NEKHEN NEWS

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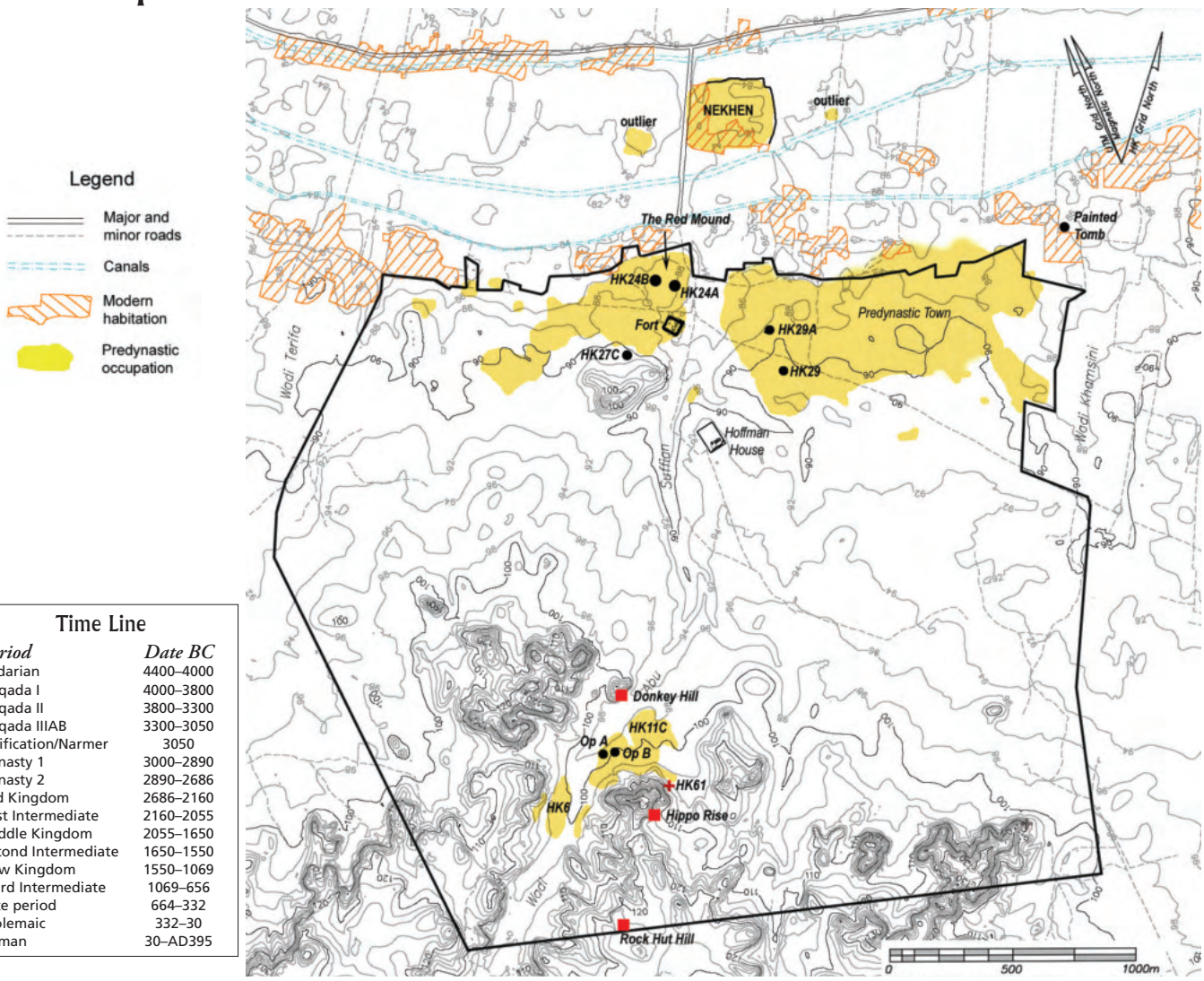
A Rock Star

In This Issue

Hierakonpolis 2010



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

Thank You, Dear Friends

The 2010 season was made possible in large part by donations from the Friends of Nekhen. We mean it when we say we really couldn't have done it without you! In particular we are deeply grateful for the generous and continuing support of Tom & Linda Heagy, Darrell Baker & Christine Auth, Richard Fazzini & Mary McKercher and family, the Harer Family Trust, Dolores Schiffert, John Wall, Nicoletta Pirazzoli, Patricia Perry, Mel & Joann Hunt, Bonnie Sampsell, Daphne Breem and the Manchester Ancient Egypt Society. Thanks also to the Japanese Academy for the Promotion of Science for funding the excavations at HK11C. The work at HK24B was financed by Grant-in-Aid for Scientific Research (Kakenhi) on the subject of 'Specialization of Cereal Cooking and Urbanization during the Predynastic Period in Egypt' and we are grateful for their support. We also wish to thank the Supreme Council of Antiquities for their kind permission to continue our work and inspectors Ramadan Hassan Ahmed and Hedra Girgis Kheer for their always friendly assistance. The logistical and moral support of the British Museum and Amira Khattab at the American Research Center in Egypt is acknowledged with gratitude. And last but not least, thanks to everyone at Chicago House, Luxor, for taking care of our kitten!

NEKHEN NEWS *is published for* **The Friends of Nekhen**

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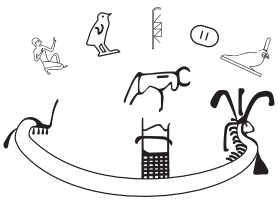

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Big Changes

— by Renée Friedman

The new decade is bringing many changes. The first is due to an oversight on our part when our website's domain name came up for renewal. As a result, please note, we now have a new name: www.hierakonpolis-online.org. In contrast to the pictures of dirt (archaeological) you may be used to from us, the website now parked under our old domain name features truly dirty pictures. Many apologies for any distress caused to anyone caught unaware. Looking on the bright side, this blip has prompted us to overhaul our aging site and we hope to have a new and improved version online soon. During this re-development, if you have any suggestions about what you would like to see, please do let us know. Your input would really help.

