambers are fairly modular in size, ranging from 1.4 m by 2.14 meters for B, C, and E where we have the total dimensions.

The modularity of the small rooms suggests that they are magazines. Thin mud brick partition walls jut from the walls separating A from B, and C from E, to form narrow western chambers (H, I, D, and J) for all four units. Chamber I, at the back of B, was only 1 meter wide between the partition wall and the mud brick western wall of Structural Complex 2. A limestone pivot socket indicates there that a wooden door opened into this back chamber. The mud brick western wall of Complex 2 is embedded with the later, thicker, western fieldstone RAB wall, but if the mud brick wall continues along the length of all four units, as it probably does, the back chambers H (belonging to A), and J (belonging to E) are also only a meter wide, while D, the back chamber of C was 1.4 m wide.

With these back chambers, the pattern is four units, A-H, B-I, C-D, and E-J, with a larger front room and narrow back room. The length of each unit is about 3 meters between the walls; the width is about 2.6 m (5 cubits) from the center of the shared wall between each. The four units opened onto the common vestibule, F.

Room F continues north under the northern RAB limestone wall. Room F is at least 8.50 m (north-south) by 2.60 m (east-west). If the northern wall of Structural Complex 2 is 60 cm wide along and under the northern side of the northern RAB wall, the total length of F would be about 9.5 m. Doorways opened from room F into rooms A, B and C and E. Limestone pivot sockets indicate that these were fitted with wooden doors that swung open into the smaller chambers. Another doorway in the southeast corner of room F opened into room G. Only scant traces remained of the eastern boundary wall of Room F. The builders removed this wall, and destroyed any evidence of doorways through it, when they created the later arrangement, Structural Complex 1.

A platform occupied the southern end of room F. It lies immediately east of the doorway into room G. This one is oriented east-west and slopes down from west to east. A thin, north-south return wall with a plaster face frames the low eastern end of the platform. The builders of Complex 1 cut the foundation for one of their later walls through the western end of the platform. The platform was originally 1.90 m long. What remains of the platform measures 80 cm north-south by 1.5 m east-west. At its high western end the platform is 10 cm above the surrounding floor, and it slopes down to level with floor. Dark brown clayey silt covered the platform, which had a small shallow depression at its eastern end (worn by feet?). The silt plaster lipped down to and was continuous with the remains of the floor within room F, which appeared to seal an underlying marl surface.

This platform is similar to what we hypothesize are sleeping platforms in Gallery III.4 and elsewhere on the site. Before the builders of the later complex cut the foundation for a wall through the western end of the platform, it might have extended across a second doorway into Room G at its low western end. Those who cut the trench for the later wall destroyed this doorway.

An east-west cross wall divided the southern 6.5 meters of Structural Complex 2 into two sets of rooms, G-K and M-N-L, 2.60 and 3.14 m wide respectively, north to south. We repeat that one, and possibly two doorways, allowed access into room G from the vestibule, room F, at either end of the sleeping platform in room F. Anyone entering G from F had to pass by anyone else occupying that platform.

