

GIZA

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Since 1988 we have been excavating at Giza, 350 m south of the Great Sphinx and south of the gigantic stone *Heit el-Ghurob* (“Wall of the Crow”). The concession, 650 m north-south and 250 m east-west (16 ha), extends from the bottom of the slope where Zahi Hawass has excavated the “workers’ cemetery” in recent years, to the modern paved road and houses of Nazlet es-Semman and Kafr Gebel.

A substantial amount of sand accumulated over our site not long after the Fourth Dynasty and certainly well before the end of the Old Kingdom. Substantial deposits of sand blown over Old Kingdom surfaces have been noted elsewhere at Giza as well as other Old Kingdom sites at Saqqara and Abusir. Over the years, as the horse and camel stables have proliferated in the communities near the Giza Plateau, the incremental daily action of boys with pack donkeys has turned over much of the sand on our site. They take clean sand to the stables, where it is used to clean the floor, and afterwards return the sand to the site (until this season) with its new inclusions. In order to reach the third-millennium deposits in our small excavation squares, we have

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had to dig through this chaff-laden sand, some of Selim Hassan's dumps from his excavation in the Sphinx area in the 1930s, and recent rubbish. This modern overburden ranges from 1 m to 6 m thick.

Underneath the sand in the eastern part of the site is a compact surface of gray alluvial soil. The "mud mass," as we call it, resulted from the purposeful toppling of mudbrick walls by those who abandoned the site, after they had removed everything of value, such as wooden columns and even mudbricks, from the massive walls. If the occupants had abandoned the site gradually and left the walls to collapse over time, we would expect to find a pattern of sand layers intercalated with toppled or deteriorated mudbrick. We have watched sand accumulate over the floors of our excavated squares within weeks or even days and seen sandstorms leave a foot of sand banked up in our trenches; yet none of our sections showed much sand. The tumbled mudbrick lies directly on the ancient floors or upon the ancient refuse lying on the floors, suggesting that the walls were toppled suddenly.

All the evidence — pottery, seal impressions, and stratigraphy — indicates that this demolition took place at the end of the Fourth Dynasty. The forces of erosion subsequently removed a good part of the tumbled ruins of the mound, leaving walls ankle- to waist-high embedded in compact mudbrick tumble. However, thanks to these processes, we can discern the outlines of major walls with only shallow excavation through the mud mass. In many squares we can discern the lines of walls by lightly scraping or even brushing the surface with our trowels. The walls are often revealed by marl lines that result from the plastering of desert clay, or *tafla*, on their faces.

The Old Kingdom mud mass is a hard, compact (sometimes almost cement-like) seal over the fragile layers and floors of the architecture. Each square that we excavated between 1988 and 1998 was a small window into a truly huge architectural complex that housed Fourth Dynasty Egyptian workers, in which they baked bread, processed fish and meat, ground pigment, and worked copper.

As we became increasingly familiar with the conditions of the site, it became clear to us, and to our colleagues in the Giza Inspectorate, that it was safe to use a front loader to remove the enormous overburden, which was always increasing on our site. Illicit digging for sand for the riding stables has continued over the years and sometimes hit the Old Kingdom ruins. At various times a backhoe has ripped large holes through the mud mass, obliterating parts of the 4,500-year-old architecture. Investigation on a scale larger than our previous small squares became urgent. We began to see our project as one of salvage archaeology.

In February 1999 Ann Lurie, who supported our project for the previous three years, visited the site. She challenged us to come up with a plan for removing the sand and rubbish from much of the site in order to map the outlines of the major walls in the mud mass — to "capture" the ancient footprint of the beast below the overburden. Through an extraordinary grant from the Ann and Robert H. Lurie Foundation in Chicago we were able to carry out the strategy that we devised in response to Ann's challenge. David H. Koch, Jon Jerde, Robert Lowdermilk, and Bruce Ludwig joined the challenge with generous grants, and we had a great deal of help from our other supporters as well.

In October 1999 we launched our "Millennium Project," a marathon season from fall 1999 to summer 2000. Thanks to Dr. Zahi Hawass and engineer Abd al-Hamid, we were able to use the Giza Inspectorate's powerful front loader and its skilled driver, Mohammed Musilhi, who has long experience in archaeological situations. We also had the use of an SCA dump truck and its driver, Adel Musilhi.

We began by clearing the overburden from a large zone that encompassed most of the excavation squares we had dug so far. When the overburden was removed to within a meter or two above the mud mass, workers cleared the remaining sand. We set out 5×5 m squares as the basic units within which to record the surface conditions, brush, scrape, or lightly excavate in order to find the walls, and map the architecture at a scale of 1:50. We refer to north-south rows of squares, designated by numbers, as *ranges* and east-west rows, designated by letters, as *tiers*. Our main goal this year was to capture the overall architectural plan in a broad horizontal exposure of the Old Kingdom ruins by mapping the walls without intensive excavation. This plan is the prize of our long season, from October 1999 until June 2000 (figs. 1–2).

