NEKHEN NEWS

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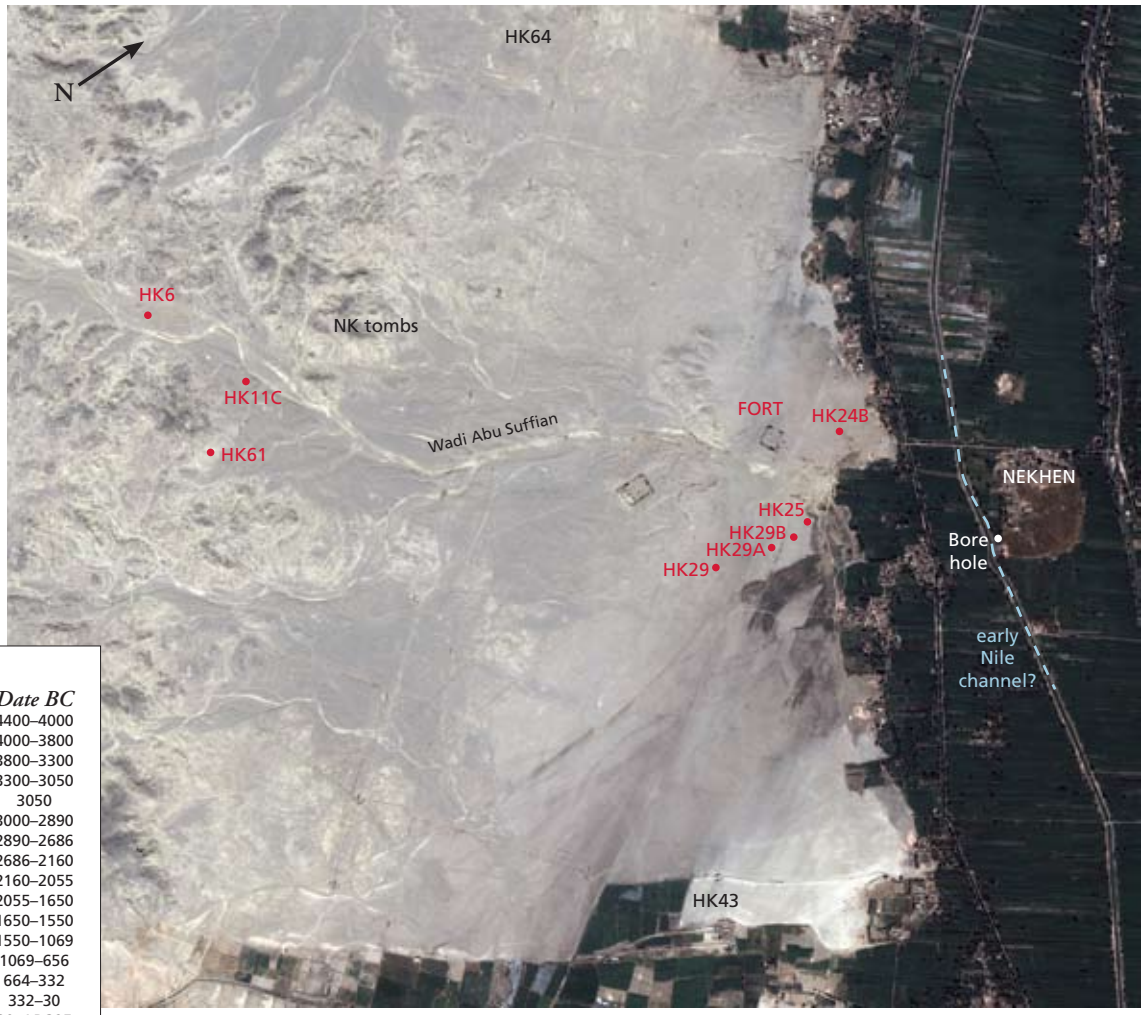
Volume 20 Fall, 2008

A New Piece of the Puzzle

In This Issue

Hierakonpolis 2008: A New View



The localities investigated this season (in red).

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

Acknowledgements

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Thank you one and all!

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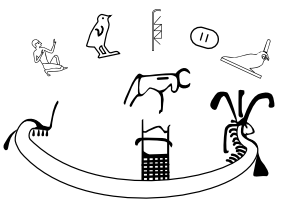

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Additions and Corrections: New Perspectives

— by Renée Friedman

Time flies! Here we are at *Nekhen News* 20, the twelfth continuous volume since we resumed excavations at Hierakonpolis in 1996. I hope you have enjoyed these offerings and found them worthwhile, we certainly have!

While trying to make sense of our often unparalleled finds, within just months of their discovery, hasn't always been easy, it has nevertheless been useful not only for shaping our ideas about what we do know, but also for pinpointing what it is we don't know. More importantly, it has helped us to formulate strategies by which we might plug the gaps in our knowledge and answer some of the many questions our excavations present.

The fruits of this labour are especially evident in this volume, aptly (and somewhat proudly) entitled Additions and Corrections. While some answers have been slow in coming (and some still haven't arrived), our efforts have allowed us to refine the questions, correct mistaken attributions, and open new vistas—all contributing to a richer understanding of Egypt's origins.

New discoveries bring new perspectives on animal burials at HK6.

In 2008 our strategy of targeted exploration has resulted in many fresh insights, and some entirely new perspectives. This is especially the case at the Elite Cemetery, where three intact animal burials provide more pieces for the unique and complicated puzzle that is HK6. Meanwhile the discovery of more pillared halls is helping to clarify our view of the long and complicated history of this remarkable funerary precinct. We can now detect a succession of wooden buildings stretching back for many generations, while a deposit of Third Dynasty pottery shows that some of these structures were still extant and respected nearly 1,000 years after they were built!

At HK29B, where the sandy surface gave no hint of what lay beneath, recent excavations are starting to bring to order the plethora of postholes that must have belonged to some of the most impressive buildings in Predynastic Egypt. On the other hand, over at that HK29A temple, new work suggests an entirely new point of view is called for, as what we thought was the back, may well be the front! Whoops! Well… if we knew what was going to be there, we wouldn't have to dig it up.

Further food for thought was supplied by the excavations at HK11C, which have unearthed a closer link between pottery making and food production than previously suspected. Meanwhile, an integrated approach to the analysis of botanical remains collected from diverse areas around the site has granted insights into food consumption and preparation, which are allowing us to trace the food chain from beginning to (literal) end.

Moving from the micro-view to a broader vista, 2008 marked the beginning of a regional investigation into river movement and climate—were the fortunes of Hierakonpolis simply a whim of the Nile?

On both a small and (very) large scale, conservation has always been a major aspect of our work, with the Fort at the forefront. Throughout the season, the Fort was a hive of activity, although things were a bit up and down... The stabilizing masonry at the northeast corner went up, while the disfiguring heaps of debris in the interior went down… and just in time, we got the temporary braces put up before the west wall came down!

To top off this remarkable and thought-provoking season of exploration, in July the Hierakonpolis Expedition helped to host *'Egypt at its Origins', the Third International Colloquium on Pre- and Early Dynastic Egypt,* held at the British Museum. This stimulating week of presentations, posters and workshops on the latest discoveries throughout Egypt confirms what a truly fascinating period in Egyptian history this is, and how important our work at Hierakonpolis is for understanding it.

Grand Design in the Sacred Compound

— by Thomas Hikade, University of British Columbia

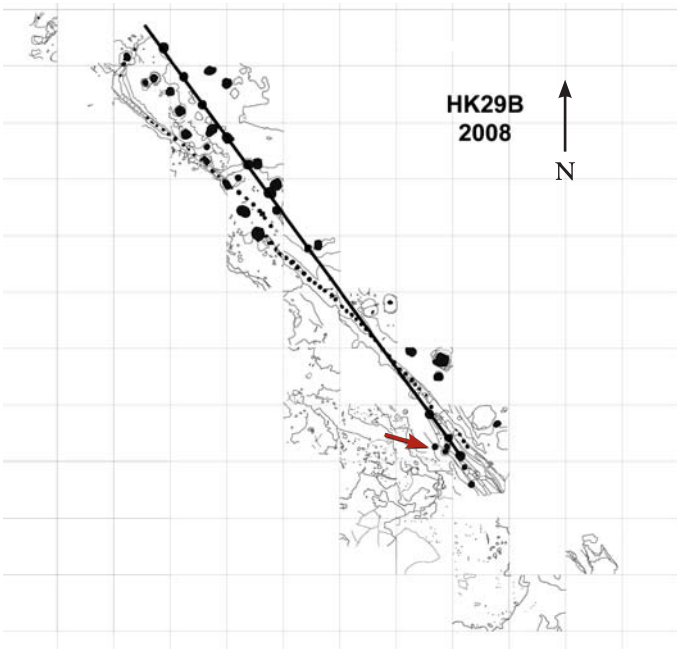
We returned to HK29B in January 2008 looking for answers. Our excavations had revealed a fascinating array of postholes, both small and large, but their chronological relationships and building sequence were still uncertain.

In previous seasons we had found the trench and postholes for a 50m-long palisade and more than 20 large postholes mainly to the north of it (see *Nekhen News* 19: 4–5). Although the structure at HK29B was clearly in alignment with the sacred compound at HK29A, its age and association were problematic since the overall ceramic and lithic assemblages from HK29B allowed for only a general date in the late Naqada II to early Naqada III period.

Luckily, excavations at the southeastern end of the palisade revealed three large postholes (see arrow), one of which was partially cut by the palisade trench. Thus it became clear that we were dealing with at least two building phases, with the hypothetically older phase of large postholes replaced by a younger palisade, built with a slightly different orientation. Whether the younger phase can be further divided into two phases with a southern and a northern part cannot be said at the moment. With regard to finds, a simple rough ware bowl (R33), though not significant chronologically, was enough to excite the whole team, being the first complete vessel discovered in three years of work!

Meanwhile at HK25, we were also getting some answers. After uncovering the remains of a fireplace and a few wooden posts in 2005 (*Nekhen News* 18: 4–5), the greatly expanded excavations of 2006 and 2008 have now revealed an area of nearly 300m^2. The four posts from 2005 can be seen to belong to a much larger pillared structure composed of 5 rows containing at least 10 posts each, and oriented northwest-southeast. While most of the posts have disintegrated, those that remain are up to 40cm high and almost as wide. The distance between the midpoints of the posts measures between 1.5–1.8m, leaving little room for people carrying any kind of load to move freely within the structure. This fact, combined with the finds and construction technique, indicate that it was not a service area, as the fireplace may have initially suggested, but a building reserved for something special.

The first complete pot from HK29B!



HK29B: Black line shows the hypothetical course of the earlier phase.

The posts were surrounded by a thick mud floor (up to 20cm thick), but actually rest upon the underlying Pleistocene Nile Silt formation, which had been covered with a layer of clean white sand that contained no artefacts. This sand is very different from the sediment that covers today's surface. The closest known modern source for this type of sand is Wadi Khamsini, roughly 1km east of HK25. The mud floor was placed on top of this layer and the wooden posts sunk into it. This construction technique resembles what we know from Dynastic Egypt, where a heap of clean sand called the 'High Sand' and symbolizing the Primeval Mound, was first deposited under cultic structures.

In some places, long 'tubes' of hardened sand, running in a parallel pattern from southwest to northeast, were observed on top of the floor. Reaching up to 2m long, and generally under 1cm in diameter, we suggest that these narrow

Uncovering well-preserved wooden posts at HK25.

