



Great Giza Galleries! *Year Two of Millennium Project*

After a break for the summer, we returned to Giza this past October to resume our Millennium Project, a two-and-a-half-year intensive program to clear, map, and survey ancient settlement remains at the foot of the Giza pyramids plateau. Our goal is to “capture” the overall plan of what is proving to be a vast royal production facility, built during the heyday of the pyramids. By clearing overburden and sand down to the tops of the walls we have been able to map in the outlines of the massive complex, which

we suspect is part of a much larger urban sprawl, a kind of “Lost City of the Pyramids.”

By the end of our first year last May, we had cleared roughly a hectare of this settlement on the low desert. Now after our fall season we have a tableau approaching two hectares and the complex continues beyond (see map, page 6).

During our two-month stint we pushed the margins of our excavation east, west, and north. On the east side we managed to track what we call “Main Street”

for an additional 25 meters and found signs of more gallery walls, but we will never be able to recover all of the settlement at this end of the site (see photo below).

The Biggest Backhoe Trench (BBHT)

We had a horrifying discovery—a backhoe had gouged an immense swath through the ancient deposits on the east end of our site. By the time we stopped for the holiday break at the end of November, we had

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In the northeastern corner of our site we uncovered a massive trench—a veritable grand canyon—where a backhoe in 1990 had cut through

the ancient deposits. This destruction highlights the importance of our effort to recover as much of the site as possible.



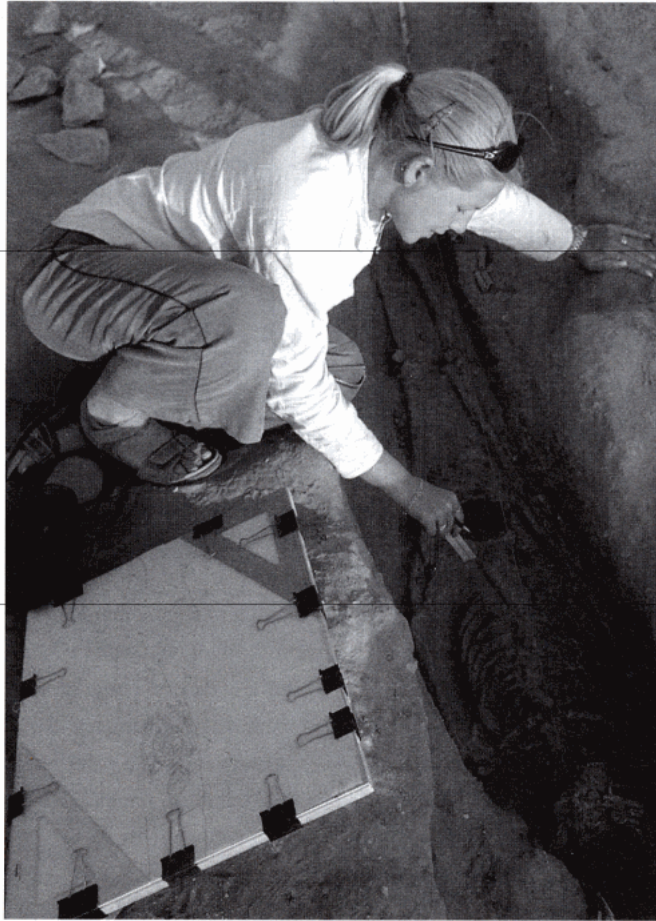
Interim Report from the Field

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exposed a 10 x 20-meter grand canyon and the end was not in sight.

We have seen backhoe trenches at our site before, but none so large as this one; hence we dubbed it the “biggest backhoe trench,” BBHT. We have heard that it was carved out in 1990 during three days of digging with heavy equipment for sand to use in constructing the Cairo ring road. When we find such destruction we are reminded of why we undertook this intensive project, why it is so critical that we gather as much detailed information as soon as possible.

Despite the damage it wrought, the BBHT offered us a quick and comparative-



Jessica Holst, osteo-archaeologist, maps a Late Period burial in the northwest corner of the site after having meticulously excavated it.

ly easy view of the site’s vertical layering. After Nubi Abd al-Basat, our assistant surveyor, scraped down the sides of the trench, we could clearly see stratified ancient walls, floors, garbage deposits, and hearths that the backhoe had cut through.

John Nolan and Sarah Sterling promptly documented the ancient walls with digital photography and mapped their positions in the sides of the trench using the total station. We hope that by extrapolating the lines of these walls we will be able to reconstruct some of this part of the site.

The Western Extension

By the end of last May we had cleared a 40 x 50-meter area in the Western Extension of our site (see small map, pages 6–7). Here the ruins are collapsed fieldstone walls made from irregularly shaped rocks taken from the Maadi Formation above our site on the west. The stone architecture was the first sign that this

might be something different from the massive mud brick galleries to the east.

Once Caroline Hebron from University College, London, and Lauren Bruning from Leiden cleared down to the ruins of the tumbled walls, they indeed found a different sort of complex. There were a series of broad open courts surrounded by small buildings, houses, and magazines, all attached to the walls along the sides of the courts.

In the early 1970s, Egyptian archaeologist Abd al-Aziz Saleh found the same kind of pattern in a settlement southeast of the Menkaure Pyramid.

In the largest courtyard of the settlement, big hunks of alabaster—perhaps leftover from building pyramid temples—were strewn about. One area contained a row of horseshoe-shaped hearths where copper may have been worked. The houses had ovens and sleeping rooms. The pattern—open courts, fieldstone huts and magazines—is also similar to a workers’ settlement that Horst Jaritz and Gunter Dreyer mapped at the site of a great Old Kingdom dam built across a *wadi* (valley) in the eastern desert near Helwan (about 40 kilometers south of Cairo).

It is likely that the work once carried on in the Western Extension was different from that in the mud brick galleries. The open courts served as spacious and well-lit working areas, while materials and supplies could be stashed in the buildings along the walls. At night the craftsmen slept in the houses.

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AERAGRAM

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Editor

Wilma Wetterstrom
Harvard University

AERAGRAM is published by AERA, the Ancient Egypt Research Associates. It reports on ongoing research and other developments on the Giza Plateau for friends and supporters of AERA and other who are interested in ancient Egypt.

Ancient Egypt Research Associates

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AERA is a 501(c) (3), tax-exempt, non-profit organization dedicated to research on ancient Egypt at the Giza Plateau, and to making the results of those studies available to as wide an audience as possible.