In the eight months beginning in October, we cleared around 12,000 sq. m of the overburden, which ranged from 1 to 6 m thick with an average thickness of roughly 3 m, from the Old Kingdom ruins. In total, we removed,

hauled, and dumped between 31,000 and 36,000 cubic m of overburden, thanks to the collaboration of the Giza Inspectorate, Engineer Abd al-Hamid, and the Musilhi brothers. We set iron stakes in this cleared area, based on our survey and excavation grid, to an accuracy of plus or minus two centimeters. By the end of the season, these stakes defined a total of 413 survey and excavation squares, each 5×5 m, for a total area of 10,325 sq. m (about 1 ha). We hand-mapped a total of 169 squares, an area of 4,225 sq. m, at a scale of 1:50 or 1:20. We were able to map such a large area with such small, focused units thanks to the survey control network that David Goodman designed and implemented over the Giza Plateau in 1984–86.

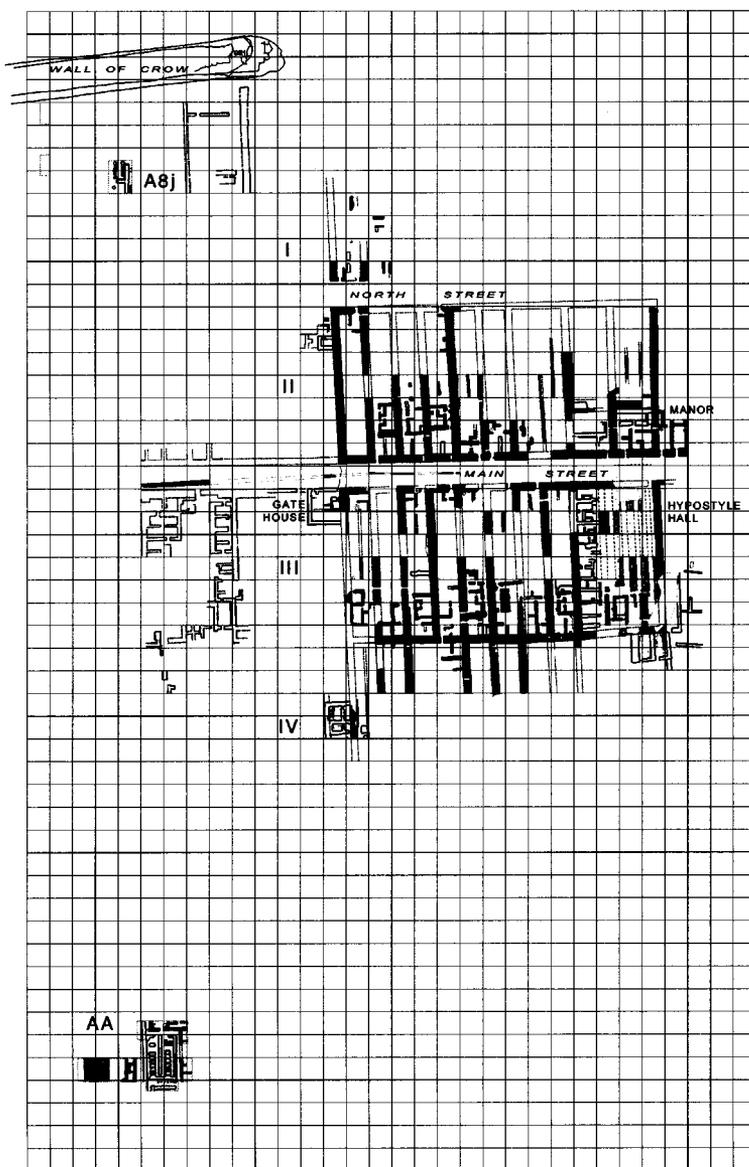


Figure 1. Plan of all Old Kingdom architecture mapped to date in concession area, from Wall of the Crow on the north to area AA (excavated 1988–91) on the south

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Great Gallery System

We discovered that what we had found in our excavation squares in most of our previous seasons belonged to a vast royal storage and production complex comprised, for the most part, of a series of long corridors or galleries. There are three, and possibly four, sets of these galleries (fig. 1).

Our 1998 TBLF 20 × 20 m excavation square exposed a substantial part of gallery set II, just north of “Main Street” (see “Giza” in the 1998/99 *Annual Report*). We have now recovered the greater part of two sets of galleries or long corridors (fig. 2), separated by a paved street (“Main Street”) that is 5.2 m (10 cubits) wide. The total length of each set, north to south, is 34.5 m. The two sets (II and III) plus the street comprise an area of more than 75 m north to south and 52 m (100 cubits) east to west. In each set there are eight galleries ranging in width from 4.5 to 4.8 m between the walls. To the east within the same enclosure, gallery set II is attached to the “manor” complex while gallery set III is attached directly to the hypostyle hall. Including these structures the entire arrangement is 80 m wide east to west.

Standard Gallery Plan

Although each gallery is unique in its details, we see some general features that may form a standard gallery plan. Inside the galleries, internal walls in the southern parts form chambers, while the middle and northern parts of each gallery are more open. This is true in both sets II and III. In set III, the more open northern area is toward the entrance onto Main Street, while in set II, the more open area, again to the north, is away from Main Street. However, there is probably another street (“North Street”) along the north wall of set II (see fig. 1).