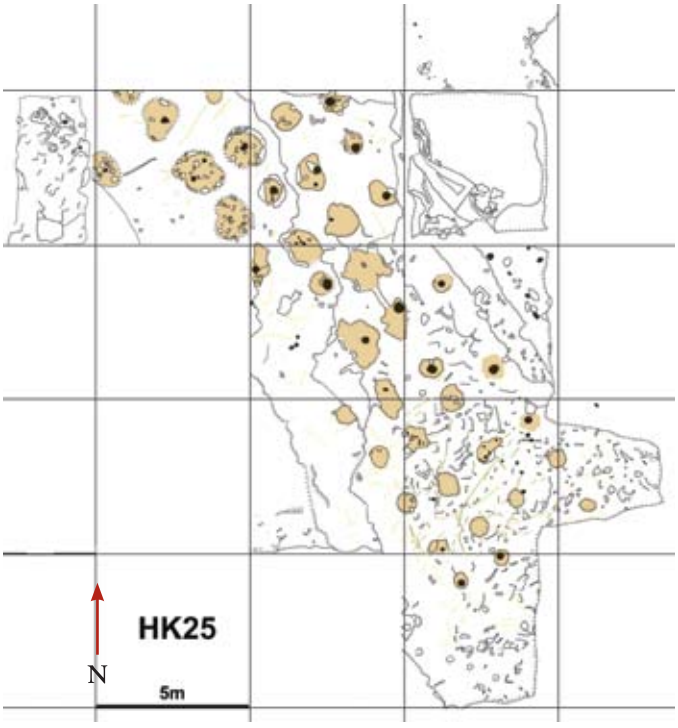
tubes are the remains of the reed roof that once covered the structure. The mud floor shows no sign of major use or repair, and virtually no finds were recovered from directly on top of it. It certainly seems that the structure was abandoned long before the roof collapsed.

Although little was found on this mud floor, the number of burnt bifacial stone tool fragments collected in the immediate vicinity has increased exponentially since 2005, and we now have almost 1000 pieces originating from dozens of knives and projectile points. Associated with these stone tools are burnt mace-heads and hundreds of natural 'flint rings', some resembling donuts, whose function and significance remain an intriguing question.

Based on morphology and typology, the bifacial tools are of late Naqada I to early Naqada II date, and thus slightly older than the bulk of ceramics and lithics from HK25. Together with the mace-heads and the flint rings, they may have belonged to a foundation deposit for the structure, which would further highlight the importance of this pillared hall.

We are uncovering a fascinating area—all of the buildings at HK29A, HK29B and HK25 share the same southeast to northwest orientation, suggesting that all may be related. This vast complex in the heart of the Predynastic Town, together with the large ritual precinct in the Elite Cemetery up the wadi, show Hierakonpolis to be the impressive and inspiring birth place of monumental architecture in Ancient Egypt.

This work was made possible by a grant from the Social Sciences and Humanities Research Council of Canada.



The columned hall at HK25.

Mysterious flint rings from HK25.

Return to the Temple Part II

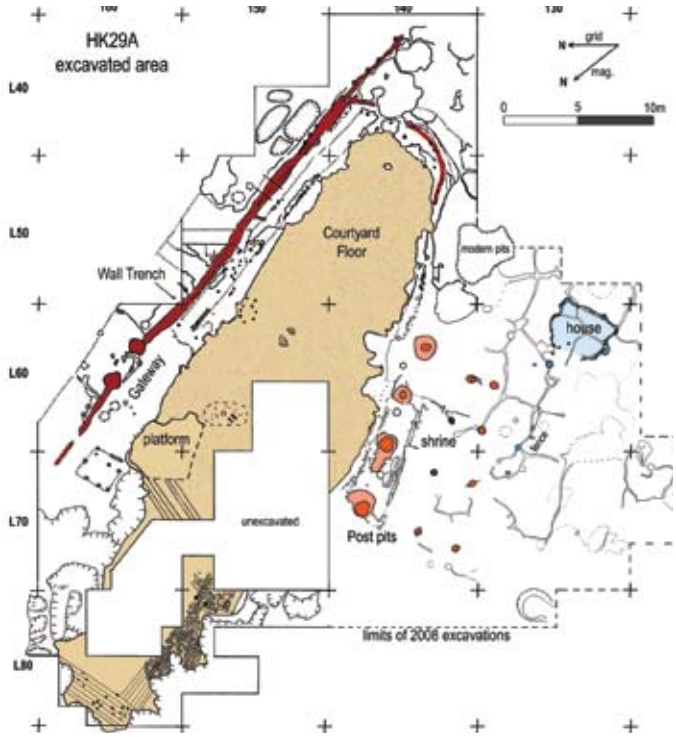
— by Renée Friedman and Liam McNamara

Encouraged by the discoveries at nearby HK25, it was nonetheless with some trepidation that we returned to the temple at HK29A in early February. The 40m-long oval courtyard and associated wall trench along its north side had been re-investigated in 2002 (see *Nekhen News* 15), but the windswept surface, alternating with daunting mounds of potsherds, immediately south of the four large postholes, believed to mark the façade of the main shrine, had long discouraged us from focussing our efforts there. Yet, our recent work in the Elite Cemetery at HK6 had shown that surface indications can be deceptive, when excavation of a seemingly barren sector east of Tomb 23 revealed the impressive 24-columned Structure 07 and its amazing contents (see *Nekhen News* 19).

Operating on the assumption that 'where it is not on the surface, it must still be in the ground', this season's excavations at HK29A seem to have unearthed the exception that proves the rule. With such great expectations, it was disheartening to discover that sometimes nothing really does mean nothing… well, almost nothing.

Scraping back the heavily weathered surface to the south of the four large posts, we uncovered two further rows of four postholes, each running parallel with the façade. Compared to the original postholes (1.5m in diameter and up to 1.7m deep), the new ones are much smaller, measuring about 40cm in diameter and ranging from 20 to 80cm in depth. In at least four the remains of the original wooden posts were preserved, and narrow tool marks running vertically down the sides of the holes demonstrate the spike method of digging known from other predynastic contexts. No new indications of adjoining or surrounding walls were found.

Making the most of it: mapping a posthole.



Map of HK29A in 2008.

When compared to the large multi-columned buildings recently discovered elsewhere at the site, the limited size of the temple structure is most unexpected: the exposed architecture suggests a building only 6.5m wide (north-south) and 13m long (east-west). Similarly, compared to the fine ritual pottery, exotic stone vessels and the highly specialized lithics found on, and to the north of, the temple floor, the finds on the southern side were distinctly ordinary. It is only amongst the animal bones that similarities can be discerned, especially in the relatively high numbers of large fish, crocodile and soft shell turtle (see *Nekhen News* 15:6), although the heavily disturbed nature of the deposits leaves us none the wiser about the area's function.

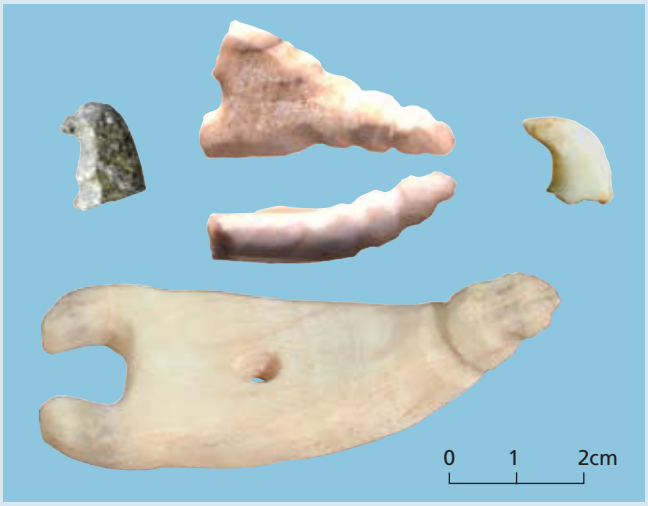
To the south of the columns, the area was heavily disturbed by fertilizer diggers, animal burrows and weathering. It appears to be entirely free of architectural traces, with the exception of the foundation of a semi-subterranean house, which may belong to an earlier phase of occupation during the predynastic. Measuring roughly 4x3m and surrounded by postholes for its wattle and daub walls, it is

Heads or Tails?

Its full architectural form may still elude us, but the ritual nature of the HK29A temple complex is beyond doubt. The specialized pottery—unpolished red bottles, black egg-shaped jars and flaring black-topped beakers—are now familiar from the sacred precinct in the Elite Cemetery at HK6.

Also comparable are the fine lithics and stone objects, amongst which was a 'falcon head' of greenish steatite found by Mike Hoffman during his 1986-7 excavations at HK29A. The stunning malachite falcon from Structure 07 at HK6 (see *Nekhen News* 19) should be a parallel, except for one problem.... Hoffman's steatite object is not a head, and neither is it a falcon!

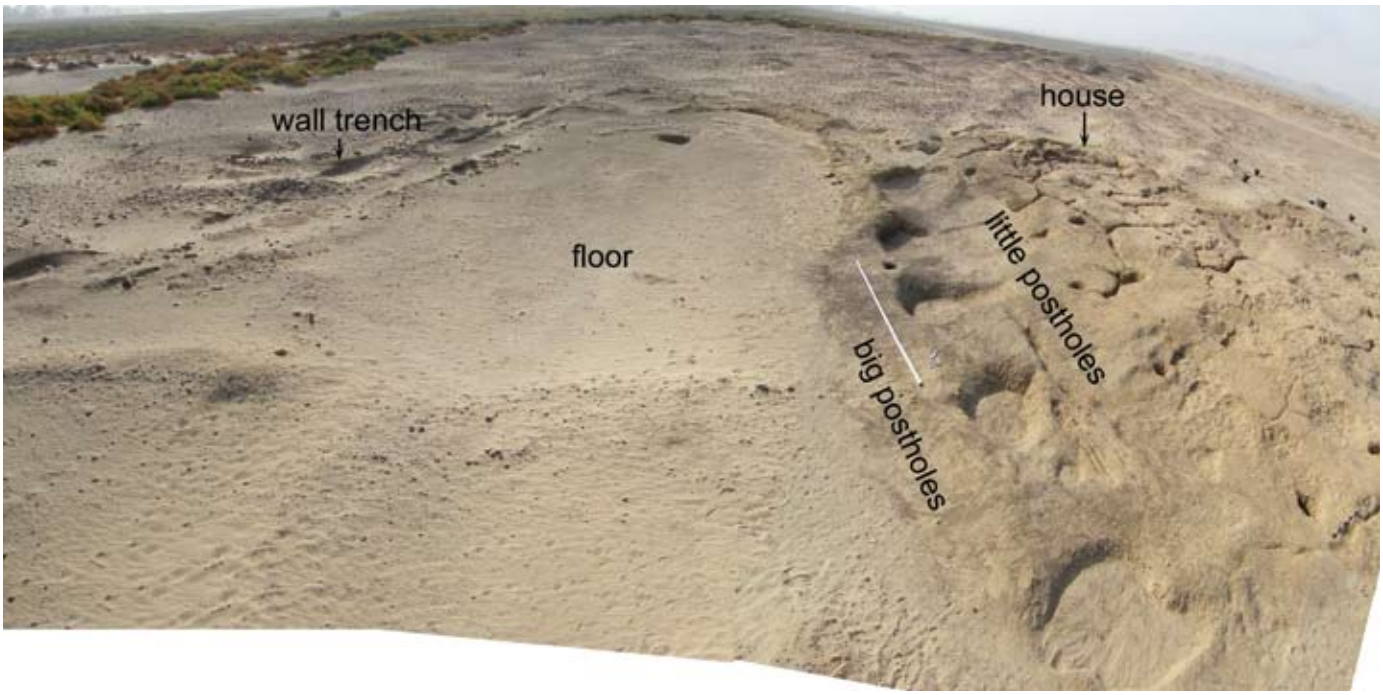
Thanks to recent excavations at HK6 (see *Nekhen News* 18), it can now be correctly identified as the tail of a scorpion, and thus creates another, even stronger, connection between the two remarkable ritual areas at Hierakonpolis.



Comparison with the scorpion figurines from HK6 shows that the 'falcon head' from HK29A (top left) is really a scorpion tail.

in essence an eroded version of the burnt house at HK29. The irony of this discovery should not be overlooked—when Michael Hoffman first came to HK29A in 1985, he was looking for a comparable house but found a temple. Now, over 20 years later, while looking for a temple, we finally found that house!

So how should we interpret our finds at the temple? It is possible that the columned area is only one side of a much larger pillared structure, perhaps with an open central court. Alternatively, we could be looking at it from the wrong direction entirely. The four large posts may not be the shrine's façade, but a monumental entrance leading into the oval court to which an exterior portico was appended. Whatever the answer, the popular reconstructions of the temple at HK29A will now need to be altered, although exactly how remains to be determined. Clearly, HK29A is not giving up its secrets easily and we will have to return to the temple yet again!