The second big change involves our American Friends. After many years of kind assistance from the University of Arkansas and especially Suz Wall (now retired), our affiliation with that institution has come to an end. Tax deductible donations (USA) in support of our work at Hierakonpolis/Nekhen are now being received by the American Friends of the British Museum. Please see page 31 for further information.

Michael Allen Hoffman, 14 Oct. 1944–23 April 1990

Changes of greater magnitude are perhaps only clear upon reflection. This year marks the 20th anniversary of the death of Michael Hoffman and this milestone has allowed us to contemplate our achievements and ponder what Mike would have thought of them. Mike became field director at Hierakonpolis in 1978 and spent 12 years at the site, laying the foundation on which we have built. I was fortunate to work with him for six of those seasons. Those who knew him will remember him for his strong and vocal opinions, but he was also open to and hungry for new information by which to assess the origins of Egyptian civilization. This was in short supply during his time and he was actually the major donor.

Working with what was available and his own serendipitous discovery of the burnt potter's house at HK29A, Mike posited that Hierakonpolis' rise to prominence was due to pottery barons, who made it to the top by making and trading lots of pots. Twenty years on, we now know, it wasn't the pots themselves that were important, but what they put in them. The work at HK11C and HK24B has shown that beer was near and dear to the hearts of the elite (a sentiment to which Mike could certainly relate), but whether they traded it or kept it closer to home still needs to be determined. Whatever the case, beer production was a big and surprisingly well-organized business as this year's magnetometer survey and excavations demonstrate (see pages 18–22). I don't think Mike would have minded this slight modification of his original idea at all.

During his tenure as director, Mike conducted the first scientific explorations in the elite cemetery at HK6. Bringing techniques of settlement archaeology to the cemetery, he was also the first to detect the remnants of the wooden architecture that once surrounded the Dynasty 0–1 tombs, giving us the clues we needed to trace this tradition back in time with remarkable success at the Tomb 16 complex. Although he professed to like the cemetery work the least, I think the dramatic implications of our recent discoveries would have converted him (see pages 4–11).

Fond of exploring the desert site, Mike would have been thrilled (or more likely infuriated for not finding them first) by the stunning success of this season's rock art survey, which has turned up some of the finest petroglyphs around (pages 12–15). He was also the first to fear for the Fort, and the completion of the first phase of its conservation would have put his mind at ease, as it has ours (see pages 27–29).

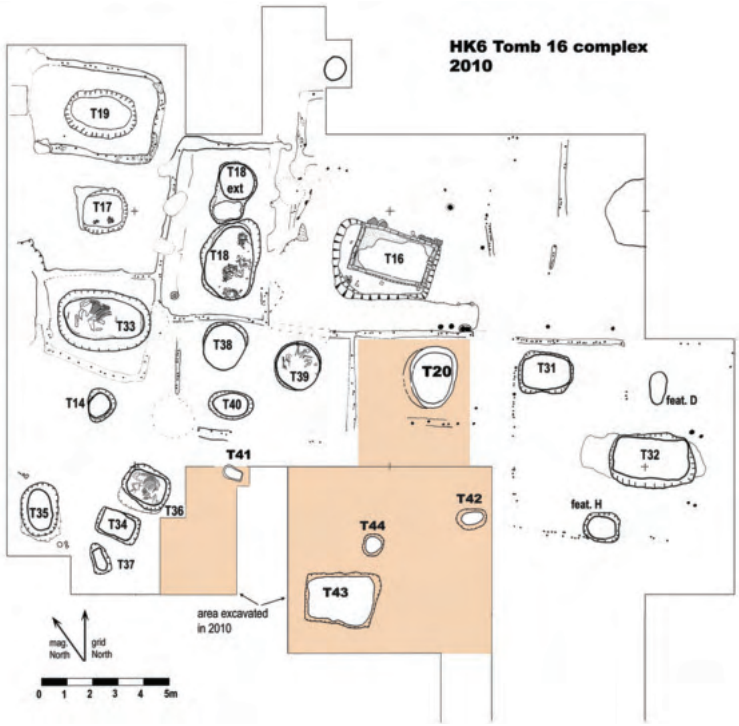
The last and largest excavations Mike undertook were at the temple at HK29A, but he was unable to see the results into print and this was a concern for him. So, I think of all of our accomplishments, the recent scientific publication of our work there to date (see page 30) would have pleased him the most, although I can easily envision the heated discussions we would have had about certain aspects.

Although some of Mike's theories may need to be changed in light of our new work, when he said that it all started at Hierakonpolis, in so many different ways, it looks like he was absolutely right.

Further Adventures at HK6: the 2010 Season

— by Xavier Droux, Lincoln College, Oxford, and Anna Pieri, University College London

In 2009, reinvestigation of the area around Tomb 16 revealed a remarkable complex of subsidiary tombs enclosed by interconnected fences. The tombs immediately adjacent to Tomb 16 were apparently reserved for young human retainers (see next), while those in the outer rung held a collection of animals forming a veritable royal menagerie that included an elephant, aurochs, hartebeest and more (*Nekhen News* 21: 4–14). This year, limited excavations on the south side of the complex added new members to both groups.



Map of the Tomb 16 complex with area excavated in 2010.

It was supposed to be a study season, but we really needed to resolve the issue of Tomb 20/21. In 1998–99, Barbara Adams' team uncovered two small circular tombs containing some lovely (and intact) pottery (see *Nekhen News* 12: 4–6; 21: 16), and in the surrounding area found the first fragments of the distinctive ceramic masks exclusive to this cemetery. We needed to verify the architecture of the tombs and obviously wanted to find more of the masks. We were successful on both counts, but had to work hard for it since the excavations had been backfilled, and the dull and labour intensive enterprise of clearing them took up precious time.

Soon after stripping back the upper layers, a dark round feature appeared, indicating the existence of only one tomb within an enclosure of small posts. Ultimately, this single tomb (20) was revealed to be oval, roughly 2.5m in diameter, and 1.2m deep. Although it is clear that the earlier excavators had not reached the bottom, someone else certainly had. Ancient plundering left little in place. The remains of three juveniles (15–20 years of age) in various states of preservation were found on the tomb floor. Only one was still partly articulated, lying on its back with head towards the east. All of the bodies were originally wrapped in linen and matting, but pads of resin-soaked textile up to 2.5cm thick suggest that certain parts of the body were specially treated, perhaps like the three wrapped burials known from the HK43 cemetery (see *Nekhen News* 14: 13).

