

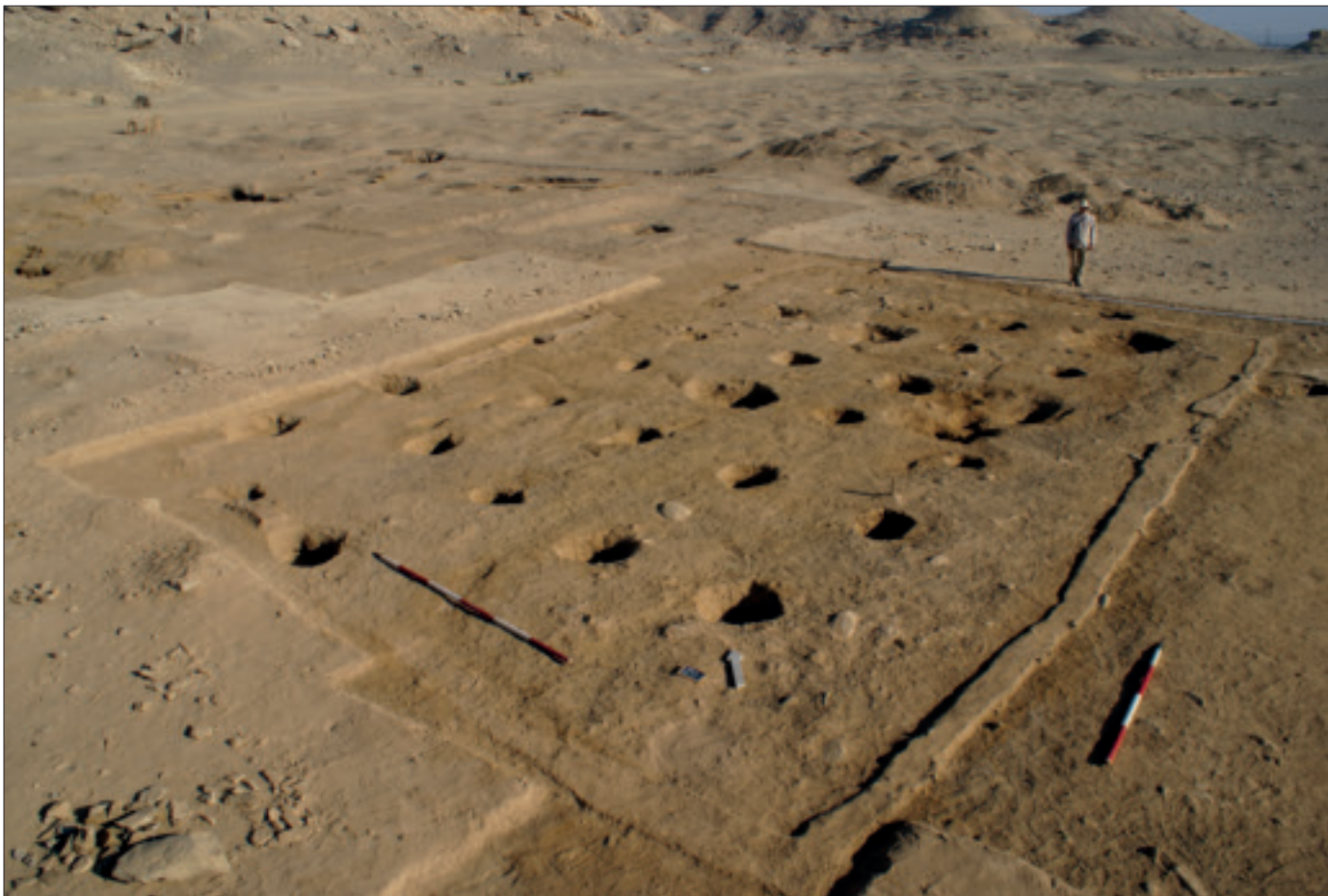


NEKHEN NEWS

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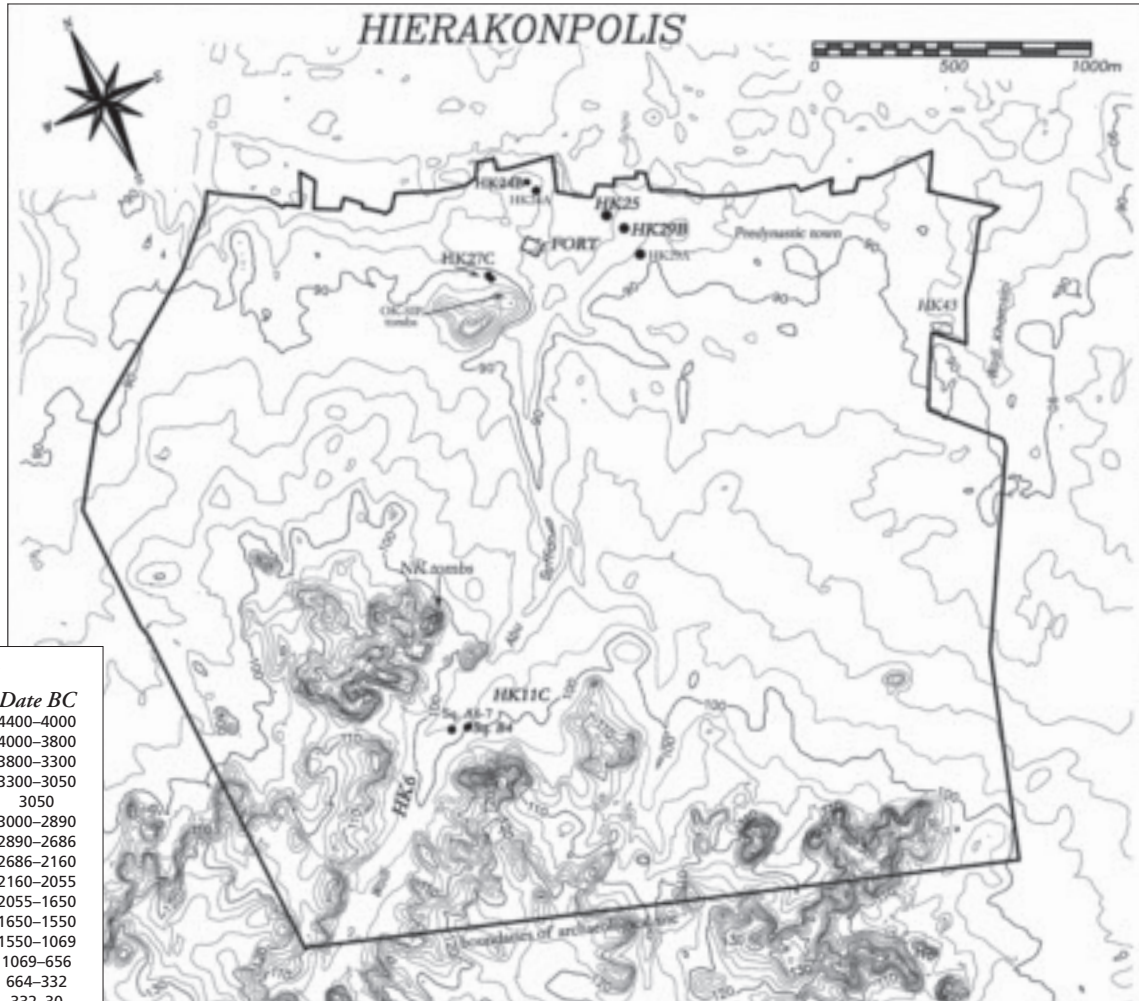
A New Pillared Hall at HK6

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Hierakonpolis 2006/2007



Time Line	
Period	Date BC
Badarian	4400-4000
Naqada I	4000-3800
Naqada II	3800-3300
Naqada IIIAB	3300-3050
Unification/Narmer	3050
Dynasty 1	3000-2890
Dynasty 2	2890-2686
Old Kingdom	2686-2160
First Intermediate	2160-2055
Middle Kingdom	2055-1650
Second Intermediate	1650-1550
New Kingdom	1550-1069
Third Intermediate	1069-656
Late period	664-332
Ptolemaic	332-30
Roman	30-AD395

The localities investigated this season.

Thank you, thank you, thank you!

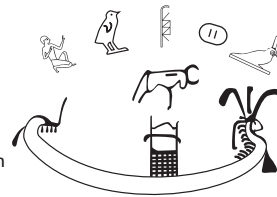
This season of remarkable discoveries and accomplishments would not have been possible without the generous support of the following friends and institutions, hailing from around the globe:

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From Pillar to Post at Hierakonpolis

— by Renée Friedman

What a Season! Running non-stop from November 16, 2006 to March 29, 2007, it was a long one to be sure, but it was never boring. With the variety of sites investigated, ranging from predynastic pottery kilns to C-Group cemetery, and the marvellous things they contained, it is hard to pick a favorite. Although unique, each in their own way, amongst them there were some recurrent elements, for example, wood architecture. From pillar to post(hole) and everything in between, no predynastic locality was free from them. The most impressive examples (even if only as negative impressions) were found at HK29B, where co-director Thomas Hikade and his UCB team explored more of the hefty enclosure wall that once surrounded the early ceremonial precinct (pages 4–6). When it comes to architecture, the elite cemetery at HK6 didn't disappoint either, but it never does. Excavations there revealed not only a large hall outfitted with 24 columns (cover), but also a bevy of beautiful artefacts, including another recruit for our army of flint animals and a suitable new addition to our collection of "firsts"—Egypt's earliest falcon! (see pages 7–13).

The other theme running through the season was industry. Unprecedented insights into predynastic food and pottery production on an industrial scale were provided by continued investigations back in the wadi at HK11C in squares B4–5 and A6–7 and new work instigated at HK24B, close to the desert's edge. Although the identity of the cereal-based food product made in such vast quantities remains to be determined, comparison of the three sites reveals some surprising similarities in predynastic pyrotechnology along with some very intriguing differences (pages 25–28).

For a change, neither postholes nor industrial vats were found at HK27C, the Middle Kingdom Nubian C-Group cemetery, but within the 37 new tombs uncovered this season there was plenty to keep us enthralled (see pages 20–23). Although we were rarely the first ones there, the burials in this unique necropolis still contained leather garments, decorated sandals, exquisite jewelry and much more. We can now claim the largest collection of C-Group leather garments in existence, and preliminary study showed they hold some remarkable surprises (page 24).

As the information gathered from the various localities over the years starts to come together into a more coherent whole, now more than ever, Hierakonpolis is becoming greater than the sum of its part. Helping us get a grip on the Big Picture is our new topographic map, which now links the site all the way to the river and beyond (page 15).

Topping off the season was the Fort, where things are really coming together. Our methods and material now tried and test, the progress made this season is nothing short of breath-taking. You won't recognise the old dear, as completion of the major gap fills on the west wall have shaved at least two millennia off of its appearance. But this is more than just cosmetic surgery, it is really making a difference and not a moment too soon as we also discovered (see pages 18–21).

To all the many Friends and funding bodies that made this exhausting but exhilarating season possible, I wish to express my gratitude for allowing us the privilege to work at such an important and always amazing site. Thank you again for your support and trust. ①



Getting the measure of the C-Group.



The thrill of discovery: the new ibex at HK6.

Nothing is More Permanent Than a Posthole

— by Thomas Hikade, University of British Columbia

The archaeological truism of the title, coined by the German prehistorian and “discoverer” of the posthole, Carl Schuchardt (1859–1943), has become a real motto for the UCB team working at HK29B, the area just to the northeast of the ceremonial center at HK29A. Last season we discovered a group of ten enormous postholes (*Nekhen News* 18: 4–5), so large that they are even visible from space! Seemingly arranged in an oval, beside them we came across the upper part of a foundation trench for a long wall aligned almost parallel with the oval court at HK29A, making it quite likely that at HK29B we have found the enclosure for the precinct around this important complex.

In December 2006 we resumed our work in the area of the large postholes with the aim of fully excavating the trench. Following the wall trench in both a northwest and southeast direction, at the bottom we found a series of postholes measuring around 30–40cm in diameter and sunk up to 40–50cm deep into the trench floor. Given their size, it is safe to say that what they formed was no simple picket-fence but, in fact, a major palisade. Although the deposits were disturbed and eroded at both the north and south end, our excavations show that the palisade ran for



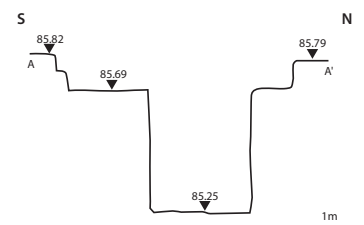
Rick Coleman recording one of many posthole at HK29B.

at least 40m and was composed of two sections of almost equal length. The southern section contained a series of 32 smaller postholes that ended with a large posthole in square FVIII. The northern section of the palisade continued along the same alignment, but was shifted to the northeast by about 1m. This section contains 23 clearly visible postholes. While the postholes were not as obvious at its north end, it was possible to detect that the foundation trench made a sharp, almost 90° turn and ended in a large posthole in square HXI. This layout finds a close parallel in the gateway entrance into the HK29A courtyard and further suggests this could be the outer entrance to the large sacred space encompassing that establishment.

In addition to all of the postholes in the wall trench itself, to the east of it many large postholes were found. There are now at least 19 large postholes adjacent to the northern section of the palisade in squares G IX–X and F IX–X, and several more to the south, but in contrast to what we believed in 2005, they do not create a recognizable pattern. The large postholes generally have a diameter of 90–100cm at the top and about 80cm at the bottom, with a depth from the modern surface of up to 140cm. It seems a fair assumption that these postholes could easily have contained wooden objects of 60–70cm in diameter. Assuming the use of local wood, perhaps sycamore and acacia, an object raised 5–6m above the ground would weigh roughly 800–900 kg, or if taller, more than a ton. With this in mind, the steps found at the mouths of the postholes, as well



Plan of HK29B in 2006.