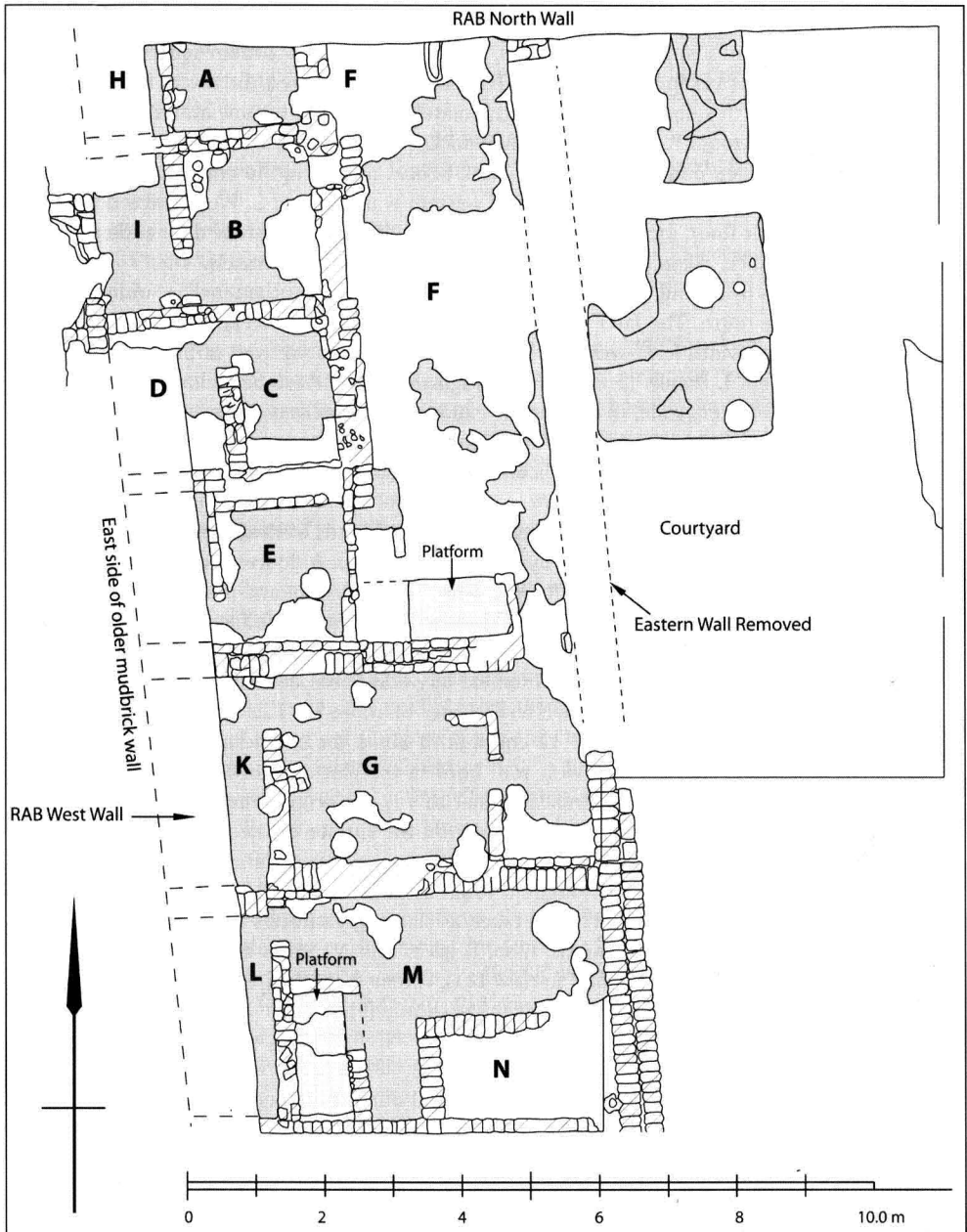


Fig. 6: Plan of Structural Complex 2, the older phase in the northwestern corner of the RAB.

Room G spans an area 4.40 m (east-west) by 2.60 m (5 cubits) (north-south). A thin north-south wall, the width of a single row of bricks, divided room G into a main square chamber and a narrower rectangular vestibule on the east. The thin wall turns west for 70 cm to form a short corridor along the north side of room G. If extrapolated this leads west toward a doorway, 58 cm wide, which opens to room K. A limestone pivot socket indicates the access to K was once fitted with a swinging wooden door. A small marl brick bench, measuring 46 cm (north-south) by 29 cm (east-west) and at least 8 cm high, abuts the western wall of room G. We found a rich artifact assemblage on the silt floor, including large pounders, polishers, a limestone door socket that was out of its original place, a complete bowl and various other ceramic vessels.

Room K appears to belong to room G in a pattern similar to, but larger than, units A-H, B-I, C-D, and E-J to the north. The later western RAB fieldstone wall conceals most of room K; we see only 45 cm of its width (east-west). But if the western mud brick wall of Structural Complex 2 that we see in room I, thanks to a breach through the later fieldstone wall, continues this far south, room K is 1.5 meters wide. In the narrow exposure, the bricks of the southern wall of room K might mark the threshold of a doorway into room L.

Room M, located south of Room G, is 4.60 m (east-west) by 3.14m (north-south), is T-shaped with the small leg of the T extending south to the west of room N. A thin partition wall in the southeastern corner of room M forms the leg of the T, and turns a 90-degree corner to run east and partition off room N, 1.16 m (north) by 2.50 m (east-west). A doorway opens 44 cm wide in the northwestern corner of room M into room L, which is 2.8 m long and probably the equivalent of room K. If the western mud brick wall of Complex 2 continues this far south under the later RAB fieldstone wall, room L is only 1.40 m wide maximum. The heavy truncation of the walls by construction cuts for the later complex obliterated any additional doorways into room M

A low platform occupies the southwestern corner of room M. This platform measures 1 m (east-west) by 1.8 m (north-south) and 12 cm high. It abuts the southern and western walls of room M. An additional, narrow, east-west wall borders the platform to the north. The presence of a mud render on top of this wall indicates that this is the original height, which is only 25 cm higher than the platform itself. The mud render on the surface of the platform sealed the top of the eastern retaining wall. The same plaster lips down to cover the eastern face of platform retaining wall, and then continues throughout room M as a compact floor.

This platform is similar to what we have taken as sleeping platforms in other buildings across the site, except it is level and not sloped. If so, it gives unit M-N-L a domestic cast. With their subdivided front rooms (G and M), and narrow back rooms (K and L), these two units looks like large versions of the two-room units west of the vestibule (F).

Material Found in Structural Complex 2

Below we summarize, by room, the objects and material our excavators found on, or close to, the floors of Structural Complex 2:

Room

A: Flint artifacts, including a scraper and flint knife blade, mineral pigments, sandstone polishers, painted plaster and a whole pot.

B: A saddle quern, sandstone polishers (including a cluster against the southern wall), mineral pigment.

C: Whole pots, 'pillow-stones', mineral pigments, various pieces of chipped flint, sandstone polishers, whole shells and a dolerite hammer stone.