Of the fine grave goods that once accompanied these young people, all that remained was one skillfully crafted arrowhead embedded in animal hide, possibly a pouch, up against the wall. Traces of red around the tang may be the remnants of the leather hafting. Together with the earlier finds, we now know that this single tomb once contained at least eight pots, eight arrowheads and two other lithic implements, suggesting that at least one of its occupants was a hunter.

Of course, once we had begun to dig, it was hard to stop. Further exploration on the south side of the complex revealed Tomb 41. This very small and shallow grave (1.2 x 0.75m) held remnants of an adult male, who must have been tightly contracted to fit into the space allotted. Matting was provided both above and below the body, along with copious amounts of textiles, but no other objects. Although only limited remains of the owner's skeleton were retrieved, he was one of the few to present pathologies. The neural spine of the fifth (?) cervical vertebra was bent from left to right, most probably due to a healed fracture. This injury along with his minimal grave suggest he was not one of the more illustrious retainers to accompany his lord.

Arrowhead *in situ* in Tomb 20.

Lucky dogs! A matched set of pots from Tomb 42.

Still fuzzy after all these years. Tomb 44 dog paw with claw and fur.

The other tombs uncovered this season all belonged to members of the animal world. Tomb 42, an oval grave (1.2 x 0.8m), contained the disturbed remains of three dogs (two adult and one juvenile) along with bits and pieces of a young baboon. Despite its disturbance, a matched set of intact Black-topped beakers was found upright along the southern side of the grave. These fine vessels are the first unambiguous evidence of grave gifts for the animals in this cemetery, and the matting and linen that lined the tomb are further reflections of the care given to these creatures.

More dogs were uncovered in Tomb 44, a small round grave, 1m in diameter. Originally the final resting spot of four dogs (three adults, one juvenile), most had been displaced into the adjacent Tomb 43 during plundering. Only the back legs of one dog were *in situ* at the base of the grave, with claws and yellow fur miraculously preserved after 5500 years! While this may seem like way too much information, discoveries like these will allow us to investigate parasite presence, not just with a view to understanding the health of the dogs, but also the humans who interacted with them and the vectors of early diseases.

The biggest job of the season was excavating the domestic bull, which we eventually uncovered on the mat-lined floor of a large (3.1 x 2.2m, 1.2m deep) rectangular tomb (43). We really didn't want to go there (it was a study season after all!), but the cascade of bones to the east of the large crater that eventually became the tomb left us no choice. Although the chances of finding anything in place initially looked bleak, beneath layers of matting and linen, the hind quarters, some ribs and the tail were found in articulation. In the fill, a substantial part of a White cross-lined bowl with geometric designs was recovered, but its association with the tomb is not certain.

No fence was detected around Tomb 43, but its size and depth indicate special efforts were taken for this bull in contrast to the domestic cow with her calf, which were packed into the small and shallow Tomb 36 without evi-

Object of Desire

There were many reasons for reinvestigating the area around Tomb 16. One of them was to find the missing bits of the ceramic masks, especially the smaller, more feline or 'feminine' of the two known from that tomb complex. Since their initial discovery in 1999, fragments of at least six other masks have been recovered from all around the cemetery, with numerous pieces of ears, eyes and upper edges attesting to their presence. Chin/beard fragments, on the other hand, have been notable by their absence. With only the one complete face, we couldn't even begin to suggest the full appearance of the others. Since the majority of the smaller mask had been uncovered in the vicinity of Tomb 20, from the beginning we kept a vigilant eye out for more and were rewarded, finally, with that all important pointed chin, or more precisely, the beard. We can now confirm that both masks portray men and, together, their jaw lines reinforce the significance of beards as markers of social or divine status. This does not necessarily mean that women were not endowed with distinctive and individualized masks, but we'll have to find the chins to prove it. A quest of 11 years is now concluded with two nearly complete and almost other-worldly faces to ponder as we unearth other well-kept secrets of HK6.

Face to Face. Large and small masks from Tomb 16.

dence of additional care other than a good last meal (see Final Meals). Surprisingly, the bull appears to have gone to his grave hungry. While quantities of rump roast and beef jerky were preserved, only a very small amount of gut contents was recovered. Thus, his eating habits remain a mystery. Together, these are the oldest and most complete skeletons known to date that can be attributed to Egyptian Longhorn cattle (see below).

Once this load of bull was out of the ground, the 2010 excavations were brought to a close. It was only later that we discovered, mixed in with the disturbed deposits at the top of Tomb 43 and the surface debris to the south of Tomb 41, the feet of a crocodile. With one foot in each deposit, the sliver of space we left between them as an access path must be the location of its burial. It may be a textbook example of Murphy's Law (wherever you dig, it will always be in the next square), but at least we know where to begin next season!

Sorting out the bull in Tomb 43.

Death in Fragments: Piecing Together the Skeletons of HK6

— by Sean P. Dougherty, MATC, Milwaukee, WI

Thus far, readers of *Nekhen News* have been introduced to the various marvels uncovered in the elite cemetery at HK6. There have been lovely artifacts demonstrating the craftsmanship of the Predynastic Egyptians, a skeletal menagerie of animal remains, and the remnants of what must have been an impressive display of funerary architecture. These ancient wonders of mortuary display and conspicuous consumption were dedicated to the elite of Hierakonpolis and this article will discuss the remains of those humans who were apparently dedicated to them as well.

The remains of a minimum of 36 individuals were excavated from 11 tombs in the Tomb 16 complex (see Table). Unfortunately, all had been looted, and the skeletons were mixed and highly fragmented. While it is possible to establish a minimum number of individuals for each tomb, further details are more difficult to ascertain. Estimations of sex and age rely upon the macroscopic observation of morphological traits of the pelvis and the cranium. The loss of any of these traits due to fragmentation greatly decreases the accuracy of the assessment. Therefore, while sex and age could be established for most of the skeletal remains from HK6, there is an unavoidable margin of error.