Cross section through a large posthole in square C V.

as along the sides of palisade trench, were probably created to facilitate the placement and maneuvering of these substantial posts, both large and small. Sandstone slabs found in some of the large postholes were most likely used as wedges to secure these hefty timbers in place.

However, cutting the holes to begin with was no easy task. Judging from tool marks preserved in one of the smaller holes in the palisade trench, wooden spikes were used for digging and a brief experiment in 2006 gives some idea of the effort this involved. Equipped with modern tools one team member finally succeeded in opening a square of c. 40 x 40 cm down to 30cm in two hours! The Nile silts of the underlying Pleistocene terrace are really hard! Clearly the entire undertaking, from felling the trees to transporting the timber and from excavating the postholes to actually erecting the palisade, was an enormous task that would have taken some time to accomplish. The effort represented by the large postholes is even more impressive.



Overview of the palisade wall at HK29B looking southwest.



The original tool marks on the sides of a posthole.

Unfortunately little wood has survived within the larger postholes and the question of what they held still remains open. While the proposal of flagpoles or even ‘guardians’ might be still plausible, new discoveries indicate several building phases for the structure, so not all of these holes may be contemporary. The complex at HK29A was also rebuilt on at least two occasions over its 500 year history, and it is hoped that future investigations at both localities will clarify their connection and building sequences. Although perhaps highly speculative at this point in the excavations, nevertheless, it is still possible to discuss what the large postholes may have contained.

The Decorated pottery (so-called D-ware) of the Naqada IIC–D period often depicts boats with cabins to which tall poles bearing various emblems or “standards” are attached (see below). A variety of standards, some semi-animated with human hands, also decorated the Scorpion mace head, the Battlefield palette and the Bull palette of the Louvre. The bearers holding tall standards in procession with the king on the mace head and palette of Narmer further attest to the importance these lofty objects held. Perhaps the larger postholes at HK29B were filled with such standards representing the different communities or tribes who sought to show their allegiance at the capital of Upper Egypt. At an earlier stage they may have even represented the families of the ruling elite of Hierakonpolis who built these monumental structures. The desire of human communities to have emblems and symbols with which they identify represented at central places is still visible today, for example in the flags of the member states displayed outside the headquarters of the United Nations, proclaiming their participation in the world community. In the case of Hierakonpolis, where we see the emergence of a stratified society with an ever-demanding elite, the monumental structures recently uncovered at HK29B and also in the elite cemetery HK6 can be seen as manifestations of a desire to publicly display a connection with a place. The elite achieved this by organizing public building projects—and building big. And it is fortunate for us that they did. Although the posts themselves have all but disappeared, there is nothing more permanent than a posthole! ☞

A grant from the Social Science and Humanities Research Council of Canada made this work possible.



Standards on D-ware pottery.

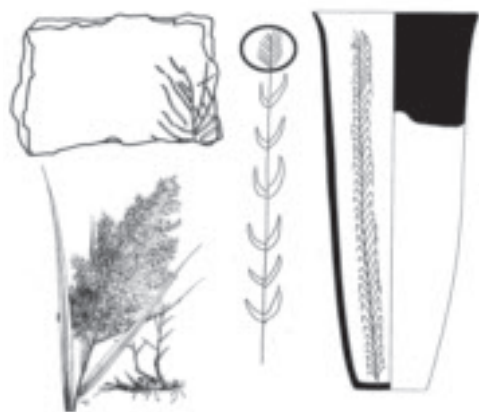
Name That Plant: Identifying Incised Sherds From HK25

— by Gillian Pyke

At Hierakonpolis we have learned to expect the unexpected, and certainly not to expect to understand it all. Every season of excavation at HK29B and HK25 adds to our collection of incised sherds, of which the “bird sherd” (*Nekhen News* 18: 6) remains the star. It holds this elevated position for two reasons: firstly, it is complete; and secondly, the motif can be identified, albeit tentatively. Moving from the known to the unknown, we have focussed on incised sherds that might depict plants. Fortunately, with the help of archaeobotanist Alan Clapham, two fragments with incised floral motifs were identified. Both are from excavations at HK25, an area to the north of HK29B, which unexpectedly revealed portions of a large columned hall, at least 20 x 8m in size, containing a minimum of five rows of 10 wooden columns each.

On a shale-tempered sherd is the flower of a plant that is well-represented among marks on predynastic pottery. Although there are many variants, a particularly fine example on a black-topped beaker from Naqada displays the features by which it may be identified. It has a long stem graced with pairs of long narrow leaves and a flower depicted as closely set diagonal lines coming off the top. All these elements can be found on the common reed (*Phragmites australis*) that still grows in the watery margins of Egypt today. It has a wide variety of uses, ranging from basketry to popular medicine. Mats in the HK6 cemetery and the handle of the fabulous fish-tail flint knife found at HK43 in 2004 were all made from *Phragmites* (see *Nekhen News* 16: 8–9), indicating that this plant was well-known to the Predynastic inhabitants.

The second sherd from HK25 is a remnant of a black-topped beaker on which was incised a plant with long rounded leaves that join to a central stem. The parallel lines running along their length possibly reflect the pattern of ribs on the actual leaf. The alternating leaves of a similar plant on a vessel from Ballas show a central line crossed by a series of transverse



Phragmites.

ones. Both the leaf shape and their arrangement on the stem help to identify the plant as the spurge (*Euphorbia*), a weed family that is found in fields, gardens and orchards.

Two main questions concern these incised sherds. Why depict these plants? Why do it at all? At present, there are no clear answers. Both plants were part of the Hierakonpolis landscape and common and striking



Euphorbia (spurge).

enough to capture the attention of the artist. The many uses of the common reed meant that it was an important part of everyday life as well as death. The continued significance of this plant is reflected in its use as the ubiquitous reed-leaf hieroglyph. The humble spurge, on the other hand, is a bit of a disappointment. It has few known functions—it is once attested in a garland of the Graeco-Roman period. It seems simply to be a common weed, the most distinguishing feature of which is the irritating nature of the milk exuded when the stem is broken. By extension, its picture may be a subtle warning about the care and handle of the pot on which it was placed, or perhaps we simply need to recheck this identification.

The second question, concerning the reason for making these designs, is more challenging. As both of the examples from HK25 are incomplete, it is impossible to determine whether the motifs were scratched originally onto pots, making them potmarks, or incised onto sherds, making them ostraka. The bird sherd, one with the emblem of the goddess Bat, and still others incised with antelope (*Nekhen News* 9&15) are all examples of ostraka, tokens with a meaning, even if we don't know what that is. Their concentration in and around the HK29A ritual complex, however, seems significant.

Motifs applied to whole vessels are also known as owner's marks, although the actual purpose of such marks is still debated. The fact that the two clearest parallels for these particular plant depictions were placed on complete vessels might argue for this interpretation of the HK25 incised sherds, but at Hierakonpolis we have learned to expect the unexpected. 🏺

The Columned Hall at HK6 and Other Wonders

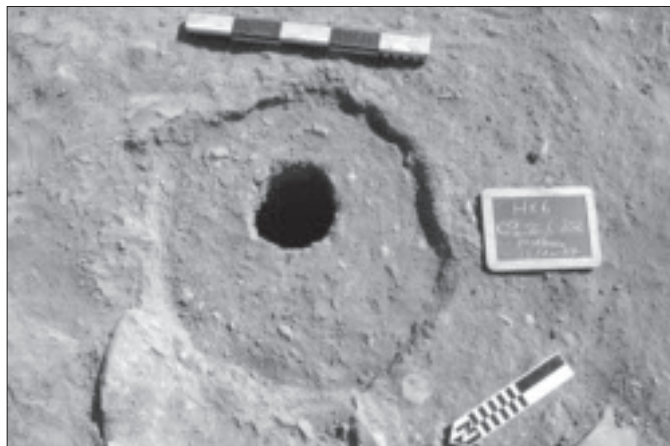
— by Xavier Droux and Renée Friedman

January signalled the return to the elite cemetery at HK6 and another chance to explore more of the precinct surrounding the royal Tomb 23. With last year's discovery of Structure D9 and the enigmatic painted wall B7, we realized we were investigating a funerary complex far larger and more elaborate than ever encountered in the Predynastic period. But in order to get a better idea of how the complex and this wall were related, we had to excavate the intervening area between them.

We began our work roughly mid-way between Structure D9 and the mysterious wall. Compared to other areas of the cemetery, the ground looked flat and barren—how looks are deceiving! The extent of the architecture and the quality of the material were remarkable. In fact, from the first trowel scrape to the last, we were captivated every single day of the three weeks of excavation!

Over the course of previous seasons, we had found enough postholes to know exactly how to recognise them at first glance. So when three dark spots of loose soil appeared soon after the start, we knew immediately that we were inside a new structure, though we had no idea it would be so large! Like Structure D9, this new building, dubbed Structure 07, had no substructure or tomb within it. Oriented parallel to the eight-columned Structure D9, the main difference between the two buildings is their size—Structure 07 is three times larger! About 15m long by 10.5m wide, its 24 columns were arranged in four rows of six (see cover).

On all four sides a closely spaced series of posts once covered with reeds and plaster formed its exterior walls. The trench holding the wall posts was filled with white plaster mixed with ash, perhaps as an insecticide. Against the



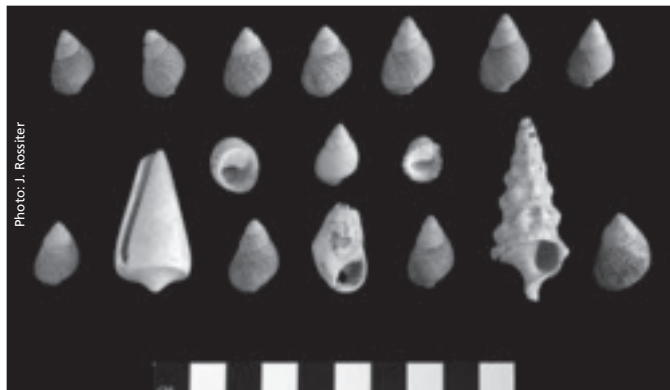
A perfectly preserved post mould.

reddish gravels of the natural soil, the white packing made it fairly easy to find the door in the west wall, which was accessed from the corridor running beside Structure D9. Framed within these walls, the postholes for the columns, often more than 1m deep and c. 60cm in diameter, were regularly spaced at roughly 2m intervals. We soon got to the point where we could predict where we would find the next one, but we could never guess what it would contain. In some, the wooden post, 20–30cm in diameter, was fairly well preserved; in others there was only the post mould, an empty cavity where the post had been, maintained perfectly within the dense soil packing the pit.

More surprisingly, many of the postholes also contained objects. It isn't easy to tell whether these artefacts were originally deposited within the postholes, or if they found their way in later; however, some cases are very suggestive. For example, the well-preserved wooden post in posthole A suggests that the 51 shells, all from the Red Sea, found in the upper layers around it may be in their original position. Seashells in lesser quantities were found in several other postholes, and all



HK6 in 2007.



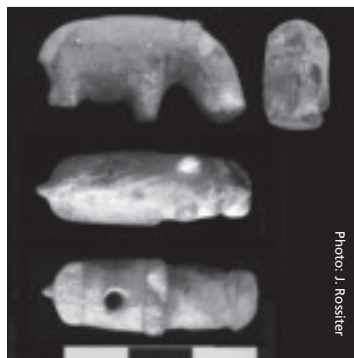
Posthole fillers: shells from the Red Sea.

together more than 300 shells of 12 different types were collected, as well as two crab claws, which had us guessing until archaeo-zoologist Wim Van Neer came to the rescue.

Possibly also still *in situ* was the cattle horn at the bottom of posthole X and a large bundle of coarse-woven cloth containing malachite found at the base of posthole AA. These objects seem to have been placed there intentionally as foundation deposits. Other postholes (D, X, BB, CC) contained fine textile in their upper layers and evidence for the controlled burning of organic materials, possibly aromatic herbs.

The postholes are puzzling, but the corners are clear, especially along the east. This is where the action was. Although disturbed in modern times, exploration of the northeast corner produced masses of ostrich eggshell fragments, some with incised designs. Found in quantities too great to mend, we asked our “eggspert” Art Muir to calculate the surface area of a standard ostrich egg and determine just how much area our fragments covered (not as easy as it sounds, see page 10). His analysis indicates that a least five complete eggs were originally present here and the fragmentary blow holes indicate that whole eggs were involved.

In the southeast corner there were more artefacts of different types, including one of the most adorable objects so far recovered—a tiny hippopotamus, just 3.3cm long. Despite its minimal size, it is quite well carved, but the front view shows that the artist, working from the sides, didn’t quite manage to meet up evenly at the face. This figurine was carved out of steatite (soapstone), a stone that was also used for making what seems to be a family of lions, at least to judge from the seven adult and two baby-sized legs. Frustratingly, we have yet to find the bodies to which they might attach. Whether this family, together with a profusion of small stone balls, derive from an ancient board game called *Mehen* remains unclear (pending the discovery of the circular board), but the dozens of little balls, some natural, others carved from exotic stones, found in clusters throughout this corner are traditionally considered gaming pieces.



The steatite hippo.



Finding our marbles?

Accompanying this collection of objects was a pair of curved ivory artefacts, which we call wands, but they could be clappers,



The ivory wands, almost ready to be lifted.

throw sticks, decorative tusks, etc. Uncovered in a frightening state of preservation, Richard Jaeschke was able to work his conservation magic and restore one to a semblance of its extraordinary beauty, reattaching two from a remarkable procession of at least four tiny hippos along the outer curve, all intricately carved from the same piece of hippo tusk (see color plates). In addition to this stunning piece, other ivories from the complex include at least five examples of the strange things we call “spoons” —our latest mystery object.