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Saved For Science and Posterity: Thanks To All Who Make it Possible



Our Supporters

The Giza Plateau is under constant threat from the encroaching city. Before it is gone forever, our Millennium Project aims to recover as much information as possible for science and posterity. This would not be possible without the resources generously made available by **Ann Lurie**, **David Koch**, **Peter Norton**, **Jon Jerde**, **Bruce Ludwig**, **Robert Lowdermilk**, **Glen Dash**, **George Link**, **David Goodman**, **Marjorie Fisher**, **Sandford and Betty Sigoloff**, **Victor and Nancy Moss**, **Fred and Suzanne Rheinsein**, **Matthew McCauley**, **Don Kunz**, **Richard Redding**, **Lora Lehner**, **Bill and Kathy Dahlman**, **Bonnie Sampsell**, **Art and Bonnie McClure**, and **Charles Rigano**. Special thanks are due to **Ann Lurie**, who inspired the Millennium Project in the first place and who has consistently helped us meet the funding challenges of this ambitious program.

It would also not be possible to carry out our work without the support of **Larry Stager** and the **Harvard Semitic Museum**, and **Gene Gragg** and the faculty of the **Oriental Institute, University of Chicago**. Both institutions offer needed sponsorship, research facilities, and infrastructure support back home.

Our Support in Egypt

The front lines of support for our efforts are, of course, in Egypt. While we come and go, our site, and the administration of antiquities generally, is in the hands of our Egyptian colleagues. We are most grateful to **Dr. G. A. Gaballa**, Secretary General of the Supreme Council of Antiquities (SCA), for a successful long-term program. Our project could not have come into being without my long collaboration with **Dr. Zahi Hawass**, Undersecretary of State for Giza and Saqqara. As friend, colleague,

and administrator, Zahi has been extremely generous with time, advice, scholarly consultation, and encouragement.

Our program would not be possible without the technical support of SCA Engineer for Giza, **Abd al-Hamid** and his skillful loader driver, **Mohammed Musilhi**. We thank **Ahmed al-Hagar**, Director of Giza; **Mahmoud al-Afifi**, Chief Inspector for Giza, and **Mansour Bureik**, Chief Inspector for Giza, who has advised and helped us every season. Special thanks are due to **Ms. Waheeba Saleh**, Senior Inspector on site this season.

We are especially indebted to **Ashraf Abd al-Aziz**, who not only serves as Inspector, but is a hardworking site supervisor with excavation responsibilities that increase each season.

Our Crew

Our team this season included Assistant Director **John Nolan**, who did a commendable job handling all aspects of the project in my absence (and for much of my presence as well); **David Goodman**, who once again generously donated his time and expertise as surveyor; **Nubie Abd al-Basat**, assistant surveyor; **Sarah Sterling** (University of Washington), archaeologist and surveyor in David's absence; **Mary Anne Murray** (University College, London), archaeobotanist; **Cordula Werschkun** (University of Tübingen), lithics analyst; **Anna Wodzinska** (University of Warsaw), ceramicist; **Jessica Holst** (Archaeo-Osteological Laboratory, Stockholm) osteo-archaeologist; **Justine Way** (University of Chicago), archaeologist; **Trina Arpin** (Boston University), sedimentologist; **Laura Bruning** (University of Leiden) archaeologist; **Caroline Hebron** (University College, London) archaeologist and artist. ▲



David Goodman, our surveyor, stands on top the Wall of the Crow with his total station. In the early years of the Giza Plateau Mapping Project David placed an aluminum disk on top of the wall to mark our survey point GE1 (see large map, page 6).

Help Support the Millennium Project!

Your contributions can help us continue our work. Ann Lurie, who funded much of the work during our first year, will continue her support if we raise additional funds from other donors.

Gifts of any size are welcome. Please send contributions or inquiries to:

AERA
PO Box 382608
Cambridge, MA 02238-2608

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AERA Board Member Profile: Matthew McCauley

You may never have met Matthew McCauley, but there is a good chance that, while scrolling through your television channels or engrossed in a single program, you have, at some time, heard music that Matthew composed. At McCauley Music in Santa Monica, Matthew creates music for television and movies. His credits include 44 scores for the sci-fi television series "Adventures of Sinbad," 52 scores for the children's animated program "Rainbow Fish," and many others. He also composed the promo music for the "Ricky Lake Show," "Walker Texas Ranger," and "Party of Five," and is currently composing scores for Gene Roddenberry's "Andromeda," the highest rated action-adventure syndicated series on television.

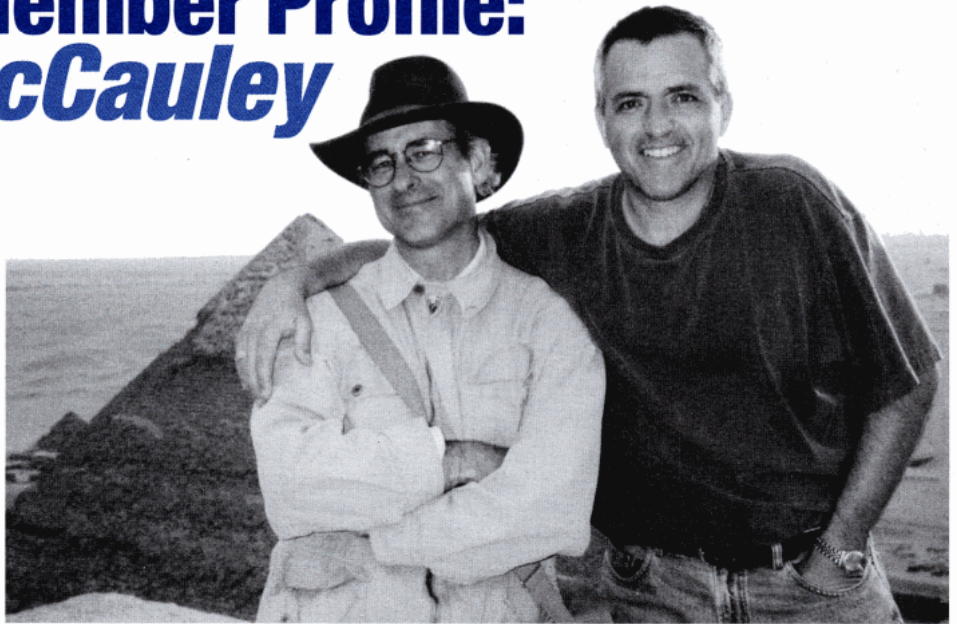
Scores

In his high tech studio, Matthew begins a musical score by watching his client's film or television program, scene by scene. But he is not your average viewer; Matthew searches for the human emotions that lie behind the action—suspense, romance, fear, etc. Then he determines which genre, type of melody, harmonization, and rhythm will best express and support the emotion. Within minutes, musical ideas begin to coalesce in his mind.