As shown in the table, the demographic profile is a curious one. Adult females represent the greatest proportion of the sample (33%), and six of these are estimated to be young adults. Non-adults make up 30% of the sample. The youngest of these was an 8–10 year old from Tomb 32, but most appear to be in their mid to late teens. Only seven adult males were identified, and these too appear to have been mainly young adults. In general, pathologies were rare, although this may be more an artifact of poor preservation than a true reflection of the disease and injury load of the population.

The demographic profile is difficult to interpret. The absence of younger children and infants, as well as the poor representation of males and older individuals, is troubling; one would expect more of each in a 'normal' population. Perhaps it is among the seven for which neither sex nor age could be es-

	Male	*Female*	*Unknown Sex*		
	Adult	Adult	Adult	Non-adult	Total
Tomb 14				1	1
Tomb 17				2	2
Tomb 18		4		1	5
Tomb 18 ext.	2	2		1	5
Tomb 20	1	1	1		3
Tomb 32	1	1	3	3	8
Tomb 34	1				1
Tomb 38				2	2
Tomb 39	1	3	2	1	7
Tomb 40		1			1
Tomb 41	1				1
Total	**7**	**12**	**6**	**11**	**36**

Sex and age distribution of HK6 skeletal remains.

timated that the missing members may be found, but we can only go by the data we have and make no assumptions. Of course, we will never know how much has been destroyed by the looters' shovels.

Skull of a young woman from Tomb 31.

Missing data aside, the accumulation of bodies within a cemetery is the result of non-random formation processes. Custom, fashion, religion, politics and eschatological systems guide mortuary practices and determine who, how, and where the deceased receive mortuary treatment. Thus, the lack of infants and young juveniles, as well as the under-representation of males and older individuals, is likely a result of mortuary custom, rather than being indicative of population demography or life expectancy. It is highly likely, then, that the cemetery population reflects a social process, rather than a biological outcome.

This possibility becomes stronger in light of the archaeological evidence from HK6. The tombs examined here are subsidiary tombs set around the large and wealthy Tomb 16. As these peripheral tombs contained a fairly youthful demographic cohort, it is likely that these people held subservient roles within the royal system, and were buried in proximity to those they served. They may have been servants, retainers, or perhaps even concubines. Tomb 18 in particular seems to show evidence of the latter occupation, as it contained four young adult females, none of whom were older than 30. At HK6, society, rather than biology, would appear to be the driving force behind the construction of the cemetery sample.

The interment of retainers around the graves of the Dynasty 1 kings at Abydos was a well-known and extensive practice. King Djer had nearly 600 subsidiary burials around his tomb. As at HK6, the human remains found around the royal tombs are estimated to have been young adults, apparently no older than 25. The parallels create a strong argument for the presence of retainer burials at Hierakonpolis. However, how these individuals met their end remains a question. Petrie, for example, hypothesized that the royal attendants of Abydos were sacrificed, thus accounting for their young age. This may also be the case at HK6, but there is no conclusive evidence of human sacrifice or suicide here or at Abydos. Nevertheless, the unusual condition of the human remains in Tomb 32 adds a new twist to this mystery.

Tomb 32 contained the skeletal remains of as many as eight individuals, two or possibly three of whom had been exposed to fire. Based on isolated cranial fragments, the cremated remains appear to belong to a male and a female. A third individual is represented by a non-adult hand bone (a first metacarpal), sex indeterminate. Most of the anatomical regions are represented by the burned fragments, although pieces from the upper limbs and torso are in greater abundance. Discoloration of the fragments in black and reddish-brown hues is consistent with heat exposure within the 200–600˚C range.

There was no indication of fire within the tomb itself, but since the bones were disturbed, it is difficult to interpret the circumstances of their burning. As Egyptian mortuary practices usually emphasize the preservation of the body, the use of fire to destroy the corporeal remains in Tomb 32 is extraordinary. Burning as a form of sacrifice is certainly a possible interpretation. However, in later Egyptian periods, burning the human body was a form of punishment for crimes such as treason or rebellion. This form of punishment was particularly harsh, as it denied the individual a proper afterlife; without the physical presence of the corpse, as a focal point for ritual and remembrance, the person was effectively erased.

Among the wealth of subsidiary retainer tombs and faunal graves, the presence of burnt human bodies seems out of place. Yet, if these burnt human remains were the result of punitive action, then they serve as an example of the power of the elite, a power that allowed them to affect not only the living, but also the dead. Set against the tombs of the presumed servants, the message is clear: Those who serve are eternal, but those who resist will perish.

It is unfortunate that so few skeletal elements survive from the tombs of HK6, but even fragmentary evidence can yield important results that shed new light on the past. While the skeletal evidence may not have revealed much in the way of health and disease, these fragmented and occasionally charred remains provide valuable insight (and raise even more questions) concerning the social, funerary, and perhaps punitive customs of the Predynastic elite of Hierakonpolis.

Cremated remains from Tomb 32.

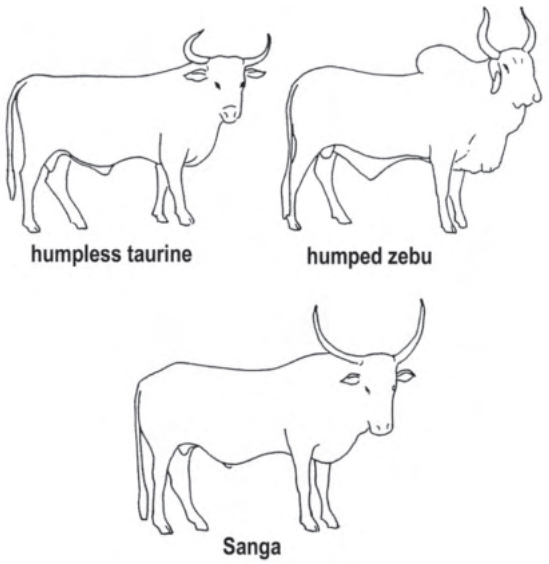
Egyptian Longhorn Cattle from the Elite Cemetery at HK6: Not Just a Load of Old Bull

— by Wim Van Neer, Royal Belgian Institute of Natural Sciences, Brussels

In the last *Nekhen News* (vol. 21), we updated the list of the tombs and their occupants known thus far from HK6. As a result of the 2010 season, several more animals can be added to that inventory, bringing the cemetery total to an impressive 121. Of these, 46 come from 12 subsidiary graves in the Tomb 16 complex.

