



Footprint of the State! *The City of the Pyramid Builders*

In Egypt it is normal for archaeologists to go into the field to dig for two to three months every year. We have worked 14 of the past 24 months. Thanks to Ann Lurie's challenge and major support, we have been able to accomplish the work of seven years in two. In the fall of 1999 we launched our ambitious Millennium Project—a veritable marathon—with the goal of learning as much as we could about an area of the Giza Plateau lying southeast of the Pyramids and due south of the Sphinx. We have been pulling away vast modern layers of sand and debris to reveal an enormous royal complex, part of a “Lost City of the Pyramids.”

At times we felt overwhelmed as we looked out on the ever-growing expanse of Old Kingdom architecture and watched the front loader and dump truck plying the site, carrying away yet more of the area's thick sandy blanket. As we continued to push the boundaries of our excavation—now approaching an area of about seven football fields (5 hectares)—we found ever more walls and streets. Where would it end? How did it all fit together?

A Coherent Plan Emerges

Now, at the end of the second year of this project, a coherent plan is emerging. We have both the critical area and the crucial

elements that allow us to see a whole complex. (Please see the map insert.) Three elements enclose the site: the 200-meter-long Wall of the Crow on the northwest; the so-called Buttress Building on the far southeast; and a long, massive enclosure wall that connects these two elements and forms the western boundary of the complex. On the east we have not yet been able to define the site boundaries as the walls continue under the uncleared sand and modern debris toward the asphalt road and the town of Nazlet es-Semman.

With three boundaries now identified, everything else that we have mapped falls

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The site as it appeared in June 2001. Looking from the southeast to the northwest, from the corner of the “Buttress Building” to the Wall of the Crow and the Pyramids of Khafre and Khufu.

Footprint of the State *Continued from page 1*

into place as one large, coherent ensemble made up of two different areas: the mud-brick ruins of the gallery system on the east and fieldstone ruins of small rooms grouped around open courtyards on the west ("Western Extension").


Three parallel roadways—North, Main, and South Streets—run across the whole complex east to west, dividing an area about 185 meters north to south into four large blocks. While these thoroughfares allowed direct crossing of the blocks east to west, it appears so far that there was only one major way through the site from north to south—actually, from northwest to southeast. This way led from the Great Gate in the Wall of the Crow to the very big Buttress Building by way of the Chute, West Gate, Wall Street, and South Street.


The sense of "closure" we finally have, the sense that there is a whole complex, is one of the most satisfying achievements of our many months in the field. All of our work over the last two years has helped us to understand this complex, but the final elements only fell into place this spring.

One of the most crucial components was our work on the Wall of the Crow, which is described starting on page 7.

From Footprint to Social Organization

Now that we have the "whole" in our grasp, we can begin to ask what this vast footprint implies about Fourth Dynasty social organization and the organization of work. The orthogonal layout is certainly an imprint of the royal house. The predominant sense of the layout is control. Anyone looking down the streets would see dark doorways to the galleries. All comings and goings could be monitored. The gate houses at the entrance to each street look like check points. The Manor suggests an overseer of the whole "estate." The gate in the Wall of the Crow is a narrow bottleneck restricting access into the complex. It may have been used for deliveries from the harbor which we believe was located on the other side. In the southeast corner of the complex, there is another bottleneck at the Buttress Building, although we do not yet know the arrangement on the east side of the site.

Within this overarching control, restricting the movement of people and goods, the household mode of production was formalized and repeated many fold in order to achieve an economy of scale. The bakeries we found in 1991 turned out to be the tail of a huge archaeological beast. Now we see many bakeries scattered throughout the complex in which household bread pots were lined up by the dozens. Those who lived in the small houses tucked inside the galleries probably supervised this production. With a back area for baking, roasting, and cooking; a snail-pattern house (shaped like , the hieroglyph for "h"); and a front colonnade, the galleries had the major elements of ancient Egyptian houses. In the pattern of repeated units, we might see the galleries as elongated house units. The pyramid builders were reaching for an economy of scale by replicating this odd form of a household unit many times over.

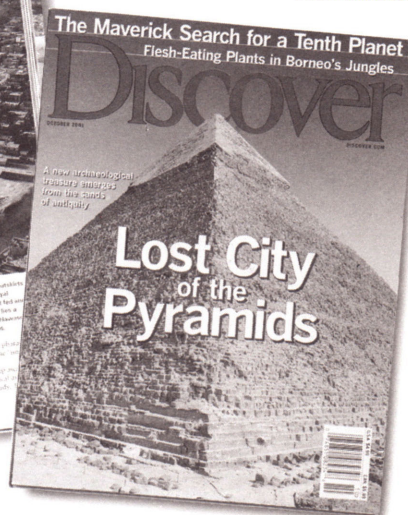
It now appears that the vast ensemble of galleries may be an appendage of the Buttress Building which will be the focus of our work next season (see page 5). 



The Millennium Project on Newsstands

The November 2001 issue of *National Geographic* features a story on the Millennium Project, "The Pyramid Builders,"

by Virginia Morell. The photo on page 85, taken by Kenneth Garrett, is a stunning aerial shot of our excavations. In the October 2001 issue of *Discover* the Millennium Project is the cover story, "Lost City of the Pyramids," by Jack McClintock.



National Geographic, November 2001, pages 84-85, and *Discover*, October 2001.



When the Desert was in Flood...

Environmental History of the Giza Plateau by Karl W. Butzer

*We were honored to have Karl Butzer join our project and delighted that he agreed to write an article on his work. He teaches in the Geography and Anthropology Departments at the University of Texas and holds the Raymond C. Dickson Centennial Professor of Liberal Arts chair. He has had an immeasurable impact on archaeological work in Egypt with his seminal book **Early Hydraulic Civilization in Egypt** (1976).*

One of the more surprising facts to emerge from the Millennium Project is that the nearby desert environment was significantly different in Fourth Dynasty times from what it was, say, a century ago. Rainstorms were more frequent, with long soaking rains that could melt down mudbrick structures or trigger great floods that swept quickly across the low desert edge to spill out over the cultivated lands of the Nile floodplain. The Giza Plateau remained “desert,” but it was not as lifeless as today; with water only a few feet down in many sandy areas, there was a range of desert shrubs and even scattered trees along the desert watercourses (wadis).