Colonnades

The northern and middle parts of eight or nine of the galleries are divided by a narrow, low wall or bench parallel to the north-south walls. These are 2.6 m — about 5 cubits — from the major north-south gallery wall to the west, and about 2 m from the other major gallery wall to the east. In some cases they are similar to the benches in the hypostyle hall on the eastern side of our site (see below). Round or irregular stones embedded in and under the benches probably served as column bases, making the low walls something like a stylobate, a continuous flat coping or pavement that supports a row of architectural columns. The column bases in question range from slightly above to slightly below floor level. In a couple of places we found semicircular edges to the plaster around holes above the bases. These show that the columns, which must have been wooden, were about 23 cm in diameter. The low walls and benches may have protected the wooden columns against insects, moisture, or the heat-generating activities that took place in the colonnades along the open ends of the galleries. The columns would have formed a crude colonnade — a series of columns set at regular intervals usually supporting a roof — that provided support for a roof over either the east (if the 2.0 m space was covered) or the west (if the 2.6 m space was covered) side of the northern end of the galleries. This half-roof provided both shade and protection from wind. These are among the oldest colonnades found in Egyptian architecture.

In square J7, in the open end of the westernmost gallery of set III, we found a nearly perfect circle of burnt earthen floor, 1 cubit in diameter, from which an oven may have been removed. If the 2.62 m, or 5-cubit, space on the west was roofed (and not the 2.0 m space on the east), it would have sat just under the roof of the colonnade. Was there a reason why cooking and baking needed shelter from the wind on the west that necessitated the colonnade? I should note that not

all the galleries have evidence of such colonnades, although they usually have a partition in the northern open end. In two places where the 5-cubit spacing would predict a column base in the low walls or benches, I dug to check and found none. But eight or nine galleries certainly had roofed colonnades or were partially roofed with columns on their open ends.

In the open northern ends of the galleries excavated so far, we found layers of concentrated ash and charcoal over the marl-paved floors. These areas, at least at the end of occupation, were allowed to fill with ash. Occasionally the occupants threw down a thin layer of desert clay, *tafla*, to keep the powdery ash down. The concentrated ashy deposits suggest that the open ends of these galleries were not particularly pleasant spaces.

Elongated House Compounds?

Like the northern open ends of the galleries, the southern ends are often partitioned into two nearly equal, north-south oriented halves ranging from just over, to just under 2.0 m in width. Here the space is divided by walls that are about 0.5 m thick and more substantial than those which divide the northern ends of the galleries.

In 1997/98 we excavated two chambers within the southern end of one of the western galleries of set III (squares D9–E9). Here we found a rectangular space divided into two chambers by a partition wall (see “Giza” in the 1998/99 *Annual Report*). A “back” entrance had been cut into the south chamber through the thick southern wall of gallery set III. To the east of this forced doorway, a rectangular cooking installation was built within the core of the wall. I compared the two-room arrangement to New Kingdom workers’ houses at Deir el-Medineh. This was a more simplified version of a rectangular plan divided into front and rear spaces, with a cooking installation (“kitchen”) in the rear.

In 1998 we excavated the southern chamber of one of the galleries of set II (square L11), which undoubtedly served as a bakery (fig. 2). Thick deposits of concentrated ash in the far southern ends of the galleries suggest that these areas were used for cooking, baking, or roasting. Our square D17–D17x, in which we found clear evidence of copper working (see “Giza” in the 1998/99 *Annual Report*), turned out to be one of the southern (downwind) industrial chambers at the back of a set III gallery in the 16–17 range of



Figure 2. Plan of main area of work with gallery sets I–IV

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squares. (The copper working may have been on a small scale for the production of household items; along with slag, charcoal, and ash, we found a copper fish hook and needle). In square D9, in the southern chamber of the southern (set III) gallery in the 8–9 range, we found, as I mentioned, a cooking installation built into the southern enclosure wall. We also found a thin ashy layer over the floor, with red and yellow ochre, used possibly as a pigment, and a cache of dolerite hammerstones on or near the floor.

This season our shallow excavations and mapping revealed patterns of more complex room structures toward the southern ends of other corridors. The repeating plan includes a small vestibule, a main room, and a small niche or inner (sleeping?) room (fig. 2). Sometimes a wing wall is attached to the eastern gallery wall, forming an additional room or corridor to the north. This arrangement is found in the southern galleries of set III in the 9–10, 12, and 16 ranges of squares, and in the northern galleries (set II) in the 8, 9–10, and 10–11 ranges (fig. 2). In 1998 we excavated rooms belonging to some of these units in the northern galleries (squares N9 and N11). The ancient occupants left these rooms fairly clean, without thick accumulations of ash or debris. The walls and floors were plastered in marl. These units may have been the residences of those who supervised the activities within each corridor.

These galleries bear a general resemblance to the storage and production magazines that surround New Kingdom temples at Thebes and Amarna, or the so-called workmen's barracks west of the Khafre pyramid. But inside the galleries we see some of the traditional elements of an ancient Egyptian house. The galleries contain a cooking, baking, or heat-generating room for food production or other industries at the rear; a core living area; and the crude colonnades that may have served purposes similar to a portico, open court, or columned hall. Are these elongated house compounds? The modular repetition of elongated house units along a central street reflects a desire for supervision and control. Anyone occupying either of the two large structures at the ends of Main Street — our so-called “manor” at the east end, north side, and the “gate house” at the west end, south side — could monitor anyone entering or leaving the galleries.