Three new animal graves were excavated this season, the most significant and largest being Tomb 43, which contained an adult bull of domestic cattle. Although the upper body and vertebrae had been tossed from the tomb, the hind legs, tail and most of the ribs were still intact beneath a layer of linen and matting. By multiplying the total length of one of the leg bones — the canon or so-called metatarsal — with a conversion factor, it was possible to estimate the withers height of this individual as 141cm at its shoulders.

Even better preserved, and almost undisturbed, were the skeletons of the cow and calf found last year in nearby Tomb 36 (see *Nekhen News* 21: 6). Using the same bone to reconstruct the withers height of the cow, a value of 128cm is obtained. This means that the male was only 10% taller than the female. Nowadays, cattle of this size would be considered a medium-sized breed.



Domestic cattle types in Africa (after Grigson 1991).

At first glance, these cattle finds might seem rather commonplace, given the prevalence and importance of cattle in ancient Egypt, but they are exceptional skeletons both because of their completeness and their antiquity. Information gathered from them will be significant in the on-going discussions concerning cattle domestication in Egypt, and Africa in general.

Traditionally, it is accepted that cattle domestication occurred independently in at least two regions: the Levant and the Indian subcontinent from where, respectively, the modern so-called taurine (humpless) and zebu (humped) cattle types are derived. However, for more than 20 years it has been debated whether independent domestication also occurred in north Africa, and specifically in the Western Desert of Egypt. Excavations at Nabta Playa and Bir Kiseiba yielded remains of large cattle dating from around 8000 BC, but it is impossible on the basis of their size alone to decide whether the animals were domesticated or wild, autochthonous aurochsen. At minimum, it is postulated that these animals were under human control, as they would have been unable to survive in the harsh desert environment without human care. DNA from ancient and modern African cattle is currently being investigated in order to shed further light on the domestication history of the species.

In the Nile Valley, unequivocal evidence of domestic cattle is known from at least the 5th millennium BC and their bones have been found on sites such as Merimde and Maadi. These cattle bones represent food refuse and usually appear as isolated, heavily fragmented remains. Cattle bones also occur throughout the settlements at Hierakonpolis, again as consumption refuse, and it is only in the elite cemetery HK6 that more or less intact skeletons of cattle are found. Of the 18 known examples of domestic cattle in the graves at HK6, the male from Tomb 43 and especially the female from Tomb 36 are the most complete and the best preserved. Comparable preservation is only found in the Dynastic period, for example, in the burials of the Apis bulls at Saqqara.

The study of these ancient remains, modern cattle, and the depictions of domestic cattle from tomb paintings of the Dynastic age allow certain inferences to be made about the domestication history of this animal on the African continent. Today three main types of cattle live in Africa: the humpless taurine; the humped zebu; and the Sanga, with its long slender horns. The latter type, sometimes also referred to as *Bos africanus*, was the most common cattle in Africa before it was decimated by disease in the 19th and early 20th centuries. The Sanga males typically have a small muscular hump at the transition of the neck and the back, whereas the zebu's more protuberant hump is usually located further back on the animal's thorax. The Sanga is the type that seems most closely to correspond to the ancient Egyptian depictions of Longhorn cattle.

Skull of the cow from Tomb 36, showing the long, lyrate horns.

The cattle in the tomb of Nebamun (Dynasty 18) include the straight-backed short-horned breed (above) and the humped, long-horn types (below), which are the descendents of our cattle at HK6 (British Museum EA37976).

Traditionally the Sanga has been considered a cross breed between the humpless taurine cattle and the zebu; however, an alternative view sees it not as a cross breed, but rather as a direct descendant of locally domesticated African aurochs. This theory makes sense, especially since zebu cattle were only introduced into Africa in significant numbers by Arab traders from the 10th century AD onwards. The few ancient depictions of true zebu cattle always occur in the context of tribute from Syria and it is unlikely that this cattle type could have made a large impact back then. Most of the humped cattle depicted in Dynastic scenes have only a small protuberance and are missing the dewlap typical of true zebu.

Other characteristics shared by the ancient images and Sanga cattle are the rather long and slender horns on the males, and long and slender limb bones for both sexes. The skull of the bull from Tomb 43 is too poorly preserved to observe the horn size and shape. However, the measurements of its long bones and those of the cow confirm that they both have slender extremities. The specimens from HK6 can therefore be considered as likely descendants of the African aurochs and in turn the ancestors of the Egyptian Longhorn cattle on the later tomb walls.

The fact that the HK6 skeletons are so complete and the bones are measurable makes them extremely valuable specimens for science. They deserve to become the standards against which the measurements of other (north) African cattle finds are compared in order to document the changes that occurred as a result of the selective breeding of this familiar animal about which we actually know surprisingly little.

The cow and calf *in situ* in Tomb 36.

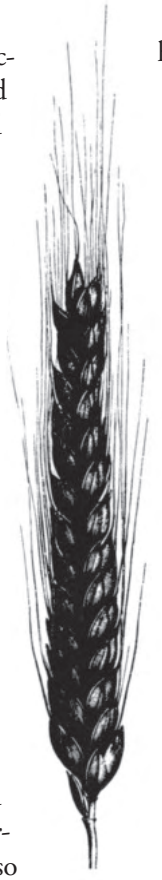
All the bull in Tomb 43.

Final Meals Part 2: A Micro View of Animal Diets at HK6

— by Philippa Ryan, University College London

As reported in the last *Nekhen News* (21: 10–11), macro-botanical examination of the gut contents retrieved from the elephant buried in Tomb 33 suggests he had been surprisingly well catered for. To further the study of the ingested material from this and other animals buried in the HK6 cemetery, the micro-botanical technique of phytolith analysis was used. The aims of this research were to investigate evidence for cereal consumption as a possible indicator of special treatment and to look for any differences in the diets of the two elephants from Tomb 33 and Tomb 24 respectively, the wild bull or auroch from Tomb 19, and the domestic cow from Tomb 36.