Now he settles down to work. Using his musical keyboard and a Macintosh computer, he orchestrates and fleshes out the emerging score. With his digital samplers, sequencer, and synthesizers he is literally a one-man symphony orchestra and can play all the musical parts.

Early Influences

Growing up in Toronto, Matthew had his first brush with the television industry as a child actor. But musical influences were stronger than the acting bug. At a young



Mark Lehner, left, with Matthew McCauley, AERA board member, on top of Khufu's pyramid. Behind them is Khafre's pyramid and beyond, Menkaure's pyramid and the desert.

age he began studying composition with a master, his father, William McCauley. A composer and conductor who wrote music for television, the elder McCauley had impeccable credentials—a Ph.D. in composition from the Eastman School of Music at the University of Rochester. Another of his students, Matthew's brother Tim, also went on to become a top composer for television.

In addition to music, literary and artistic influences abounded in the McCauley home. Matthew's mother painted and created jewelry. His grandfather, a writer, was the author of the first 29 books in the Hardy Boys mystery novel series.

New Directions: California

Matthew might have remained in Toronto had it not been for "Sometimes When We Touch," a song that he produced and arranged. This pop hit, performed by Dan Hill, sold well over a million records in the U.S. and caught the attention of Arista Records' president, Clive Davis. Clive asked Matthew to move to Los Angeles to begin producing multiple projects for Arista. Matthew enjoyed his years as a record producer for various pop artists (such as the group America), but knew

that he preferred composing and set up his own L.A. studio in 1986.

New Directions: Egypt

While music was Matthew's focus during his mid-teens, he also had a strong feeling that part of his life's mission involved discoveries in Egypt. After reading the work of psychic Edgar Cayce (who proposed that the "Hall of Records" of the lost civilization of Atlantis was located under the pyramids), Matthew got in touch with the Cayce Foundation concerning his own theories about pyramid geometry. Hugh Lynn, the psychic's son, telephoned and encouraged Matthew to go to Cairo and meet another young American interested in Cayce's work.

At age 19 Matthew followed up on the advice and met Mark Lehner in Cairo in 1974 (see facing page). The two young men explored the Giza Plateau in search of Cayce's vision of history, but they quickly became disillusioned. Gradually their quest metamorphosed from metaphysics into rigorous science.

When Mark launched the Sphinx mapping program, sponsored by the American Research Center in Egypt, in 1979, Matthew traveled to Egypt as often as he

Matthew McCauley: Fellow Seeker by Mark Lehner

It was a hot, late afternoon in August 1974 when I first met Matthew McCauley. Hugh Lynn Cayce had sent me a letter introducing Matthew and explaining his quest in Egypt.

As I stood in front of the American University in Cairo waiting, a little black and white taxi suddenly screeched to a halt on the other side of the iron fence along the curb. Out jumped a gangly kid, with thick, black, curly hair, full beard, dressed in short denim cut-offs. Nearly bursting with excitement, Matthew leaped over the iron fence, as a woman passing by muttered, *ma'afin* ("rotten!"). But what did it matter when we shared the quest for the legendary "Hall of Records"?

It was the first of many trips for Matthew, all the way from his home

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could to help. He was in the field assisting when Mark laid down the center point for the grid which was eventually used for mapping the Great Sphinx, stone by stone. Behind the scenes, Matthew helped support the project through fund raising and with contributions of his own music money.

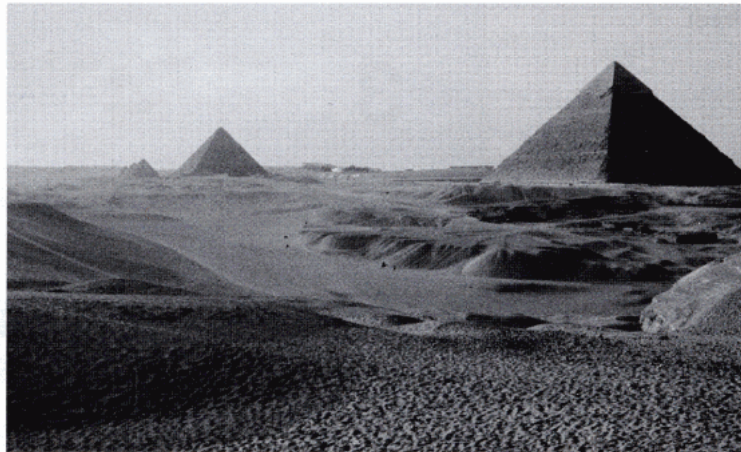
AERA

In 1985 Matthew and Mark founded Ancient Egypt Research Associates (AERA) to promote scientific archaeology at the pyramids of Giza. As a member of AERA's board, Matthew continues to help with fund-raising, moral support, and advice.

Matthew has always been interested in nondestructive remote sensing, technology which allows us to "see" into the past without excavation. Now that the current computation tools render this approach more powerful than ever, Matthew is especially eager to be a catalyst for new kinds of data collection and analysis. ▲

in Toronto and later Los Angeles. During this first meeting much of our discussion surprisingly ended up discussing hot ideas about Atlantis with the cold water of physical evidence. At that point I had been in Cairo nearly a year and was becoming disenchanted with the Cayce world view. It just did not jibe with the bedrock reality of Egypt's archaeological record.

During his many visits, Matthew accompanied me on my long walks



The Giza plateau looking southwest. Khafre's pyramid is on the right; Menkaure's pyramid stands in the background. Here on the plateau Matthew and Mark spent many hours walking and photographing before they began systematically collecting data for the Sphinx Mapping Project.

across the Giza Plateau at all hours of the day or night. He joined me in a kind of non-directed, shotgun approach to grabbing data. Since we could find very little that corresponded with the mental model that brought us here, we started photographing everything. In this forest of fact, maybe we would find a pattern, something that told a story.

Over the years, we did find a narrative. It began to emerge when we turned to a new set of questions: If the whole New Age genre contained little that was useful in understanding the physical reality of the Giza Plateau, what about scholarly Egyptology and archaeology? Why did they fall short of explaining the evidence on the plateau? And conversely, what was here on the plateau that would be useful for under-

standing the contribution the pyramid builders made to the human career? The excitement of our mystical—or mythical—quest gave way to a rapport with the data, with the physical reality of the Giza Plateau.

In 1985, Matthew was instrumental in founding the Ancient Egypt Research Associates (AERA). Margaret Sears conceived the idea for the organization, and helped us found the fledgling corporation by garnering the help of

Chicago labor lawyer, Tom Geoghegan, while Matthew paid for the legal costs.