Although the hippos are charming, the real star of the corner is the fabulous malachite falcon. Found cracked into several pieces along the soft veins of the stone, it was only after patient restoration by Lamia el-Hadidy that we realized we had yet another first for Hierakonpolis—Egypt’s oldest falcon figurine, the greater significance of which is discussed below.

Measuring only 6.2cm in length, our falcon is tiny, but faint glimmerings of the ritual gigantism that led to the oversized palettes, mace heads and flint blades of the Early Dynastic period may already be seen among the distinctive hollow base flint arrowheads, which were found in large numbers in the south and central part of the structure. The large size, some nearly 10cm in length, suggests that they are oversized votive offerings, rather than objects of actual use. Their manufacture, with their long elegant wings, shows great skill and it is likely that the same craftsman was also responsible for another star find—a new flint ibex, which appeared like clock-work on the last day of the excavations. We wondered whether the work would end with a whimper or a bang, and bang it was when this twin to the piece found in 2000 near Tomb 23 (now on display in the Cairo Museum) appeared at the bottom of a modern pit.



Large hollow base arrowhead.



Photo: J. Rosstiter
A missing member?

While animal imagery clearly played a major role in this structure, there is one object that may belong to the human realm. Like the nose and ears on statues, it is a part that is often missing. Made of calcite and measuring nearly 17cm long (6.5 inches), it may well be a feature of the almost life-sized statue from Tomb 23, but found within a disturbed context, its find spot is of no help in its identification.

Entered from the west, Structure 07 is clearly connected with the wider complex of tombs and buildings, all of which appear to be bounded on the east by Wall B7. Although we were not lucky enough to discover new fragments of painted plaster, we were able to trace the wall for a further 7m and there is still no end to it in sight.

The elaborate complex of interrelated wooden structures around Tomb 23 is now at least 50m E-W and 40m N-S and its elite, if not royal, status is obvious. Without parallel, further excavations are necessary to determine whether it is a "palace for eternity" modeled on the court of the living ruler, or a special precinct for conducting mortuary rituals and promoting the ancestor cult for all of the cemetery's elite inhabitants. Whoever or how many are being honored here, the size and complexity of the architecture and the fine and varied objects still surviving within it are writing a new chapter in the history of Egyptian prehistory. Next installment: February 2008! ☒

More Mysteries

Having solved the conundrum of the "near ears" (see below), we can now grapple with the mysterious "spoons", so-called only because of their resemblance to fast food coffee stirrers. Measuring 6.5cm in length, and lacking a depression at the well-polished wider end, they are certainly not spoons. The series of ribs carved into the curved upper surface at the narrower end suggests they were meant to be stuck into or tied to something. While one might propose an arrowhead (several of similar general shape are known from the Abydos Royal Tombs and Saqqara), the offset (rather than inset) of the flat area on the underside, once hafted to a shaft, would seemingly make for an asymmetrical assembly with questionable aerodynamics and only limited piercing ability. So what are they? We are stumped. Have any ideas? Write us: friendsofnekhen@yahoo.com. ☒

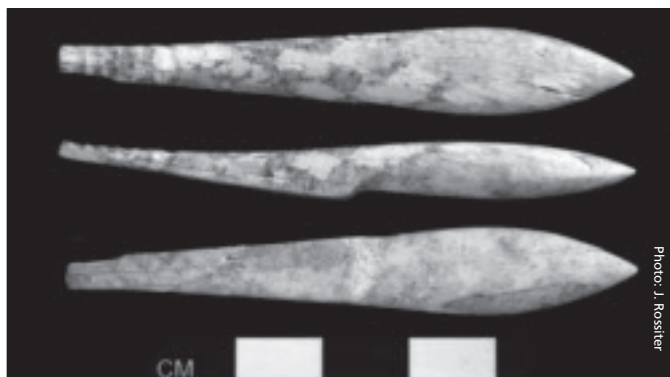


Photo: J. Rosstiter
The mysterious "spoons".

The Falcon Has Landed: Falcons in "The City of the Falcon"

— by Stan Hendrickx and Renée Friedman

Found near the southeast corner of the Pillared Hall (Structure 07) at HK6, the fragments of a malachite-veined basalt figurine were initially a puzzle. After reconstruction, they proved to be a nearly complete statuette of a falcon, measuring 6.2cm from tip to tail. Beautifully worked, the wings are masterfully carved out of the same piece of hard stone and are linked to the body at only a single point of attachment. A remarkable artefact in its own right, it also allows us to identify three previously enigmatic objects from HK6 (the "near ears" of *Nekhen News* 17:7), one of red breccia found near Tomb 19 (Naqada IC–IIA) and a pair in white calcite from the northeast side of the Tomb 23 complex (Naqada IIAB), as the wings of other falcon figurines originally nearly twice as large (c. 10cm). Despite the difference in size, all three falcons must have been quite similar, especially considering the labor-intensive manner in which the wings were carved.

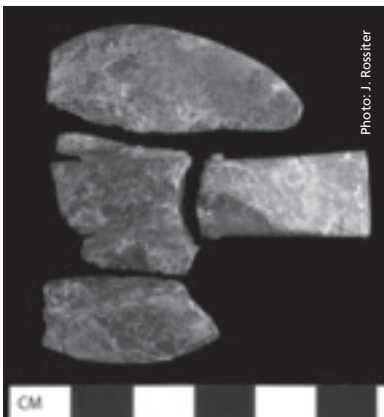


Photo: J. Rosstiter
Falcon in fragments.

From their contexts within the elite cemetery, the HK6 falcons can be dated to the early Naqada II period and are therefore considerably earlier than any other known depiction of this bird of prey. With a head and body profile that will remain essentially unchanged through time, the HK6 falcon is the prototype for all later representations. Although the wings were no longer carved away from the body, their shape remained nearly identical.

Prior to this discovery, the earliest falcons appeared on two Decorated jars in the British Museum and the Metropolitan Museum respectively, both unfortunately without provenance. Nevertheless, they can be dated to the Naqada IIC–IID1 period based on the boats painted on them. On these jars, the falcons occur as handles, essentially clay figurines applied to the shoulder of the vessels. Plastic elements are very rare on Decorated vessels, but when they do occur, they always involve representations that are not

part of the usual iconography. The falcon handles therefore seem to be additions, largely independent from the meaning of the painted designs. Despite the large number of animals depicted on Decorated pottery, the falcon never occurs amongst them and clearly was not part of the specific syntax of meaning found on these vessels. This is most striking because during Naqada III (Dyn. 0–2), the falcon occurs frequently as figurines and pendants, on palettes and ivories. In that period, it is by far the most commonly depicted bird.

Until now, it has been logical to assume that the falcon was a motif that originated during the Naqada IIC period and only attained popularity in the early Naqada III period, when it was significantly used as a royal symbol placed atop a *serekh*. Recognized as one of the few Predynastic elements to continue into the Dynastic period, whether the falcon already carried a royal connotation from its first appearance has remained unclear. This now seems quite plausible, considering the “royal” context in which the figurines have been found at HK6. Of course, it cannot yet be proven that the very early kings of Hierakonpolis identified themselves with the falcon, but the strong traditions concerning early kingship that surround the site, and its close connection with the falcon god Horus in Dynastic times, not to mention its Greek name Hierakonpolis—“city of the falcon”, are all certainly suggestive.

Whatever precise meaning the falcon statuettes may have had to their owners, it is obvious that we are dealing with an



The Falcon after conservation.

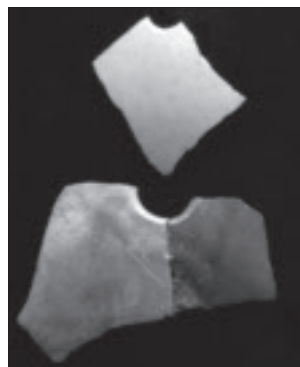
iconographic element that continued in an almost unchanged form from c. 3700 BC onward. Another example of this rarely observed continuity is the Bat emblem, the oldest representation of which also comes from HK6 (*Nekhen News* 17:14–15). Both must now be considered part of an iconography that was already extant before the appearance of Decorated pottery in Naqada IIC and one that continued after its disappearance, but played no part in its painted decoration. This is significant as it indicates that the visual language of the Decorated vessels deals with a very specific topic, presumably funerary in nature.

In contrast, the scenes of victory and hunting painted on the Naqada I White Cross-lined ware can be read as general expressions of power and control. The Bat emblem and the falcon do not appear as part of the iconography on the White Cross-lined vessels either, although the finds from Hierakonpolis show that they are at least partly contemporaneous. Therefore we suggest that, in addition to the visual language attested on both the White Cross-lined and Decorated pottery, a limited number of iconographic elements existed from at least the early Naqada II period, perhaps exclusively at Hierakonpolis, where they may have been symbols reserved for the utmost elite. Their meaning and significance preserved, centuries later they survive the dramatic changes at the birth of the Dynastic state, and go on to become fundamental elements of the Early Dynastic visual repertoire. 🦅

Eggciting Results

— by Arthur Muir

Excavations at HK6 during the past few seasons have led to the discovery of a considerable amount of broken ostrich egg shells. Remnants of the blow holes for removing the



Ostrich egg shell fragments with blow holes.

egg contents, some beautifully chamfered, indicate that the shells were whole at the time of burial, but were broken during subsequent intrusions over the millennia. While most of the egg shells are undecorated, a small portion of them have delicately incised decorations. Of course, we would like to know the number of eggs placed in each location, but despite attempts by brave

volunteers, piecing them back together (Project Humpty Dumpty) turned out to be a formidable task.

A more practical approach seemed to be to measure the area covered by the collected fragments and divide it by the surface area of a “standard” ostrich egg to arrive at the minimum number of potentially whole eggs the fragments represent. This was not as easy as it might seem.

First, there is no exact formula for calculating the surface area of an ovoid shape from its dimensions—at least none could be found by this author after consulting several mathematical handbooks. However, there is a formula for calculating the surface area of an ellipsoid from its dimensions. For a prolate ellipsoid of revolution (cigar/football shaped, as shown in Figure 1), Wikipedia gives:

$$\text{Surface Area} = 2\pi (c^2 + ac \frac{\arcsin(e)}{e})$$

where $e = (1 - c^2/a^2)^{1/2}$ and $c = 1/2$ the maximum diameter (or short semi-axis) and $a = 1/2$ the length of the ellipsoid (or long semi-axis).

To a good approximation, an egg shape (ovoid) can be represented by two half-ellipsoids, each with the same c (short semi-axis) but with different a (long semi-axis), as illustrated in Figure 2. Half the maximum diameter of the egg is c . The length of the egg is divided into two parts by the plane through the maximum diameter of the egg: a_s is the shorter segment, and a_l , the longer segment. Surface areas are calculated for ellipsoids with semi-axes a_s, c and a_l, c . Then the surface area of the egg is taken as one-half the sum of the surface area of these two ellipsoids:

$$SA_{egg} = 1/2 (SA_{long\ ellipsoid} + SA_{short\ ellipsoid})$$

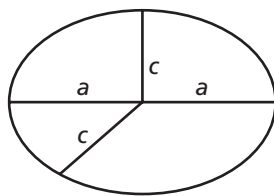


Figure 1.

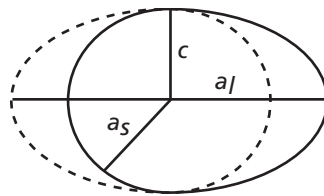


Figure 2.

To check the validity of this approach, the dimensions of a chicken egg were obtained and the surface area was calculated to be 70.2 cm². At first glance, this seemed rather large. So to test, the egg was hardboiled, shelled, and the pieces were then carefully laid out on a sheet of graph paper and secured with double-sided adhesive tape. Since the shell was being sacrificed, it could be pressed into relatively flat pieces and broken where necessary to make a very close-fitting jigsaw puzzle pattern with minimal voids between pieces. Counting squares, the area was actually determined to be 73.2 cm². While it would be difficult to add up the voids between the shell pieces, it would appear that this could account for 1–2 cm² of measured shell area. Thus the formula gives the egg shell area to within an accuracy of about 2%, and this is probably comparable to the accuracy to which a_s and a_l can be determined.

With the formula now in hand, the next step was to determine the area of a “standard” ostrich egg. Only limited data are available. Modern eggs from ostrich farms are known to be larger than eggs from wild species. The accurate drawing of a complete egg from predynastic Naqada now in the Ashmolean Museum allowed an area of 579 cm² to be calculated. Information gleaned from mended eggs found at predynastic Maadi gave an averaged area of 574 cm². Another publication providing the dimension range for modern eggs from African and Somali species allowed a calculated area of 562 cm² and 560 cm²



Art Muir eggsacting an answer.

respectively, with a combined average of 561 cm². Using the average of all these results, the standard area adopted for the Hierakonpolis egg analysis was 570 cm².*

At HK6, quantities of ostrich egg shell pieces were found in and around posthole C in the northeast corner of Structure 07 and in the central section around posthole Q. The pieces from each location were laid out on graph paper and fitted together as closely as possible. The outline of the assembly was traced in pencil, and to the extent practical, void areas were outlined. By counting the squares of the outline and subtracting the void squares, the shell area for each location was determined. The total area for each location was then divided by the 570 cm² standard area to determine the minimum (fractional) number of eggs present. Because of the small voids between fragments in the layout, the results are slightly inflated, but taking into account the previously mentioned significant void corrections, this error should be no more than about 5%.