Phytoliths are formed when soluble silica, $Si(OH)_4$, in the groundwater is taken up by plants and deposited within and between certain plant cells. Large quantities of phytoliths are formed in grasses and sedges (Cyperaceae), while lesser amounts build up in trees and herbaceous shrubs. The varying shapes of the different silicified cells allow certain plants to be identified. For instance, the silica skeletons from grass husks can be distinguished by genus, so that wheat (*Triticum* sp.) and barley (*Hordeum* sp.), amongst others, can be detected. It is also possible to recognize different plant parts, such as cereal straw (stems) and husks (chaff).

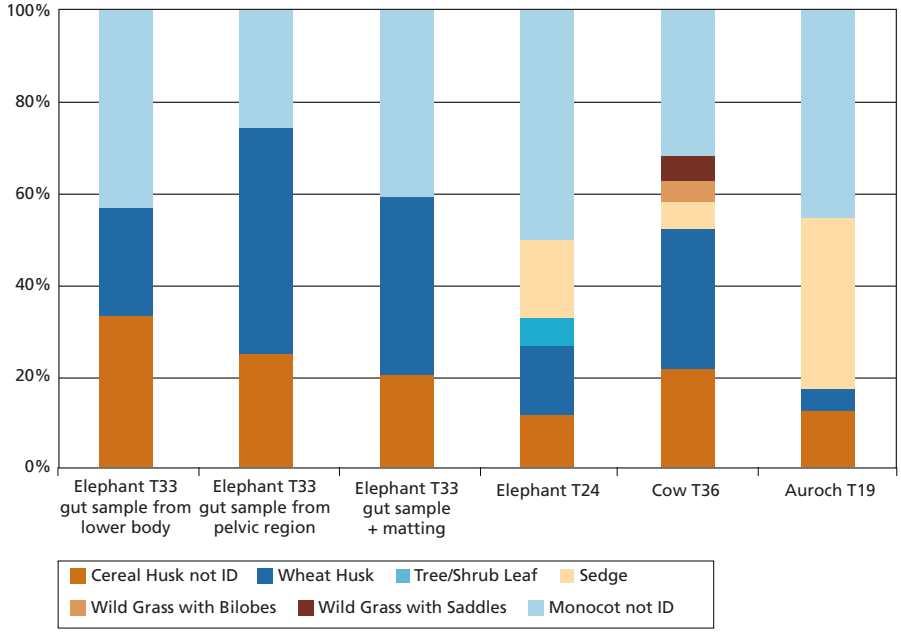


Triticum dicoccum emmer wheat.

Phytoliths were extracted from the samples in a series of complicated laboratory procedures and mounted onto slides. Approximately 300 phytoliths were counted from each slide at 400x magnification using a light transmitting microscope. Numbers of individual phytolith types per gram of sediment were calculated to determine their relative abundance. Initially three samples from the Tomb 33 elephant were processed to check whether any differences related to the location in the digestive tract could be seen. The minor differences detected are probably due to contamination from the matting covering the animal. For the most part, all three samples contained very similar phytolith assemblages and subsequently one sample per animal was processed.

The gut contents from all of the animals contained *Triticum* sp. (wheat) husk phytoliths, but there were some differences between them. The Tomb 33 elephant had the highest relative abundance of wheat husk silica skeletons, while the auroch from Tomb 19 had the lowest. The gut contents from the aurochs, the Tomb 24 elephant, and the Tomb 36 domestic cow all contained phytoliths from sedges. Sedges grow in wetland areas including river banks. Sedge phytoliths were not clearly identified in the samples from the Tomb 33 elephant, but may be part of the unidentified leaf/stem category. Some other wetland taxa noted in the macro-botanical assessment, such as Juncus and *Ceruana pratensis*, do not leave a clear phytolith record. Wild grasses using the C4 photosynthetic pathway adapted to hot climates (i.e., those with saddles or bilobes) were also present in the sample taken from the cow, but could not identified to genera. 'Platey' phytoliths from trees or shrubs were found in only one sample from the Tomb 33 elephant, but probably derive from the matting or surrounding sediments. On the other hand, the gut contents from the Tomb 24 elephant also contained platey phytoliths as well as multicell polyhedral examples from tree or shrub leaves, and these probably do reflect his diet. It is not possible to know whether the animals were taken to the habitats where these wild plants grew, or whether they were gathered for them as fodder.

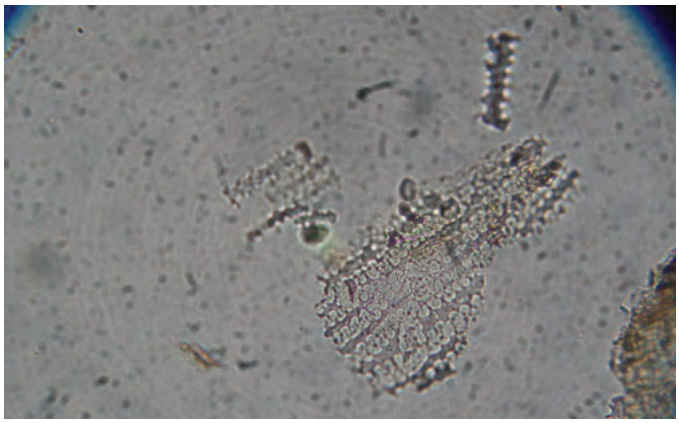
The inclusion of wheat, as already detected during the macrobotanical examination of the Tomb 33 elephant's diet, seems to indicate special treatment for most of



The relative abundance (percentages) of different categories of multicell phytoliths in the gut contents of the special animals from HK6.

the animals since emmer wheat (*Triticum dicoccum*) was the major plant food source for humans. The high proportions of wheat husk silica skeletons in the samples (with the exception of the auroch) indicate large quantities were eaten — at least during the final meal. As phytoliths are formed in cereal husks but not in the grains, we cannot tell whether grains were also consumed; however, the general lack of phytolith indicators of cereal straw (stems) suggests the animals were not simply fed cereal-processing waste.

In contrast to routine foddering practices, the dietary evidence from the animals at HK6 suggests that they were treated to at least one very special, expensive and rather varied meal. Since it was their last, we hope they heartily enjoyed it!