Panoramic photomontage of the temple site at HK29A as it appears today.

Return to the Temple Workshop: The Manufacture of Bifacial Flint Tools

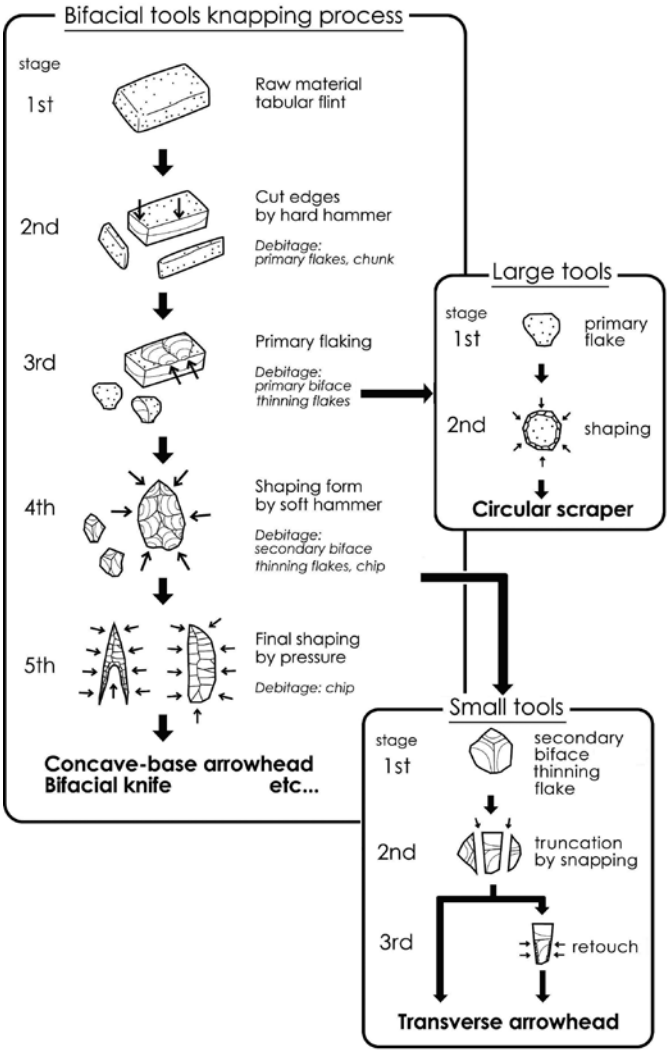
— by Izumi H. Takamiya, Kinki University, Japan, and Hitoshi Endo, Tokai University, Japan

Michael Hoffman's 1985–89 excavations at HK29A yielded an enormous collection of lithics—including tools and debitage, it weighed in at over 143kg. Approximately 43% (by weight) of this material was studied by Diane Holmes, who suggested that it derived from workshops attached to the temple, in which full-time specialists manufactured bifacial tools, micro-drills, beads and other stone artifacts. This was an important discovery for the understanding of the development of craft specialization in Egypt because no lithic workshop involving full-time specialists had previously been identified at any predynastic site.

Excavation of the temple has since continued, providing even more abundant archaeological material. In March 2008, we embarked on a new study of the lithics from the temple area with the view to elucidate variations in lithic technology within the complex society at Hierakonpolis through comparison with assemblages from other localities, such as the brewery at HK11C Squares A6–A7. Although our study is still at a preliminary stage, it has produced some interesting results, which confirm many of Holmes' earlier observations and provide additional information on the 'temple workshop'.

To begin our study, we selected one sample from each of the major areas and campaigns at the temple: the courtyard floor (1986), the wall trench (2002), and the south side (2008). The bag from the 1986 season contained lithics from Square 140L50 Find 4, the area above the southeastern part of the temple floor. This unit has been dated to Naqada IId based on associated pottery. Containing more than 9000 pieces, this bag was not examined by Holmes, but the assemblage shares many features with those she studied in terms of general composition, which is characterized by large quantities of biface thinning debitage and micro-drills used in bead-making. The raw material is predominately flint, but other stones, such as agate and obsidian, also occur in small amounts.

'Biface thinning debitage' is the lithics category for thin flint flakes and blades produced during the process of shaping a core to make tools with retouch on both faces. Such debitage made up more than 70% of the lithics from this unit, and included both primary (with cortex from the natural flint nodule) and secondary/tertiary (without cortex) flakes. As recognized by Holmes, most were made from flint with special qualities and colours, such as fine translucent white, or orange and reddish brown, in contrast to the raw material used elsewhere for flakes and blades, which is usually light to dark brown



The 'châine opératoire' or, how to make a bifacial flint tool.

and opaque. Clearly, the craftsmen in the temple workshop carefully selected the flint used for bifacial tools.

In addition, several flat 'tabular' flint nodules were recovered from the recent excavations on the south side of the temple court. These were covered with cortex except for several flaked facets. Such nodules were probably selected and imported for bifacial tool production since it was easier to manufacture flat, thin tools from them.

It is not easy to say what kinds of bifacial tools were manufactured in the temple workshop, as very few of the finished products have been recovered. Fragments of ripple flake knives and projectile points found during the excavations are suggestive, but not conclusive, evidence. However, this

season we found part of a bifacial knife of orange flint which appears to have been accidentally broken during the knapping process, and provides support for these assumptions. In addition, we also identified some distinctive tools that were made from biface thinning debitage as secondary products. These include circular scrapers, shaped from primary flakes by retouching the edges all around, and transverse arrowheads (familiar from HK6), which were made from secondary flakes by snapping them and adding retouch.

Thanks to the abundance of informative materials, we can tentatively reconstruct the châine opératoire or process of bifacial tool production in the temple workshop as follows: First, the ancient flint workers procured tabular flint nodules of special quality from mines probably located at a great distance, as flint of such quality is unknown in the immediate vicinity. Next, they created an exterior tool form and platforms by knapping off the edges of the nodule, presumably by direct hard-hammer percussion. Then, they flaked off large and thin primary flakes from the flat, cortex-covered surfaces. After that, they successively flaked off thin oval flakes from both faces by soft-hammer percussion and pressure flaking. It may be inferred that at least some of the products were distributed to the high status persons who were destined to be buried at HK6, as many exquisite bifacial artifacts have been found there. Thus, from the procurement of raw materials to the distribution of the final product, a special production system for creating these prestige goods appears to have been based at the temple.

In July, at the *'Egypt at its Origins'* colloquium, Karin Kindermann presented her work on the lithics from Buto. She reconstructed a process of bifacial flint knife production during the Early Dynastic period, which seemed quite similar to the system observed in the temple workshop at Hierakonpolis. Of particular note were the use of tabular nodules, the preference for translucency, the production technologies, manufacture in a special, high-status area and the presumed distribution to elite persons.

This system of biface production and the ideology of a prestige economy (and mortuary practices) originated in Upper Egypt in predynastic times. How it was introduced into Buto during the Early Dynastic period requires further research not only in the Delta, but also in our own storeroom. For, although the elite items created by the craftsmen in the temple atelier have all but disappeared, the debris from their labours are the real treasures, containing rich information not only about the lithic industry at Hierakonpolis, but also the relationship between Upper and Lower Egypt.

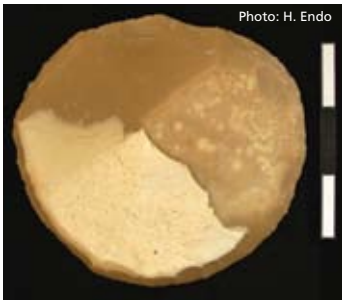
Links in the Châine

A: Tabular flint nodule with cortex.

B: Debitage: bifacial thinning flakes.

C: Mid section of bifacial flint knife.

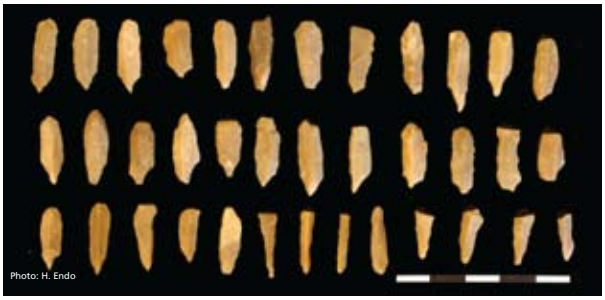
By-products



A: Circular scraper.

B: Transverse arrowheads.

A Different Story



Micro-drills for bead making.

Remembering the Ancestors: HK6 in 2008

— by Renee Friedman

Since 2000, excavations in the elite Predynastic and Early Dynastic cemetery at HK6 have been focussed on and around Tomb 23, the largest tomb known for the Naqada IIAB period, and the first to reveal evidence of above-ground funerary architecture in Egypt. In 2005–2007 work to the east and south of the tomb revealed a series of remarkable pillared halls (Structures D9, 07 and E8), an architectural type postulated for the predynastic, but never before actually found. This season, our aim was to determine whether these columned structures were associated with Tomb 23, perhaps as part of a 'palace for eternity' modelled on the residence of the king as suggested for Tomb U-j at Abydos, or whether they were independent buildings set within a ritual precinct dedicated to the funerary cults of the cemetery's high-status occupants.

Our search for clues took us to all sides of the complex, and revealed some answers, but even more surprises. Beginning on the east, we hoped that Wall B7, running along the edge of the wadi terrace, might give us some information. Already 27m long, if it turned a corner and enclosed Tomb 23 and its neighboring structures, then there would be good reason to view them as a unit.

So, in February we began to trace the wall and to make a long story short, after following it for another 25m, it doesn't turn a corner. Not only does it not turn a corner, it runs through one of the most barren areas encountered in this teeming cemetery. Only three things of interest were found, but they amply repaid the effort. One was the burial of a baboon (see cover); the second, found nearby, was the burial of 9 dogs; and adjacent to it, the third surprise was a circular pit containing 6 cats (see below). These are the first undisturbed animal burials found in this cemetery, but, although they kept us busy and enthralled, they didn't answer our main question.

Tracing the burnt walls of Structure 08-1b.

Moving to the north side, it all became clear (well, clearer), but only after the backdirt of previous seasons was laboriously removed, proving the archaeologists' proverb: "no matter where you put your dirt, you will have to move it"!

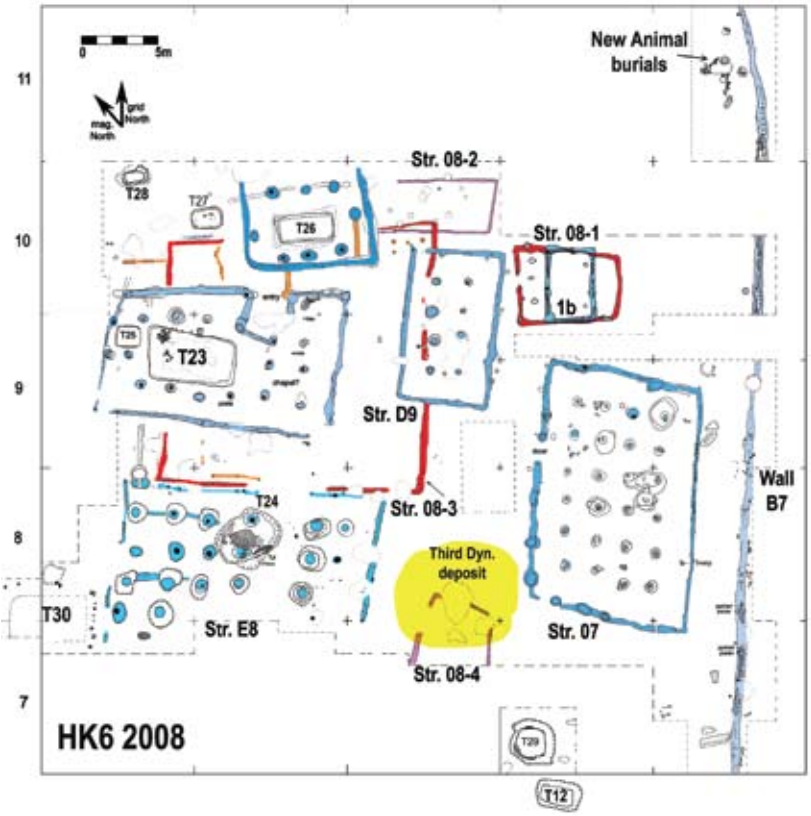
The stone column of Structure 08-2.