D: Pottery and mineral pigment, a polisher, and a polished, worked bone point—provisionally interpreted as a weaving implement.

E: Two beer jars set into a small mud brick installation, two pillow stones, a quern fragment, polishers, and red mineral pigment.

F: Chipped stone, sandstone polishers and broken stone tools.

G: Large pounders, polishers, loose limestone door socket, a complete bowl and various other ceramic vessels.

H: A pounder, polishers and red mineral pigment.

J and E: Charcoal, complete cylinder seal, triangular limestone object with etched design.

Courtyard: 11 fragments of clay sealings, four of which were inscribed.

The materials that we found on or near the floors of the older Structural Complex 2 suggest activities like pounding, cutting, scraping, grinding and polishing. The “pillow stones” are rectangular blocks of limestone with rounded corners and edges, possibly having to do with crushing or grinding. All of the above-listed rooms, except one, contained polishers, which are generally of sandstone. The querns might have served the domestic grinding of grain, but we should also note the presence of mineral pigment in six of the 11 rooms listed above. Altogether, the material might seem most appropriate for craftwork in stone and pigment.

Significantly, the rich artifact assemblages that were identified sitting directly upon the Structural Complex 2 floors were mainly recovered from Rooms A, B, C, D, E, H, I and J. These assemblages were comprised of a repeated range of artifacts including lithics, sand stone objects, mineral pigments, pot stands, beer jars, vessels, polishers, pounders, mineral pigment and ‘pillow stones’. Although it is possible that these objects may actually be associated with the abandonment of Structural Complex 2 and the construction of Structural Complex 1, the fact that the artifact assemblage was not as rich in rooms F, G, K, L, M and N, may suggest that these objects were associated with the function of these rooms. As such, it is possible that this network of small, square to rectangular rooms functioned as workshop/magazine spaces. (SADARANGANI 2005, 68 5.1.5)

Ancient Egyptian workshops, or depictions of workshops in Egyptian tomb scenes and on models, generally include rear roofed rooms for storage of tools and materials, and open front rooms or courts where people could work in the light (CONARD AND LEHNER 2001: 57, n.43, 58, n.44). We wonder if the four units A-H, B-I, C-D, E-J could have been such workshops. The common “vestibule,” F might have remained open to the sky, or lightly covered with reed mats, although it is narrow enough to have had a solid roof without pillars (something like 3 meters might have been the limit).

Concerning the access into Room F:

Although it is possible that other accesses existed into Room F, both to the east and to the north, these are unsubstantiated due to concealment by the limestone enclosure wall and wall robbing events respectively. The only identified access into room F (not including the ‘magazines’) was located in its southeastern corner, from room G. (SADARANGANI 2005: 69, 5.1.7)

Concerning the bed platform:

The morphology, size and orientation of [the room F] platform exactly corresponds to the series of platforms identified within Gallery III.4, all of which have been interpreted as sleeping platforms. (SADARANGANI 2005: 69, 5.1.8)

The location of this possible sleeping platform at the southern end of Room F adjacent to room F's southeastern access may be related to the activities associated with rooms A, B, C, D, E, H, I and J. If the head of a sleeping individual was placed at the western end of the platform, that individual would have had full visibility of room F, its southeastern access and the [doorways] into the individual 'magazines. As such this platform may represent a guard's sleeping unit. (SADARANGANI 2005: 69, 5.1.8)

Anyone occupying the platform at the southern end of the vestibule (F) would be able to monitor all comings and goings from the doorways of the two-room units to the north, provided this person was not asleep.

Perhaps the southern part of Structural Complex 2 was more domestic than the northern part. It is possible that craftsmen, guards, or administrators of the complex lived in the southern chambers.

One could access room G through its southwestern corner (into room K), through the northeastern corner (into room F) and possibly from its eastern side. It may be significant that no doorway gave direct access south into Room M. This could indicate that rooms G and M belong to two distinct units. The platform in Room M may have also been for sleeping.

This platform is of a size suitable to fit a supine individual and may therefore represent a different type of sleeping platform of that seen in room F and in Gallery III.4, equally it may represent a raised work/storage platform....The enclosed area of space identified within room G's southeastern corner (room N) may represent a similar platform for the following reasons: firstly room N and room M's platform are of similar sizes, secondly no floor was identified within 'room N's' enclosed space. (SADARANGANI 2005: 70, 5.1.10)

If the larger platforms of room M were beds, they might indicate a higher status, similar to the larger bed platform in the house of an overseer at the back of Gallery III.4 (Fig. 5) in comparison to its smaller bed platforms in the front colonnade.

The Later Room Complex (Structural Complex 1)

When the builders constructed the main fieldstone wall [5433/5435] that borders and defines Structural Complex 1, they embedded within this later wall the earlier mudbrick wall. They built the western and northern limestone walls, [5433] and [5435] respectively, directly upon the western wall of Structural Complex 2 and upon the demolition and leveling layer that covered the remains of the earlier complex.