Table 1: Calculated Minimum Number of Eggs

Location	Egg Shell Minimum	
	Area (cm ²)	No. of Eggs
Posthole C & surroundings	1,899.89	3.33
NE corner zone	711.14	1.25
Posthole Q zone	581.48	1.02
Total	3,192.51	5.6

The results given in the table indicate that at least six eggs were present in Structure 07—the largest single concentration of ostrich eggs known from Predynastic Egypt, and presumably enough for omelets all round! 🍳

* The average of the range for length ($= a_s + a_l$) and diameter ($= 2c$) was calculated for each species, and the $a_s/(a_s + a_l)$ ratio from the Naqada egg was used to apportion the length into a_s and a_l .

A Short History of Ostrich Eggs

— by Renée Friedman

Throughout historic times the ostrich has been valued for both its plumage and its eggs. With a capacity of up to 40 fluid ounces, or more than a liter, a single ostrich egg can feed as many as eight people. In predynastic times, once emptied or blown, the shells could be shaped into beads or inlays. More rarely, intact eggshells were also used as light containers. While several unprovenanced examples, both decorated and plain, are housed in museums throughout the world (e.g., Cairo, Berlin, Brussels, London, Chicago), excavations have revealed only a limited number. More common in the cemeteries and settlements of the A-Group in Nubia, whole ostrich eggs were frequently placed in the graves of children. In Egypt, however, they are rare and appear restricted to only the wealthiest of predynastic tombs.

In the elite T cemetery at Naqada, grave T4 contained an intact but undecorated egg, while in Grave 1480 of the Main cemetery, an incised example was found in the place of the owner's missing head. Obviously highly prized, the occupants of grave B101, the richest in the cemetery at Hu, had to make due with a painted clay imitation. A cluster of three eggs decorated with incised triangles, found together within the settlement at Maadi, shows they also had special significance in the north.

As if the exalted status of HK6 wasn't clear enough, the six eggs from Structure 07 currently represent the largest collection of ostrich eggs all from one place and

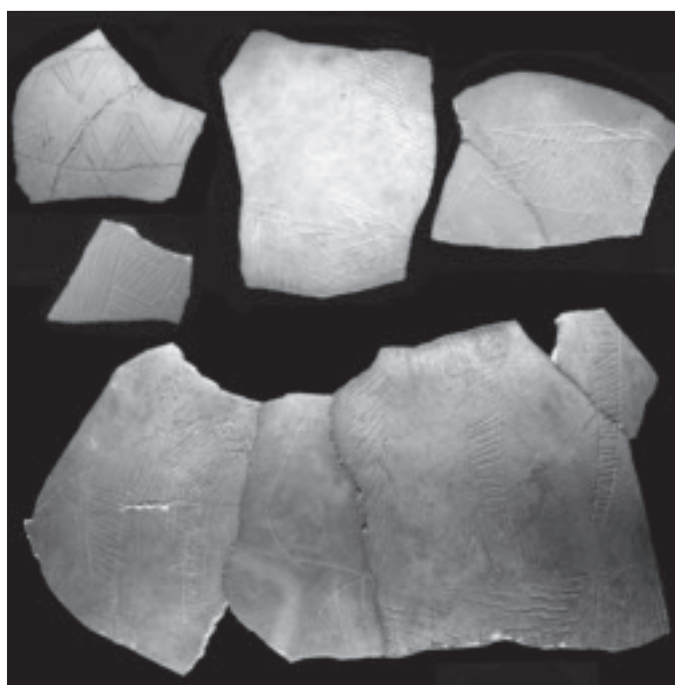
the plethora of fragments that have been recovered throughout the Tomb 23 complex (and elsewhere at HK6) indicate that many more were present.



Incised design on the largest fragment.

The ostrich is the earliest species of bird for which there is pictorial evidence in Egypt. Its distinct form can be recognized in the rock art of the desert, where it is often shown beside or as part of a spirited chase of desert fauna by hunters and dogs. It is not surprising then to find a similar scene on at least one egg from Structure 07. Although dozens of decorated fragments were collected, mending them has not been overly successful and the curiously missing heads are a frustration. Nevertheless, the fragments suggest that antelope/ibex or giraffes, possibly an elephant, and a running dog were all portrayed, their bodies filled with incised lines and crosshatching. The incised decoration on a black-topped beaker in Brussels provides a possible model for reconstructing the design. Further fragments with delicately incised triangles and another with a body outline filled with chevrons suggest that several different eggs were decorated.

While all the king's horses and all the king's men didn't have much luck with Humpty Dumpty, we hope that further discoveries will help us reconstruct the tantalizing details of the intricate designs incised on this rare and fragile medium. 🦩



Incised ostrich eggshell from Structure 07.



Incised decoration on the pot in Brussels (E2631).

Wine Drinking at HK6

— by Uwe Sievertsen, University of Constance, Germany

In 2007 I had the opportunity to participate in the excavation of the elite cemetery at HK6. Every day fascinating finds from the large funeral complex around Tomb 23 came to light, but the most interesting object to me, as a Near East archaeologist, was the Palestinian jar from Tomb 26 found in 2006 (see *Nekhen News* 18:12). Tomb 26 is a large tomb located to the north of the even larger Tomb 23 and probably can be dated to Naqada IIB and not later, i.e., to the early 4th millennium BC. This being the case, the jar is one of the earliest imports this far south into Upper Egypt.

The jar is characterized by a flat base, a squat body, two loop-handles of oval cross section placed above the maximum diameter, and a slightly everted rim. The height of the vessel is estimated at c. 23.2cm; the maximum diameter c. 20.8cm. The base and rim diameters measure 13.8cm and 10.4cm respectively. By means of these parameters one can establish a vessel capacity of c. 4 liters. The eyes of the loop-handles are small; still, they facilitated handling the jar and, like the everted rim, they were also useful for securing a lid, possibly of leather or textile, but no traces remain.

Not only the shape, but also the clay, which is clearly distinct from the Nile or marl clays used for Egyptian pottery, indicate that the jar from Tomb 26 is a vessel imported from abroad. The jar is handmade, well-fired and has a smoothed, if uneven surface. The yellow-buff clay displays a medium-fine temper with inclusions of calcite and sand. Ceramic comparisons indicate the Southern Levant as its place of manufacture.

Close parallels are known from various Early Bronze IA sites in Southern Palestine, such as Site H, Lachish NW settlement and Niz-zanim, as well as from the contemporary Lower Egyptian site of Maadi, located on the outskirts of Cairo. Here several Palestinian jars of similar shape and fabric were unearthed in different parts of the settlement.



The trans-Sinai trade route.

There can be no doubt that these rather plain jars were imported not for their looks, but for their content. The jars reached their destination as transport-containers, but none contain any residues. Thus, one can only speculate about the

contents. Negative evidence points to it being a liquid, an assumption supported by the originally almost 700 Palestinian vessels in the famous Tomb U-j at Abydos, dating to Naqada IIIA1. Grape pips within the jars and slanting crust rings adhering to the inner surface of most vessels prove that their content was wine—altogether almost 4500




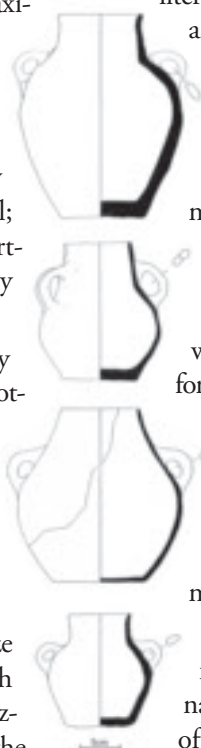
Imported jar from Tomb 26.

liters of it! Thus, it is likely that the older jars from Maadi and Hierakonpolis were also filled with Palestinian wine, now assumed to be the usual content of this type of jar wherever it is found.

The historical context for these shipments of Levantine wine to Predynastic Egypt can be traced back to a marked increase in settlements in the Central Highlands of Palestine during the EB I period. As domesticated grapes were known there since the Chalcolithic, it has been suggested that the growing importance of viticulture, for which the hill country is well suited, was the main reason for the population increase. Wine and olive cultivation seem to have been part of the economic foundation of various EB I settlements in the Southern Palestinian coastal region as well. With this agricultural specialization developed the ability to export the product all the way to Lower Egypt, where it appears to have been in some demand already early in the 4th millennium BC.

The wine jars were probably shipped in baskets fixed on donkey-back and taken along the North Sinai route to the eastern border of the Delta, a journey of 200km, which took about 10 days. This costly and dangerous long-distance trade, in which wine growers, potters, and merchants all had a stake, presumably was organized by Canaanians settled in Lower Egypt and/or Egyptians living in Southern Palestine.

The number of EB IA transport-jars found in Maadi indicates that this site played a pivotal role in this early trade. Yet, in Upper Egypt these jars are extremely rare before Naqada IICD and not that common even then. It is this fact that gives the loop-handled jar in Tomb 26 its particular archaeological importance. The vessel may be seen among the earliest evidence for wine consumption in Upper Egypt. This firmly underscores the high social status of the tomb owner, but he did not drink alone. A fragmentary handle from another jar recently found near Structure 07 suggests that others at HK6 also shared a taste for fine imported wine. 



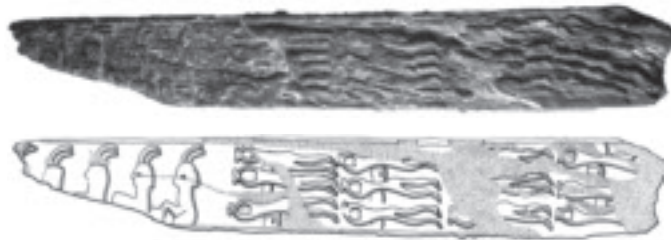
Selected Palestinian jars from Maadi.

Headless at Hierakonpolis

— by Xavier Droux, Lincoln College, Oxford

For nearly 110 years, the artefacts from the Main Deposit of the temple mound at Nekhen have continued to reveal new information about the Early Dynastic period, but they do not give up their secrets easily. Case in point is a decorated ivory plaque now in the Ashmolean Museum, Oxford. On stylistic grounds, it was probably carved sometime between 3300–3000 BC (Naqada IID2–IIC1=reign of Narmer).

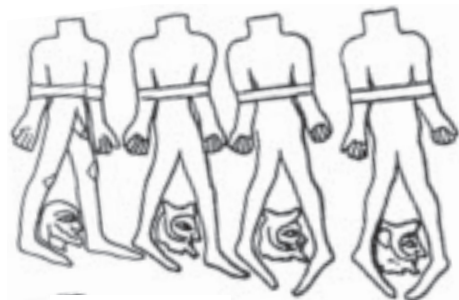
Damaged by roots of halfa grass, the remarkable scene on one side can be divided into two parts. On the right, initially only vague undulations could be seen; however, careful examination revealed four columns, each consisting of three prone prisoners. The bodies are fully extended with the bound arms outstretched above the head, but significantly the heads are missing! Each has been cut off and placed beside the body of its owner. In some cases, faint details suggest that the heads are upside down, but this is not certain. The only contemporary parallel to this scene is found on the recto of the Narmer Palette where two piles of beheaded prisoners are the focus of a royal procession.



Ivory plaque from Hierakonpolis, L: 27.2; W: 3.8cm (Ashmolean E4012).

On the Palette, the arms of the men are along side the body, bound at the elbows. Their severed heads lie between their legs, and, as recently shown (see *Nekhen News* 10), all but one of the prisoners have also been relieved of their phalli, which have been placed on top of their severed heads. Unfortunately, the ivory plaque is too poorly preserved to tell whether a similar detail was also depicted.

On both objects, the headless bodies appear on the right side of the scene, not on a battlefield, but apparently within ritual precincts. On the ivory plaque, this is suggested by the five seated figures on




Decapitated prisoners on the Narmer Palette.

the left side. All are depicted facing left, kneeling with the right leg bent up, the left tucked under the body. No arms are shown, but shoulder-length hair is suggested. On their heads, the two back-curving elements can be identified as feathers, similar to those worn by the hunters on the famous Lion Hunt Palette in the British Museum.

Similar seated figures appear on the ivory knife handle in the Metropolitan Museum, New York. On it, seven seated men face left toward the main focus of the scene, which probably involved a ritual action undertaken by the standing figure, perhaps the king, who precedes them. If we extrapolate this to the ivory plaque, it seems likely that an important ritual scene was once present further to the left. Unfortunately, this cannot be proven since the left end of the plaque has yet to be found. Nevertheless, the seated men are not prisoners—like those on the knife handle, they are definitely of high status and wield political, religious or military power.

The art of the Naqada culture shows a fair amount of war and violence; however, the beheaded prisoners on the Narmer Palette were unparalleled until those on the ivory plaque were identified. Interestingly, both come from Hierakonpolis, where actual evidence for the practice of decapitation, although rare, is also known.

In the working-class cemetery at HK43, there were 21 (out of 453) individuals whose cervical vertebrae bore cut marks, some suggestive of full decapitation (*Nekhen News* 15 & 16). The purpose (decapitation?) and the time (before or shortly after death?) of the cutting remain unclear, but the number of cut marks indicates an effort far greater than that needed simply to kill. Unfortunately, we still do not know whether the evidence from HK43 is proof of execution by decapitation or due to a post-mortem dismemberment ritual.

So how should we interpret the scene on the ivory plaque? Bound prisoners and dead enemies are depicted with some frequency on Protodynastic documents. While the dead lay on the battlefield, the prisoners often appear in association with ritual activity. Was it their fate to become one of the beheaded? Certainly the evidence of the plaque and the Narmer Palette suggests that decapitation was a ritualized activity and perhaps the prerogative of royal authority, be it as a show of power or a sacrifice to the gods. Whether the practice that affected only a small percentage of individuals in the HK43 cemetery should be viewed in this way is still unclear. Decapitation as punishment, as sacrifice, or as part of a funerary ritual are all possible explanations, many if not all of which may be valid for the Predynastic period, with blurred and indistinct boundaries between them. 