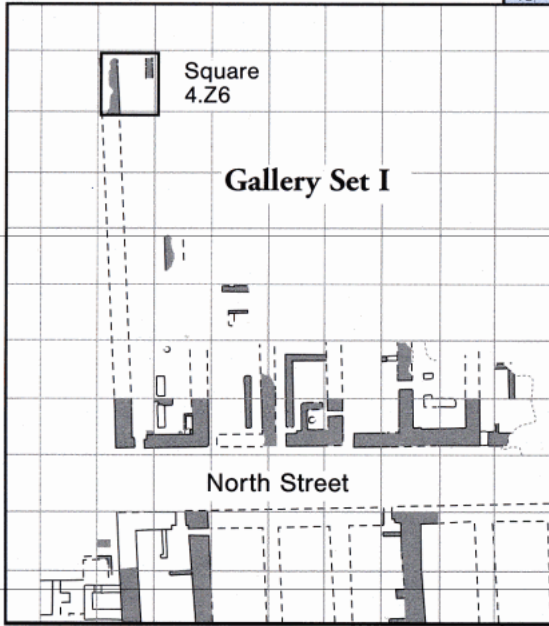
Matthew has been my best friend and companion in seeing Giza as a ground truth focus of broader, philosophical issues. Yet at the same time, we have designed projects that would hone tightly to surveying, mapping, and

excavating material culture facts left by the pyramid builders. I guess, in a way neither Matthew nor I have let go of that late adolescent wondering, questing, and philosophizing.

Over the years, we have both gone through many changes. Together we have explored socio-biology, complex adaptive systems theory, and the whole range of possibilities for the origins and significance of human cognition.

Giza, and the very sharp focus on the research goals that AERA now pursues, keep us grounded. But I will always share a vision that reaches for a greater meaning, the kind of vision that gives passion to archaeology or any human endeavor.

Thanks, Matthew, for sustained inspiration over three decades! ▲



Above: Elusive Gallery Set I. Its existence is certain, but its footprint has been obscured by many Late Period burials, from a time 2,000 years later than the heyday of the galleries.

Right: Plan of Area A showing our work as of December 2000. The areas outlined with the blue dotted lines are shown enlarged in the small maps above and to the far right. Our new grid zones are outlined with the heavy lines and labelled with large numbers, 1–6.

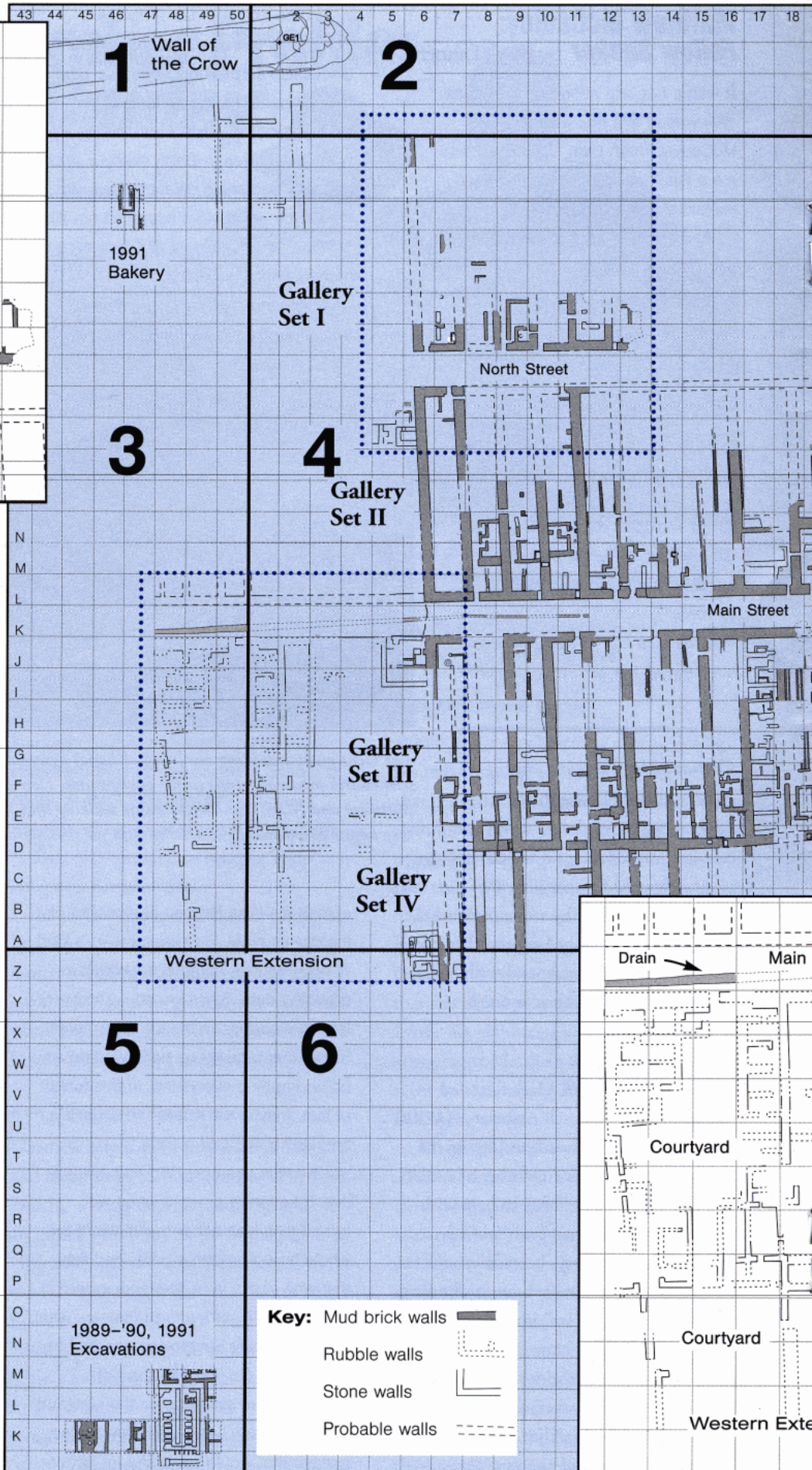
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The Elusive Northwest Corner

One of our goals has been to find the stratigraphic relationship between our complex and the Wall of the Crow to the north (see map above and on the right), which will ultimately help us relate our settlement to the rest of the Giza Plateau. If we could locate the northwest corner of what we have been tentatively calling Gallery Set I, we could excavate and record the layers and chronological sequence over the time the galleries were built and the giant wall was erected.