Archaeological Sediments

The evidence for this comes directly from the Millennium Project site at Giza and not from some theoretical climate model. Let me explain how such information is gathered. Overlooking the sherds and other “objects” usually recovered, the archaeolog-

ical record at a settlement site includes structures and architecture, as well as seemingly nondescript organic residues and a range of disintegrated or decomposed building materials, such as rock or mud. These are “archaeological sediments;” they are found both inside and outside of structures. They also mix or interfinger with “environmental” sediments of the immediate surroundings, which in Egypt consist mainly of Nile silts and windborne or wadi sands. Archaeological sediments are highly informative because they can show whether a site was growing, changing, or decaying. The combination of interlinked archaeological and environmental sediments can be equally revealing, by informing us about what was happening around a site. In effect it may elucidate how human activities were affected by local environmental changes.

To study archaeological and environmental sediments requires the skilled attention to detail of an archaeologist with the technical expertise and experience of an earth scientist. This is called “geoarchaeology,” an approach pioneered in Egypt during the early 1900s but which remained uncommon until recently, while an immense body of information was irretrievably lost through rote excavation.

Mark Lehner was sensitive to these problems, exploring geoarchaeological leads right and left. When he called me the first time, he rattled off a string of issues that



Above: Karl Butzer logs Nile flood deposits in the northeastern part of the site.

Top: Trees grow in the Coptic and Muslim cemeteries because of the high watertable in the Great Wadi stream bed. During the Old Kingdom, vegetation probably grew along the wadi farther into the desert. Floods occasionally swept down the wadi on the north side of the Wall of the Crow.

needed to be resolved, ranging from “anomalous” sediment types to curious

Continued on next page

Desert in Flood... *Continued from page 3*

contacts between different kinds of sediment. It sounded to me that there was an interesting environmental story embedded within the “Lost City of the Pyramids.”

A few days later we talked again, and in less than two weeks, Elisabeth Butzer and I were out at the site, within two hours after the plane touched down in Cairo.

It was immense, and a geoarchaeologist’s dream—no overburden, excavation sections everywhere, and nothing yet backfilled. Add to that the huge backhoe trench of 1990 that revealed the core of the site’s history, the irregular edges exposing strata in three dimensions.

Although Elisabeth’s specialty is studying Medieval and early Modern documents in Spain and Mexico, she had worked with me on my excavations in South Africa during the 1970s and had much practice in the laboratory procedures to study sediments. And since sediment samples could not be taken out of Egypt, we had come with the basic equipment to be able to carry out the tedious but more essential analysis in the project laboratory, (almost) in the shadow of Khufu’s pyramid.

A Dynamic Environment

The story that unfolded from this study can be summarized more or less in chronological order:

(1) The site was located on a level part of the low desert, that happened to be the southern extension of the wadi running south of the Pyramids. It was perched on some two meters of yellowish stream sand that, although quite horizontal, extended more than 200 meters wide in the excavated area alone. Internally, these “basal sands” show bedding structures related to shallow shifting channels, structured in a way to infer at least three or four major flood events. Some of the beds have a lot of fine limestone flakes, such as are found on the drift sand on the steep slope up to the necropolis; this means that some cur-

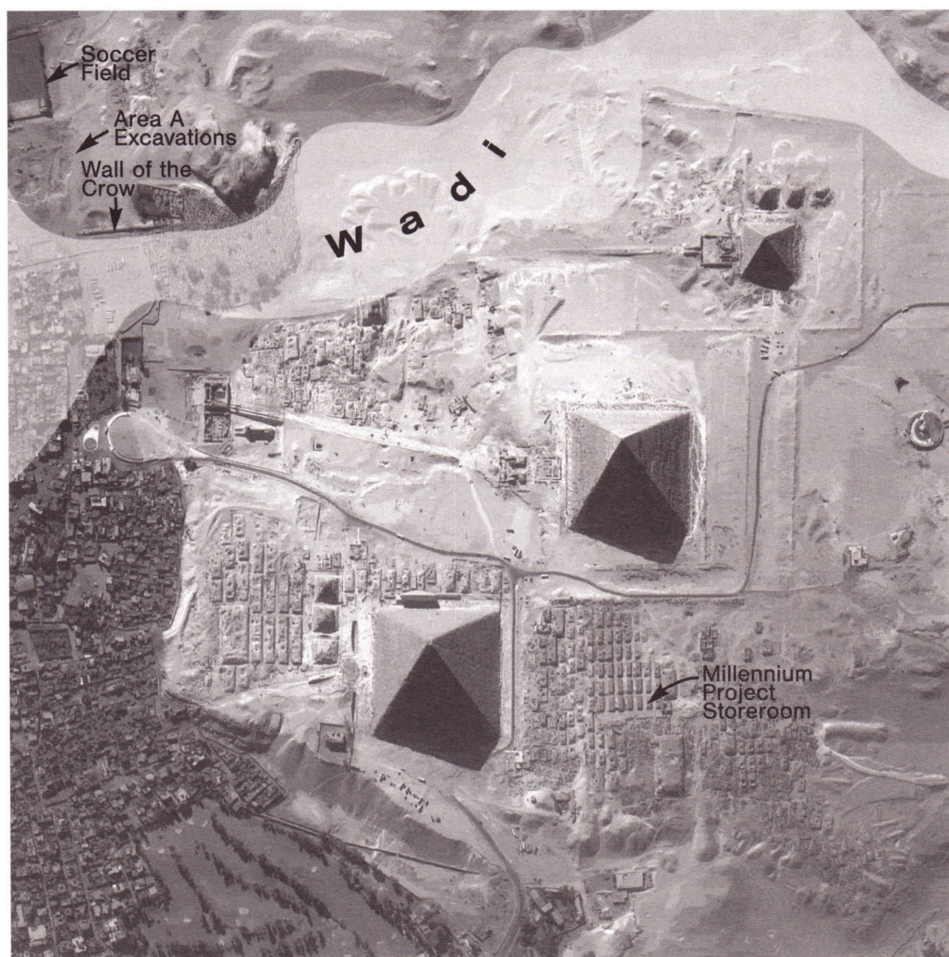
rents of water were washing down all along the low desert, after very heavy rains.

Other beds of the “basal sands” have very small pebbles of rounded, glossy quartz which are only found on the desert upland west of Menkaure’s monument complex; these give evidence for water currents flushing down this wadi from its headwaters. The “basal sands” frequently incorporate reworked chunks of mudbrick and large sherds, indicating an even older site of unknown size nearby that had already been destroyed by such floods. Why our site was located in such a dynamic environment, with a known history of violent flood events, is puzzling.