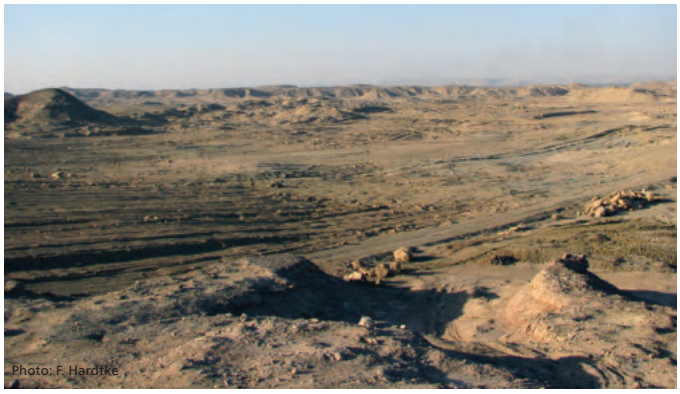
Wheat husk silica skeleton from the elephant, scale 20 microns.

Seeds of Destruction

— by Renée Friedman

Hierakonpolis has long been blessed with an outstanding level of organic preservation, which has allowed us to investigate many facets of the past that have disappeared at other sites. For example, where else could one determine what not just one, but two elephants had for dinner, probe the various layers of matting and textile covering them and trace the course of the wooden fence surrounding their graves? And who would have imagined we would be able to sample the actual hair of the dog and scrape the wheat-rich residue from the bottom of a 5000-year-old beer vat? Unfortunately, the days of such discoveries are now numbered.

Google Earth image of Hierakonpolis.



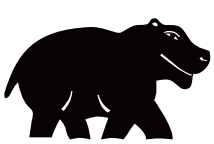
View up-wadi. The landscape prepared for planting.

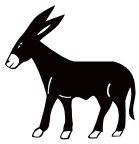
A quick look at Google Maps shows the reason why. We have been boxed in by reclaimed land on all sides for some time, but now farming activities are set to spread into the Wadi Abu Suffian. Already, large parts of the wadi head have been graded for cultivation. Once the seeds are sown and irrigation commences, the rising water table will gradually alter conditions in the HK6 cemetery, the first site in its path, with the other wadi sites soon to follow. The damage will not be immediate, but it will inevitably come.

The only practical solution for this situation is simply to dig faster. Rested after our 'study season' in 2010, we have a major campaign planned at HK6. Whether we find that long-sought after giraffe or not, we are always sure to discover something amazing and not a moment too soon.

Please remember to renew, as we really do have so much to do.

The Hierakonpolis Rock Art Survey— Year of the Hippo, Days of the Donkey





— by Fred Hardtke, Macquarie University, Sydney, Australia

Building on the encouraging results of last year's rock art survey, in March I set off into the desert again to turn over rocks and scout for rock shelters, with unexpected success! Several exciting sites were discovered, adding significant new imagery to the repertoire and refining the picture of rock art distribution around the site. In all, 23 new locations were identified and the overall typological composition is now:

- Simple Forms (lines, pecks, etc): 20%
- Composite Designs (parallel lines, notch rows): 60%
- Complex Compositions (animals, boats, etc.): 18%
- Unknown: 2%

The majority still cluster in the 'South West Sector', i.e., the area around HK11 or 'Glyph Hill', but the biggest surprises were in more unlikely spots and occurred in association with intriguing stone circles and rock shelters. A few circles, built of stone slabs set on edge, had been noted before, but never had rock art been found in such close proximity.

The first circle was discovered just to the south of Glyph Hill, next to a gully running into the Wadi Abu Suffian. Although less than half of the slabs remained, the outline of the 8m-diameter circle was clear. Several smaller stone circles and tumuli were also observed. In addition to the polishing marks and notch rows on rocks around the area, one small boulder featured a chunky little hippopotamus with cross-hatched body markings. In its honor, the location was dubbed 'Hippo Rise'.

Although common in the art of the early Predynastic (Naqada I–IIB), hippos are comparatively rare in petroglyphs, with only about 50 examples known in Egypt and Nubia. We are delighted to add to a new example to this corpus and were even more excited when the second hippopotamus showed up.

If you think it is peculiar to find a hippo on a hill 5km from the current Nile (perhaps only 3km distant in Predynastic times), finding another one a kilometer further into the desert and high on the rocky plateau is even stranger. Here, another circle of upstanding sandstone slabs caught my eye, perched on a small hill. At the base of this hill, one rock presented a small, but highly detailed hippopotamus. Deeply incised, it includes a crosshatched pattern across the body, little ears and tusks. A line extending from the nose to a crack in the rock presumably represents a harpoon line as known from pottery paintings. In fact, exact parallels for this hippopotamus can be found on White cross-lined bowls of the Naqada I–IIA period, and these can suggest the date for this rock drawing.

The hippo of Hippo Rise.

The hippo was not alone in this remote location. On a horizontal expanse of exposed bedrock nearby were large scale depictions of a boat, a donkey, and a powerful rag-

The stone circle at Hippo Rise.

The hippo of Rock Hut Hill.

The tableau at Rock Hut Hill with polishing marks indicated.

The raging bull.

ing bull. The donkey and boat were executed by outline pecking followed by incision, while the bull was created entirely in pecked sunken relief. The donkey has a distinctive curve of the muzzle, incised mane along the neck and a tuft on the tail. A line crossing the body at the shoulder may reflect the natural markings of the wild donkey, and an incised line touching the back legs may be a hobble or an arrow. The manufacturing method and patination suggest that the incurved sickle-shaped boat nearby was made at the same time, and both seem to point in the same direction.

The bull, shown with large crescent-shaped horns and a lowered head, appears to be facing toward the donkey, possibly symbolizing the confrontation between the two, but the distance between them is rather large and there is no way of knowing whether both were created at the same time. Between and around the images and near the hippo are areas where the stone has been smoothed and 'polished' by some, possibly ritual, activity.

More rock art was found at the base of the small hill directly opposite. The boulders featured intricate geometric designs — notch rows, peck and polish marks, incisions, and a deeply incised grid pattern. Together, the number of petroglyphs in this inconspicuous location suggests it was significant in some way. Almost half of all rock art surveyed at Hierakonpolis is associated with some type of rock overhang or natural shelter. The gentle gradients of these hills support no natural shelters and it is possible that the stone circle was the focal point in lieu of natural cover, although this requires further investigation.