We had hoped to do this last season, but were stymied by numerous Late Period (712-332 B.C.) burials, many of which were crowded into the one crucial square—4.Z6—where we expected to find the northwest corner of Gallery Set I. Although the Late Period is not our focus,



these inhumations are a part of our site's history and if carefully excavated they could contribute significantly to a data base of ancient Egyptian human remains. Thus we called in Jessica Holst from the Archaeo-Osteological Research Laboratory in Sweden to properly excavate some of these burials this fall (see photo, page 2).

Although we knew that there are hundreds of burial across our site, we were surprised to discover that so many were concentrated in our crucial square 4.Z6. As Jessica worked, more burials kept turning up in this square, burials cut into earlier burials. As it was impossible to excavate all of them in the time we had, we carefully located the east inner face of Gallery Set I's western wall. It was aligned with the western wall of Gallery Sets II, III, and IV, but we did not find the corner we expected. Perhaps the western wall of Gallery Set I runs farther north, straight to the east end of the Wall of the Crow.

Gallery Set I and North Street

While work went on in the northwest corner, we also tried to find the outlines of the gallery along what we have been calling "North Street." We pushed the 6-meter-tall overburden that covered the site back another 15 meters to reveal more of the complex. In our tiers (east-west rows) S-T-U-V and ranges (north-south rows) 9-16, we slowly brought out the lines of the plastered mud brick walls with our scraping and cleaning. As the gallery walls emerged, we sighted down along them to the south, looking for a correspondence with the thick gallery walls of Sets II, III, and IV. So far we do have some corresponding walls, but the match is less than

perfect. We are now sure that North Street exists, but the main gallery walls appear to be thinner than in the other gallery sets. The northern layout may be older—the first of the sets—and designed perhaps before the sequence of modular galleries had been established.

Complications

The more we clear, scrape, and excavate, the more complex our site becomes. We now have enough clues to see that there were several phases of building. The fact that our Gallery Set I did not line up exactly with the other galleries or conform to their plan is one sign. The orientation of the walls is another signal that

Immediate left: *The Western Extension. Here the pattern is different from the gallery sets to the east. Small rooms—huts and storerooms—built of fieldstone walls are grouped around courtyards.*

Growing Pains: Introducing Our New Grid Square Designations

With our expansion in 2000, we had outgrown our system for designating grid squares, which we had established ten years before. We had run out of numbers for the new areas we were opening up. So, at the end of last season we began debating about how we could extend our grid so that every square would have a unique designation.

One possibility was to use the grid coordinate values given by the Giza Plateau Mapping Project (GPMP) survey control grid, e.g. N99,660/E500,625. But that was cumbersome; the numbers were hard to recognize, difficult to differentiate, and easy to mix up on bag lists, bag labels etc.

Then we came up with a simple solution. We divided the site into six separate zones, shown in the map on the left. 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. Most of the squares we have reported on so far are in Grid 4.

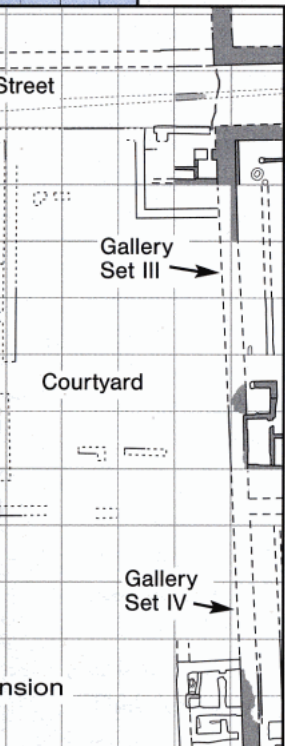
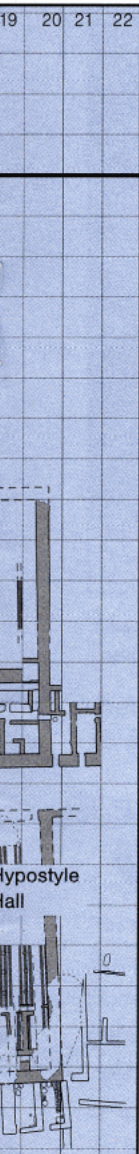
The system is very simple. Each square number is preceded by a zone, or grid, number, e.g. 4.N17. The new square designations are used in the accompanying fall field season report.

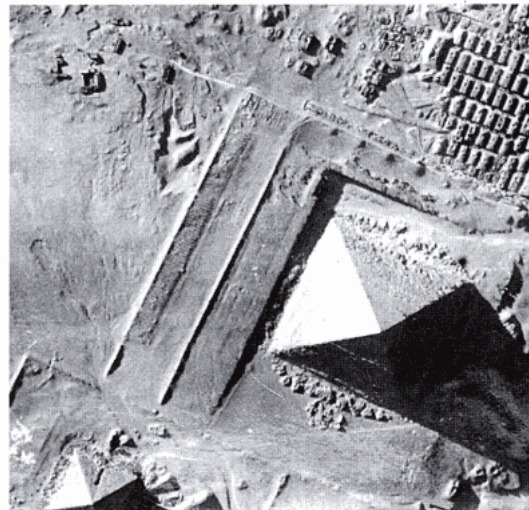
we may be dealing with several periods. The southern wall of the Hypostyle Hall enclosure (squares 4.D18-20) jogs noticeably northward from the southern wall of Gallery Set III, suggesting that it was an add-on. The fieldstone walls of the Western Extension may also date to this later period as they deviate a similar amount from the gallery orientation. In addition, the stone walls in the four squares (6.Z6-7, 4.A6-7) southwest of Gallery Set III, which we dug in 1998, were built onto and over the already-ruined western wall of the galleries.

Prelude to Next Season

I look forward to next season when I believe we will arrive at a certain threshold in our understanding of the whole complex. Much of our work will focus on the Wall of the Crow—its jagged east end and the gate area—and our site's northwest corner. We hope to work out how our complex is related to the wall and, chronologically, to other areas of the pyramid complex. We will also be pushing east and west of the galleries to determine the limits of the site on either side. We will be exploring the Western Extension and trying to determine if the gallery complex streets connect with a roadway through the gate in the Wall of the Crow.

Stay tuned! We will reporting on these discoveries in the next issue of *AERAGRAM*. ~ Mark Lehner





Above: Aerial shot showing Khafre's pyramid and the large enclosure around the Area C galleries.

Left: The Area C galleries seen from a perch on the side of Khafre's pyramid, looking northwest.

The Other Galleries: Built For the Living or the Dead?

The focus of our Millennium Project has been the vast 4th Dynasty gallery system sprawling across the low desert south of the Wall of the Crow in the locale we call Area A. But this is not the first set of galleries we have studied on the Giza Plateau.