Mapping 2007: Bigger and Better

— by Joel Paulson

Thanks to The Friends of Nekhen, stereo satellite imagery was obtained to create the accurate contour map of the desert site of Hierakonpolis, which was completed last year (see map on page 2). The minimum purchase required by the satellite company for the bespoke stereo pair gave us coverage over a much larger area than we initially planned to map. So, in Spring 2007, we decided to expand the satellite mapping, including contours, from the desert fringe to the Nile and across the river to the sister city of El Kab.

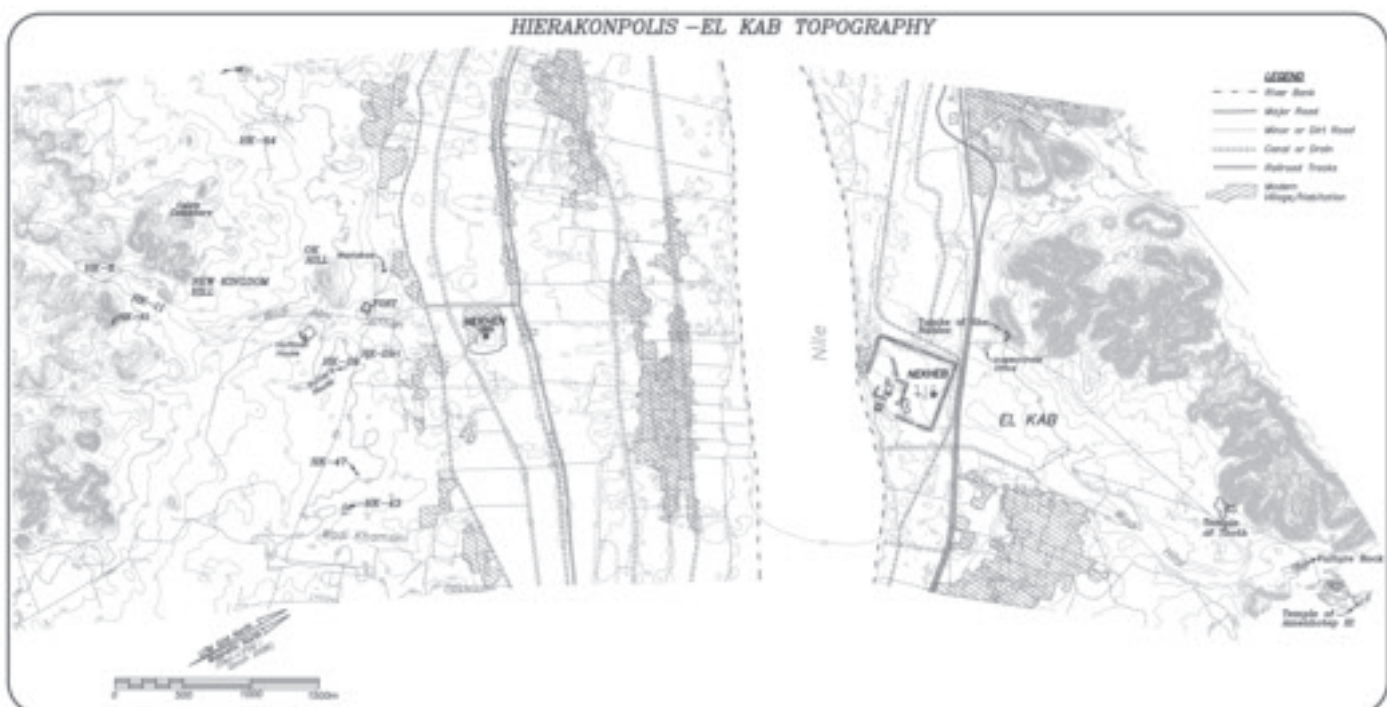
Throughout Egyptian history, the close relationship between Nekhen on the west bank and Nekheb on the east was recognized, and establishing the topographic relationship between these two sites is critical for understanding their social and political relationships. The movement of the river between the two sites is also a vital question and the new “Big Picture” topographic map has already proved very useful to the waterscape geologists who will be investigating this issue during the 2008 season.

The Digital Elevation Model (DEM) was generated by HJW Geospatial (Oakland, CA, USA) using BAE Corporation’s Socet Set software with Automated Terrain Extraction (ATE). Contours were generated from the DEM for the map. Other features such as villages, roads, canals and some archaeological features were also derived from

the stereo satellite imagery. However, certain traits of Automated Terrain Extraction were also encountered in the expanded topographic coverage; for instance, within villages, the contours tend to go wild because the software “sees” the roof lines and creates elevations on those and the ground around them. Similarly, ground cover, such as crops, inhibits the software’s ability to perceive the ground and affects the derived terrain.

In addition, because the ground in the agricultural zone is so flat, contours tend to repeat and slight changes in the ground elevation may generate a new contour with the same elevation as the contours around it. Fortunately, the archaeological sites of Hierakonpolis and El Kab consist almost entirely of bare ground, so the ATE software could easily follow the terrain. One of the projects of the coming field season(s) will be to “ground truth” the software-generated terrain model and contours, especially around villages and in the agricultural fields.

On only a slightly smaller scale, one of this season’s tasks was to verify the location of various desert localities explored over the years. This took us to all sides of the concession and has resulted in much greater accuracy for HK6 and around New and Old Kingdom Hill. A correction of the concession boundaries was also called for, but now all of our maps are not only bigger but also better. ☺





The Wonders of HK6.



The falcon has landed.



Holey Moley! The pillared hall at HK6.

Photo: A. Pieri



The wonderful wand.



Ashraf and posthole A.

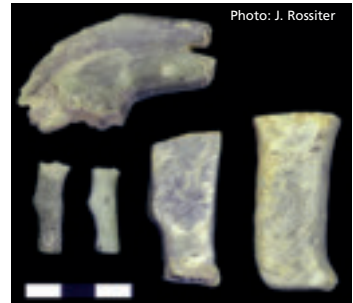


Photo: J. Rossiter

Lion legs.

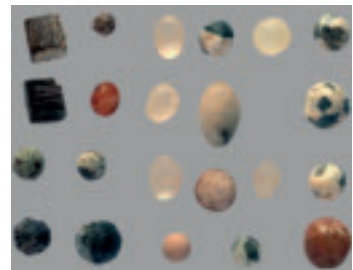


Photo: J. Rossiter

Steatite hippo.



—he's looking at you!



Game time?



Photo: J. Rossiter

Lovely lithics.



Horn in a hole.





The Best of the Rest



HK24B in the shadow of the "red mound."



Photo: J. Geller

The HK24B team 2007.



Digging the Nubians.



Nubian beads.



Jewelry on and off (top right).



Finding our feet and sandals too!



String of beads wound round a wrist.



Photo: J. Rossiter



Selection of Nubian pottery.



Fort Fantastic

— by Richard Jaeschke

The Fort, or ceremonial enclosure of the Second Dynasty King Khasekhemwy (c. 2686 BC), is the oldest free standing mud-brick structure in the world, and progress made in its conservation in 2007 is a major step toward keeping it that way (i.e., standing!). This season not only marked the first significant test of our materials and methods (passed with flying colors), but also the relegation of the ugly gaps that once disfigured the west wall to the pages of history.

As you may recall, last season, the major rebuilding of the southwest corner was left deliberately unfinished to allow us to correct for any settling that might occur. To monitor movement, plaster bars were installed, poised to snap should there be the slightest shift. Examining the bars in January, the new brick-work hadn't moved an iota; however, a few fallen bricks and a minor crack in the ancient masonry showed that the monument itself had shifted.

The fallen bricks had detached from their original position at the pivot point of two massive portions of wall, the separation between them marked by a large vertical crack in the west wall. This vertical crack, and others around the monument, developed because the ancient walls, composed of stacked headers, are not bonded in a horizontal direction. Without the inward force provided by the



The ugly central gap before (above) and after (below). It's history!



Mission accomplished: finishing up at the southwest corner.

corners, they have begun to divide into outward leaning sections. For this reason, the reconstruction of the corners is a priority of our work. And our repair of the southwest corner came just in time. The movement visible in this portion of the wall could have led to collapse, but the new masonry was there to control it. Holding firm, the ancient brickwork was forced to settle behind it, finding a new equilibrium that corrected the dangerous outward lean. This part of the monument is now probably more stable than it has been since antiquity!

More than satisfied with these results, we moved on to the so-called central gap, an extensive area of collapse on the exterior west wall. Carrying on from where we left off last season, 20,000 bricks laid in a series of interbonded buttresses made it, miraculously, as if it had never been.

We are also happy to report the disappearance of a low but deep hole just to the north. Extending over 2.5m into the wall matrix, the unsupported bricks making up the roof of this void have continued to fall, creating a growing hollow in the center of the wall. Too low and dangerous to enter, repair was undertaken in remote fashion with bricks and



Abdulla sealing the hole—what a relief!

watched Abdulla Nour, the mason, lay the final bricks that sealed this dangerous gap (we hope) forever.

As a reminder of our efforts, but also to facilitate future study, the repair work at the crumbling northwest corner was outfitted with a window allowing a view of the well-preserved niched façade of the first phase of construction—the Fort within the Fort. This previously unknown facet of the structure’s history remains a mystery; when it was first built and when the plans changed are still unknown (see *Nekhen News* 17). With a customized steel plate as a lintel, visitors and scholars alike can now ponder this intriguing wall in total safety.

With the west wall now fixed to within the reach of our scaffolding, we turned to the north wall and our next major job—the repair of the northeast corner. The collapse of this corner in 2002 revealed the first phase wall encased within it, but left a mass of brick above it dangerously unsupported. It was now time to undertake the daunting task of clearing the loose debris and rubble and preparing the foundations to take the massive structure needed to sustain the standing remnants. In January, the deep pit that undermined



Making the window into the past.

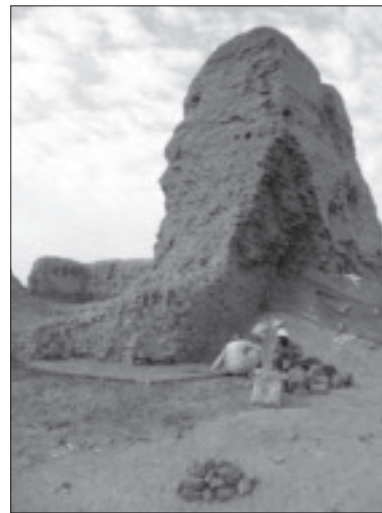
mortar delivered to the deeper recesses on long planks. Just within the low entrance, a small retaining wall was built to prevent the fill from falling back out, while more brick were packed in to support the irregular ceiling. Crammed to capacity, it was with great relief that we

the wall and ultimately caused its collapse was refilled with compacted earth. This was left to harden and in March construction of the new corner commenced. To maintain this isolated tower of masonry, the new corner was laid out along the trajectory of the ancient second phase wall. This was easily determined for the north side, where sections of the original façade survive. It was less easily calculated from the heavily damaged east wall; however, exploration along its base revealed remnants of the original façade, some still preserving the mud plaster render, up to 8cm thick, and the original whitewash coat applied to it.

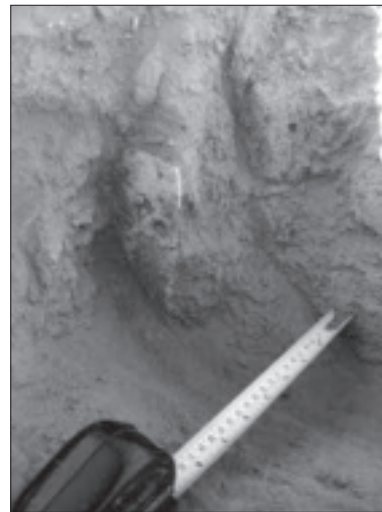
The construction of the first 15 courses (c. 1.5m) of this massive new corner took us to the end of both our time and bricks. Armed with new supplies, work here will resume in 2008.

While the major focus of our work is to stabilize the structure against further deterioration, in so doing we have striven to restore some of the original grandeur of this imposing monument. Where surviving evidence permits, the walls have been built flush with the original façade and the decorative pilasters have been reconstructed, but only where evidence for their placement is clear and where the conservation work would have obscured their presence. Together, the overall effect is one of both actual and visual strength, which will make the condition of the monument easier to monitor in future and adds to the experience of visitors, of which, this year, there were many.

Hailing from around the globe, among our distinguished guests the first was a Pharaoh eagle-owl (*Bubo ascalaphus*),



Beginning at the Northeast corner.



Original plaster and white wash at the base of the East wall.



The pilasters, reconstructed.



A visiting Pharaoh eagle owl.



The next Big Thing: leveling the interior.

who was there to greet us at the beginning of the season. The largest of Egypt's owls, it is famed for its distinctive eyes, which stared down at us for some time before this impressive bird spread its 2m-long wings and headed south. A magnificent guardian for the Fort, we are sorry he couldn't stay with us longer.

We've come a long way in fixing the Fort, but we still have much to do. In addition to the northeast corner, the dishevelled interior calls for attention. Daunting prospects, but after the fantastic progress made this season and with your continued support, we can make it all history. **N**

We are grateful to the Annenberg Program for Endangered Cultural Heritage in the Developing World for making this season's work possible.