(2) Even after the site was built up, the setting was “wet,” with channels periodically active just to the north, and a watertable fluctuating within a meter or so of the surface. That mobilized subsoil iron compounds, which were “reduced” when the watertable was up, and converted to oxides when it was down. Such oxides account for

the yellow or orange color of the “basal sands,” and they indicate that subsurface water continued to move through the sands beneath the wadi channel even when there were no floods. With a low desert watertable at least five meters higher than today, trees would have been able to take root in the channel, unless destroyed by the next flood.

(3) During the relatively brief period of its use, the site was partly or extensively damaged by water on at least three or four occasions. The inferred margins on the northeast were swept away, or dislodged, or cut through by small channels that were filled with stream sands incorporating mudbrick residues. Equally destructive was the direct impact of rain on the site itself: masses of mudbrick were partly melted down or fragmented and moved in sheets of rubbly mud, technically called a “mud-flow.” That means much of the built environment was liquified, which takes a great deal of water during a single rainfall event.



Satellite photo of the Giza Plateau, taken November 11, 1999 (www.spaceimaging.com). Path of the Great Wadi shown in a lighter shade.

Even the mudbrick foundations below the Hypostyle Hall became so soggy that the stone pedestals of the columns sank and sagged. It takes at least 2 inches (50 millimeters) of rain to merely dampen 20 inches (50 centimeters) of soil, and many times more to liquify mud residue; the rainstorms responsible for creating what Mark Lehner calls "puréed mud mass" may have dumped more than 10 inches (250 millimeters) of water on the site.

(4) That also is the right order of magnitude to mobilize the sort of floods that deposited the Basal Sands or eroded the edge of the site, perhaps within only a single generation. Today such floods are only experienced in the Red Sea Hills, and come down perhaps once in a century. During the Fourth Dynasty, I would guess that they were hitting Giza every five years or less, representing a significant climatic anomaly.

(5) The site was rebuilt several times, with shifts in the micro-location of specific activities. During the last major meltdown, parts of it may have been derelict. Collected rainwaters burst through structures or ran down alleys, dislodging large rocks from field stone walls or mixing in windborne sands, but the wadi left no clear evidence of floods, perhaps deflected by the Wall of the Crow. Even before use of the Late Period cemetery, windborne sands built up against the north side or around its east end. Being in the windshadow, the south side of the wall saw little sand accumulation, and this is where graves were dug into older settlement debris. But why are the grave infillings and older settlement around them cemented (Mark's "*tafla*"), making excavation so difficult?


(6) Cementation was an indirect result of very high Nile floods that invaded the northeastern quadrant of the site. A suite of alternating nilotic muds and channel sands indicate a minor Nile channel nearby, periodically encroaching on hummock dunes along the desert edge. The highest muds interfinger with the windborne sands that angle around the Wall of the Crow. These episodes of vigorous Nile flooding

A 1924 photo showing Nile flood waters lapping at the Giza Plateau.



may have begun during use of the cemetery; associated pottery suggests that they continued into Graeco-Roman times.

The drill-cores taken by Serena Love show that the vertical range of cementation is at the former level of a high, but fluctuating nilotic watertable. Yet calcium-charged waters had to come from the desert, seeping under the wadi surface to meet a watertable supported by the Nile. That in turn requires more water in the wadi's catchment, both to dissolve limestone and to carry lime in solution. Desert rains may therefore have been more frequent in the days of Herodotus and Strabo.

The local environmental history tentatively outlined here will need refinement and revision after the next field season; there are loose ends to follow up and many new exposures to be studied. Fragments of that environmental history had previously been recorded from scattered and disconnected locations in Upper Egypt. But the Giza excavations for the first time provide a clear record of the whole sequence, in one place, and tightly tied to the archaeological record. It is far more complex and dramatic than expected. It also has implications for reconstructing the Old Kingdom landscape of the Giza Plateau. 

Promises of Palaces...?

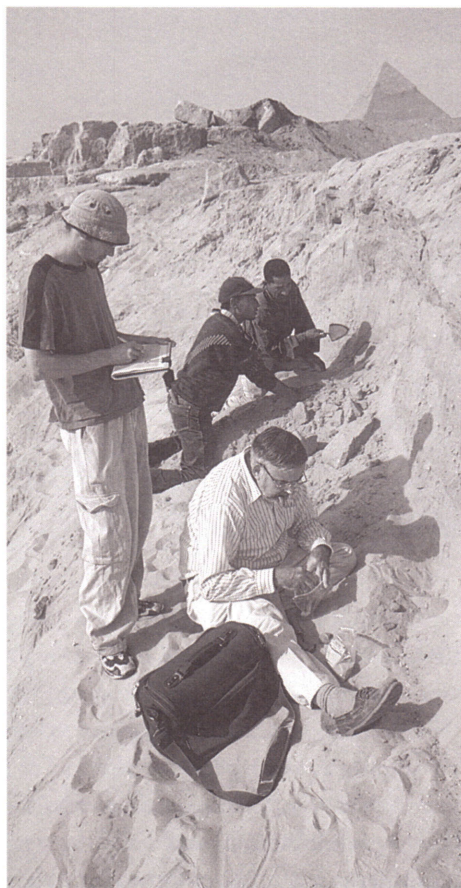
The '02 Winter/Spring Field Season

The focus of our work during the coming field season will be the Buttress Building. While we now have a good sense of the whole gallery complex, this building, with its massive double walls, portends something enormous. It could dwarf the galleries and may prove to be the palace which we have been seeking.

We had planned to start the field season in October, with a break during

December, followed by work in January and February. We reconsidered after the tragic events of September 11th. With Ramadan beginning around November 17th and running until mid-December, followed by the New Year holiday season, we decided to wait until January and work until May. We expect that four straight months of concentrated work will serve us better than a two-part season.

Up Against the Wall—the Wall of the Crow



Left: Karl Butzer (front, right) takes samples from the sand layers at the east end of the Wall of the Crow, while Tobias Tonner, Nubie Abd el-Basset, and Ashraf Abd el-Aziz examine and map the sand layers at the end of the Wall of the Crow.

It has been a massive presence throughout all of our field seasons at Giza and the backdrop in hundreds of field photos—the Wall of the Crow. And for ages it has been an enigma; at various times people have thought it was causeway, a bridge, or a tunnel. We suspected that it dated from Old Kingdom times, like most of the architecture on the plateau, but we did not know why it was built. We did not even know for sure how long it was since it appears to have never been finished. Nor did we know how it related to our massive “Lost City of the Pyramids.”