Just west of Khafre's massive pyramid, there is a long, rippled, sand-covered ridge that betrays the location of yet another royal gallery complex (see photo above). Over 100 years ago Sir Flinders Petrie identified it as a "workmen's barracks" during his excavations.

In 1988-'89 when the Giza Plateau Mapping Project turned its attention to the infrastructure of pyramid building, we selected these galleries as one of our excavation sites. We were, after all, in search of workmen's quarters. We doubted that these were actually barracks, though, since Petrie had turned up no evidence of settlement here, except for trash deposits. Still, we felt obliged to test his hypothesis.

What we discovered was an immense

gallery complex (see plan on facing page), laid down according to a carefully-designed plan, like the galleries in Area A. In most other respects, though, this set of galleries is a very different sort of complex from A. While the Area A galleries are far removed from the

mortuary complexes of the Giza Plateau, this set, which we designated our excavation site Area C, is very close to Khafre's Pyramid (see diagram facing page). Indeed, it appears to have been built as part of the complex. Set within a massive fieldstone enclosure wall, the galleries are arranged square to the pyramid and form a western extension of the pyramid's outer enclosure.

Highly Uniform Architecture

Unlike the varied structures of our Area A galleries, the architecture in Area C is highly uniform, with little deviation from

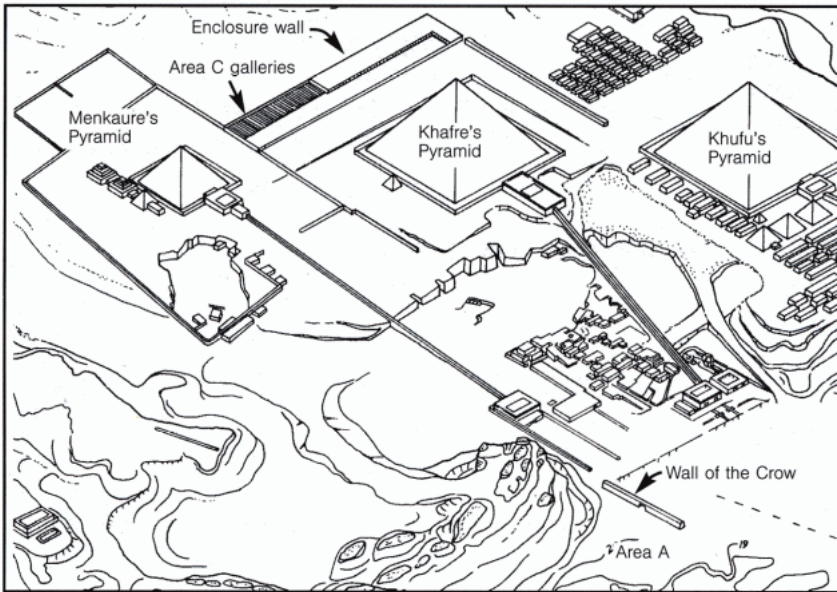
a single gallery type. All of the long narrow galleries are lined up along the thick spine of the enormous enclosure wall, like the tines of a giant comb. Seventy-three galleries back up to the west enclosure wall and another 15 hug the north wall.

Before the modern asphalt road went in, cutting through both the north and south ends of the wall, there may have been an additional 12 galleries. A vast, open, wind-swept area in front of the galleries is bounded by

the east wall of the enclosure.

While the walls in Area A are low stumps, many walls in Area C still stand tall and can be seen on the surface. The best preserved wall, the west enclosure wall, rises up to 3 to 3.6 meters high from a base that is 2.5 meters thick (see photo, bottom page 10). The core of all the gallery walls is limestone rubble covered with alluvial mud plaster and a final thin coat of marl (desert clay).

It is difficult to imagine many practical functions for these bizarre edifices—nearly 100 feet long, but less than 10 feet wide...just long, open, yawning corridors.



Above: Isometric drawing of the Giza Plateau showing the locations of Areas A and C and the pyramids.

Right: Plan of the Area C galleries. Excavation squares are identified as C#. Elevation is indicated in meters.

The individual galleries are vast, empty corridors, only 2.5 to 3 meters wide, but about 28.5 meters long. They have no interior walls or other features, but the entrances, opening unto the walled enclosure, were carefully finished with a coat of gypsum plaster and a threshold of large limestone slabs (see photo, top page 10).

The galleries were roofed, perhaps only partially or selectively. The chunks of roofing material that we found in the rubble suggest a flat roof that may have been coated with gypsum plaster. If the whole complex had been plastered, the structure would have been a massive white block, a fitting companion to the gleaming white pyramid of Khafre nearby.

A Giant Warehouse?

It is difficult to imagine many practical functions for these bizarre edifices—nearly 100 feet long, but less than 10 feet wide, with no internal structure, just long, open, yawning corridors. A vast warehouse is all that comes to mind, possibly used for storing bulky materials.

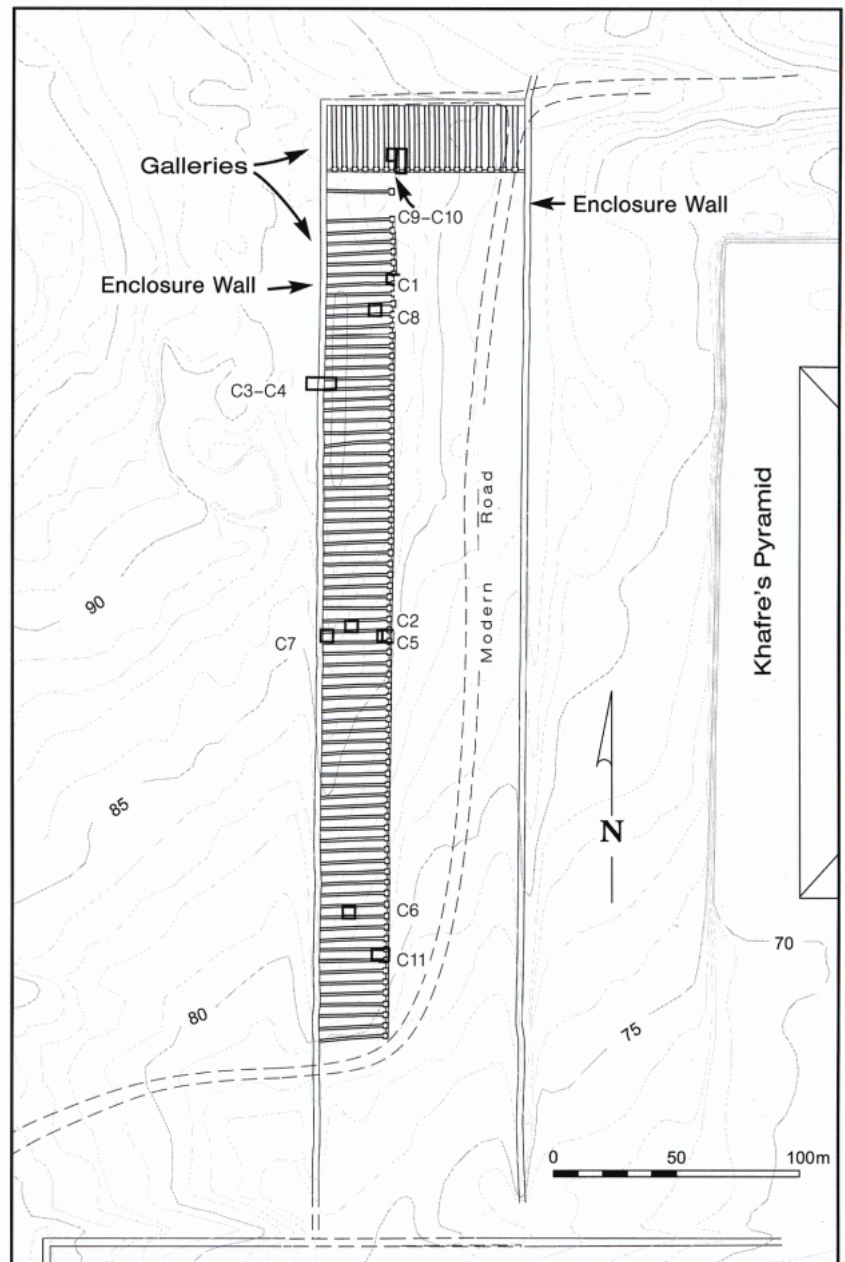
The closest parallels to our Area C galleries, the large magazine blocks of New Kingdom temples and royal sites, were used for craft activities and for storing a wide range of commodities, including grain.