More complicated and interesting than anticipated, the first key to the complex history of the precinct was a new structure called 08-1. It initially appeared to be a three-room building, but we soon realized that the internal room was actually a later construction. This was evident from the intense burning of all four of its walls, their slightly narrower foundation trenches and the numerous ivory cylinders found exclusively within them. The unburnt outer walls clearly belonged to an earlier structure that had already disappeared prior to the fire. In fact, it must have been demolished, if not before, then at least when the construction of Structure D9 effectively blocked its entrance. But this wasn't the only structure removed to make way for Structure D9. Although indications are subtle, there is no question that an earlier building called Structure 08-3 is also overlain by the walls of D9. However, whether it, in turn, cuts through the southwest corner of another new edifice called Structure 08-2, or vice versa, is not entirely clear.

The shallow wall trench of Structure 08-2 makes it difficult to trace, but while it may seem a bit flimsy, a column of carved limestone, roughly 18cm in diameter, suggests that extra effort was put into its construction. Limestone is rare at Hierakonpolis (although a suitable outcrop has been discovered to the north of the concession) and its use in this way is unexpected for the Predynastic period. A rare commodity, it is no surprise that only one of the eight stone columns that may have graced its interior now survives.

Based on these new discoveries, we can now distinguish several building phases, and within each, increasing levels of size and elaboration. Structures 08-1a, 2 and 3 belong to an early construction phase, while traces of other structures, whose full configuration cannot yet be determined, may be even earlier. In the next major phase, the earlier buildings were removed to make way for Structures D9, 07, E8 and the Tomb 23 complex. Whether these substantial structures were built simultaneously or sequentially is unknown, but the 4m-wide corridor that runs between them suggests that all stood together at some point in time.

What does all this construction and demolition mean? It seems that we have found a sacred precinct in which pillared halls were erected for the performance of funerary rites. In other words, we can now interpret these remarkable structures as funerary temples—Egypt's earliest. Considering their number, one or more temples may have been erected every generation or so, while the associated tombs were placed elsewhere within the cemetery. However, we still do not know if the associated tombs had superstructures. To date, only Tomb 23 and the slightly later Tomb 26 provide irrefutable evidence for superstructure over a tomb. Until this question is answered, it is unclear if Tomb 23, in addition to its size, takes on further significance for combining, perhaps for the first time, tomb and temple, and beginning the on-again/off-again relationship that the two will have with each other for the next three millennia.

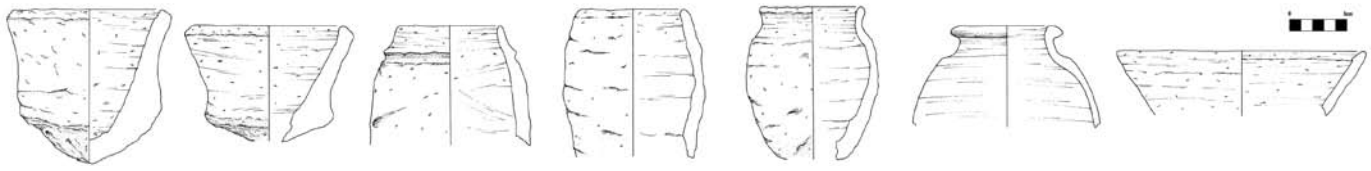


The sacred precinct at HK6. Earlier phases in red; later phases in blue. Third Dynasty deposit in yellow.

Many questions still remain, but what we do know is that, although the structures were made entirely of wood, they were not meant to be ephemeral. Evidence of their surprising longevity was revealed when masses of beer jars and bread pots datable to the early Third Dynasty were uncovered on the south side of the precinct. Investigation of this deposit showed that the now ash-filled pits dug for heating the bread pots were very carefully placed to respect the walls of both Structure E8 and Structure 07. This level of care indicates that, astonishingly, almost 1000 years after they were erected, these buildings were still extant and the focus of veneration and ritual!

This unanticipated activity in the Third Dynasty presents the intriguing possibility that the wooden architecture imitated in stone at the Step Pyramid complex in Saqqara was deliberately modelled on the sacred precinct at Hierakonpolis, and that the memory of its predynastic rulers was still venerated in Old Kingdom times. This discovery also poses many questions regarding the ancient Egyptians' view and knowledge of their own past, as well as their efforts to preserve monuments, concepts and customs that were already old even as Egyptian civilization was being formed.

Eight years of excavation have now proved that strong and rich rulers were present at Hierakonpolis from early times; although their names may have been lost, the memory of their accomplishments was actively nurtured for at least a millennium, if not more.



Pottery from the Third Dynasty deposit at HK6.

More Animal Burials from the Elite Cemetery

— by Wim Van Neer, Royal Belgian Institute of Natural Sciences, Brussels, and Veerle Linseele, Katholieke Universiteit, Leuven

One of the many aspects that makes HK6 so intriguing is the number and variety of the animal burials it contains. Thus far, more than 70 buried animals have been discovered, although the graves were often severely disturbed and the skeletons not always complete. The species encountered include traditional domestic animals like dog, cattle, sheep and goat, but what makes HK6 so exceptional are the wild species, a list of which reads like the catalogue of a small zoo! So far, these include anubis baboon (at least 8 individuals), hippopotamus (2), elephant (2), wild donkey (2) aurochs (1), hartebeest (1) and swamp cat (1). Although the cemetery was mainly used in the Naqada I–IIB and Naqada III periods, the burial of wild animals appears to be a feature of the earlier phase only.

Portrait of a young baboon.

During the 2008 field season, excavations continued to the northeast of the Tomb 23 complex to explore the farther trajectory of Wall B7. Unexpectedly, these investigations revealed the presence of three new, undisturbed animal burials. The first animal uncovered was a baboon, lying on its right side, facing north, in a shallow pit less then 50cm from the wall. The skull was chalky and fragile due to subsurface weathering, and therefore identification as either anubis or hamadryas baboon could not be confirmed. However, as all other identified baboons from HK6 have thus far been anubis baboons, it seems likely that this new addition also belongs to this exotic species and must have been brought to the site from a more southerly part of the Nile Valley.

Judging from the erupted teeth and the fusion state of the long bones, this baboon was about three years of age (average life span in the wild is 20 to 30 years). Young animals are more easily tamed—and transported—than older individuals. The skeleton suggests a healthy animal without traces of fractures or other pathologies that could indicate a long or uncomfortable captivity. This is in contrast to several anubis baboons found in Tomb 12, which had healed fractures, especially on the hands and feet, resulting from capture or from the unnatural conditions in which they were kept (see *Nekhen News* 14: 8).

While the excavation of the baboon had us excited, another animal burial emerged less than 1m away. Just below the surface, a head appeared, belonging this time to a dog. Further clearance and removal of the flat stones over the top exposed a shallow oval pit, about 1.4m long, containing a large number of dogs. It took several days of meticulous brushing, recording, drawing and photography before we could establish that this pit held a total of nine complete individuals. All of the dogs lay on their left side with heads oriented towards the east. Their legs and feet pointed southward, indicating that the animals had been tossed in from the south side of the pit. Of the nine individuals, at least two were males, and all, with the exception of one old dog, were healthy young adults.

The measurements of the long bones show that the animals were medium-sized and probably similar to the stray dogs in the village today. No evidence was found for how the dogs met their end. A rhomboid-shaped arrowhead was found on the surface just north of the pit, but while suggestive, no evidence of arrow wounds were observed on any of the dogs. Strangulation or throat cutting, neither of which need leave a mark on the skeleton, are the most likely cause. Only when the cuts are deep, reaching far beyond the trachea, may traces be found on the neck vertebrae or the hyoids (fragile bones responsible for the suspension of the tongue). The hyoid bones of one of the dogs were retrieved and these were intact, giving us no clues.

Digging the dog pit.

Wim measuring at pit side.

Veerle and a circle of cats.

The arrow from the vicinity.

Once the last dog was lifted, a search was mounted for more animal burials. The hard, gravelly surface over a wide area was scraped for almost an entire day without success, except for the water-eroded remnants (ribs only) of another dog. However, at the end of the working day, when a little clean up was done around the dog pit for photography, it turned out it had not been necessary to look so far afield: bones from another series of animals appeared right beside its southern edge! Again, it took several long, hot days of careful clearance and recording before it was possible to disentangle the individual animals. In an almost perfectly circular pit, only 50cm in diameter, were two adult cats and four kittens. Three species of cat occur in Egypt, but identification is not always easy. A detailed study of the morphology and the bone dimensions is currently underway in order to establish the identity of the occupants of this unique collection of cats.

Dog pit in detail.

Burials of cats and baboons are exclusive to the HK6 necropolis, but dogs occur in most predynastic cemeteries, if generally only in limited numbers. This new pit with its nine individuals is the largest cluster of dogs recorded at HK6, although Tombs 5 and 14 (Naqada IC–IIA) contained seven dogs each. At most other cemeteries, the animals (dog, sheep, or gazelle) are often placed within the graves of humans, perhaps to serve as pets or companions. On the other hand, the mass burial of animals without human accompaniment appears to be a very elite practice with a different meaning. In the elite Cemetery T at Naqada, Petrie mentions a pit containing about 20 dogs, although its date and exact location are unfortunately unknown. At Abydos, this practice seems to have been adopted by the kings only in the Early Dynastic period. The remains of seven lions were associated with the tomb of Aha, while at least four dogs with their own grave stelae were interred possibly around the tomb of Den, but again, the exact find spots were unrecorded, making it hard to determine their significance.

Luckily at Hierakonpolis, we have more information. A look at the spatial distribution of the independent animal burials presents an intriguing pattern. Notably, the new burials of the baboon, dogs, and cats in the northeast corner of the precinct are mirrored on the southeast by Tomb 12, which contained seven baboons, a cat, and a baby hippo. On the northwest, Tomb 28 held an adult dog and sheep, while the southwest corner has not yet been investigated. This distribution suggests that these animal burials, all without grave goods or human elements, may mark the corners and spiritually protect this special precinct at HK6; the animal burials at other elite locations may have done the same.

Heading West at HK6

— by Xavier Droux, Lincoln College, Oxford

In addition to the discoveries being made to the north, south and east of the excavated area at HK6, the west side also produced its fair share of excitement.

Work here initially concentrated on Structure E8, the large pillared hall with tree-trunk columns up to 50cm in diameter, into which the elephant burial (Tomb 24) was later inserted (see *Nekhen News* 16). The full extent of this building still unknown, we decided to investigate its south-west part. The six new postholes uncovered, including one with its post and bark still perfectly preserved, revealed that the structure actually had four columns across (not three as previously thought), making it similar in size and shape to Structure 07, but with 90° difference in orientation, while still maintaining alignment to the cardinal points. Another difference between the two buildings can be seen in the walls running east-west between the large pillars of Structure E8, dividing the interior space into several chambers or corridors. The excavations also uncovered more of the west exterior wall of Structure E8, but our search for its southwestern corner was diverted by a most unexpected discovery.

The intriguing calcite vessel.

Just beyond the west wall, not far below the surface, was a complete stone vessel made of calcite, its squat cylindrical shape indicating a Third Dynasty date. Intrigued, we opened up further to the west. Although the intensively pitted landscape made it clear that we were not the first to dig here, the remains of a new building began to emerge around the edges of a wide depression. On its north side, five substantial wooden posts indicate a wall at least 6m long, while to the east, another wall of eight evenly-spaced posts runs parallel to, but significantly never encroaches on, the west wall of Structure E8. The southern side was not investigated, as we concentrated on the depression itself in hopes of learning more about the curious calcite vessel.

Unfortunately time ran out before we could get to the bottom of the matter. Clearly, the robbers had found something of interest here, as the extensive hole they dug exceeded our ability to clear it. Nevertheless, a few mud bricks in the disturbed fill suggest that we may eventually find a brick-lined tomb (in anticipation already called Tomb 30), but its date remains uncertain as a wide variety of objects were found within and around it.