Return to the C-Group: Excavations in the Nubian Cemetery 2007

— by Renée Friedman

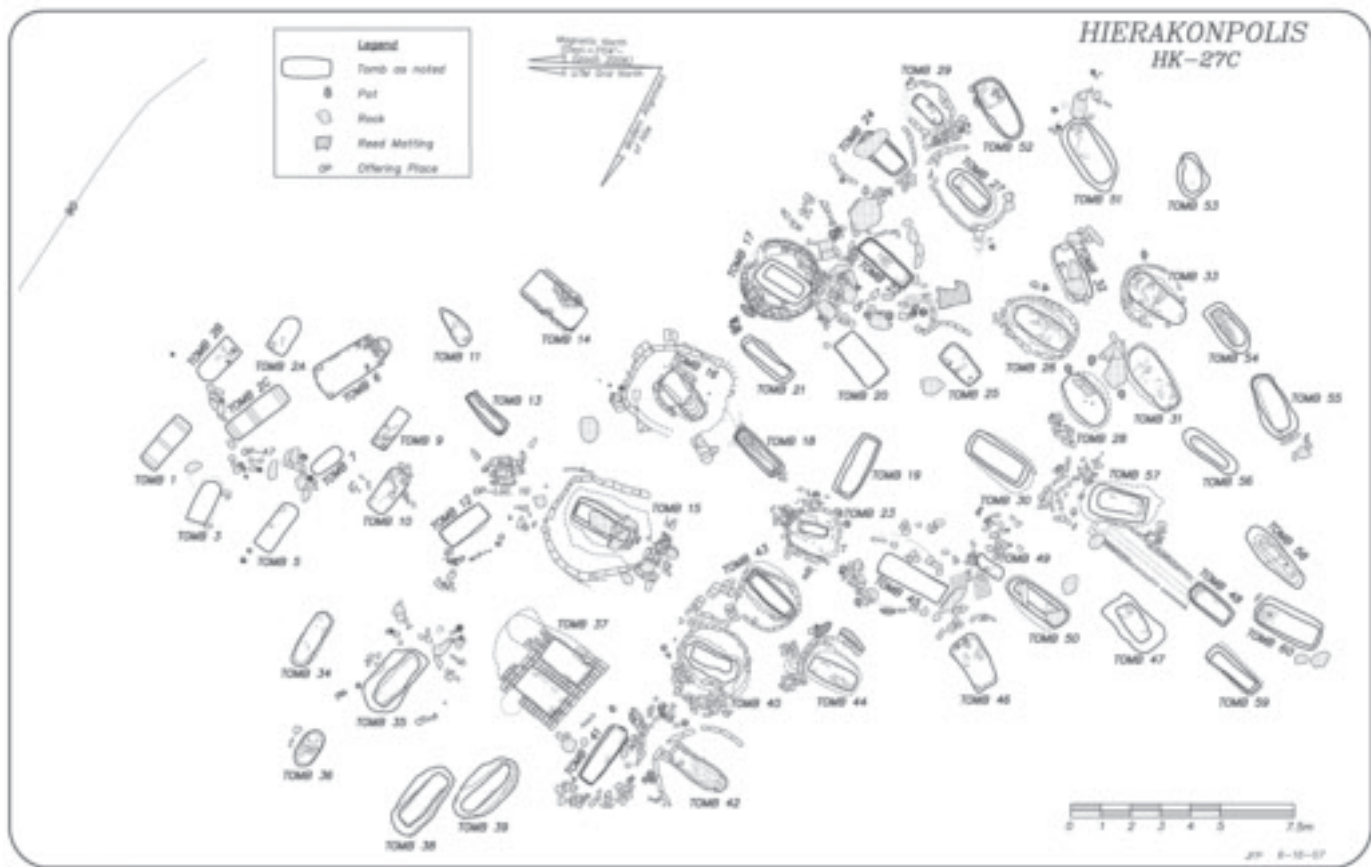
First explored in 2001 and 2003 (*Nekhen News* 13 & 16), the C-Group cemetery at HK27C is the northernmost physical presence of this Nubian culture in Egypt, and excavations completed this season have now revealed 60 of their distinctive graves. Unfortunately, the burials were all disturbed to some degree, ranging from completely emp-

tied to mild disarray of the contents. Nevertheless, sufficient material, including seals and scarabs, remained in or around them to place the major activity of this unique community in the early Middle Kingdom (11–12th Dyn.).

All but the most plundered tombs provide clear evidence for the Nubian cultural affiliation of their owners,



The elaborate brick-built Tomb 37 from inside and out.



Plan of the C-Group Cemetery HK27C (compiled by J. Paulson).

preserving, among other aspects, the traditional stone tumulus above the grave, but more often and unique to this cemetery, the superstructure took the form of a mud brick ring that held the mound of rubble over the grave. In a few cases, something much more elaborate was built. Notable is Tomb 37, which was composed of two vaulted brick chambers side by side. Long narrow bricks laid on a diagonal along the long walls of the chambers allowed a leaning vault to be created without the use of forms or supports. In stark contrast to Nubian tradition in general and the usual practice at HK27C, it contained four individuals, potentially a family group of parents and two children, a practice more familiar in Egyptian burial tradition.

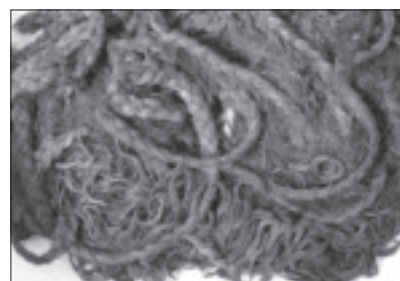
Further evidence for the Nubian custom of placing pottery externally around the tumulus was also uncovered. These deposits included Egyptian pottery as well as the fine decorated wares that are the hallmark of the C-group culture. Only ten examples of this beautifully incised pottery were found, suggesting these vessels were imported from the south, but some of coarser wares, Nubian cooking pots and nearly 80 black-topped bowls may indicate that some pottery was being made locally.

Perhaps the most compelling evidence for Nubian cultural affiliation of the occupants is that, at least in death, they dressed like Nubians. Recovered garments include beaded sashes, a variety of sandals and a stunning skirt, which was made of strips of fine (possibly tanned) leather with a draw string waist (see page 24).



Brick ring tumulus with pottery deposited beside it.





Sometimes you lose: Intact pots on the outside, but inside Tomb 28, below the lonely skull was a poignant reminder (upper right) and a clear message that we were not the first!

Braided hair from Tomb 58.

A painting in the Theban tomb of Huy (see page 24) may indicate its original appearance. In addition, braided locks, interestingly found mainly in burials of men, point to a hairstyle similar to that shown in the same tomb painting.

Nubian jewelry was also part of the costume and in two cases this was found remarkably *in situ*. In Tomb 46 a polished bone ring was still on the occupant's finger, while a shell bracelet and string of garnet beads graced the wrist. In Tomb 36, we again got lucky, uncovering a length of 546 faience beads still wrapped around the wrist of the old lady who had been interred in the traditional flexed position.

What brought this seemingly singular community of Nubians to the site some 113km north of Aswan and kept them there over several generations is not entirely clear. A scene in the nearby tomb of Ny-anekh-Pepy, the governor of Hierakonpolis (early 12th Dyn.), shows Nubian bowmen assisting the tomb owner in a lion hunt. So perhaps the Nubians were recruited from the south by the elite as hunters, herdsmen, entertainers or other careers for which a Nubian identity might be useful or lend prestige.

On the other hand, recent study of the skeletal material from the HK27C cemetery (see below) indicates that the occupants are biologically dissimilar to their cultural



Sometimes you win: jewelry still in place in Tomb 46.

brethren in the southern part of the C-Group landscape and closer to Theban Egyptians. We hope that further study will tell us whether they were simply guest workers or belonged to a resident population of Nubians who had long called the southern part of Egypt home. 🐜



The incised Nubian pottery of the 2007 season (drawings by J Smythe).

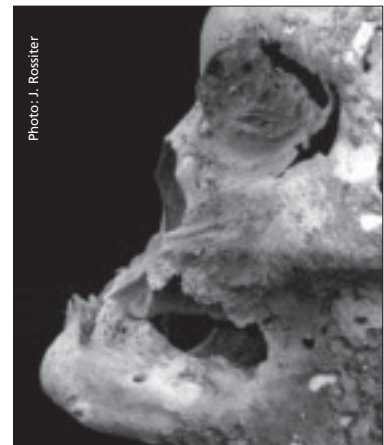
Who Was Buried in the C-Group Cemetery? Evidence From Their Teeth

— by Joel D. Irish, University of Alaska, Fairbanks

After the 2003 campaign in the HK27C cemetery, the teeth of 10 individuals were examined to assess biological relatedness to known C-Group skeletons from Lower Nubia and a contemporary Egyptian sample from nearby Thebes. Dental traits are highly heritable, and can provide evidence of relatedness like that of blood groups and DNA. A comparison of 10 crown and root traits showed that the Hierakonpolis (HK) sample had fewer frequencies in common with the actual Nubian C-Group than with Egyptians—unexpectedly suggesting a closer relationship with the latter. However, the initial sample was so small that it may not have been representative. In 2007, additional HK27C skeletons were recovered to yield an adequate sample size (n=52 individuals) for more robust statistics-based biological distance analyses.

Materials: To better understand the biological relationship of the HK C-Group relative to other regional groups, 36 dental morphological traits (e.g., the presence or absence of various cusps and grooves on teeth crowns and roots) were recorded, and compared to 26 samples from Upper and Lower Egypt and Nubia. Comparative dental samples come from 14 Egyptian sites, and include: Badarian (abbreviated as BAD), Naqada (NAQ), predynastic from Hierakonpolis (HRK), Abydos (ABY), Tarkhan (TAR), Saqqara (SAQ), Thebes (THE), Lisht (LIS), Qurneh (QUR), Giza (GIZ), El Hesa (HES), Greek Egyptian (GEG), Kharga (KHA), and Hawara (HAW). The

Nubian samples include: Neolithic from the Dongola Reach (R12) and Gebel Ramlah (GRM), plus A-Group (AGR), Kawa (KAW), Kerma (KER), C-Group (CGR), Pharonic (PHA), Soleb (SOL), Kushite (KUS), Meroitic (MER), X-Group (XGR), and Christian (CHR).



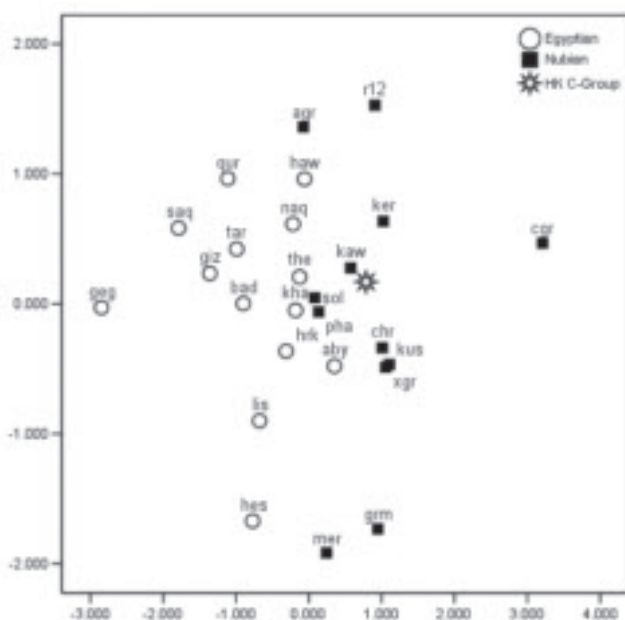
Methods: To compare the morphological traits among samples, and hence determine which comparative samples are most like the HK27C people, a statistic called the Mean Measure of Divergence (MMD) was used. The results of this statistic were then graphed using a method called multidimensional scaling (MDS) to show sample similarities. In brief, samples that are plotted closest to the HK27C sample are most like it, while those farther away are less similar.

Teeth were also studied for evidence of dental health, or lack thereof. The older woman in Tomb 36 had 14 caries in her 24 extant teeth, 10 abscesses and severe arthritis of the jaw. Ouch!

Results: An MDS graph of the HK C-Group and the 26 comparative samples is shown. Egyptians are on the left half, and Nubians on the right; this pattern reveals a measurable difference between the two broad regional groupings. The HK C-Group is clearly like the other Nubians though, interestingly, not the C-Group (CGR) sample from Nubia. The HK C-Group is, again, actually closer to a contemporary Middle Kingdom sample from Thebes (THE). However, because it can now be seen that the HK C-Group is dentally Nubian, its affinity to THE may not so much be an indication of Egyptian genetic influence, but rather that the CGR sample is distinct from the others, including all Nubians suggesting that the CGR may represent immigration of (at least some) new peoples from the outlying deserts.

Discussion: We can now state that the people buried in the HK27C cemetery are biologically Nubian, as suggested by their burial methods and grave goods. Still, because the HK27C Nubians show increasing Egyptian cultural influence in their cemetery, it also cannot be ruled out that some Egyptian biological influence has contributed as well. That is, by the end of their tenure at HK, the C-Group Nubians may have been a biocultural blend of Nubian and Egyptian.

For further details see *Sudan & Nubia* 11 (2007). 🏹



Graph of MMD relationships between HK C-Group and 26 Nubian and Egyptian comparative samples. Samples identified in text.

The World of Leather

— by Andre Veldmeijer, Amsterdam

Leather (or technically speaking “hide products” as only vegetable tanned hides are true leathers) held a significant place in Egypt in prehistoric times, but its importance diminished with increased use of flax during the Old Kingdom. However, during the Middle Kingdom and into the New Kingdom, this situation changed again, possibly as a result of contact

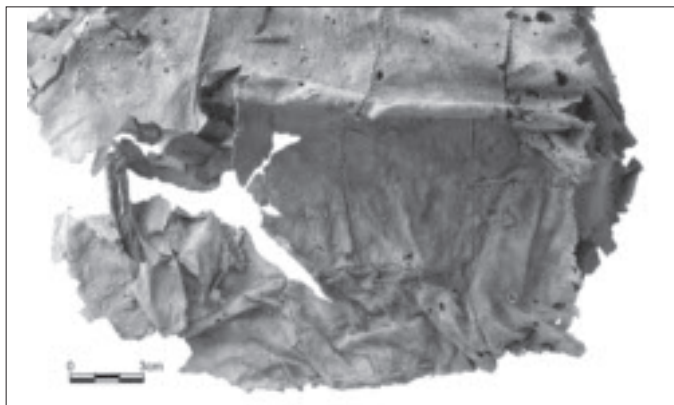


Drawing: M.H. Kriek

Artist's impression of the tattooed lady as a young woman modelling her loincloth.

with Nubians, for whom leather had always been important. The numerous leather finds in the Nubian cemetery at HK27C are helping us to better understand these changes. Now the largest collection of C-Group leather in existence, this corpus is providing new insights into leather technology and construction techniques.