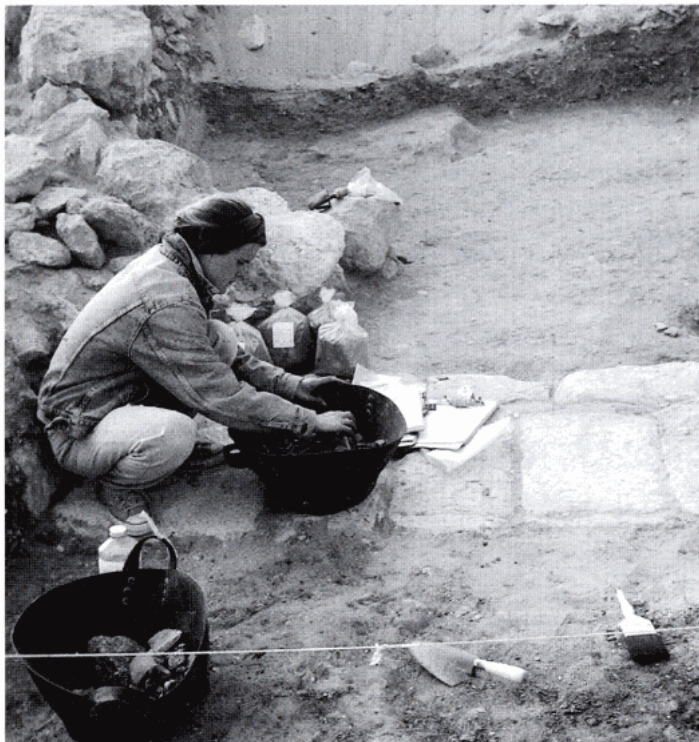
In the depths of our galleries we found very little, only a thin scatter of artifacts, just above the floor. These remains suggest craft activities—small copper fragments; bits of malachite, gypsum, and granite;

flint blades; diorite pounders; sandstone abraders; quartzite flakes; beads; and a stone ball. We cannot tell, however, whether these were the dregs of ancient craft workshops or materials consigned to storage long ago.

While the galleries might have been used to store craft goods, it is unlikely that they were ever granaries, at least not for this world. There is no obvious means to fill them, such as stairways which are seen in ancient Egyptian granary models and representations; nor is there a means to tap them. Nor does it appear that the entrances were built as dykes for a sea of grain. In addition, the galleries are inconveniently located in a high, remote place far from any bakery facilities and from the watercourses which

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Working at the entrance of one of the galleries in Area C, Diane Kerns sorts through material recovered from sieving fill. The slabs in front of her are the gallery's threshold. The bags behind Diane are full of sediments to be floated in order to recover plant remains.

The Other Galleries

Continued from page 9

were probably used to transport cereals.

Whatever may have gone on in the central and back parts of the galleries, most of the activity seems to have focused around the entrances. Here the layers of cultural deposits on the floor were substantial—20 to 60 centimeters thick—and loaded with ceramics, bone, charred plant remains, stone tools, stone fragments, and other artifacts.

Craft Studio?

Much of this material points to craft work, but we do not know if these remains, like those in the depth of the galleries, were cached items or workshop debris. Evidence of stone working was especially abundant, including fragments of exotic stone (diorite, alabaster, quartzite, and granite); worked chunks of limestone, alabaster, and gypsum; stone working tools; knapped flint cores; and red pigment. There were also products of stone working, such as an unfinished offering stand, pieces of sculptures, and many fragments of miniature figurines. Far smaller than the statues used in the monuments at Giza, these figurines appear to have been models or studies used to develop and work out a concept (see side bar on facing page).

Traces of faience and copper working were also common in the gallery entryways. We found faience beads and tile fragments. Bits

of copper, a very highly valued metal in ancient Egypt, were especially abundant and widely scattered through much of the area we excavated. Other hints of copper working included pieces of malachite (a copper ore mineral) and a copper needle, but there were no copper working tools or installations, such as hearths.

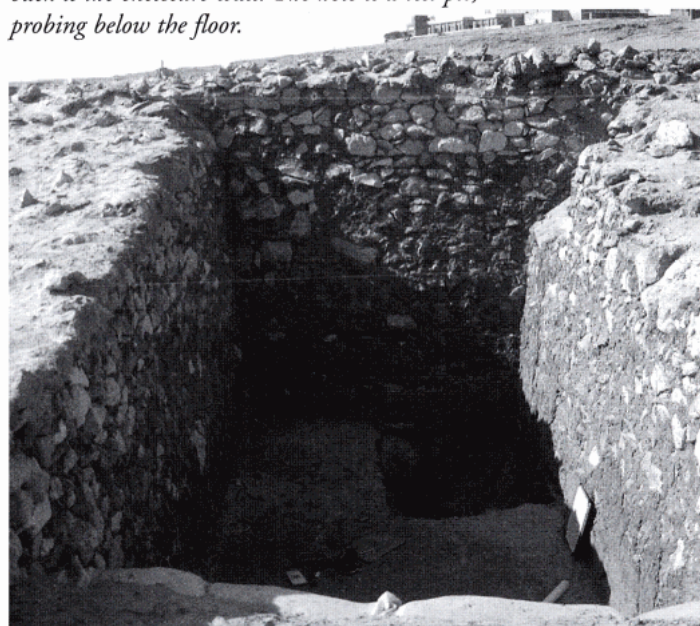
Housekeeping in the Galleries?