Finally, during this past field season we found some answers. We can now say for certain that the Wall of the Crow was built as part of our Fourth Dynasty complex and we have some insights into its function.

Sleuthing our way through Burials

Uncovering the wall’s connection to our site turned out to be a long, arduous

process. We set out last fall with the goal of determining how the gallery complex and the wall were related stratigraphically—older, younger, or contemporaneous. But the ground near the end of the wall is full of Late Period graves that stand in our way. In one 5 x 5-meter square, 4.Z.6 (see map on facing page), where we believed the northwest corner of the gallery complex was located, we encountered burials upon burials—30 altogether—that had to be carefully excavated before we could proceed to clear the Fourth Dynasty architecture. As we explained in *AERAGRAM* 4/2, we did not find a corner. Instead, it appeared that the gallery’s walls continued north.

Robbers and Granite workers

This spring we turned to the area off the east end of the Wall of the Crow, our operation WCE (Wall of the Crow East), and were surprised to find more gallery walls. The gallery system ran farther north than we had thought! We had to excavate through many layers of sand and stone-working debris before we found traces of these galleries.

We began in a 10 x 10-meter square east of where the wall slopes down eastward. We had thought the sloping end was a ramp that the builders had used to haul stones up to the wall’s higher courses which were never completed. After Tobias Tonner systematically excavated the sand layers, some four to five meters thick, he discovered that the slope was composed of stones that had collapsed much later as people robbed the east end of the wall. Near the bottom of the sandy layers, Tobias found a cache of limestone splinters and chips where the robbers had broken up some of the limestone blocks.

Under the sandy layers he found evi-

dence of much more extensive stone working—a thick deposit of granite dust (the by-product of pounding granite) mixed with sand and innumerable large chunks of red granite and dark diorite. Many workers must have toiled away here shaping and dressing granite blocks. The sandy granite dust covered the entire 10 x 10-meter area that Tobias exposed and was 85 centimeters to 1.30 meters thick.

Under the Granite Dust: A Demolished Gallery

We proceeded on down below the granite dust with a north-south trench cut through the east end of the 10 x 10-meter square. After carefully excavating and removing six Late Period graves, Jessica and Kevin Kaiser, assisted by Mohsen Kamel, found the remains of a brown sandy mudbrick gallery wall. It had many features typical of walls in the gallery system, such as a coat of marl plaster and a width of 1.30 meters.

In a perpendicular extension of the trench toward the Wall of the Crow, Lauren Bruning removed yet more burials and found the remains of what had been the west wall of this gallery—a shallow linear depression with a smooth clay surface. Within the gallery, she found the remains of a thin, low wall just like those that divide the more open ends of other galleries.

These walls were enough evidence to be certain that a gallery like those farther south swept up to the east end of the Crow Wall. We do not know, however, whether it is a continuation of Gallery Set I or another whole set of galleries, possibly separated from Set I by a street.

A “Decommissioned” Gallery

A curious feature of these gallery walls is that they might have been “decommissioned” just before ancient Egyptian laborers began pounding granite here. All of the walls looked as though they were intentionally demolished. The western “ghost

wall” was entirely pulled out and the other walls were reduced to only a few centimeters of the lowest course of bricks. The demolition was apparently carried out shortly before the granite work began here. The granite dust rests directly on the last floor of the gallery. No mudbrick tumble nor wind-blown sand intervenes, such as we might expect if the site had been abandoned long before the granite dust was deposited.

The granite dust raises some interesting questions about the dating of our site. The last major granite works at Giza were done late in the Fourth Dynasty: for the lower 16 courses of stone casing on Menkaure’s pyramid and for the tomb chamber of Queen Khentkawes. Thus, at least part of our gallery system probably predates the end of the Fourth Dynasty.

The WCE Deep Probe: Mud Layers

In order to explore below the mudbrick gallery walls and work out their connection to the Wall of the Crow, Jessica Kaiser sank a small probe, about one meter square, at the north end of the first WCE trench. Here she hit a mud layer 1.43 meters below sterile sand that could be the same one we discovered in the WCS (Wall of the Crow South) deep trench 75 meters west of WCE. The ancient builders of the wall cut into this mud layer when they prepared its foundation.

The End of the Wall of the Crow

In operation WCE we failed to obtain a direct stratigraphic link from the gallery walls to the end of the Wall of the Crow, but we came close. Two layers of large, displaced stones obscured the actual eastern end of the wall, leaving our east-west trench seven meters short.

After we mapped and hauled away the stones, we finally revealed the end of the Wall of the Crow. It was a more or less straight, clearly defined line, but it did not appear to be a finished surface. The irregular cross-section is made up of large stones, with small pieces stuffed in between.

Why did the builders leave the end



Above: The end of the Wall of the Crow with its flat surface which lines up with the gallery system.

Across the page: Drawing of the Wall of the Crow created from survey points. The opening is the Great Gate.

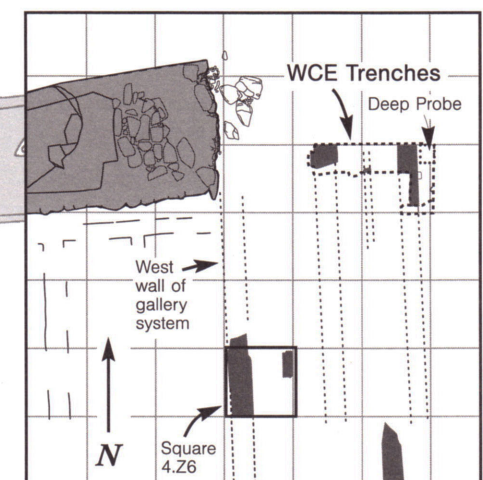
unfinished? Because it was attached to the western wall of the gallery system! It lines up almost exactly with the west face of the west wall of the entire gallery system stretching 150 meters southward. In spite of its gargantuan size and its composition of large limestone blocks, the Wall of the Crow was apparently of a set piece with the mudbrick gallery system. This coming field season we plan to look for more of the gallery walls, or their “ghosts,” adjacent to the Crow Wall, where they now appear on the site map as dotted lines.

Check Point Crow?