The builders created in short-order six spatial units or rooms of varying size and a much larger, open space to the east, the courtyard. The builders kept to the alignment and orientation of the older walls of Structural Complex 2, and in some cases they built the new walls directly over the older walls. One case in point: the common eastern mudbrick wall in the new complex followed the common eastern wall in the old complex. The newer eastern wall created a 10-cubit wide (5.25 m) band or strip between it and the RAB western wall. The same strip in the earlier complex was about a meter wider because of the narrower western mud brick wall. Rooms 1, 2,

4, 5, 6, and 7 of Structural Complex 1 are all within this band, just as were all the rooms A-N in the older Structural Complex 2.

We have provisionally identified 15 phases of building and deposits within the northwestern corner of the RAB, from the older Structural Complex 2 (which has still earlier floors that we have yet to excavate) to post abandonment (SADARANGANI 2005). Here for the sake of discussion about doorways, occupation spots, control and monitoring, we present two plans showing three of these phases (fig. 7a–b). We also summarize and highlight some of the occupation phases and features of this layout. The depositional history in all its recorded complexity is detailed in the data structure report (SADARANGANI 2005) covering all seasons of excavation in this area.

At 75 cm wide, the eastern mudbrick wall of the new arrangement was slightly thicker than the other internal walls. It abutted to the northern RAB fieldstone wall and continued south for 10 meters where it was interrupted by the main doorway into the complex, and then it continued south for a further 4.67 m before disappearing into the southern limit of excavation. We can see it continuing yet farther south embedded in the mud mass, which is to say that, the entire 10-cubit strip continues south.

Within this strip the builders first created six rooms or spaces. Room 1 in the northwestern, 5.80 m (north-south) by 5.20 m (east-west), was probably open to the sky, dead space for dumping during much of the occupation. To the south a north-south wall divides the 10-cubit strip in half longitudinally creating room 2, 6.80 m long, on the west and rooms 5 and 6 on the east. A single-brick partition created room 3, a corridor on the south of room 2 leading into room 6. The east-west division continues south, where we have only the northern ends of Rooms 4 and 7.

The area to the east and south, measuring at least 15.50 m (north-south) by 5 m (east-west), seems to have functioned as an open courtyard.

Rooms 8 and 9 completed the main structural footprint of Structural Complex 1. This phase also includes the construction of two bins into the corner between the Annex and the main eastern wall of Rooms 5 and 6. Builders later added a north-south wall of mud and limestone, 58 cm wide, east of Rooms 6 and 7. This wall formed a corridor with the main eastern mud brick wall of Structural Complex 1 (Fig. 7a). The wall runs from the southern limits of our excavation north for 5.62 m (north-south) and is preserved between 12 and 24 cm high.

This corridor must have drastically restricted the entrance to room 6, the main access to Structural Complex 1. The entrance was now off-view from the courtyard. The new limestone wall may have turned west to run along the southern side of the bins and to attach to the eastern wall of rooms 5 and 6. This would have left the bins in a recess, the north side of which was the southern wall of room 9. The occupants used the corridor for only one brief phase or period.

Room 6: Controlled Access

At least in that part of this complex that we have so far excavated, room 6 appears to be central, as indicated by its doorways, and by the complexity of occupation deposits relative to the other chambers.

Room 6 measured 3.40 m (north-south) by 2.40 m (east-west). Four doorways opened into room 6, one in its southwestern corner to room 2, another south into room 7, and one in the northern wall into room 5. A fourth doorway that opened to the courtyard through the northern end of the eastern wall was the major access into Structural Complex 1, at least in the northern part that we have so far excavated. A limestone door socket indicates that a wooden door for this entrance/exit swung open into room 6. This wider doorway, and the other doorways into the adjacent rooms, makes room 6 a foyer or vestibule.