Tomb 30 and the southwest corner of Structure E8.

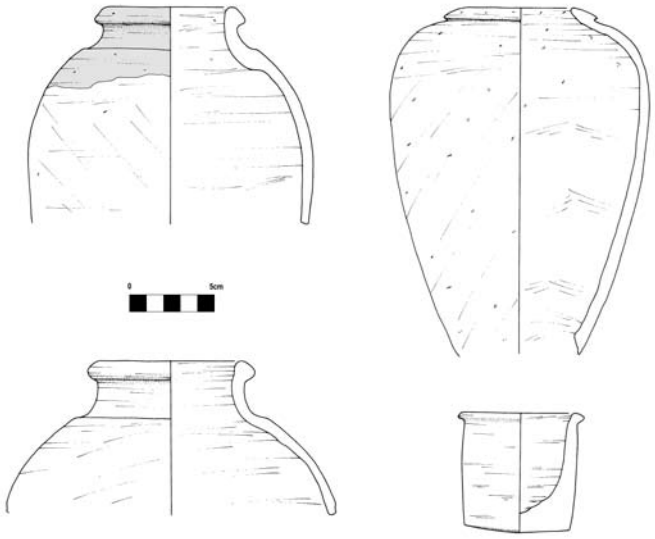
From the surface, we recovered a selection of fine objects, a faint reflection of the material wealth originally interred in the cemetery in early Naqada II times and later. Two sadly damaged animals carved from ivory probably once adorned the upper part of two different combs. Other finds include the lid of a model basket carved of steatite and a fine flint rectangle, possibly a razor. Less attractive, but more unexpected, were the fragments of a wavy handled vessel (Petrie W19). This is the first secure evidence for activity at HK6 in the Naqada IIC period, a time when we had assumed the cemetery to have been abandoned until usage was resumed in the Naqada III (Dynasty 0) period.

It has also been generally assumed that the renewed activity in Naqada III ceased by the end of the First Dynasty. This too may be in need of revision, as the tomb fill also contained fragments of *hes* jars and four distinctive *nemset* jars, used for ritual libations and purification. Datable to the Third Dynasty, they provide additional evidence of the previously unsuspected activity at this time uncovered in the southern part of the precinct, but whether their date can be applied to Tomb 30 remains to be seen. If this tomb really

Ivory animals, model lid and flint razor from around Tomb 30.

was built in the Third Dynasty, then the use of wood for its superstructure (at a time when mud brick was current elsewhere) is most unusual and may be a further indication of the profound influence still exerted by the ancient pillared halls in this sacred precinct.

Like pioneers pushing westward into uncharted territory, we are encountering the unusual and unexpected at HK6. With less than 14% of the cemetery so far investigated, it is perhaps no surprise that we still have much to discover. But at least we know where we will be working next season!



Third Dynasty pottery and calcite vessel (lower right).

A Chip Off the Old Block

Just when it seemed that we could learn no more about the limestone statue from HK6—Egypt's earliest life-size stone statue—a valiant effort by Reis Omar Farouk (borehole supervisor and jigsaw puzzle expert) succeeded in making another join, and an important one too!

The connection of the nose to a fragment of the left cheek now hints at a much more delicately sculpted face than we might expect from the relatively crude, broad and flat features of contemporaneous human figurines. Size and materials no doubt play a part. But even with its limited scale, the exquisite face of the gold-plated statuette, recently discovered at the Delta site of Tell el-Farkha, demonstrates the technical skill and aesthetic appreciation of predynastic artists.

This statuette, only 30cm tall, probably had a wooden core, which was covered with delicate gold foil attached by tiny golden rivets. With its inlaid lapis-lazuli eyes, refined nose and mouth, and large protruding ears, it is an excellent model for our own exceptional statue. Now we just need to mend more of it!

New mend to the HK nose

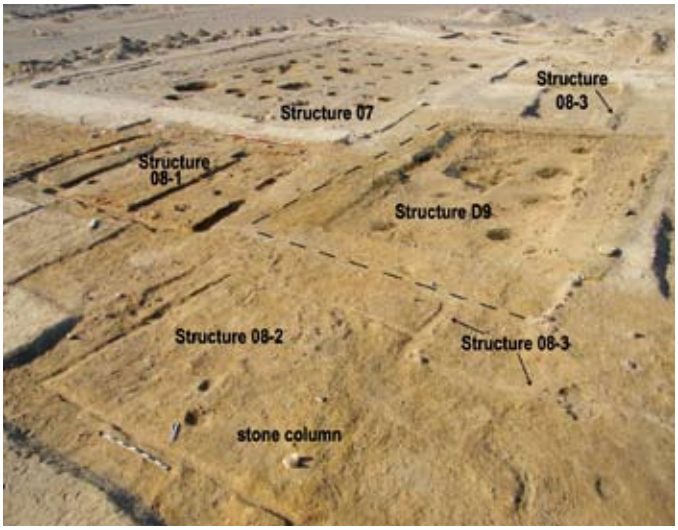
Sample of stone statue fragments: we have some work to do!

The golden statuette from Tell el-Farkha.

HK6: The Ritual Precinct

It's a virtual forest. Overview of the ritual precinct and its pillared architecture.

Third Dynasty pits sandwiched between Structures 07 and E8.



Clues to a complex past: the structures uncovered in 2008.

The animal burials emerging.

Tomb 30 so far….

Manning the sieves, every clue is important.

Up and Down at the Fort

Operation Flat Fort: Many hands make light work!

Abdullah and Kamal going up at the Northeast corner.

Emergency repairs underway.

Richard contemplates the crumbling central gap.

The dedicated crew applying the final touches to the temporary supports.

Fixes big and small, the Fort needs them all.

More Big Pots: HK11C Square B5 in 2008

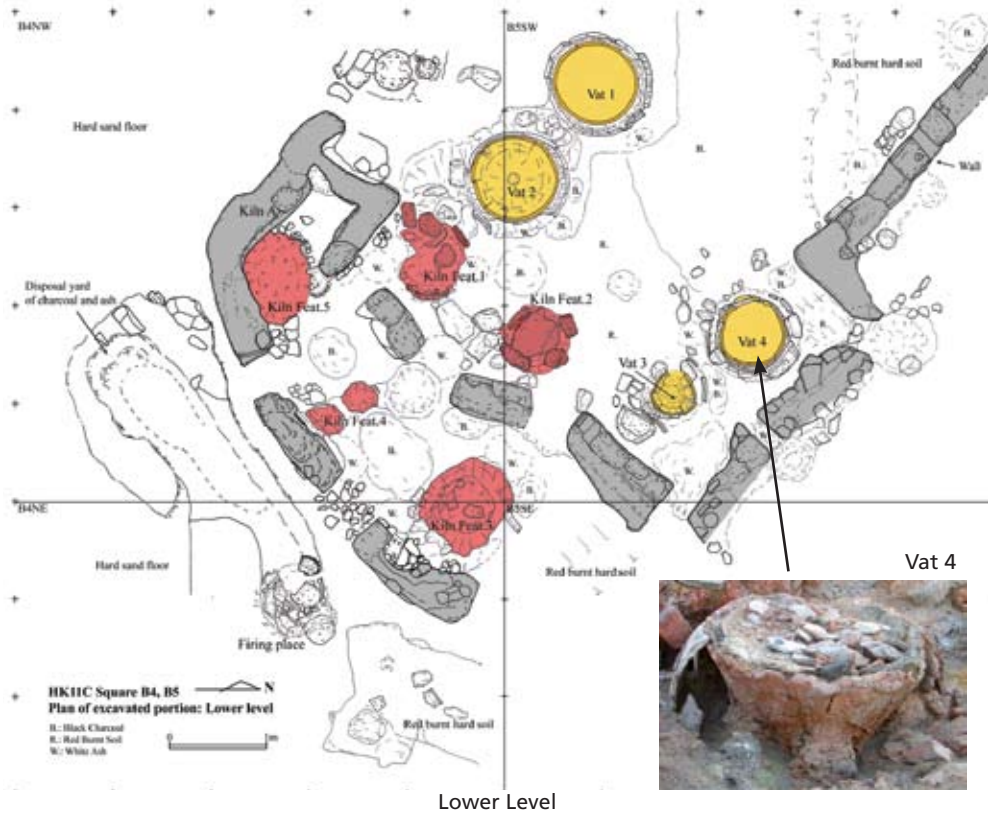
— by Masahiro Baba, Japan Society for the Promotion of Science

The excavation of Square B5 at HK11C has turned out to be as informative as it is complicated, and it did not disappoint us on either count this season, when we expanded northward. As in previous years, two distinct phases of occupation were observed, called (imaginatively) the upper and lower levels.

In the upper level, the remains of a wooden fence-like structure had already been uncovered, but new investigations revealed more of its east wall, which still continues beyond the excavation area. Beside this wall, and within the structure it surrounds, were various pits, a possible hearth, and an up-standing conical pot complete except for the rim (Pot D). This vessel contained a set of potter's tools which included 38 smoothed stones and six more of the worked sherds so prevalent in this level (see *Nekhen News* 16). All together, nearly 2000 of these specially shaped sherds have been found (who would have thought they needed so many!), leaving little doubt that, in this phase, this was the home or workshop of a potter.

In the lower level, previous excavations had revealed several pit kilns for pottery-making in the southern sector and, more surprisingly, two free-standing ceramic vats (Vats 1 and 2) coated with food residue to the northwest. This season, two more vats (Vats 3 and 4) were uncovered. Vat 4 is better preserved and survives to a height of about 40cm. With a maximum diameter of 70cm, it is somewhat smaller than the whopping vats of last season

Upper Level



Lower Level

Overview of the Lower Level, looking northeast.

with their 85cm-diameters. Vat 4 also differs from them in the way it was supported. At its base, a number of rocks were cemented with mud to the exterior, while a series of large pottery sherds were placed up against the vat wall to create an enclosed space around the base in which the fire was contained. Gaps between the mud coated sherds allowed air and fuel into the fire.

Vat 3 is heavily damaged, but this small vat, only 50cm in diameter, was once supported in a similar way to Vat 4. Black food residue, like that found inside Vat 2, was also recovered. It is hoped that archaeobotanical analysis, now underway, will help to explain the differences in pot size and configuration.

We had already suspected the presence of these new vats last season, but the wall surrounding them was definitely a surprise. Built of rocks, sherds and burnt mud, it stands 30–40cm high and is interrupted at intervals by openings or apertures to feed the fire, a construction technique already familiar from the vat installation at HK24B (see *Nekhen News* 19:25). The wall surrounds the new vats on three sides and then continues without gaps northward. More significantly, it also seems to continue westward where it becomes part of the pottery kilns. Because of the highly industrial nature of the finds, precise dating is difficult, but if the vats and the pot kilns are contemporary, this indicates a greater integration of food production and pot manufacture than anticipated, with important implications for craft specialization and the interpretation of other pot-making installations (see box).

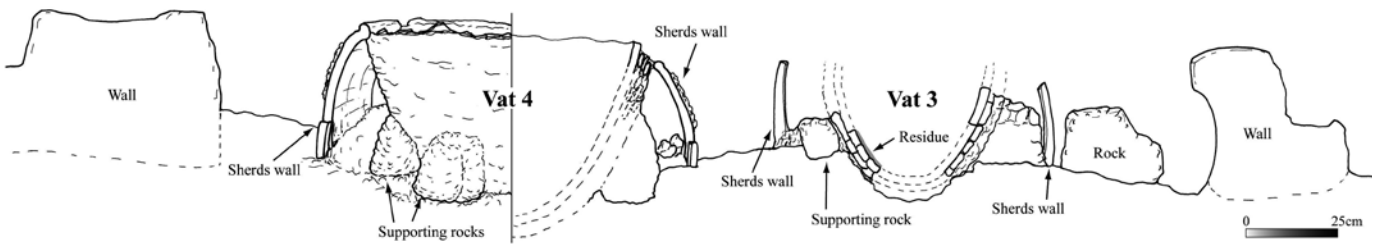
Was pot-making an adjunct to food production (bottling for beer, packaging for porridge)? Or was food production a side-line (a little home brewing or baking) for a potter already well-equipped for pyrotechnology? The scale of the operation, of course, does matter. Recent research suggests that each of the pit kilns at HK11 could hold about 20 of the conical jars so common at the site. Thus, if all five kilns were fired up together, roughly 100 pots could be produced each time. We cannot know how often pots were fired, but whether we are dealing with a communal centre, state sponsored activity, or private enterprise, it looks like it was a very successful business indeed!