“Workers’ Houses” and Hypostyle Hall

To the east of gallery set III, within the 34.5 m between the northern and southern enclosure walls, a different sort of layout occupies the width of three normal galleries. In the north-south 17 range of squares, short fieldstone walls form a series of oblong units, about 2.0 m wide and 4.0 m long, oriented east-west (fig. 2). John Nolan excavated the southern of the two units in square I17 in 1997. The units are divided into two chambers by a partition wall, with evidence of cooking in the rear (west) chamber. Four of the units have low rectangular platforms or bins in the east room against the west wall. The units look like simplified versions of workers' houses. Their function is still not confirmed; I call them “workers' houses” for convenience.

The workers' houses in the 17 range of squares are attached to a hall that occupies our ranges 19–20, tiers D–J (figs. 2–3). The hall, oriented north-south, is about 15 × 25 m. The floor is covered with a series of low troughs and benches, about ankle height off the floor, plastered in marl (*tafla*) and oriented north-south. The benches are about 30 cm wide at the top and 40 cm at the bottom, splaying outward with a cross-section like a mastaba. The troughs that separate the benches are 10 to 20 cm wide. We excavated parts of this trough and bench configuration in squares F19 and G20 in 1995 (see “Giza” in the 1995/96 *Annual Report*). This season we excavated more in squares G19 and I18. We also traced the tops of the benches in square J19 where Ramsi Lehner cleaned an east-west section in a cut made through the hall by a modern backhoe (fig. 3).

There are three sets of three benches in the center of this hall. Each set is separated from the adjacent sets by about a meter of open floor. Along the east and west walls there are sets of two benches separated by a single trough. These benches are about 20 cm wide. We once again found significant amounts of fish bone this season in the deposits filling the open floor and embedded in the troughs between the benches (see "Giza" in the 1995/96 *Annual Report*). Richard Redding supervised a careful washing and screening operation of measured quantities of the soil to test for the abundance of fish bone with respect to floor deposits elsewhere on our site. A preliminary impression is that much of the bone derives from very small fish, ranging from less than 5 to 10 cm long.

Under the center bench in each group of three are a series of fine limestone column bases, each about 52 cm (1 cubit) in diameter, set at intervals of 2.62 m (5 cubits). We found the first pair of these bases in 1995 in square G20 (see "Giza" in the 1995/96 *Annual Report*), but it was only this year that we realized they belong to a series that lies under the entire length of the three sets of three benches. (Where we did not actually excavate to find the bases, we ascertained their probable presence by pounding in survey pins; these hit a hard surface at just the right spacing and depth). The east and west rows of column bases are about 2.62 m, or 5 cubits, from the east and west walls of the hall. The columns were probably wood, each about 23 cm in diameter, judging by the holes in the tops of some of the benches above the column bases. The builders first set up the columns on the bases and then built the benches around them, finally plastering the bench with *tafla*. When the columns were later pulled out, a few of the holes that were left retained a semicircle of plaster that indicates the diameter of the column.

This was, strictly speaking, a hypostyle hall, perhaps the oldest one in Egypt known so far, except for the token hall in stone at the west end of the entrance hall in the Djoser step pyramid complex. It appears, however, to have served some practical rather than ceremonial function, although we are not certain of its purpose. Suggestions range from a place for drying fish or grain to a dining hall. In 1991 we found a cache of complete jar stands and shallow bowls, of a

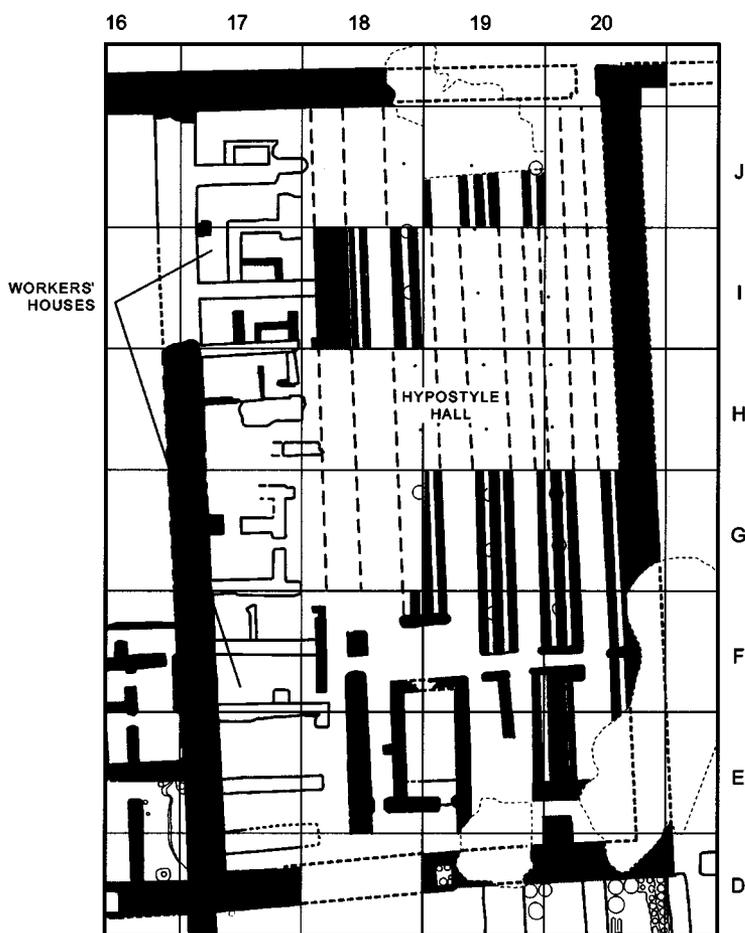


Figure 3. Plan of hypostyle hall and "workers' houses" east of gallery set III. Circles indicate column bases; dots mark position of column bases not yet excavated