Why did the builders put so much effort into an immense stone structure that was not part of a pyramid complex? They shaped and hauled an inordinate number of limestone blocks to form a wall 200 meters long, 10 meters high, and more than 10 meters thick, making it more like a dike than a wall. In contrast, the rest of our “Lost City of the Pyramids” is mostly built of mudbrick or broken stone from the nearby Maadi Formation.

Perhaps such great effort went into the wall because it was intended as a boundary for the sacred precinct of the Giza Plateau with its temples and tombs. The wall was a fitting barrier that separated the secular from the sacred (if the ancient Egyptians made such a distinction). Its great gate was

Below: Detail of site map showing the east end of the Wall of the Crow and the WCE operation. The end of the wall lines up with the west wall of the gallery system.



a proper portal into the sacred district.

Whether or not the wall served this symbolic role, it clearly limited access into and out of the production facility. All traffic going to or from the north end of the complex had to pass through the gate. It is hard to ignore the wall’s role as a mechanism for controlling the movements of people and goods (see page 2).

Continued on page 8



*Drawing of the gate in the Wall of the Crow from **Operations Carried on at the Pyramids of Gizeh in 1837**, Volume 1, by Col. Howard Vyse, published in 1840 in London by James Fraser.*

AERAGRAM

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Editor

Wilma Wetterstrom
Harvard University

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Ancient Egypt Research Associates

PO Box 382608
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Up Against the Wall *Continued from page 7*

A Massive Barrier to Floods?

The Wall of the Crow might have served a very utilitarian function as well, one that we would never have anticipated. It may have protected the production facility from flash floods! Geoarchaeologist Karl Butzer, who studied the environmental history of our site this winter, explains in his article, starting on page 3, that the site was built on the stream bed of a wadi channel which occasionally carried heavy floods running off the high desert. The great Wall of the Crow stands just to the south of the wadi stream bed and could have deflected the floodwaters (see photo on the top of page 3 and the satellite shot on page 4).

An earlier settlement here might have succumbed to flash floods. In the lowest layers of the WCE deep probe mud layer, Jessica Kaiser found site debris—pottery fragments and limestone rocks—mixed with mud and pebbles washed down from the natural gravel in the high desert.

A New Significance

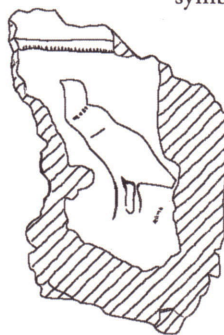
Over the years that we have worked on the Giza Plateau, the Wall of the Crow has

constantly been with us as a massive backdrop. Now with the findings of our Millennium Project it has taken on new significance and moved to the foreground.

We now know it was an integral component of our production facility, probably built in order to control movement in and out, and possibly to protect the site from periodic flash floods. We can also speculate that the massive wall was designed for a symbolic role as well,

demarcating the sacred pyramid-temple precinct from the secular production zone.

This coming field season we plan to clear the north side of the Wall of the Crow. Our ongoing exploration of the wall will undoubtedly yield more surprises. ▲▲▲



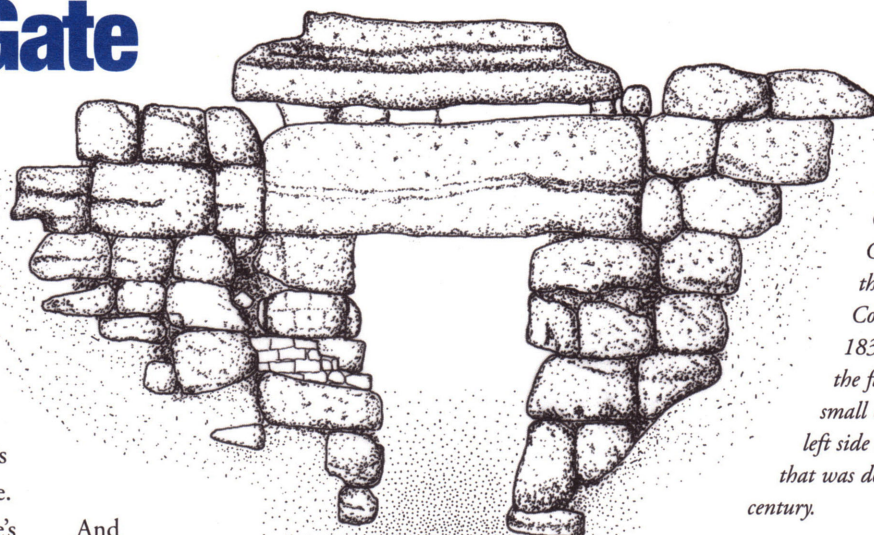
Hints of future discoveries? A mud sealing excavated from along the Wall of the Crow shows a quail chick hieroglyph with traces of a horizontal sign above. (Hatched areas are broken sections of the sealing.)

The Great Gate

Although the Great Gate in the Wall of the Crow has been visible for the last 4,500 years, very little has been written about it. With our work this spring we are now able to document this remarkable portal.

Fiona Baker, Paul Sharman, and Catriona Gibson spent several weeks this spring excavating in and around the gate. Last year all that was visible was the gate's three huge limestone lintels and a low opening. Most of its aperture was filled with sand and debris, much of which has been deposited recently. Just ten years ago we drove through the gate on our daily commute to the site.

Once we cleared away many layers of sand, clay, and limestone debris, we discovered what an impressive structure the gate is—2.5 to 2.6 meters wide (about 5 ancient cubits) and about 7 meters high.



The gate in the Wall of the Crow drawn by Catriona Gibson this past spring. Compare it with a 1837 drawing on the facing page. The small blocks on the left side are a repair job that was done in the last century.

And with the Wall of the Crow more than 10 meters thick, the gate is a tunnel as well.

Like the streets elsewhere in this production complex, the ancient roadway going through the gate was carefully prepared. It was paved with trampled, worn, or abraded ceramic fragments and laid out with a subtle camber—the sides slope down, a common feature of ancient roads.

As the roadway passes through the gate, it slopes down 2 to 3 meters to the north, possibly because of the harbor on that side of the wall.