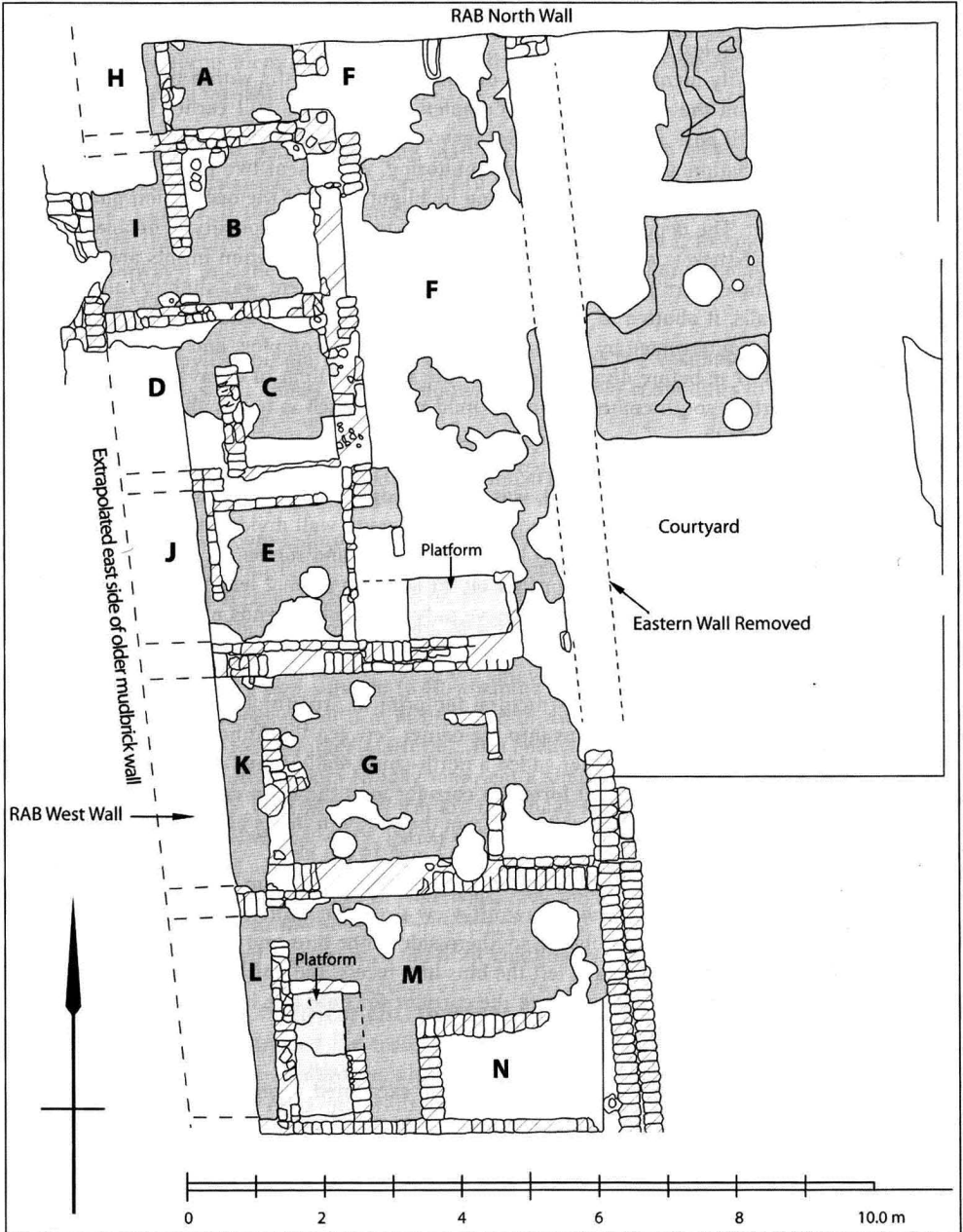


Fig. 7: Plan of Structural Complex 1, the later phase in the northwestern corner of the RAB, showing sub-phases 8 (Fig. 7a), and 10–11 (Fig. 7b).

All the entryways of room 6 had evidence of doors:

The presence of structural indents and/or small wall returns in the termini of these access spaces were specific to Room 6. It is possible that the function of these indents and small returns was to house doorjambs. As such, each of the access spaces associated with room 6 contained a door. Further, the location of these indents in the adjacent rooms 2, 5 and 7 would suggest that any door would have swung outwards into the adjacent room, and not into room 6. The exception to this is the internal to external access route, where the indents and a limestone door socket were located inside the room, thereby indicating that the door would have swung inwards. (SADARANGANI 2005: 74, 5.4.6)

Occupation of Rooms 5 and 6, 8 and 9

The main access into Complex 1 via room 6 and its other three doorways make it a kind of Complex 1 central. In fact, just here, in the main juncture, is where most of the living activity is evidenced (SADARANGANI 2005: 77, 5.7.4). This is indicated by the density and complexity of features within this small room. When we plot and overlay the stratigraphic features of all temporal phases of Complex 1, the density within room 6 is striking relative to the occupation deposits in the other rooms.

Over time, the occupants laid a mud brick threshold across the doorway between room 6 and 7 and added a mud brick barrier to enclose the eastern side of a hearth in the northwestern corner of room 6.

Located in the northwestern corner of the room, the hearth would have been directly visible from the courtyard and would be the first feature encountered when accessing the internal space from the external space. The absence of any small neutral 'transitional' space between external and internal areas, coupled with the hearth's very visible location differs greatly from the 'domestic' habitations seen elsewhere on the site...Within the same phase of occupation, an ash filled rectangular pit was in use in the courtyard...It is highly feasible that during this early phase of occupation, the residue from the burning activities in room 6's hearth was the source of the pit's re-deposited ash (the scrapings from the hearth). (SADARANGANI 2005: 77-79)

The occupants added a dog-leg mudbrick partition that divided room 6 into northern and southern halves, with hearth-related activities in the northern half of the room separated from the use of pottery in the southern half. The jog southward appears to have been to enable the continued use of a spouted vat sunk in the floor just south of the hearth.