One of the most intriguing examples of Nubian leatherwork from HK27C is the pierced loincloth recovered from a woman's grave in 2003 (*Nekhen News* 16). The leather loincloth is a Nubian “invention”, taken over in New Kingdom times by the Egyptians. Although generally considered an article of male attire, iconography shows that female dancers also wore pierced loincloths, suggesting that the older, and much tattooed lady may have been a dancer in her younger years. Much has already been said about this garment, but a few more details were observed. First, the item, composed of small panels of pierced leather, has been sewn together with two different stitches. One is a normal



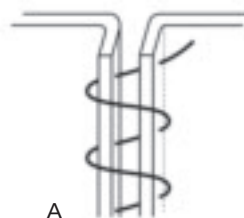
The leather skirt from Tomb 52 may once have looked like that shown in the painting above from the Tomb of Huy.



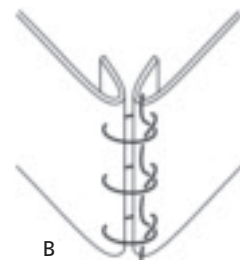
Nubians in traditional dress.

whip stitch (A), but method B involved pulling through a leather thong and fastening it with a half knot each time. Comparable leather loincloths from Egypt differ not only in the shape and pattern of the cut outs, but also in the type of stitching used in their construction.

The leatherwork found in the Nubian cemetery at Hierakonpolis is without exception well made and predominantly sewn with whip stitching in various densities. All sewing was done with narrow leather thongs; sinew and flax were not used. The running stitch (C) was observed, but seems to have been limited to repairs rather than construction.



A



B



C

Unrivalled among Egyptian finds, the quality and suppleness of the C-Group leather is intriguing. A preliminary field test conducted in 2007 suggests this may be due to the use of vegetable tannins. A solution of iron sulphate (FeSO_4) applied to the leather left a black stain, presumably due to the reaction of the iron salts with the vegetable tannins. This result is very significant as it is generally believed that tanning was introduced to Egypt only in the Graeco-Roman period.

Drawings: E. Endenburg/
A.J. Veldmeijer.

The test is just a rough indication and a more detailed analysis will follow, but if it is true that vegetable tanning was already known by the Nubian C-group people, over 1500 years earlier than previously thought, it may well have been for their skill in leatherworking that the Nubian population found a role in Egyptian society at Hierakonpolis. ↑



Acknowledgments: We thank the National Geographic Committee for Research & Exploration (#8116-06), and the Wenner-Gren Foundation (#7557) for funding excavation and research at HK27C. The Michela Schiff Giorgini Foundation facilitated the examination of the leather and allowed us to make use of the talents of artist Mikko Kriek for scientific drawings and reconstructions.

Beer Capital of the South? Excavations at HK24B

— by Jeremy Geller (University of Illinois) and Renée Friedman

Back in 1988–89, the breweries uncovered at HK24A shed new light on predynastic food production and social organization. Hoping to gather information on this and more, a contingent from the University of Illinois, Urbana-Champaign, spent their winter vacation at HK24B, located just a few meters from the brewery site and adjacent to the original Kom el Ahmar (“red mound”), a large heap of burnt industrial debris at the desert’s edge.

These excavations, especially in conjunction with those at HK11C (see below), have revealed much new data on the pyrotechnology of the age. Clearly, the predynastic Egyptians knew what they were doing and accomplished it with an expedient use of readily available materials, which, at HK24B, meant potsherds and mud, and lots of it!

A little slow to begin with, investigations eventually revealed an elongated oval structure (interior: c 5.5m long by at least 1.5m wide), which, as we hoped, appears to be a facility in which a cereal-based food was prepared by heating.

The complex is enclosed by walls of mud-plastered sherds on three sides (the east wall was not located). The long west wall was made up of segments with probably originally five apertures or “doors”, 20–30cm wide, set more or less regularly between them. Now nearly filled with charcoal and ash, the doors were oriented to funnel the north wind into the structure. In some, vertically set sherds blocking the opening indicate that they could be closed as needed at the end of the firing process or if the wind was too strong.

At the north and south ends, investigation revealed how the wall segments may originally have appeared. Created from stacked up potsherds and mud, and coated with mud-plaster on the interior, they take the form of roughly rectangular pillars (c. 70x100cm), preserved to a height of c. 65cm above the subterranean base level of the structure’s



Final plan of HK24B.

interior. Their purpose was to support large pottery vats. Evidence for this comes from the north end, where a few fragments, but mainly the impression of the vat in its surroundings of ash and charcoal, indicate that a conical vessel with a maximum diameter of 80cm, and height of c.65cm was once present (see Okey-



The ghost of a vat.

Dokey, below). Near the base of this ghost pot we were excited to discover the shiny black material familiar from HK24A, which earlier analysis has identified as the residue left by the predynastic method of beer production.

Based on stratigraphic indications, three more vats once filled the structure, each placed against a wall segment with a door between them. To the east was perhaps the service point, marked by an ashy area full of dehusked grains of emmer wheat. We believe these may have been accidentally lost during either the loading of the vats or the decanting of the product into more mobile receptacles for distribution.

Analysis of the residue is on-going, but whatever the product—be it (rather chewy) beer or perhaps a nourishing porridge—they were making a lot of it! Chances are good that the site’s title as the beer capital of the south will remain firmly intact. 🍷

This work was made possible by a grant from ARCE’s Antiquities Endowment Fund.

For updates from the field see www.archaeology.org/interactive/hierakonpolis



Flanking a door, layers of white ash mark the location of former vats.

Okey-dokey! Big Pots and More Kilns at HK11C

— by Masahiro Baba, Research Fellow, Japan Society for the Promotion of Science

In February 2007, we returned to the kiln site at HK11C in search of more information about the techniques of firing Predynastic pottery. Successful in this quest, excavations also revealed much that was both thought-provoking and unexpected—including some very big pots!

From last season's work in Square B4 we realized that platform kiln A was not an isolated feature, as originally described, but part of a larger complex of pottery kilns. To investigate this more fully, the excavation area was extended to the north and east. As observed previously, there were at least two distinct phases of occupation.

The upper level was characterized (like much of Hierakonpolis this year) by wooden posts. One set of posts, arranged in two parallel rows, runs diagonally NW–SE through the square, while at its midpoint another row comes off in a perpendicular direction and turns a corner in the northeast. Another distinguishing feature of this level is the number of caches containing worked sherds—tools specifically created for use in pot-making (see *Nekhen News* 16:21). Caches containing up to a dozen tools had been found before, but the five discovered this season—two of them within *in situ* jars—produced 874 of these deliberately shaped sherds. In total, 1059 tools were found this year alone!

This phenomenal number of sherd tools indicates that this level can be safely associated with the pursuits of a potter: the fence lines being part of his house or workshop, and platform Kiln A serving as his kiln. Pottery suggests a date in the second half of the Naqada II period for his activity.

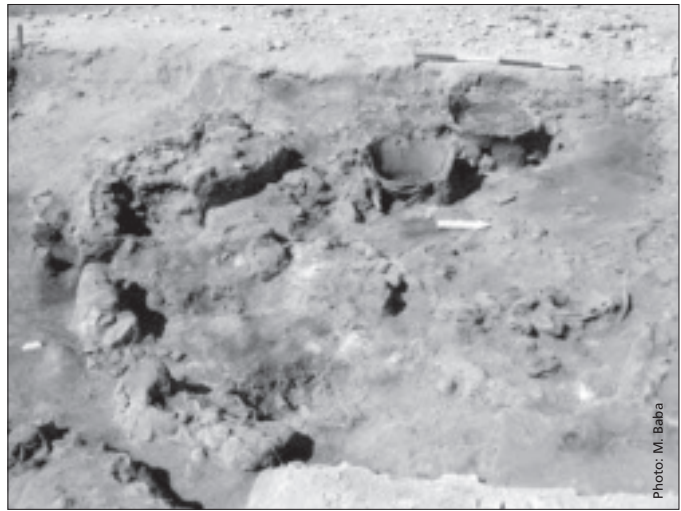
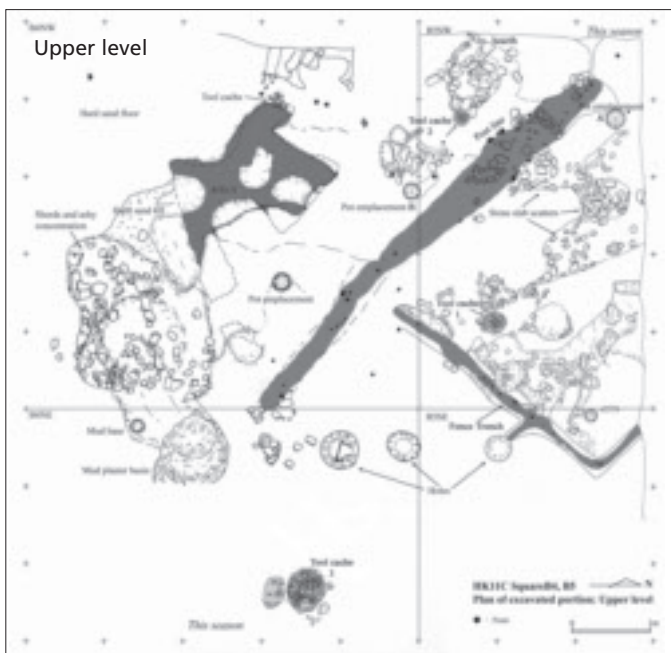


Photo: M. Baba

Overview of the lower level with kilns and big pots.

In the layer below, the layout changes dramatically. The soil was heavily burnt, but gradually there emerged a roughly oval structure with walls composed of sherds, mud and stones, pierced at intervals by openings. Its similarity to the installation at HK24B is hard to miss, but instead of large vats, pit kilns were found beside each wall segment. Putting together the evidence from the five newly discovered pit kilns, their construction and usage can be tentatively described as follows.

First, a hole (c. 60cm in diameter) was prepared as a chamber to hold the fuel. After the pit was filled with fuel,



Plan of Squares B4-5 in 2007.





Photo: M. Baba

Tool cache!

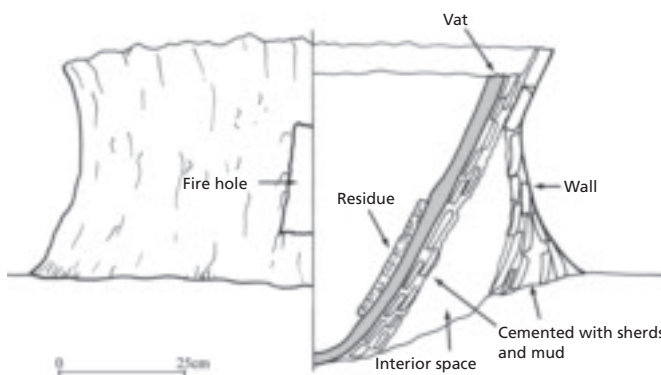
a stone slab or large sherd was placed above the hole to protect the pots from direct contact with the fire. The pots were then placed on the slab, and using the wall segment for support, they were then covered over with a “roofing” of sherds and mud in order to retain the heat during firing.

This method may seem primitive, but it has been successfully tested during experimental firings (*Nekhen News* 17: 20–21). The product of the kilns was probably the straw-tempered rolled rim jars that overwhelmingly dominate the assemblage. Datable to the first half of the Naqada II period, this installation is now amongst the earliest that we can state, without doubt, was used for pottery production.

In addition to this important new evidence for the history and scale of pot-making, just to the north, we uncovered two enormous ceramic vats or okey-dokey (“big pot”) in Japanese. Preserved to a height of 50–60cm (but originally higher) with a diameter of 85cm, in contrast to



Okey-dokey! BIG pots.



Big pot construction.

HK24B, the two vats appear freestanding. Both were coated with mud and sherds on the exterior, while flaring out at the base a similar construction formed an enclosed space for inserting fuel. Holes on the north face of the ring walls allowed in air to feed the fire which heated a cereal-based product that has left a thick layer of shiny black residue adhering to the interior of the one vat investigated. We hope that botanical examination of the residue will tell us what this product was and whether it is the same or different from that being cooked up at HK24B, where similar residue was found.

Apparently in use at the same time as the kiln complex, it seems likely that vats and kilns are closely related. Did the vats produce the food product and the kilns make its container? With the brewery in Square A6–7 so close by (see below), were all these features part of one integrated production line? The botanical analysis may indeed provide the answer in coming seasons. In the meantime, insights into the industrial landscape and technological acumen of the predynastic inhabitants have been vastly expanded by these excavations and those conducted in the other always intriguing localities throughout Hierakonpolis. 🍶



This research was undertaken with financial support from the Japan Society for Promotion of Science (JSPS).

Beer After Sheep? HK11C Squares A6-A7 in 2007

— by Izumi H. Takamiya and Hitoshi Endo

On-going since 2003, excavations in Squares A6–A7 at HK11C have brought to light a rather remarkable semi-subterranean firing complex that contained at least 8 circular features, each consisting of standing fire-bars no doubt installed to support large ceramic vats (*Nekhen News* 16 & 17). We believe this elaborate structure is a brewery, although no direct evidence for its exact function has yet been obtained.