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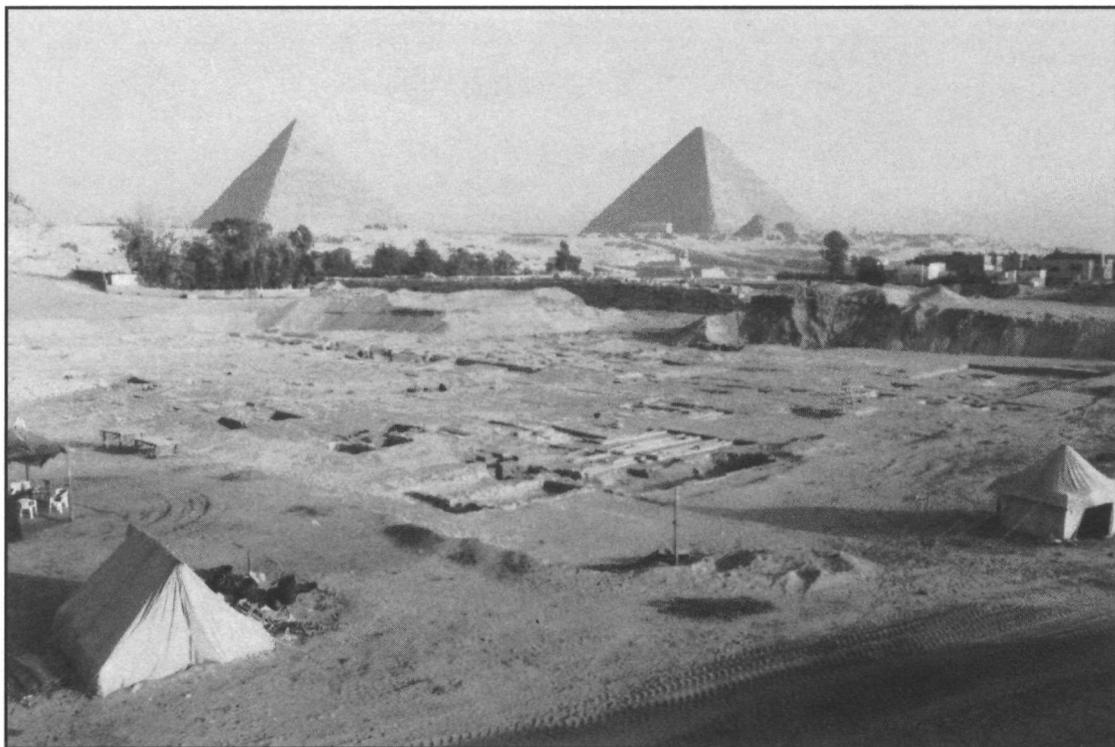


Figure 4. General view of concession area for 1999/2000, looking northwest across cleared zone to the Sphinx and pyramids

type that we believe were lids, on or near one of the benches in square F20 (then designated area A7b; see “Giza” in the 1991/92 *Annual Report*). This season we found more complete examples of these types on the benches in square G19.

The area south of the troughs and benches contained three rectangular rooms oriented north-south. These rooms were excavated in 1991 and 2000 in squares E19, F19, and F20. The backhoe trenches in this area removed large parts of this arrangement of rooms on the east and south. The two rooms on the east are each about 2.6 m wide and a little less than 5 m long. A wall, 0.6 m thick, separates these two rooms. Along the western base of the eastern room are two narrow benches separated by a single trough, while on its eastern base is a single bench, or curb. We have found similar curbs along the bases of several of the major gallery walls.

The relationship between the workers’ houses and the hypostyle hall with its curious troughs and benches remains unclear. Evidence from our 2000 season excavation of squares I17 and I18 suggests that the hall once had a thick western wall separating it from the workers’ houses. This appears to have been taken down, perhaps when the workers’ houses were built. The results of our excavation in square F18 suggest a similar restructuring to allow direct access via a gently sloping floor from the workers’ houses down into the hall. Justine Way’s excavations in 1997 in square D17 indicated that the fieldstone wall along the north side of the square, which is one of the series of walls forming workers’ houses, was built at a later period than the thick mudbrick southern enclosure wall of gallery set III. This thick wall also formed the southern wall of the enclosure containing both the workers’ houses and the hypostyle hall (the bakeries we found in 1991 are attached to this southern wall; see “Giza” in the 1991/92 *Annual Report*). In the coming season we will begin a detailed investigation of the development of our site in the hypostyle hall and workers’ houses.

The “Manor”

East of the northern set of eight galleries is a rectangular structure that could be taken for a large house. For convenience, we call it the “manor.” Measuring about 10.5 m (20 cubits) east-west by at least 15 m north-south, its outer walls, like the gallery walls, are about 1.5 m thick.