HK29 Revisited

Locality HK29, better known as 'the burnt house', has long been considered the home and workshop of a potter (who seems to have accidently set it on fire with his own nearby kiln).

However, a recent stroll through the extensive sherd yard, where the 300,000 sherds from the 1978–79 excavations were sorted, suggests the establishment may have been rather more multi-functional than we thought. In addition to several shaped sherds—the distinctive tools of pottery manufacture—fragments of large vats coated with the tell-tale shiny black residue of food production were also observed.

The relatively modest scale of the workshop (though more work might change this view), seemingly nestled within a domestic area, suggests that we might better consider the owner of the burnt house not simply as the neighbourhood potter, but also as the local microbrewer and/or porridge vendor.



Cross section through Vats 4 and 3.

Not Just Any Old Clay

— by David Sharp, University of Westminster

In December 2004, the production of black-topped pottery returned to Hierakonpolis after a hiatus of about 5000 years. As reported in *Nekhen News* 17, a number of experimental vessels were made from local clays by expedition member Jane Smythe, who as well as being an artist is also an experienced potter.

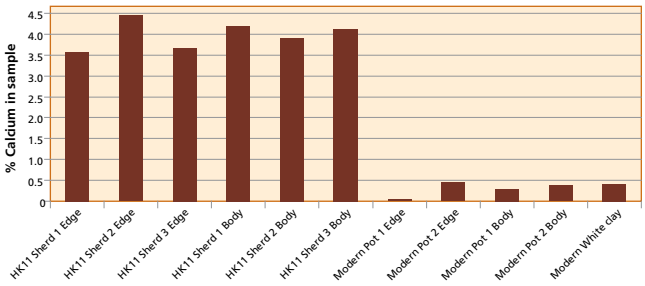
The purpose of these experiments was to investigate the production of predynastic black-topped ware and the process by which the distinctive shiny red body and the intense black top were created. Another aim of the project was to locate the clay sources used by the ancient potters. With this goal in mind, three samples from Jane's modern pots were taken for scientific analysis at the Institute of Archaeology of University College London. These samples were compared to three ancient sherds from HK11, which are part of a collection exported for study in 1980 and currently housed at the British Museum.

The clay for the modern experiments came from locations in the desert. From the eroded wadi cliffs flanking HK11, a greenish-grey cretaceous clay was easily collected and seemed highly suitable for pot-making, as it was very plastic and required little cleaning. Red minerals observed near this clay source were also collected with a view to creating a red pigmented slip. In addition, a fine, almost white clay, conveniently uncovered by the electricity pylon earthworks, was also harvested.

Jane made the clay into pots (details in *Nekhen News* 17). Some were covered with a slip made with the red mineral, while others were given only a coating of fine clay before burnishing. After drying, the pots were fired in simple bonfires. The black-topping process worked successfully, and all of the vessels fired to shades of brown/red entirely consistent with ancient examples. However, many pots cracked during firing. It was assumed that the main reason for this was insufficient drying time, although it now seems that other factors may have contributed.

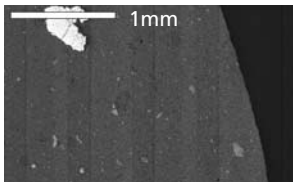
Collecting clay from the wadi edge.

Sherds from three of these pots were taken for analysis using one of UCL's Scanning Electron Microscopes (SEM), which has analytical powers due to X-ray detection equipment. Readings were taken both within the body of the sherd and at the edge to ascertain whether the outer 'slip' was chemically different. Similar readings were also taken from the three sherds from HK11.



Calcium content compared: percentage of calcium in ancient sherds and modern samples.

Results showed lower levels of iron (Fe) and much lower levels of calcium (Ca) in the modern samples than in the ancient ones, and the presence of barium sulphate fragments in the modern samples only. This significant barium sulphate signature indicates that the ancient potters did not use the cretaceous wadi clay, despite its ease of access and high workability. They were certainly aware of these deposits and happily used the grey clays in their kiln construction, but some factor made this clay undesirable for potting. Perhaps, as in our own experiments, they found its long drying time and high salt content problematic. The effects of the low calcium levels may also have been noted, as calcium acts as a flux to promote vitrification, making a harder fabric without the need for a hotter fire.



Barium sulphate fragments in modern sherds (SEM image).

Experience may trump expedience, but this is not to say that the ancient potters worked any harder than they needed to. The tests of both modern and ancient samples also showed that the iron content near the vessel surfaces (i.e., the slip) was not significantly different from the iron in the body. This was surprising, as the red slips on predynastic fine wares are generally considered to contain added ochre (iron oxide), which could be gathered in the desert. But, at least at Hierakonpolis, it may tentatively be suggested that the shiny red finish was achieved simply by burnishing the pot and the oxidising conditions during firing.

What brought the potters out to the wadi remains unknown. Although we have not yet discovered the clay source that they used, by learning what they preferred to pass up, we begin to form a better picture of pottery production at ancient Hierakonpolis.

Seeds, Starch and Stones:
An Integrated Approach to Archaeobotanical Analyses

— by Ahmed Fahmy, Helwan University, Cairo, and Linda Perry, Smithsonian Institution, Washington DC.

Our understanding of human interaction with plants in ancient Egypt is based largely on inferences derived from a variety of sources: e.g., tooth wear, food left as offerings in graves, botanical remains retrieved from archaeological sediments and, in Dynastic times, from depictions on tomb walls. The recovery of significant samples of well-preserved food remains and other organic materials at Hierakonpolis provides a rare opportunity to test and refine various assumptions on subsistence, food preparation and climate in the Predynastic period with direct and non-circumstantial evidence. The extraction of the full range of information from this material requires an integrated approach to the analysis, which includes the identification of preserved organic macro-remains (e.g., fruits, seeds and chaff) and micro-remains such as starches, as well as the inorganic and non-decaying micro-remains called phytoliths.

Phytoliths (literally 'plant stones') are made from silica absorbed by plants from ground water and deposited in the plant's cells as practically indestructible microscopic bodies. For our purposes, the phytoliths that occur in the grass and cereal family are the most important. Phytoliths from such plants are particularly useful since they possess morphological features that allow the species from which they originate to be identified.

The analysis of fossil phytoliths holds great promise for recovering previously inaccessible information, but has been hitherto hampered by the lack of appropriate facilities within Egypt. Thanks to a grant from the NSF administered US-Egypt Science and Technology Program, a dedicated laboratory in which to undertake integrated macro- and micro-botanical research has been set up by Dr. Ahmed Fahmy at Helwan University, Cairo. It is part of a project conceived to allow for detailed analyses of botanical remains from areas at Hierakonpolis with known function—graves and bodies, house floors, and food production installations—with a view toward answering many outstanding historical questions, training the next generation of Egyptian scientists, and perfecting analytical techniques.

Following the discovery of the many big vats with food residues inside them, the project was expanded to include starch analysis. Dr. Linda Perry joined the research team in 2008 to examine starches in the vat residues, as well as in the gut contents and tooth calculus retrieved from contemporary cemeteries. Starch granules, the main energy source of a plant, are made primarily of glucose molecules arranged in a way specific to the plant species. Thus, based on shape, size and surface decoration, the plant from which a starch granule originated can be identified under a microscope from the smallest of samples. Starch analysis is also proving to be particularly enlightening with regard to food preparation at Hierakonpolis, augmenting the results of macro and phytolith analysis with otherwise undetectable indications of the ways in which the plant material was modified into edible food.

From tiny evidence to big results: dendritic phytolith characteristic of wheat chaff (left) and a starch granule of barley (right).

After applying all of these techniques to the samples, the results couldn't be better! We can now track the same food substances from beginning to end: from the vat, to the teeth (embedded in the calculus), to the gut contents, and finally in the coprolites. The diet of the predynastic inhabitants of Hierakonpolis is circumstantial no longer! In addition, we are also closing in on the proper technique and true recipe for Nekhen Beer, which was probably then, as it is now, a carefully guarded secret!

Following the food chain: from seeds (emmer and barley) to vat (with residue), teeth (with calculus), body (gut contents) and beyond...

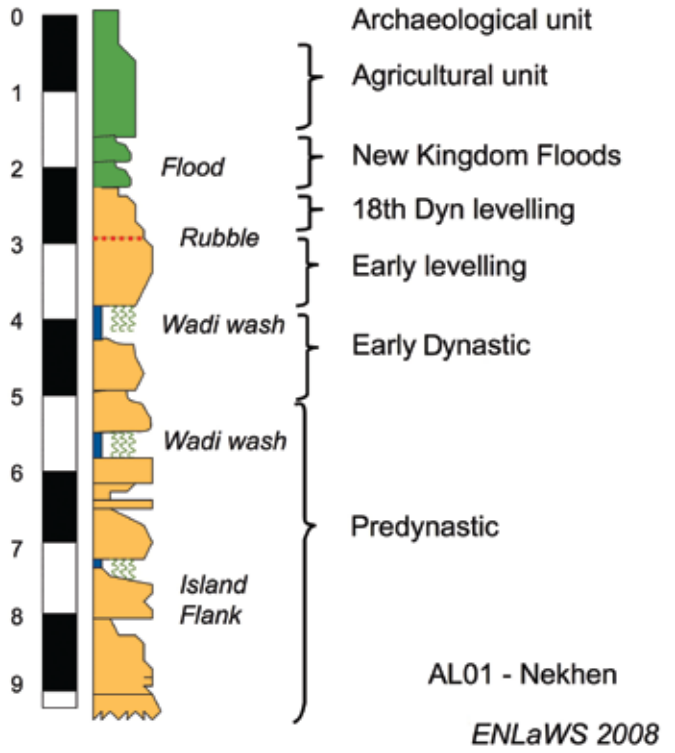
There's Nothing Boring About a Borehole

— by Judith M. Bunbury, University of Cambridge, and Angus Graham, University College London

The relationship between Hierakonpolis, Elkab and Edfu is problematic: Why are three such important sites located so close together? Moreover, although all were in existence since the Predynastic period, why did their relative importance change over time? One simple proposal, which derives from observations at sites such as Karnak and Memphis, is that the river has gradually shifted across the floodplain, and pre-eminence—like the fertile soil of the valley—has been a 'gift of the Nile.'

To test this idea with regard to Hierakonpolis, the Egyptian Nile Land- and Waterscapes Survey drilled a pilot borehole on the southern border of the town site at Nekhen, where examination of satellite images suggested an ancient waterway was once located. The results turned out to be more exciting than we had initially hoped.

Our method, developed at Karnak, uses an Eijkelkamp hand auger (operated with the assistance of Reis Omar Farouk and the local team) to extract sediment from a borehole. As each core (typically representing 10-20cm of depth) is obtained, a description of the sediment is made before it is sieved to retrieve all items 2mm and larger from which, if we are lucky, a date range can be assigned to the deposit.

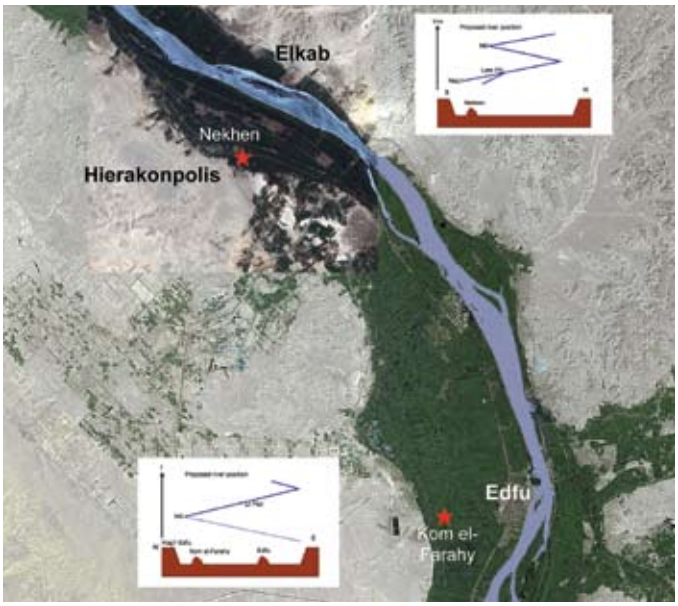


Geological log showing the deposits found in the Nekhen borehole. Sands are gold; silts green and clays blue.