Having completed the investigation of the interior in 2005, the main purpose of this year's work was to explore the exterior and try to identify contemporary features in the surrounding area that might help us to understand its date and function in the broader context of local activities. For this purpose, two small areas to the east and south of the rectangular kiln chamber were explored. By the end of our short season, these excavations had exposed an intriguing picture of ancient activities encapsulated in 11 successive stratigraphic levels.

Our first concern was to identify the ground surface contemporary with the kiln complex. About 5–20cm below the starting level, a thin layer of fine powdery soot appeared to indicate this surface. Unfortunately, due to the limited exposure, the only associated feature we found was a shallow pit lined with large potsherds and filled with charred seeds, which provides no help with dating.


Continuing downward, at the base of the trench (40–55cm below the present-day surface) we encountered two hard-packed earth floors dating to the earliest periods of occupation. A trench, probably for a reed wall, had been dug to one side, but it was impossible to learn more about the struc-

ture, except that a thick and well-preserved layer of sheep/goat dung covered it, presumably after it had fallen out of use.

Above this dense layer of droppings was another floor with five circular pits cut into it. As one contained the remnants of a wooden post, it is likely all five are postholes. The linear arrangement of three of these pits, at almost a right angle to the eastern wall of the kiln complex, suggests that, if contemporary, a wooden structure was built near the kiln, but dating remains a problem. Covered with a layer of wind-blown sand, this building was also eventually abandoned, and sheep herding activities were resumed, leaving behind another thick layer of sheep/goat dung mixed with plant remains (twigs or grasses). This second dung level was found just a short distance below the soot lens mentioned above.

These two extensive layers of droppings indicate that sheep/goat herding was at times a significant activity here. These layers also contained a relatively large number of lithics, suggesting that herding was combined with other activities involving the use or creation of lithic tools. But was it sheep before beer? Or sheep during beer? Multi-tasking... or was beer-making a seasonal or only occasional activity (e.g., funerals or festivals)?

As a longer and more comprehensive history of the area begins to emerge, we hope to clarify this issue and learn

more about how, when, why or even if the inhabitants changed their ancient landscape from pastoral to industrial. 

Excavations were conducted with financial support from The Takanashi Foundation for Arts and Archaeology.



The excavators standing by the brewery with the newly investigated area to the left.



HK11C Squares A6-A7 in 2007.

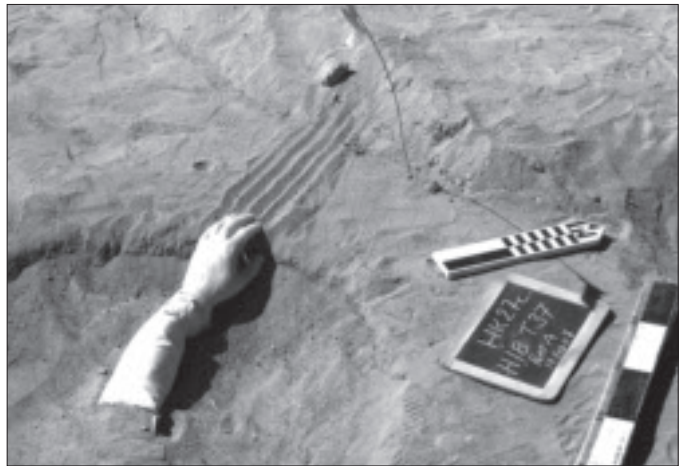
THE HIERAKONPOLIS HOME PAGE

Another First for Hierakonpolis: Zombie Attack!

— by Renée Friedman

Hierakonpolis is a site famous for its many ‘firsts’, so many, in fact, it is not easy to keep track of them all. So we are grateful(?) to Max Brooks for bringing to our attention that the site can also claim the title to the earliest recorded zombie attack in history. In his magisterial tome, *The Zombie Survival Guide* (2003), Brooks informs us that in 1892, a British dig at Hierakonpolis unearthed a non-descript tomb containing a partially decomposed body, whose brain had been infected with the virus (*Solanum*) that turns people into zombies. In addition, thousands of scratch marks adorned every surface of the tomb, as if the corpse had tried to claw its way out!

With the records available to us (Mr Brooks obviously has access to others), the British dig can be identified as that conducted by Mssr. Somers Clarke and JJ Tylor, during which they cleared the decorated tombs of Ny-ankh-Pepy and Horemkhawef on Old Kingdom Hill. The notes of Tylor are lost to us, but Clarke’s are preserved in the Griffith Institute, Oxford. Unusually cryptic in his discussion, he makes no mention of such a momentous discovery. Thus we can only infer that the tomb in question is one of those in the adjoining courtyard, perhaps the one we use as a cozy and sheltered spot to take our lunch (hmm...!) If this is the case, we might quibble—purely for the sake of scientific accuracy—that the 3000 BC date ascribed for the attack



Business as usual at HK27C.

should be revised downward to the Old Kingdom, but its premier historical position remains unaffected.

While the history of this outbreak is educational, it also alerts us that another one could occur at any time. Little is known about how long the virus can lay dormant. With this potential in mind, we asked Tom Flanigan, zombie eradication expert for the US Forestry Service, to draw up a contingency plan. However, we stress that nothing amiss has been observed during any recent excavations at the site (though the number of missing heads is a bit weird. Hmm.....!)

A Contingency Plan for a *Solanum* Outbreak at Hierakonpolis

— by Tom Flanigan, Archaeologist, Wasatch-Cache National Forest, Utah

When we think of zombies, our thoughts generally turn to the supernatural ghouls of Hollywood movies. Get real! Actual zombies are simply the reanimated bodies of the recent dead driven by an urge to consume living people. They are, or were, people infected by the *Solanum* virus, which mutates the brain, allowing it to remain active but dormant, as the virus eats away the frontal lobe for replication. Within 23 hours of exposure, a fully functioning zombie will be on the unending search for living human flesh, thus spreading the infection and creating more zombies.


So, assuming the virus is unleashed, you might imagine throngs of ancient Egyptians rising from the grave. Wrong! *Solanum* does not reanimate the already dead, it kills liv-

ing beings and turns them into flesh eaters. The threat will therefore come from local (living) population centers, and almost certainly from the HK team itself.

There are two ways to stop a zombie. The first is simply to wait out the years it takes for the living dead to decompose to a non-threatening level. The second is the head shot. You have to disconnect what is left of the brain from the body. Given the tools on hand at HK this will likely be done with trowels. The first hosts will probably be physical anthropologists who risk exposure by working with ancient corpses and their ubiquitous mummy dust. This is unfortunate, as these specialized researchers are generally the least squeamish about decapitation duty. In fact, the team is already stocked with several who

would not hesitate for a moment to take someone's head off, and let us not forget the skills of the director herself.

However, should these experts be unavailable, or already succumbed, it might be time to consider barricades, but be prepared to be self-sufficient. With the enclosure wall, solar power and vegetable garden at Hoffman House, you are in a great position to survive. In fact, the house is situated so well, tactically speaking, it is hard to imagine that the original architect was not aware of its potential as a defensive position in the event that the dead would rise.

This may seem absurd, but you won't think its funny when you are feasting on the corpses of your friends and fellow researchers, in fact, you won't be thinking at all... 



Tom Flanigan demonstrates the Trowel Method.

Mouse Patrol II

— by Jane Roy

With the departure of Belly Boy, erstwhile Hoffman House cat, the rodent population rapidly regenerated and when the UBC team under Thomas Hikade returned in November 2006 the mice had made themselves pretty comfortable. Team members, Rick Coleman and Kent Fabian, made several valiant attempts at eradication, but the little critters were always too speedy in their getaways, one even using Kent's arm as his escape route. It was time to call in the professionals.

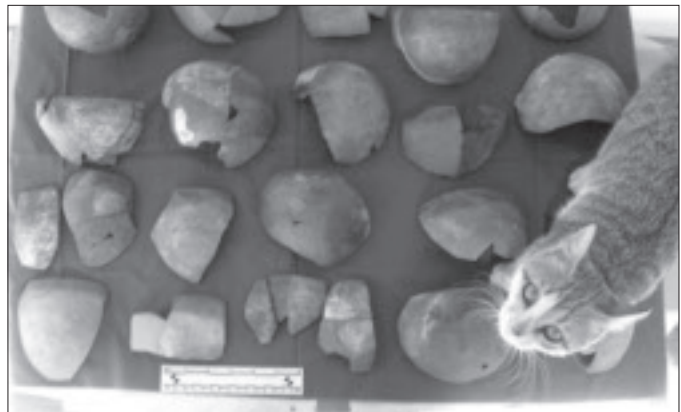
The order went out, and down in the village, new members of the mouse patrol were recruited. Soon a cardboard box arrived containing a kitten, though a rather scrawny, somewhat bandy legged specimen. The next day he was joined by a second, who was simply a little ball of fur, but this served her well on those cold desert nights.

After a week of plenty of good food the new recruits were looking much healthier and had settled in to life at the house. Although still a bit small to be taking on the full task of mouse hunting, Pushkin (the intellectual) and Lolita (the flirt) did put in plenty of practice hours chasing string, pouncing on shoelaces and




Physical anthropology lessons with Joel Irish.

planning attacks on one another from every possible vantage point. They also made great lap warmers and occasional companions when working in the courtyard, although neither of them had a particularly good work ethic—at least when it came to drawing.



Lolita the pot expert.

By the end of the season the kittens had grown considerably both in size and as consummate shredders of mosquito netting. In addition, Pushkin showed a keen interest in physical anthropology (or anthropologist), while Lolli could tell you a thing or two about pottery. While actual mouse-catching can not yet be added to their manifold accomplishments, we like to think that the mice are at least a tiny bit nervous. 



Kittens helping Jane with drawing.

The Friends of Nekhen

Nekhen is the ancient Egyptian name for the site of Hierakonpolis, the city of the hawk, and one of Egypt's first capitals. The Friends of Nekhen is a group of concerned individuals, scholars and organizations that is helping the Hierakonpolis Expedition to explore, conserve, protect and publish all aspects of this remarkable site. The largest Predynastic site still extant and accessible anywhere in Egypt, Hierakonpolis continually provides exciting new glimpses into this formative—and surprisingly sophisticated—age, and more.

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Help the Hierakonpolis Expedition to continue its important work. Your contribution (tax-deductible in the US) will support vital research that might not otherwise be possible. Share in the excitement and the sense of commitment by making a genuine contribution to the search for understanding. Join the Friends of Nekhen.

Membership Application

I would like to help the Hierakonpolis Expedition by joining (renewing my membership in) the Friends of Nekhen. In return for my contribution (tax deductible in the USA), I understand that I will receive the annual newsletter and qualify for reduced rates on expedition publications.

The membership category I prefer is:

- Regular (\$25/£17/€25*)
- Sponsor (\$250/£150/€250*)
- Patron (\$500/£250/€500*)
- Sustaining (\$1000/£500/€1000*)
- Student† (\$20/£12/€20*)

†enclose copy of current student ID

- This is a renewal for the 2005–2006 season.
(If you have already renewed, thank you!)

Make your check/cheque payable to

United Kingdom/Europe —	USA —
The Friends of Nekhen Trust	The Friends of Nekhen
c/o Hierakonpolis Expedition	Middle East Studies
Dept. of Ancient Egypt & Sudan	University of Arkansas
the British Museum	202 Old Main
London WC1B 3DG	Fayetteville, AR 72701
UK	USA

*If you wish to pay by European bank transfer, please contact friendsofnekhen@yahoo.com

Filling the Gap



We did it! With your help and a lot of bricks, the ugly gaps on the exterior of the Fort are now gone and the repair of the northeast corner is well underway. Thank you so much. Visibly stronger on the outside, it is time now to look inside the Fort and tackle the dishevelled interior—all 3225 square meters of it. Still too fragile for heavy machinery, we will have to level out this vast space a bucket-load at a time. We sure could use a hand. We need to fill in the gap in our funding to get this work done and we ask for your help once again. It takes a lot of fortitude to fix the Fort, but we're now more than half way there. Together we can do it all!



The Fort: now it's an inside job...

Special contribution for the
Fort Fund

\$/£/€ _____

Name: _____

Address: _____

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State/Province: _____ Postcode: _____

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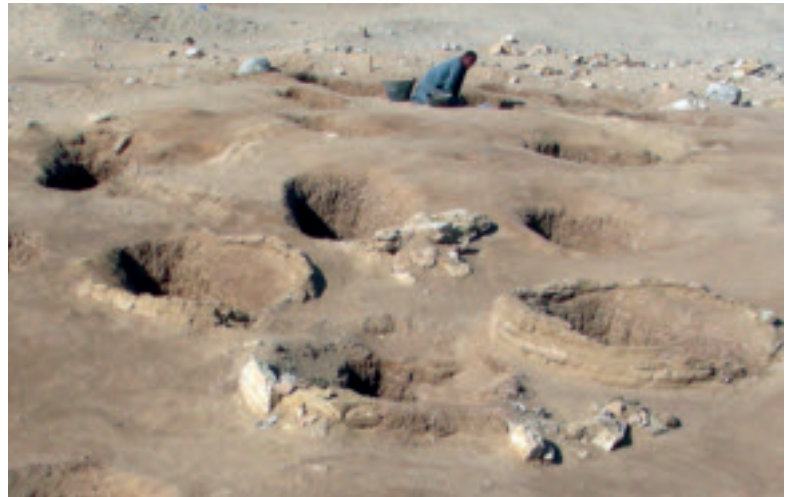
Hierakonpolis Highlights 2006–2007



Fort 2007: Closing the gap (see page 18).



Intriguing ivories from HK6 (see page 7).



News from the Nubian Cemetery (see page 20).



Okey-dokey—big pots from HK11C (see page 26).



A new ibex (see page 7)!