This season Hratch Papazian excavated in the southeastern room within square M20. This room was well maintained. Fragments of marl plaster found in the fill had thin red paint layers, indicating that parts of the walls, perhaps a dado around the base, were painted red (we found red painted plaster fragments in several other areas of the site as well: squares E19, J6, and J7). Sarah Sterling excavated in the western room just inside the western doorway and found a thick ash layer with ample evidence of cooking or baking.

Two bakeries are attached to the east side of the manor, with their own entrances through the north wall of Main Street. In an enclosure to the west, the same width as the manor, there are at least one and possibly two additional bakeries (judging by the presence of a vat, much ash, and the shape and size of the chamber). This enclosure and the manor occupy the width of three galleries, like the hypostyle hall and fieldstone units directly south across Main Street.

The south wall of the manor is a continuation of the north Main Street wall, while its eastern wall is the eastern enclosure wall of the whole complex containing the northern set (II) of galleries plus the manor. The walls of the manor and the western enclosure containing the bakery are aligned with those of the hypostyle hall across Main Street to the south. The manor together with the hypostyle hall might have functioned as a substantially larger version of the galleries. Perhaps the broad hypostyle hall south of the manor is a larger version of the colonnades with columns and low walls or benches in the northern open areas of the galleries.

On the other hand, our last days of clearing and mapping revealed two long thin benches or low walls north of the manor, within an enclosure of one and one-half gallery widths (fig. 2). The two low walls are 2.6 m (5 cubits) apart and each is about 2 m from the east and west gallery walls, respectively. This is a larger version of the colonnades in the galleries. Until we do more detailed excavation, we can only speculate about the purpose of these facilities. If the hypostyle hall belongs to the manor, the workers’ houses along its western side may have housed direct dependents of the manor’s occupant who perhaps had some supervisory role in the function of the hall and its southern chambers.

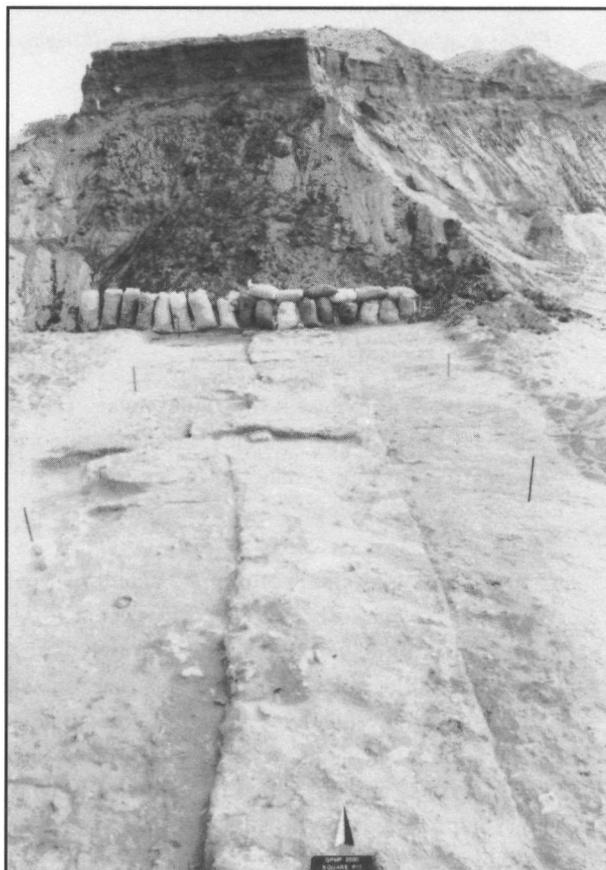


Figure 5. Gallery wall oriented north through squares P-Q-R11 to sandy overburden