While most of the remains in Area C point to specialized activities, there was also abundant debris suggesting food production and consumption. As in a village dump, there were sherds of bowls, beer jars, bread molds, and bread trays; plant remains; and copious bone from cattle, sheep/goat, and pig.

The plant remains, all charred, were surprisingly similar to village debris, unlike the floral materials we have found in Area A. They were almost entirely the by-products of cereal processing: nearly 50% was cereal chaff and most of the remainder was field weed seeds, discarded from harvests. In ancient Egypt these by-products from cereal processing were used directly as fuel, fed to cattle, and added to dung fuel cakes as temper. The wood charcoal from Area C included tamarisk which is a relatively abundant and cheap wood, as well as the most common wood fuel found in ancient Egyptian villages. The combination of chaff and field weeds, derived directly from cereal by-products or through dung fuel, and tamarisk suggests something like household fires, used for cooking and heating.

But how did a trash dump of “domestic” debris end up in this unlikely setting, the mouths of these cavernous, featureless corridors where there is no other evidence of habitation. The most probable explanation is that the debris was generated by craftsmen or guards cooking, eating, and keeping themselves warm while working here. In excavation square C11 alone there were 40 cattle

Looking into the depths of a gallery (excavation square C4). At the back is the enclosure wall. The hole is a test pit, probing below the floor.

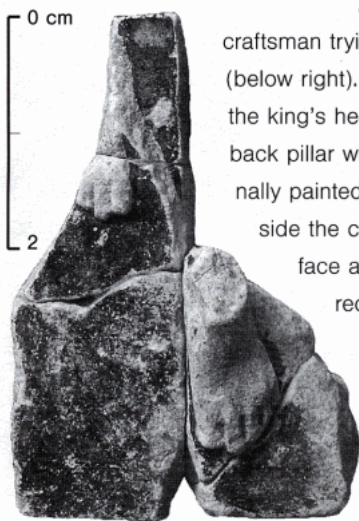


A Concepts Studio?

In the entryways of the Area C galleries we recovered fragments of tiny figurines, much smaller than the statuary used at Giza. These were probably models which the artisan was using to develop the concepts and details of a larger sculpture. One of the most striking figurines was a tiny, exquisite limestone statue of the king wearing a *shendyt* kilt and the southern crown (drawing on the left). With his legs broken off, the pharaoh figurine is only 7.8 centimetres high. Still, his eyes, eyebrows, and ears were delicately painted with great care. One clue to his status as an experiment is his severed left shoulder; it ends in a smooth straight cut, similar to sculptors' trial pieces known from other contexts in ancient Egypt.



Another figurine fragment shows the hand of the craftsman trying to work out the details of an architectural statue (below right). The 6-centimeter-high fragment includes a portion of the king's head wearing the southern crown, pressed against a back pillar with a roof projecting over head. The figurine was originally painted red, but on the right side the craftsman recarved the face and crown, leaving the recut limestone white.



There were also fragments of other tiny limestone figurines including the feet from a pharaoh (left)



and bits of a lion and

another feline. We do not know if these pieces were crafted here in Area C in a sort of sculpture's concept studio or if they were dumped or cached here.

bone fragments, most of which may have come from a single young animal—perhaps a feast for workmen.

We have no evidence of firehearths at the mouths of the galleries, but the bottom layers near the entrances were ashy. It is possible that the workmen's fires were informal affairs laid directly on the ground, leaving few traces save charcoal and ash. Today our site guards build small fires just outside their tents to boil water for tea and for warmth and they leave minimal evidence.

The ceramics from this village-like

debris also lend support to the notion that people were eating meals here. The most common type of pottery in Area C, a small carinated bowl with a round-bottom (number CD7 in our Giza ceramic typology) may have been a container for Pharaonic "meals on wheels," delivered to workmen at the galleries. The contents of these CD7s could have been sealed with a lid-like shallow bowl (G2 in our typology) that has an internal flange and was abundant in Area C. It is also possible, though, that the CD7 pots were vessels for goods or foods stored in the galleries.

Built for Eternity?

The very impracticality of these vast corridors—their long tunnel-like shape and remote location—brings to mind another possibility—that these galleries were never intended solely for utilitarian functions. They may have been a huge symbolic provisioning facility for the king's afterlife. Their prominent position high on the plateau adjacent to Khafre's pyramid, and aligned with it, suggests a sacred rather than strictly utilitarian purpose. The care with which the entrances were finished and covered with white gypsum plaster also bespeaks something beyond a mundane workshop/warehouse.

A Small Window, a Vast Gallery System

Until we launched the Millennium Project to clear Area A, we had only glimmers of what went on there 4,600 years ago. We had no sense of the overall plan, but only bits and pieces gleaned through the peep holes of our 5 x 5-meter excavation squares. We face a similar situation in the Area C galleries. While we can see a uniform pattern of architecture from the well-preserved stone walls, deflated but showing through the desert sand, we have only eleven windows (5 x 5- and 5 x 10-meter excavation squares), a tiny sample, looking down onto the 4th Dynasty deposits. Our conclusions, thus, are highly tentative.

We are certain that the galleries were not a barracks, as Petrie proposed. But we are not sure what their function was. It appears that they were used for craft work and storage during the period that Khafre's, and possibly Menkaure's, pyramids were under construction. They may also have been intended as an eternal warehouse for the king's afterlife.

Our analysis of the Area C collections goes on and may provide more answers. But we know from our Millennium Project that we will need a broad overview achieved only with more field work before we can understand these galleries as we are now beginning to understand our galleries on the low desert. ~ Mark Lehner

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Below: Looking east over Area A in December 2000. Beyond, Nazlet el-Zaman and Giza encroach on the site, ready to swallow it up. The sight of the city at the Giza Plateau's heels underscores the urgency of our mission to recover as much information about this royal complex as we can.

Above: How far we have come! Our excavation in January 1989 consisted of this very small area in the right hand corner. Now it encompasses nearly 2 hectares (shown below). The '89 work, now buried, is not visible in the photo below.