Contemporary with the construction of the limestone [hearth] border, pots were set into the floor almost adjacent to the southern limit of the hearth. If domestic activities were being performed they may have functioned as units to prepare food and to mix ingredients prior to cooking. The truncation of one vessel by a larger spouted vessel shows a deliberate, same phase re-use of this space, an importance to locate vessels next to the hearth, and the need for only one pot emplacement at a given time. (SADARANGANI 2005: 77-79)

Late in the occupation of room 6 the residents laid down the bedding and surface of a new floor south of the dog-leg wall. Pressed into this floor we found the bottoms of two beer jars and

one bread mould that formed a triangle, the centre of which was occupied by a shallow circular depression, 40 cm in diameter by 9 cm deep, possibly an emplacement for a bowl or platter (fig. 7b). To the north of the dog-leg wall, in the northwestern corner of Room 6, the occupants laid down a bedding for a new floor adjacent to thick ash enclosed within the limestone and mud brick border of the hearth.

Room 5 appears to have been an adjunct to room 6, the two perhaps forming a unit comparable to rooms 8 and 9. In the northeastern and northwestern corners of room 5, the occupants made two parallel, shallow, rectangular troughs, as negative features or gaps in the floor (not shown in the phase plans in Fig. 7). Two layers of ash, the first with many pottery sherds and the second without sherds, filled the northeastern trough. The northwestern trough similarly contained two fills; first, grey sandy silt mixed with dark brown clay with frequent charcoal flecks and occasional limestone pieces followed by dark gray-brown mud bricks in a loose matrix of silty sand. At least the northeastern trough might have functioned as a hearth.

Eventually, the occupants sank a shallow circular hole, 43 cm in diameter and 9 cm deep, in the floor in the approximate center of the room south of the two troughs. This may have been the receptacle for a bowl, plate, or one of the small vats with diameters approximately 42 cm such as we have found sunk into floors elsewhere on the site.

Late in the occupation of room 5, the residents built a semi-circular mud brick partition into the northeastern corner from the east side of the doorway between rooms 1 and 5 (Fig. 7b). The curved wall ended with an irregular piece of limestone, leaving a gap of 40 cm between it and the eastern wall of room 5. At the end of the partition, near the limestone piece, the internal, northern face of the upper course of bricks was stepped back, which left a small ledge. At this level, the end of the wall forming the western side of the doorway between rooms 1 and 5 was uneven, and appeared to have been almost hacked, suggesting that the occupants had, in a rather crude fashion, widened this access between room 1 and room 5, to facilitate movement around the curved partition and between the rooms. The primary deposit within, and up against, the curved partition was loose, dark gray sandy ash, rich in charcoal with moderate pottery sherds. This deposit was sealed by grayish-brown sandy silt containing frequent bones and pottery sherds, and moderate amounts of charcoal. The rounded enclosure formed by the curved wall might have had something to do with ash that spread from room 5, through the threshold and into room 1 (SADARANGANI 2005: 92, 5.11.9).

It is possible that the curved wall rose up and bridged the gap between it and the eastern wall of room 5. The gap would have opened only at the bottom. The space inside the partition might have been roofed or otherwise closed at the top, as indicated by the ledge. This would make the enclosed space and rounded wall similar to an oven or granary, which had openings at floor level to insert fuel or to let out grain respectively. The space enclosed by the curved wall contained ash overlain by a layer that contained much animal bone. There was no evidence of *in situ* burning.

de the structure functioning as an oven. It might have been for storage, possibly
e granary. The narrow ledge built into its internal north face may have received
r of wood or wicker. A small door or hatch may have closed the lower space,
aterial to remain contained within the structure." The limestone piece at the end
l may have helped fit some kind of hatch.

9 also contained floors, structural features, and layers accumulated from occu-
activities, but not with the density and complexity of those in room 6 and its

estern corner of room 8 the excavators found a thin north-south line of mud

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Rooms 8 and
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bricks that could have been the eastern border of a hearth, evidenced by a scorched red ash deposit in this corner, burnt discoloration on the south face of the northern RAB wall, on the east face of the western mud brick wall, and on the west face of the mud brick border (not shown in the phase plans of Fig. 7). Two circular depressions in the floor nearby may have been sockets for ceramic vessels that were removed. The setting is similar to the pot emplacements we found adjacent to the hearth in the northwestern corner of room 6. As in room 6, the hearth in the northwestern corner of room 8 would have been directly visible from the courtyard through a doorway in the northern end of the eastern wall. As such, the hearth occupied the transitional space between the court and the internal room 9. In this way too, the configuration in the early use of room 8 is similar to that of room 6. The similarities may suggest that room 8 functioned as a unit with room 9 in a way similar to room 6 with room 5.

In the early phases of Structural Complex 1, people dug pits and dumped within the courtyard east of rooms 8-9 and 5-6. Over time a sequence of floors built up over the courtyard. Late in the use of the courtyard, the occupants formed twenty-six shallow circular depressions in rows aligned both east-west, with 7 in a row, and north-south, with at least 4 in a row (Fig. 7b). The north-south series disappear under the southern limit of our 2005 excavation. These shallow depressions were fairly uniform in dimension, depth, and spacing. They averaged 12 cm in diameter, 6 cm deep. They are spaced, from the central point of each depression to the central point of any adjacent depression, on average 35 cm. The material that filled these depressions showed some variation, but it consisted mainly of loose grey ashy sand that contained moderate charcoal flecks.