Coring at Nekhen. It's a long way down!

Channel deposits found at the base of the nearly 9m-deep borehole confirm the presence of a waterway in Predynastic times that made early Nekhen an island; but by the Early Dynastic this channel had almost entirely filled in. However, this local landscape change was not the only thing going on in the region. Yellow clays, very uncharacteristic of the Nile Valley, start to appear in the Predynastic deposits but become thicker (up to 20cm) towards the end of the Early Dynastic. The colour matches the yellow clays of the desert and we propose that heavy rainfall resulted in increasingly dramatic wadi washout as the desert was deforested. The geological log shows the last of these wadi-wash events ushered in a quiet period in terms of sedimentation, as Nekhen was now connected by land to the west bank.

Activity was renewed with a 'rubble' event that contained a mixture of Early Dynastic to New Kingdom (18th Dynasty) materials in a rather chaotic jumble. This anthropogenic deposit confirms the view of previous investigators that Nekhen had been levelled when the temple of Thutmose III was built, sweeping away the remains of Old and Middle Kingdom occupation. Eventually, as the floodplain



A regional view: The modern Nile and the proposed shifts over time according to the data from the boreholes (red stars).

rose, the rubble was covered by flood deposits, probably also of New Kingdom age. After that, the log shows quiet agricultural activity until, at the very top of the section, Predynastic material was re-deposited by fertilizer diggers.

All this data was painstakingly extracted from 61 trays of sediment, each providing clues to the sequence of ancient environments, as well as the tiny pieces of potsherds and other debris by which to date them. With these diminutive remnants, we spent a stimulating day playing 'stump the ceramicist'. Although accustomed to far larger and better preserved sherds, our panel of experts had to pass on only very few.

This season's results raise important issues regarding the relationship of the site's occupants to the changing landscape and climate. Did failing rains in the desert, coupled with deforestation and resultant wadi wash-outs drive the inhabitants out of the desert onto the banks of the Nile? Were the subsequent fortunes of Nekhen controlled by the whims of the river? Adopting a regional approach to our investigations, we hope to provide answers to these and other questions in future seasons.

Result of sieving… on a good day

Sticky business: removing the sediment from the bore bit.

Angus and Judith describing the sediments.

Sieving the deposits for datable indicators.

Flotilla

— by Renée Friedman

Compared to its neighbours Elkab, to the east, and Hosh, to the south, Hierakonpolis doesn't appear to have a lot of rock art. This is a bit surprising considering that it has a lot of rocks. Unfortunately these rocks are now the target of stone miners, and their recent activities have caused heart-breaking injuries to the petroglyphs that we do know about, and untold damage to those we don't. These mining operations are particularly problematic because, unlike the neighbouring sites where the living rock of the cliff face was chosen, the rock artists at Hierakonpolis had a special fondness for cleft rocks—large boulders of fine sandstone that tumbled from the cliffs eons ago and split in two. The famous animal-headed boats at HK61a (including the one that forms our logo) appear on the inner faces of such a split boulder, but for how much longer remains to be seen. Stone miners have already loosened the southern side, causing the rock to break in two. Even more distressing is the damage wrought on another cleft rock (HK61b) not a dozen paces away, which is decorated with similar, but even more intricate scenes.

The cleft rock at HK61a.

We had long been aware of the decoration on this rock, but probably due to weathering (rather than design), its lightly pecked motifs are almost invisible in direct sunlight, making them very difficult to record during 'working' hours. Documenting these scenes has always been on our list, but with one thing and another, this task slid to the bottom. However, when miners hauled away a big chunk of one side of the boulder and made a deep gash in the other, this job moved from optional to critical.

It was the last week of the season, with final recording and packing still to do, but at dusk we trekked out to the desert manned with clear plastic, ink pens and blu-tac to salvage what we could. Like almost everything this year, this work managed to be both magical and maddening at the same time. Despairing at the inability to make sense of the plethora

Flotilla on the south side of the HK61b cleft with drawing overlaid.

of peck marks, while the surrounding desert changed from golden to purple and the stars began to twinkle in the still of an Upper Egyptian night, it was hard not to be both enchanted and frustrated in equal measure.

Although the final product is still subject to correction, the dedication put into it is not. Even as the taxi was waiting to take her to the train homeward, Jane Smythe and I dashed off for one final check of what we had prised from the rock, which, when shrunk down to a manageable size, turned out to be pretty impressive.

The number and variety of boats on the south side of the cleft is striking. Some are graced with animal heads and pendants, others have cabins and oars. Several are overlapping, showing that this rock had been the focus of artistic attention on many occasions. Marks on the upper right corner indicate that many more boats were once present. Interestingly, all seem to be heading westward, into the desert, while on the north side, the opposite is the case. Looking eastward, a procession of ibex, gazelle and other horned quadrupeds fill the upper end of the northern cleft (see back cover), while another flotilla of boats fills the lower.

Scene on the north side of the cleft at HK61b.

The concentration of boats at HK61 obviously has significance, but its meaning can only be determined when all of the site's rock art is considered. In light of the current threats to its survival, next season we will begin a comprehensive survey to document the rock art at Hierakonpolis, and as a result, perhaps we will discover that the site is not so different from its neighbours after all.

The Fort Under Siege

— by Richard Jaeschke, Archaeological Conservator, UK

The 2008 season went from the sublime (Egypt—always wonderful) to the ridiculous (arrival in Luxor to British-style rain) and back again. I worked at the Fort, the mud brick enclosure of the 2nd Dynasty King Khasekhemwy, in two segments, or three, if you count either side of the excursion to Mali. Beginning in January, we continued to stabilize the exterior northeast corner, but overall, our main focus was rooted in the interior, where we started to level the dishevelled ground surface (see below), and repair the undercuts and gaps that disfigure the interior face of the walls.

The weather was quite cool but often ridiculously windy. The welcome break to Mali gave us some sublime warmth, but upon our return the full measure of the inside job started to reveal itself.

We are really holding the Fort now!

Once the interior ground surface was flattened, it was then possible to see more clearly the severity of the damage to the wall surfaces. The ugly and rather frightening gap in the center of the west wall had always been a concern. About 7m wide, 5m high and up to 3.5m deep, this gap was originally matched by a large area of damage on the exterior (AKA the central gap), which left only around 1.5m of wall thickness between them. We repaired the outside gap in 2006-2007 (see *Nekhen News* 17–18), but its partner on the inside is a far more complicated affair. In addition, extensive wind erosion has scoured the lower halves of all the standing walls, making them top heavy and unstable. In order to approach this highly dangerous gap, areas adjacent to it needed to be repaired in succession. In this way, we hoped to creep up on the central gap slowly, but the Fort had a different timetable.

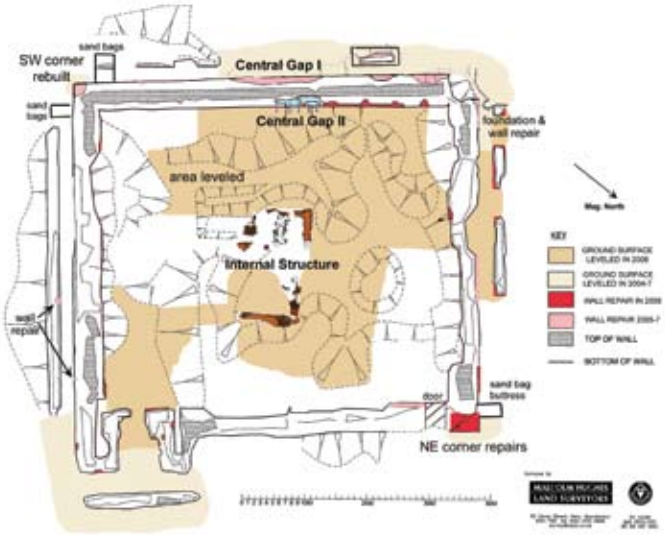
No sooner had I completed my first tour of duty, when increasingly disturbing reports of cracks and brick falls from the inside central gap started to arrive. Upon my return in late March I was rushed to the Fort to figure out what was going on. This (ridiculous) event, however, was not the bad news that I had feared the most. The (slightly sublime) news was that the wall was not toppling inward but settling vertically. The west wall was sinking, by just 2-3cm so far, at a place where it was the weakest—right over the central gap, and the bricks around the edges were feeling the strain. Although little actual damage was observed, the possibility of a catastrophic collapse was all too likely. Immediate action was required.

Central Gap Part II

The central gap on the interior west wall is a complicated problem. Originally two separate, deep and ugly holes, erosion has now joined them into one large spot of bother. To compound the matter, these holes occur in conjunction with an area of profound weakness in the foundation caused by Late Period burials inserted into the wall base and later excavated by Garstang, but never adequately backfilled.

As a result of this weakness, sections of the second phase wall on both sides of the gap are separating and slipping downward. In addition, someone has helpfully dug out a man-sized corridor running for nearly 10m within the core of the wall. A journey too dangerous for us to make, we don't know whether he survived this folly, but fixing it is going to be quite a challenge. Given this catalogue of woes, it is a testament to the skill of the ancient masons that the west wall still stands at all! But now it is our job to keep it that way… can we count on your help?

Garstang's 1905 photo of the gap in its infancy with the burials below and the holes beginning to form above (University of Liverpool Archive H106).



Fort plan: What we have accomplished so far.

Ultimately the interior central gap will require full reinforcement of the foundations, large quantities of new bricks and industrial strength scaffolding for safety and height. None of this was going to be possible in the 8 remaining days of the 2008 season, but we had to do something and soon. In light of the critical situation, we immediately began to design and erect a series of braces to hold the wall temporarily until final repairs can be carried out in the coming season.

The (sublime) Sidain and the rest of the Egyptian crew set about collecting supplies and creating the necessary work space with commendable efficiency. This was a heroic effort requiring hard labour from dawn to dusk (and often later), in searing temperatures reaching 46°C by 10AM—after that we decided it was better not to know. To say it was only a little stressful would be ridiculous.

To provide temporary support, a series of five steel girders, up to 6m long, were securely fixed to a temporary bench in the ground before the gap. The other ends of the girders were padded (with the team's donated pillows) so as not to damage the wall. The steel braces were then carefully positioned to make contact with the wall and act as a halting presence against any further movement without putting undue pressure on the old bricks.

Timber braces (similarly padded) were then placed to support the lower courses, while a network of interconnecting beams made the braces into a steady and powerful support system to prevent the upper and middle sections of the wall from collapsing. Padded steel tubes on screw-threaded jacks were inserted into the deeper recesses to offer vertical support against the forces of gravity.

To complete the supporting structure, the timbers were painted (a very sublime blue) to protect them from white ants, and their bases were encased in a substantial construction of red (fired) brick set in mud mortar to prevent movement and theft. The red brick will be removed as soon as the final repairs are concluded.

This dangerous area now secured, it was then possible for the master mason, Abdullah, to squeeze between the girders to implement the first of the permanent repairs—a column of mud brick masonry at the critical juncture between the two deepest parts of the gap. It's a good start, but it is critical that the final repairs continue as soon as possible.

From the ridiculous to the sublime, the 2008 season marks a significant step in the battle of the central gap. The most serious remaining threat to the survival of the monument, it can finally be defeated in 2009 (with your help), but until then, it is a Fort under siege.


Photo: J. Smythe


Photo: J. Smythe


Photo: J. Smythe

While fixing the Fort....
Some were tied in ridiculous knots.... others were supremely confident.... and one was just too busy to notice!

Flattening the Fort

— by Renée Friedman

The interior of the Fort—an area of nearly 2680 square meters—has been in a very disturbed state since 1905 (if not before) due to the excavations of John Garstang, who uncovered 166 predynastic graves some 2m below the level of the wall footings. The excavated areas were never properly backfilled, leaving depressions up to 2m deep, especially on the north side, while undulating ridges of back dirt over 2.5m high fill the southern and western sectors.