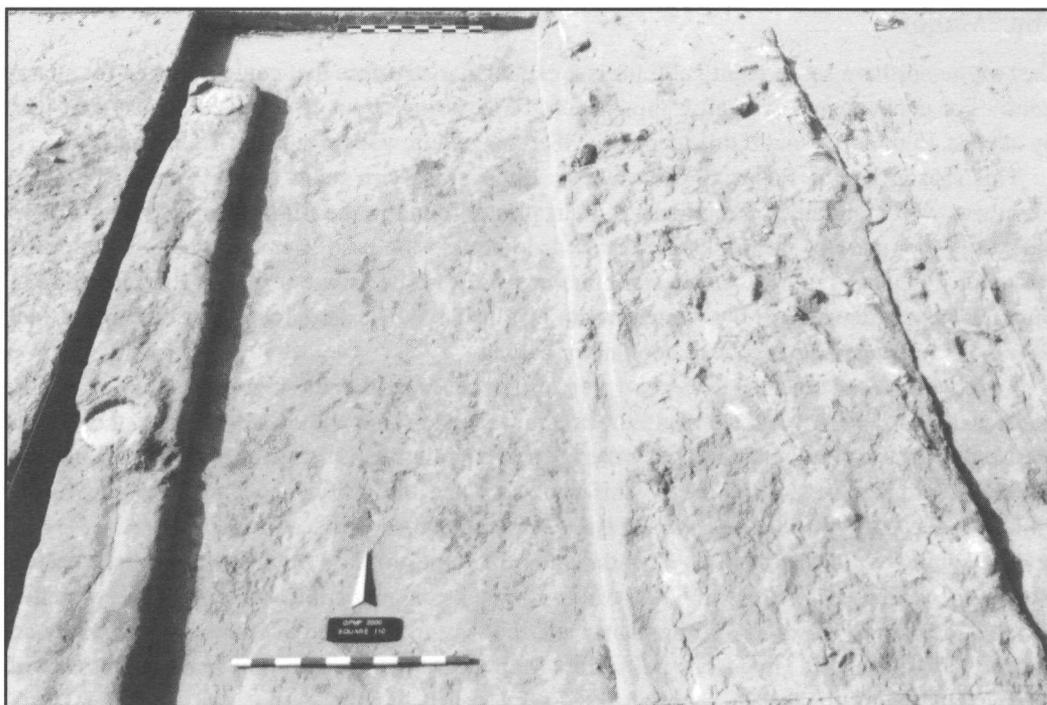


Figure 6. After shallow excavation, gallery wall (right) and low stylobate wall with column bases (left) in square I9, gallery set III

Main Street and “Gata House”

Main Street is one of the oldest paved streets in the world. We have uncovered 130 m of this remarkable street. Within the gallery complex Main Street is paved with *tafla* gravel topped with compact gray alluvial mud. The north and south walls of Main Street end where they meet the west walls of gallery sets II and III. We traced it about 55 m farther west where it is flanked by fieldstone walls (fig. 1).

At the south side of this juncture is a building of fieldstone walls occupying the better part of 100 sq. m. We dubbed it the “gate house” (fig. 2). It has a well-paved floor and a pillar, 0.9 × 1.1 m, made of stone and clay. Anyone living in the gate house at the west end, south side of Main Street, or in the manor at the east end, north side of Main Street, would have had excellent control over all comings and goings through the doorways of the galleries which open onto the street.

A drain sits in the approximate center of Main Street between gallery sets II and III. Ashraf Abd al-Aziz carefully excavated this drain in squares K6, K8, K9, and K11. Here the ancient builders carefully formed a narrow trough about 20 to 30 cm wide into the *tafla* gravel bed. At the far western end of our street clearing, outside the gallery system, we see the drain running along the southern side of the street, broadening to 1.05 m (2 cubits) for a length of 15 m. In excavation areas along the street, we found considerable amounts of large mammal bones of the kind — for example, teeth and jawbones — that are rejected in a butchering site. It is possible that the drain and the broad street (5.2 m or 10 cubits) had something to do with slaughter and butchering.

Southern Extension: Gallery Set IV

We cleared an area 17 m north-south by 50 m east-west between the 8 to 15 ranges. Here we found large gallery walls extending south from the southern enclosure wall of gallery set III. So far, all the gallery walls in range 8–14 seem to have counterparts on the south side of the southern enclosure wall, except, possibly, for the gallery wall in the 10–11 range. The main southern enclosure wall of gallery set III separates that set from these southernmost galleries, set IV. There is no street between sets III and IV.

Our southern extension revealed that there may have been *four* sets of great galleries (depending on the northern layout). The whole complex of corridors might have been, in this case, about 34.5 m (the length of a set) \times 4 plus 10.4 m (two 10 cubit streets) equaling about 148.5 m north to south. So far the new southern set is clearer than the new northern set.

Northern Layout: Gallery Set I?

From January to March 2000 we pushed northward in a 15 m-wide swath through the overburden toward the east end of the Wall of the Crow. Through this breach we tracked the west wall of gallery set II to its northwest corner (fig. 2). Later in the season we extended our clearing at the northeastern corner of our site just wide enough to get the expected northeast corner of gallery set II. The general area where we would have expected the corner has a thick *tafla* deposit that seems to be artificial (culturally deposited). The ancient surface is pitted where the northeastern corner and the north wall of gallery set II should be.

The walls we were able to map in our northwestern breach through the overburden almost certainly indicate that another street (North Street), about 5.25 m (10 cubits) wide, extends east-west along the northern enclosure wall of gallery set II (fig. 1). There may be yet another set of



Figure 7. View to south across remains of gallery sets II and III from top of overburden. Squares of 1998 TBLF operation in foreground

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Figure 8. View to southeast across remains of hypostyle hall. Square 118 is seen at lower right, with column bases embedded in bench. Squares G19–20 and F19 with more troughs and benches in background

wall, toward its eastern end, we exposed large rectangular areas of dark ash enclosed by fieldstone walls. Right up against the wall we found thick, mounded, reddish dumps of concentrated pottery sherds — mostly bread molds. This “bread pot gravel” is familiar to us; we found similar thick deposits to the east of the bakeries that we excavated in 1991 in the southeast corner of zone C. There are at least two long fieldstone walls forming a corridor that extends south from the Wall of the Crow. Fieldstone walls that run east-west divide these corridors at fairly regular intervals. These are probably more bakeries like the one Augusta McMahan excavated in 1991 a short distance to the west of the Wall of the Crow in area A8j (fig. 1).

Western Extension

To the west of the galleries, we cleared an area 65 m north-south and 40 m east-west. Our workers cleared the last of the sand off only part of this area that includes the western end of Main Street (see above). Under the sand we found not the mud mass characteristic of the ruined surface in the area of the galleries, but ridges and compact mounds of toppled walls and buildings

galleries north of North Street, for which I have reserved Roman numeral I. A thick wall, that extends northward and approaches the end of the Wall of the Crow, lines up with the western enclosure wall of gallery sets II, III, and IV. To the east of this western wall, another thick wall lines up with the gallery walls of sets II, III, and IV in the 7–8 range of squares to the south (fig. 1).