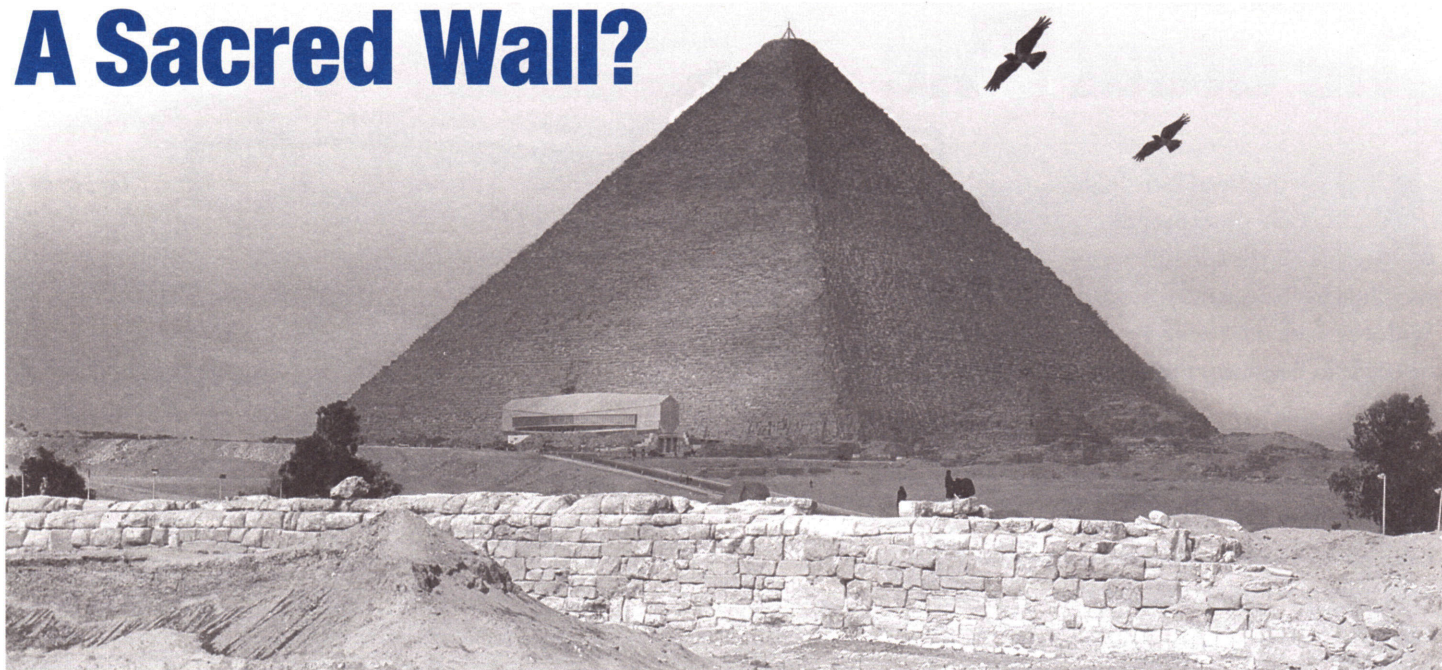
During our excavations we gained some insights into how the gate may have been constructed. Along the length of the south side of the wall east of the gate, we cleared a ramp-like slope on the surface of an embankment of limestone chips. This masons' debris must have been waste from

building the wall. John Nolan suggested that it was used as a ramp to drag the massive lintels up over the top of the gate. Once they were in place, the debris in the gate and immediately in front of it was cleared away to level the roadway that passes through the portal. ▲▲▲



Workmen clear the ancient road surface on the north side of the gate. Sand bags hold back the deep layer of sand and debris that had accumulated along the sides of the wall.

A Sacred Wall?



During the heyday of the Fourth Dynasty, the Wall of the Crow was a utilitarian structure (see pages 7–8) and possibly a sacred one as well. When we excavated the gate we found amidst pottery sherds small Old Kingdom “votives,” miniature offering vessels that occur in abundance at temples. Perhaps the wall was sacred because it was a major boundary between the living production facility and the tombs and temples of the dead. In any case, this sanctity seems to have continued up to the present.

The Late Period

The area around the Wall of the Crow was apparently considered sanctified ground during the Late Period. Burials sprawl in a vast cemetery across the northwestern portion of our site, with graves dug upon graves into the Old Kingdom deposits. The burials extend right up to the east end of the Wall of the Crow, with some interred in the sand above rock tumble from the wall.

The burials next to the wall’s end may

have been more than ordinary graves. Here the percentage of children is higher than in other areas that we have dug: 60% compared with 27% in square 4.Z6 (see map page 9). In addition, many of these children were accompanied with jewelry and amulets, while adults, on the other hand, had no grave accoutrements. Perhaps there was something special about these children.

Another sign of the wall’s sanctity was the caches of animal bone we encountered in the same sand layer at the end of the wall as some of the Late Period burials. One cache included two skulls—a cow’s and that of a smaller animal, possibly a goat. In the other cache there were two cattle skulls. In the spring of 2000, when we began clearing the southern side of the Wall of the Crow near the east end, we also encountered a cache—a bovine skull and a Late Period amphora tucked into a niche between the blocks of the wall.

The Present Day

Today the area around the Wall of the Crow is still a burial ground. An Islamic cemetery engulfs the west end of the wall and a Coptic Christian cemetery lies just

Women performing the ritual of “the Nail” on top the Wall of the Crow, with Khafre’s Pyramid in the background.

south of it. During funerals the deceased is carried in a procession through the wall’s




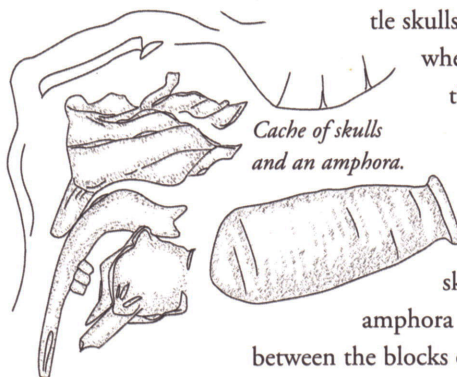
0 1 2 cm
Hippopotamus amulet from a child burial.

Great Gate to his or her final resting place. The area of the wall was probably sacred when the first Muslim graves were interred because of the tombs of the *shaykhs*

nearby. In addition, both cemeteries—Coptic and Muslim—have wells, which are often associated with sacred traditions.

The Wall of the Crow has also come to symbolize fertility. Women hoping for children perform the ritual of “the Nail” atop the wall. The supplicant squats near the nail—a bronze survey peg pounded into the wall by Sir Flinders Petrie or some other surveyor many years ago—and urinates, then circumambulates the raised limestone blocks seven times.