In order to prevent subsidence of the walls, improve the general appearance of the monument, and create workspace for the repairs needed on the interior walls, in January, we began Operation Flat Fort. Our aim was to return the ground surface to near, or above, the original floor level by manually redistributing the dirt from the higher lying areas to the lower. A large local workforce was recruited for this mammoth task and the results quickly became apparent. Many hands do make light work!

Excavations undertaken in 1999 showed that the higher ridges were simply heaps of redeposited debris (see *Nekhen News* 11: 9–15); nevertheless, we remained alert for undisturbed deposits. None were found, except for a low mound in the southwest which retained evidence for animal keeping in the Persian period (6th–3rd century BC). This area has been reserved for future investigation. No further evidence of New Kingdom activity was found to complement the straw-tempered cooking pot incised with the cartouche of Queen Hatshepsut retrieved by Fairservis in 1978. No material from the Old or Middle Kingdoms was observed at all, and overall it appears that the Fort remained hallowed (or at least unused) ground for at least 2000 years after it was built.

Mapping the east wall of the Fort's internal structure.

The flattening operations also allowed us to examine more of the enigmatic structure within the Fort, first uncovered by Garstang and re-explored in 1999. We concentrated on the east side of the structure, where high ridges of debris had obscured the walls. Once removed, nine meters of the east wall and its northeast corner could be mapped for the first time. The southern corner

Operation Flat Fort: A cast of thousands on an inside job.

still eludes us, being deeply buried beneath Garstang's backdirt. Although only the first 2–3 courses of the wall survive, the west face is still well-preserved, and has a veneer of alternating headers and stretchers like the main wall of the enclosure. Interestingly, the lowest course was made with the distinctive bricks of the first phase of construction, indicating that this internal structure was part of the Fort's plan from the very beginning.

Flattening the Fort is a big job. We couldn't do it all, but by the end of the season, the west side of the interior had been returned to a level of 86.85asl (on average), which is about 30cm above the wall base. Any *in situ* material that may survive, remains untouched for future research. A large part of the north-central area was also levelled, and the ground surface around the entrance was raised to an appropriate height. This operation has markedly improved the stability, appearance and manageability of the Fort, and the sweeping views now possible allow its impressive size and grandeur to be appreciated for the first time in living memory.

Pot incised with the cartouche of Hatshepsut—the only evidence for activity in the Fort from the time it was built until the Persian period.

For more details on the Fort, see R. Friedman with appendix by D. Raue, "New Observations on the Fort at Hierakonpolis" in Zahi Hawass and J. Richards (eds.), The Archaeology and Art of Ancient Egypt. Essays in Honor of David B. O'Connor. Annales du Service des Antiquites de l'Egypte Cahier 36. Cairo, 2007: 309–336.

Egypt's Origins in the Ashmolean Museum, Oxford

— by Liam McNamara, St. John's College, Oxford

In late July, the British Museum hosted 'Egypt at its Origins: the Third International Colloquium on Predynastic and Early Dynastic Egypt'. More than 185 participants, hailing from every continent except Antarctica, spent a stimulating 4.5 days learning about the latest discoveries and ideas from over 80 presentations and various workshops.

Naturally, our work at Hierakonpolis featured prominently, as did the expedition team members who volunteered to make the event such a success. Amongst them, Liam McNamara and Xavier Droux deserve special mention for their extraordinary efforts in organizing a temporary exhibition of Early Dynastic objects at the Ashmolean Museum, which was unquestionably the highlight of the entire colloquium.

We thank the Ashmolean Museum for generously hosting the private viewing and extend our gratitude to Susan Walker, Keeper of the Dept. of Antiquities, and Helen Whitehouse, Curator of the Egyptian Collections, for facilitating access to the material.

Liam McNamara and Xavier Droux with the fruits of their labours.

As one of several events organised as part of the Colloquium, on Wednesday, July 30, 2008, more than 140 specialists in the origins of ancient Egyptian civlisation descended upon the city of Oxford for a reception and private viewing of the Egyptian collections in the Ashmolean Museum of Art and Archaeology.

The Ashmolean houses the most important collection of Predynastic and Early Dynastic objects outside Egypt, with significant holdings from all of the major Egyptian sites excavated during the late 19th and early 20th centuries. The expansion of the Museum's Early Egypt collections owes much to the energetic interest of Arthur Evans, Keeper of the Ashmolean from 1884 to 1908, and the University's cordial relationship with Flinders Petrie.

Amongst the Museum's permanent displays, the Petrie Room—dominated by two colossal statues of the fertil-

ity god Min discovered by Petrie at Coptos in 1894—is devoted to objects from Predynastic Egypt, and includes numerous items from the Painted Tomb at Hierakonpolis. Material from Quibell and Green's excavations at Hierakonpolis can be found in several rooms, but is mainly concentrated in the Griffith Gallery Annex, which contains some of the best-known artefacts from the temple enclosure. These include the Two-Dog palette, the Scorpion and Narmer mace-heads, and the famous limestone statue of King Khaskhem dressed in *sed*-festival costume.

These iconic pieces were augmented by a special exhibition of Early Dynastic objects created specifically for the colloquium. Key pieces from the Hierakonpolis 'Main Deposit', including a wide range of its exceptional carved ivories, stone mace-heads and faience figurines were displayed—many for the first time since their discovery—as well as comparative material from the 'M' Chambers of the early temple at Abydos, and selected objects from the First and Second Dynasty Royal Tombs at Umm el-Qaab (Abydos).

The atmosphere in the galleries was electric as colleagues came face-to-face (or nose-to-glass) with familiar masterpieces, as well as other impressive artefacts never before seen. Ongoing excavations at Hierakonpolis and Abydos continue to shed new light on the formative periods of Egyptian civilisation, but this exhibition highlights the continued importance and relevance of material excavated over a century ago.

The exhibit will remain on display until the Ashmolean's temporary closure in early January until late Autumn 2009, when a major re-development project, providing 39 new galleries, is scheduled for completion.

EGYPT AT ITS ORIGINS
THE THIRD INTERNATIONAL COLLOQUIUM ON PREDYNASTIC AND EARLY DYNATIC EGYPT
THE BRITISH MUSEUM, LONDON
SUNDAY 27TH JULY - FRIDAY 1ST AUGUST 2008
WWW.ORIGINS3.ORG.UK

The big knife from Hierakonpolis was a big hit.

Hierakonpolis ivories, many on display for the first time.

The Colloquium participants in front of the British Museum.
For more info see www.origins3.org.uk


Heba Ibrahim (SCA Abu Simbel) delivering the first paper of her life.

Mali Musings

— by Renée Friedman

In February, Richard and I jetted off to Bamako, Mali, to attend *Terra 2008: The 10th International Conference on the Study and Conservation of Earthen Architectural Heritage*. During the five-day conference, we learned about current trends and techniques in mud brick management from around the world, and Richard presented a well-received paper on our own work at the Fort. While there we also took the opportunity to experience some of Mali's famous mud brick first hand, above all, the magnificent mosque at Djenne. Built in 1907, but based on a 13th century original, it is the largest covered mud brick structure still in use today.

Visiting it was certainly an exciting experience, but it became a truly inspiring one when we realized that its

Richard's lecture in Mali sketched by Jochen Guentzel, engineer and our traveling companion to Djenne.

The Great Mosque of Djenne: modern mirror of the ancient Fort.

dimensions are surprisingly similar to the Fort (both have footprints of 75 x 75m and niched walls c. 10m high). Walking around this living monument, it was almost as if we had been transported back to a time when the Fort was young. For the first time we could sense the true impact it must have had in antiquity. Awed and inspired in the face of the world's largest mud brick structure, ultimately we were proud to be doing our bit to preserve its oldest.

Khasekhemwy's Cat

When Pushkin hitched a ride out shortly before the end of last season, and the lovely Lolita couldn't stand the summer heat on her own, we knew that new recruits for the mouse patrol would again be required, but we never imagined the source.

King of the Castle.

In November, while making his morning rounds at the Fort, our guard Gamal noticed a small but deep hole against the west wall, dug the night before by treasure hunters. Such things happen from time to time (which is why we post guards), but rarely do the robbers leave something useful behind. Yet, while assessing the damage, at the base of the hole, Gamal found a friendly little kitten tied to a brick!

As the story was told to me, the kitten was meant to guard the genie of the wall until the robbers could return

Photo: J. Rossiter

Twiggy, his consort.

to extract their wishes from him. Clearly, this clever kitty had other ideas and cut a deal with the genie that night. While I can't be exactly sure what he wished for (he wouldn't tell me), I have a pretty good idea:

1) I want to live in the big house with the foreigners who will love me.

2) I want to eat gourmet cat food brought from around the globe and especially that green olive flavour from Italy (but the pouches with the gravy are just fine too—thanks!)

3) I want to be spoiled rotten.

He most definitely got his wishes, as well as a glamorous, if somewhat high-strung, girlfriend called Twiggy (or more appropriately Twitchy), who was recruited in the village to help with mouse duties, but mainly just looks elegant.

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.

As a Friend of Nekhen you will receive the annual newsletter, the *Nekhen News*, produced exclusively for the Friends. Lavishly illustrated, the *Nekhen News* keeps you up-to-date on all of the Expedition's latest discoveries. Membership in the Friends of Nekhen also entitles you to special rates on Expedition publications.

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*)
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†enclose copy of current student ID
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(If you have already renewed, thank you!)

Make your check/cheque payable to

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Things Are Going Up… But Don't Let the Fort Fall Down!

Thanks in large part to a grant from the Annenberg Program for Endangered Cultural Heritage in the Developing World (administered by the World Monuments Fund) we have made substantial progress on implementing the repairs needed to keep the Fort standing. However, we have one major battle still to fight, and as we enter the final year of grant funding, we need your help more than ever. The temporary braces supporting the interior Central Gap may work for now, but in January we must be ready to attack with bricks, scaffolding and manpower, the costs for all of which have gone up (and up). We really are holding the Fort now, so please give us a hand if you can. Buy a brick, buy a bolt, it all helps to fix the Fort. Many thanks!

We can't hold the Fort alone. Please help!

Special contribution for the
Fort Fund

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Rescuing our rock art (page 24)

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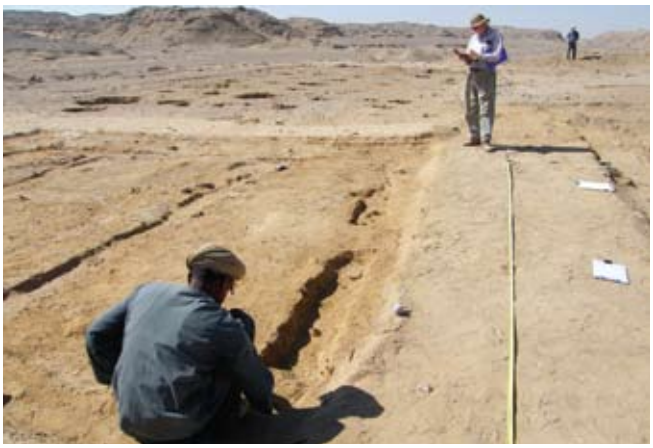
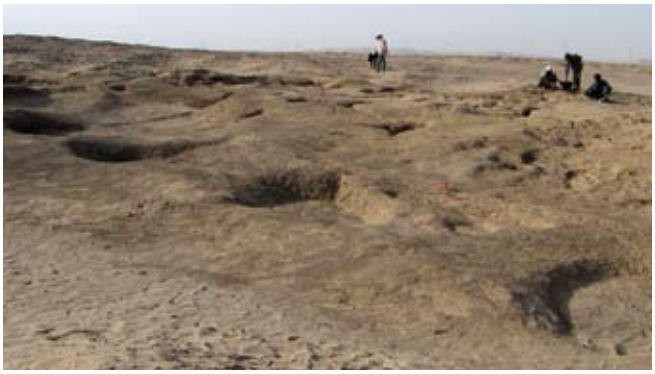


New perspectives in the Elite Cemetery (page10)



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