Numerous Late Period burials have prevented us from finding the Old Kingdom layout in the north end of our northwestern breach. Next season we plan to have a team of bio-anthropologists excavate these burials.

Our clearing turned westward along the base of the ancient stone Wall of the Crow. This became necessary when we cut through the path over the high overburden long used by horse and camel riders to go around the end of the Wall of the Crow. For safety reasons we had to remove the overburden to a substantial distance from the wall in order to force riders to take another route. We cleared out modern debris from the gate through the Wall of the Crow to the west, so that riders are now able to cross the wall by passing under it.

When we scraped off the last sand cover in the area along the southern side of the

made of soft yellowish broken limestone from the Maadi formation that rises above the site on the west.

We have not excavated to expose the faces of the walls, although we did map the stony patches before the end of the season. This gives some idea of the pattern of the walls and chambers (fig. 1). Perhaps residences lie in this western zone. The large quantities of pottery and other refuse in the gallery area suggest that many people lived on and around our site; the few habitable structures found so far within the galleries are not sufficient to house them.

Acknowledgments

For a very successful season, we are grateful to G. A. Gaballa, Secretary General of the Supreme Council of Antiquities. None of our work would have been possible without the generous assistance of the SCA Giza Inspectorate. I am pleased to carry out this research as part of a long collaboration with Zahi Hawass, Undersecretary of State for the Giza Pyramids. I owe a special thanks to Abd al-Hamid, Chief Engineer of the SCA at Giza, for his assistance with the equipment for moving the overburden without which we could not have carried out our program. We thank Ahmed al-Hagar, Director of Giza, for his kind assistance. We are grateful to Mahmoud al-Afifi, Chief Inspector for Giza, and Mansour Bureik, Senior Inspector, for their assistance. We thank Mohammed Sheeha and Ashraf Abd al-Aziz who represented the Supreme Council of Antiquities at the excavation site. We would like to thank Ahmed Hussein who served as our inspector in the storeroom. A hearty thanks goes to Mohammed Musilhi for his skillful use of the front loader.

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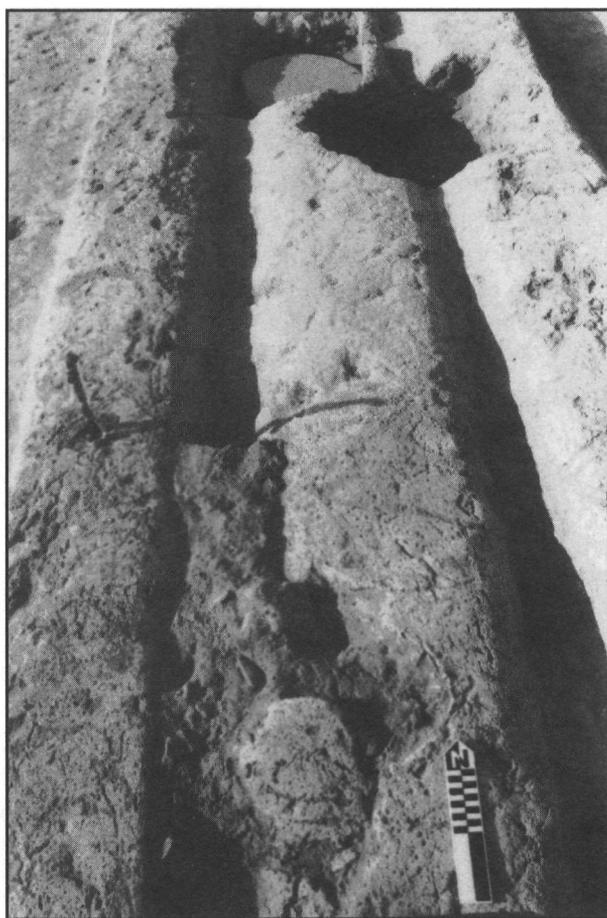


Figure 9. In square F20 a circular hole in tafla plaster indicates 23 cm column. Next column base to north in background in square G20

ARCHAEOLOGY

The team consisted of Mark Lehner (Harvard Semitic Museum and the University of Chicago), director; John Nolan (University of Chicago), archaeologist and assistant director; Mohsen Kamal (University of California, Los Angeles), archaeologist; Richard Redding (Michigan Museum of Natural History), faunal analyst; Nicholas Conard (University of Tübingen), lithics analyst; Cordula Werschkun (University of Tübingen), assistant lithics analyst; David Goodman, surveyor; Ann Wodzinska (University of Warsaw), ceramicist; Sarah Sterling (University of Washington), archaeologist; Justine Gesell (University of Heidelberg), archaeologist; Tobias Tonner (University of Tübingen), archaeologist; Ric and Laura Brown (University of Massachusetts College of Art), artists; Glen Dash, geophysical surveyor; and Hratch Papazian (University of Chicago), archaeologist. Mr. Abd al-Aziz worked full time as an archaeologist, commanding four excavation squares; he helped train Marian Raouf Sadek and Dania Yousry Hafez in our methods, who supervised two excavation squares on their own. Mr. Amir Abd al-Hamid has been untiring and unfailing as our project manager.