Through the 4,600 years that the Wall of the Crow has stood watch over the Giza Plateau, it has maintained its sacred aura and perhaps become even more mystical and powerful with time. We certainly look in awe upon this massive structure poised between the worlds of the living and dead, both ancient and modern. 



Cache of skulls and an amphora.

Thanks to all our Supporters: *A Gift to Science and Scholarship*

Our Generous Donors

This ancient settlement, with its streets, galleries, and bakeries, already seems familiar to those of us who have worked long months at the site. But consider that very little of this 4,500-year-old urban center was known as recently as 20 months ago. Without our marathon Millennium Project, inspired by **Ann Lurie**, it might not have lasted much longer.

For the opportunity to salvage and map this newly discovered city of the Pyramids and to retrieve the information embedded

in its ruins, science and scholarship will always be indebted to those who made our Millennium Project financially possible.

Ann Lurie, David Koch, and Peter Norton provided major financial support. Additional help came from **Bruce Ludwig, Jon Jerde, Fred and Suzanne Rheinstein, Robert Lowdermilk, Matthew McCauley, Glen Dash, George Link, James Allen, David Goodman, Marjorie Fisher, Sanford and Betty Sigoloff, Victor and Nancy Moss, Don Kunz, Richard**

Redding, Lora Lehner, Bill and Kathy Dahlman, Bonnie Sampsel, Art and Bonnie McClure, and Charles Rigano.

Our thanks go out to all these benefactors.

We could not have carried out our field work without logistical support from our colleagues at home: **Dr. Lawrence Stager**, Director of the Semitic Museum at Harvard University and **Dr. Gene Gragg**, Director of the Oriental Institute of the University of Chicago.

The Egyptian Supreme Council of Antiquities

For a very successful season, we are grateful to **Dr. G. A. Gaballa**, Secretary General of the Supreme Council of Antiquities, and **Dr. Zahi Hawass**, Undersecretary of State for Giza and Saqqara. We thank **Mr. Ahmed al-Hagar**, Director of Giza for his kind assistance. For their help, we are grateful to **Mr. Mahmoud al-Affi**, Chief Inspector for Giza, and **Mansour Bureik**, Senior Inspector. We thank **Ms. Wahiba**

Saleh and Mr. Ashraf Abd al-Aziz who represented the Supreme Council of Antiquities at the excavation site.

We would like to thank **Mr. Ahmed Eiz** who served as our inspector in the storeroom. We are especially grateful to **Eng. Abd al-Hamid Kotb** for assistance with mechanized equipment for clearing modern overburden from our site so that we could carry out the archaeology. As he

did last season, **Mohammed Musilhi** carried out this task as our loader driver with skill and determination. Without this help we could not have carried out our work. **Reis Shehat Abd al-Basat** did a remarkable job supervising the workmen who cleared the lowest layers of the modern overburden over broad areas of the site to expose the ancient surfaces and architecture so that we could map and excavate.

The Millennium Project 2001 Crew

Director: **Dr. Mark Lehner**, Harvard Semitic Museum, The University of Chicago; Assistant Director and Epigrapher: **John Nolan**, University of Chicago; Assistant Director: **Mohsen Kamel**, University of California, LA; Geomorphologist: **Dr. Karl Butzer**, University of Texas, Austin; Geoarchaeologist: **Trina Arpin**, Boston University; Archaeobotanist: **Dr. Mary Anne Murray**, University College London; Faunal analyst: **Dr. Richard Redding**, University of Michigan Museum of Natural History; Lithics analysts: **Dr. Nicholas Conard**, University of

Tübingen; **Cordula Werschkun**, University of Tübingen; Charcoal analyst: **Rainer Gerisch**; Osteo-archaeologist: **Jessica Holst Kaiser**; Surveyor: **David Goodman**; Geophysical surveyor: **Glen Dash**; Ceramicist: **Anna Wodzinska**, University of Warsaw; Assistant Ceramicist: **Jadwega Iwaszczuk**, University of Warsaw; Photographer: **Kevin Kaiser**, University of California, Berkeley; Archaeologists: **Fiona Baker, Dr. Catriona Gibson, and Paul Sharman**, Firat Archaeological Services; **Cordula Werschkun**, University of Tübingen; **Tobias**

Tonner, University of Tübingen; **Mohsen Kamel**, University of California, Los Angeles; **Kevin Kaiser**, University of California, Berkeley; **John Nolan**, University of Chicago; **Lauren Bruning**; **Ashraf Abd al-Aziz**, Supreme Council of Antiquities; **Justine Way**, University of Chicago; **Sarah Sterling**, University of Washington; **Justine Gesell**, University of Heidelberg; **Tanya Ashkar**, Beirut University; **Caroline Hebron**, University College London; **Serena Love**, University College London; **Wahiba Saleh**, Supreme Council of Antiquities.

Trials and Tribulations of Tourists and Riders on the Giza Plateau

Anyone who has visited the Giza Plateau on horseback may have wondered how our work has affected tourists. For decades the low desert where our site is located has been used as a pathway from the many stables in Nazlet es-Semman to the desert south and west of the Pyramids. But as our Millennium Project has pushed out its

excavation boundaries, we have had to restrict more and more of the low desert. Last fall we closed off access around the east end of the Wall of the Crow. Tourists on camel and horseback could continue across the low desert on a narrow path (shown below behind fencing) at the west edge of the site, accessing it through the