The shallowness of these depressions preclude them from having had any structural function—at less than 6 cm deep they could not support a post or stake. Their shallow circular form, slightly concave base, gradual slope gradient and general dimensions could easily accommodate bread-moulds. Indeed, their dimensions and form match the depression caused by the bread-mould pressed into the floor at the southern end of room 6. It is possible therefore, that the depressions represent rows of bread moulds, with each mould stabilized by any one adjacent mold, set into the floor. (SADARANGANI 2005: 93, 5.11.15)

It is noteworthy that the distance between the centers of the holes is about 35 cm, which is close to the rather standard diameters of the largest size-class of bread molds on our site. So, if bread molds of this size were stuck into the holes, they would just touch rim to rim and support one another. Limestone models from Old Kingdom tombs represent just such a grid of pot sockets, in some cases on a little platter that is a separate piece from the model bread molds that could be set one to each socket.

Further, the ashy matrix common to the fills of almost every depression could be remnant of the ash used to surround bread-moulds during the bread making process. It is possible therefore, although entirely speculative, that the rows of shallow depressions represent bread-cooling processes—having baked the bread, the bread and their moulds are set out in an external space to cool. Once cool, the moulds are removed, leaving traces of the ash that had packed the mould. (SADARANGANI 2005: 93)

Guard Duty from Room 6?

Given the density and complexity of occupation features within room 6, and the fact that its doorways gave access to the rest of this Structural Complex 1 as far as we have exposed it, we

suggest that the person or persons ensconced in room 6 served as some kind of guard or monitor. In the older Structural Complex 2, we found what we believe are sleeping platforms across, or near, crucial doorways (see above). The idea is that people with guard duty lived and slept close to the port of access. In this case anyone entering Complex 1 had to cross whomever virtually lived in room 6, a foyer or vestibule to the rest of the complex.

We can only guess just what, if anything, was deemed so important to watch and control within the interior of this room complex. On the basis of the deposits we found, it seems that throughout the occupation of Structural Complex 1, room 1 was dead space where the inhabitants left heaps and layers of debris from the demolition of Structural Unit 2 and discarded ash and pottery. On the other hand, the doorway from room 5 into room 1 appears to have been special, like the doorway from the eastern court into room 6.

The northern side of the doorway from the courtyard into room 6 featured a rectangular void, 10 cm high by 7 cm wide, in the western face of its return. This void penetrated at least 10 cm into the core of the wall. It is at the same elevation as an adjacent internal limestone door socket, which sits in the northeastern corner of room 6. These features appear to have functioned with the doorway from room 6 to the courtyard. The southern side of this doorway into room 6 featured a L-shaped void, 22 cm wide by 14 cm high, which penetrated about 15 cm into the core of the wall (SADARANGANI 2005: 31, 4.4.18).

We also found two pairs of rectangular voids in either side of the doorway between rooms 1 and 5. The eastern pair was located approximately 13 cm up from the base of wall, 25 cm apart. Each hole measured approximately 11 cm by 6 cm and penetrated at least 15 cm into the core of the wall. Directly opposite, two sub-rectangular voids were identified in the west side of the doorway, approximately 30 cm up from the base of the wall and 28 cm apart. These voids measured approximately 10 cm by 6 cm and penetrated at least 12 cm into the core of the wall. Differences in elevation of the base of the wall meant that the two pairs of slots were at about the same absolute elevation.

These voids in the doorways between the courtyard and room 6, and between rooms 1 and 5, are to date, unique. It is unlikely that they functioned as a raised threshold, where wooden planks were slotted into the facing voids, since a floor was identified running through the threshold. It is more plausible that they functioned as some sort of locking mechanism for a door or slots for a substantial door frame(s). Regardless, considering the uniqueness of these features, it appears that there was something significant about the particular access route from the courtyard, through room 6 and back to room 1. Access may have been restricted from 5 into room 1, possibly connected with activities conducted within Room 1.

At this writing, our excavations are in progress (during season 2007) along the northern strip of the RAB. What we find will clarify the extent to which the northern zone of the RAB was left open and subject to monitoring from the rooms 8-9 and 5-6. It is also possible that answers to the control evidenced by the intensive occupation of room 6 lie in the unexcavated parts of Structural Complex 1 farther south in rooms 4 and 7 and beyond.

Doorways and Guards in the Abusir Papyri

The Abusir Papyri, the administrative records of the pyramid temple of the 5th dynasty pharaoh Neferirkare, reveal just how very concerned the administrators of such an institution were about watching and guarding doors, passageways, and especially magazines (POSENER-KRIÉGER 1976: 27-47). Guard duty was focused on the various *ḥrt*. Posener-Kriéger suggested the translation "door" (*porte*) in the largest sense. The term could also be applied to open courts and magazines.

Of particular importance were the exterior doorway (*ʿrrt hntjt*) and the interior doorway (*ʿrrt h3t*), the latter associated with the *pr wrw* entrance hall.

We must assume a difference in spiritual value and status between serving in a royal memorial temple and in our industrial town. At the same time, the 4th dynasty royal house probably created and maintained the Heit el-Ghurob settlement for the very purpose of building the pyramid and memorial temple, a kind of ‘company town’ for realizing the royal funerary monument. So when we found indications of guarding and monitoring in this royal settlement site, we looked for patterns in the guard duties as revealed in the Abusir Papyri, a textual window onto Old Kingdom administration.

While guard duty in a royal funerary temple must have differed in significance from that in a functional zone like the RAB, the Abusir Papyri also refer to guarding the *ʿrrt* of functional structures like magazines, the mooring place of the barque that brought supplies, a slaughter house, and even an *ʿrrt* of a pottery workshop (POSENER-KRIÉGER 1976: 43–46, 512). Guard duty in all parts of the temple and its auxiliary structures was especially intense during the time of distributions. However, guard duty did take place at all times, day and night (*wrš-sdr*). (POSENER-KRIÉGER 1976: 54, 542, n.2.).

Structural Complex 2 in the RAB presents a possible parallel to the guard duty of the block of independent magazines, together termed *pr šnʿ*, in the Neferirkare pyramid temple. The rotating temple personnel who guarded the *pr šnʿ* stayed in a small house situated near the entrance of the magazines (POSENER-KRIÉGER 1976: 34–37). Similarly Structural Complex 2 features a block of magazines and possible workshops: rooms A–H, B–I, C–D, and E (Fig. 6). The bed platform at the southern end of the vestibule, F, gives a view to the entire row (Fig. 6). Farther south, the room-units G–K and L–M–N, are possibly houses with their own bed platforms, perhaps for guards or overseers of the magazines.

The night guards on the Neferirkare temple terrace, whose task was to track the hours, probably had to stay awake while on duty (POSENER-KRIÉGER 1976: 543). Those who kept vigil at the magazines, pottery workshop, slaughterhouse and boat mooring might have been allowed to sleep. Even if sleep was not allowed for anyone on guard duty in the temple service, those who guarded the less consecrated structures of our site may have been allowed to sleep, so long as they did not abandon their doorways. Or so our bed platforms across doorways and in strategic sight lines lead us to suspect.

Guard duty in the royal funerary temple, even in its more functional, “profane,” adjunct structures, might have differed in another way from such duty in the structures of the Giza Heit el-Ghurob settlement site, as well as from the *bowab* duty of recent times. According to the service rosters and titles, people of high, medium and low rank, in an apparent social leveling of obligatory temple labor, performed guard duty, including during the night. Posener-Kriéger (1976: 576–577, 608–609) was intrigued and slightly troubled that high-ranking functionaries appear to have been performing fairly menial tasks, such as night surveillance of pottery, alongside personnel of lower status. There are several examples from the Tables of Service: a Judge and Scribe did guard duty over pottery alongside a dancer. A Coiffeur of the Palace served as a guard. A Superintendent of the King’s Meal, a Chanter, and a Judge act as night guards at the temple doorways.

It could well be that this was honorific service concomitant with profiting from holding the title of *hm-ntr* in the royal temple, and that others of lesser status actually carried out the work. However, Posener-Kriéger cautioned that we should not impose our valuations of service, or ways of distinguishing social status, especially in a temple context, on these ancient Egyptians, and she

saw evidence that the service was real, as menial as our understanding of the tasks may seem to us, perhaps indicating a communalism of duty in the ritual processes of the temple. To the extent that guard duty involved a leveling of persons of various rank and title, the paradox of the low status persons having a certain power of post over those of higher status, like the *bowabs* of Cairo, would not have obtained.

We do not know if those who guarded doorways, courts, and magazines in the Heit el-Ghurob settlement site rotated through service. We could assume that they did, like the assumption of similar rotations in *phyles* of temple service and work crews, but we do not know. If individuals did rotate through guard duty in the Heit el-Ghurob settlement, we doubt that high-ranking people would partake as they may have in the 5th dynasty royal funerary temple of Neferirkare. At the same time if individuals rotated in and out of service as door watchers, they would not, by the very fact of being temporary, acquire the power of post like the *bowabs* of modern and premodern Cairo. By being temporary, they would not be able to assume the intimate knowledge, itself power, of their domain.

Notes:

- 1 We offer this article as a token of appreciation for David O'Connor's work. O'Connor's emphasis on people and settlement, his anthropological approaches to various questions, and his willingness to present and test hypotheses has been an inspiration. This article repeats but expands on some of the reporting in LEHNER, KAMEL and TAVARES 2006. We draw heavily on the internal GPMP data structure reports of ABD AL-AZIZ 2005, SADARANGANI 2005. We also draw on ideas and suggestions of James Taylor who contributed to the preparation of ABD AL-AZIZ 2007.
- 2 The niche in which this platform was created was initially contained two bins separated by a thin partition. These were filled in to create the platform. The size of the platform, the low height off the ground, and the location in a niche in one of the main back rooms of the house make it compelling that the modification was to create a sleeping platform. In 2007 Yukinori Kawae found a large sleeping platform in one of the main rooms of House Unit 1 in the Western Town.
- 3 We would like to thank James Taylor for this suggestion.

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