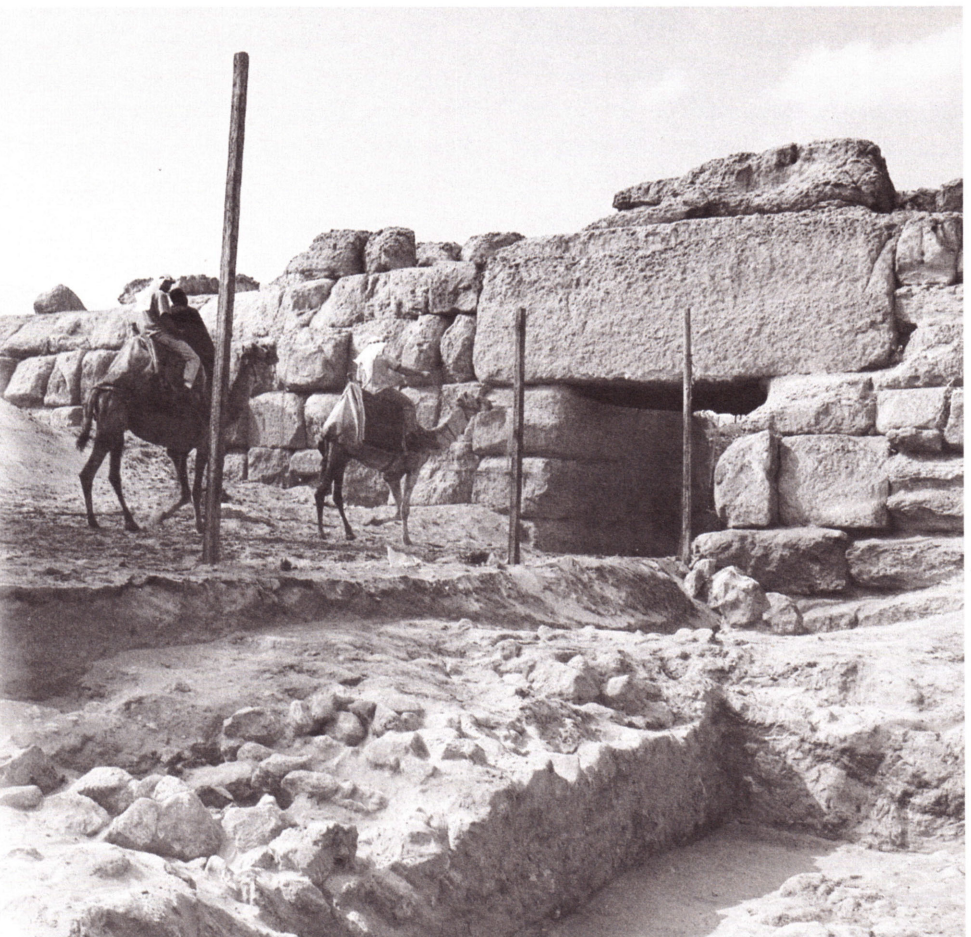
gate in the Wall of the Crow. For a month in the spring we even had to close off the gate when we excavated there.

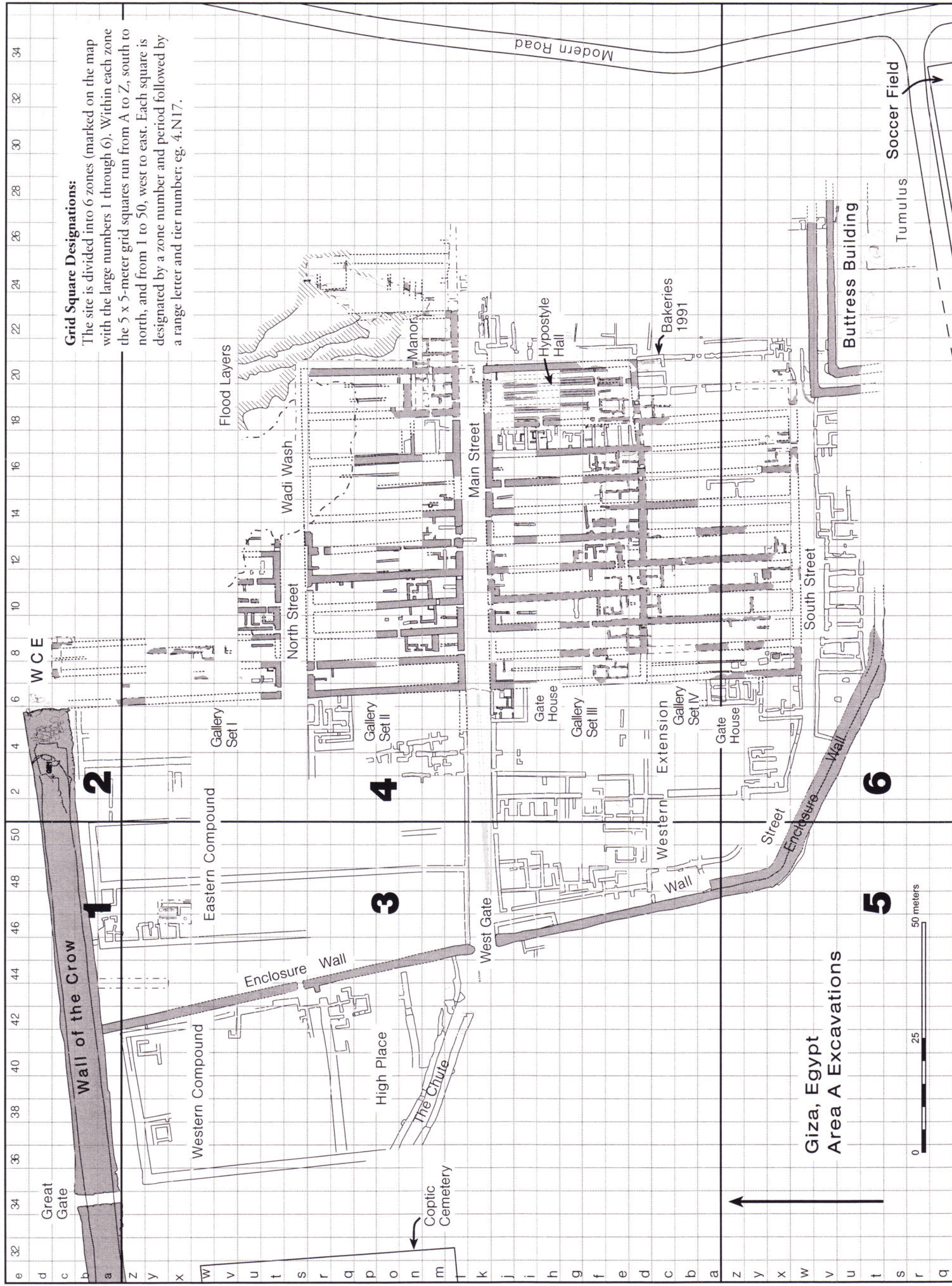
As the Supreme Council of Antiquities re-examines access and security on the plateau, it will lay out new prescribed routes that will make the desert accessible to all riders.

Tourists skirt the edge of our excavations, protected by a plastic mesh fence, as they leave the low desert through the Great Gate in the Wall of the Crow.

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Grid Square Designations:

The site is divided into 6 zones (marked on the map with the large numbers 1 through 6). Within each zone the 5 x 5-meter grid squares run from A to Z, south to north, and from 1 to 50, west to east. Each square is designated by a zone number and period followed by a range letter and tier number; eg. 4.N17.

Giza, Egypt
Area A Excavations



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