A far more obvious spot for rock art is the large outcrop in the center of the Wadi Abu Suffian, standing as a gateway into its deeper reaches. We pass it every day on our way to work at the wadi sites, and it has been inspected for rock art before with minimal result. As part of my second level (super-intense) survey, I decided to examine it again. While the view up the wadi from its flat top is impressive, it was half way down on the west side where things got really interesting. Here, a rock overhang was surrounded by a number of boulders forming a sort of forecourt in front of it. On the horizontal surfaces of these boulders were various petroglyphs only visible when one stands behind them. Dominant among them are boats in both complete and partial execution. One shows a sickle shaped boat with numerous oars, the first of this type attested at Hierakonpolis so far.

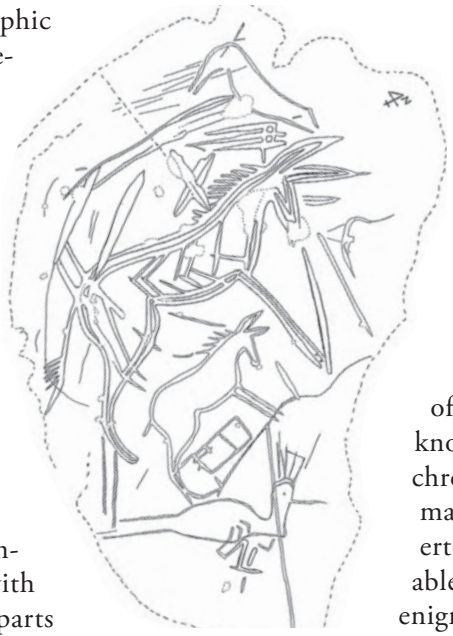
Both the boulders and the frontage of the overhang are covered with dense layers of scree and sediment. Perhaps the recent rains (see Weird Weather) or modern stone mining activities are responsible for revealing this site now. It is otherwise hard to explain how it, and the next piece, could have evaded detection for so long.

Almost as if hidden in plain view, just down slope from the overhang, a small displaced sandstone boulder featured two beautifully incised donkeys, a larger one with perhaps its progeny directly beneath it (see page 16). One of the finest depictions of this animal in rock art, the larger donkey incorporates a chevron decoration across its body, while the smaller one does not, but is otherwise very similar in appearance. The pair are accompanied by a number of single and cross lines, superimposed incisions, a possible

Boat with oars at Donkey Hill.

boat, a lightly incised dog (?), hieroglyphic characters and a scratched, modern depiction of a bird, apparently a hoopoe. The incised lines of the donkey and foal have a darker patina, as do some of the deeper incisions (some of them piercing the rump of the donkey), while others are lighter and evidently more recent. This block probably originates from the area of the overhang, but it may have come from further up the outcrop, which now bears its name: Donkey Hill.

This composition adds a new dimension to the symbology of the donkey. Similar depictions of parent with offspring have been observed in other parts of Egypt, but usually involve bovids. This scene may symbolize a desire for the ongoing regeneration of this important beast of burden, although an evil connotation has been attributed to the wild donkey in rock art by some. Good or bad, the donkey panel was the high point of the season.



Donkeys of Donkey Hill.

What distinguishes Hierakonpolis from other sites is the proximity of rock art to occupational features of known function. As a result, not only can chronological and cultural associations be made, but as we learn more about the repertoire and distribution, we may also be able to crack the code of these elegant and enigmatic images.

Hunting the Predynastic Donkey

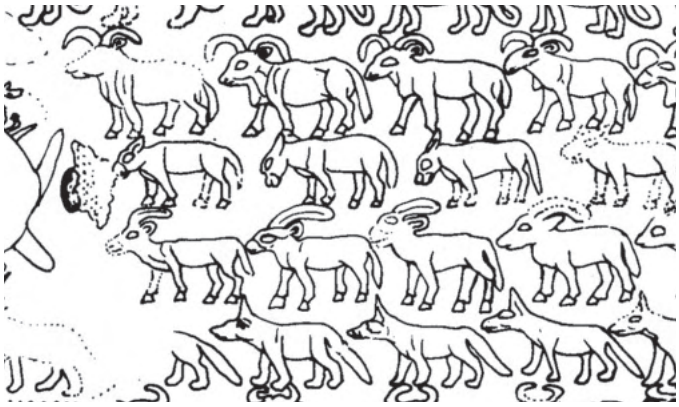
— by Marie Vandenbeusch, University of Geneva

Ancient Egypt was crowded with donkeys. They abound in economic, magical, funerary and literary texts and cover tomb walls. The reason for their abundance in Dynastic Egypt seems obvious: this animal was the central mode of land transportation and trade. But what was the situation at the beginning of Egyptian history? The domestication of the donkey occurred by Naqada III and probably much earlier, yet this animal is rarely represented in Predynastic art compared to hippopotami or gazelles. The new petroglyphs discovered at Hierakonpolis, some of the most detailed in rock art, contribute new aspects to the discussion of the donkey at this time.

While isolated bones have been found on several sites, Hierakonpolis included, burials of complete donkeys are known especially in Dynasty 1. At Abusir, three donkeys were buried together near the southern wall of a large mastaba possibly belonging to a wife of King Den. Amazingly, these donkeys were buried standing upright, as attested by the vertical or quasi-vertical implantation of the bones, and it has been suggested that they were led into the grave alive and then covered with sand. Similarly at Tarkhan, three donkeys (seated) were buried on one side of a large tomb, while a duck in a human-sized wooden coffin was interred on the other. At Helwan, five burials, each containing three donkeys, were found. The most impressive, however, is the mass burial of ten donkeys at Abydos recently discovered to the south-west of the enclosure of King Aha, but perhaps to be associated with Narmer.

W.M.F. Petrie, who excavated at Tarkhan, considered these animals to be favoured pets interred with their master, but analysis of the Abydos donkeys' bones shows they were worked hard and carried heavy loads. As beasts of burden par excellence, the donkeys could represent a means of transportation in the afterlife, just like the boats buried in this period and later near the pyramids. Alternatively, it has been suggested that the donkey was an embodiment of evil since it was associated with the god Seth in later Dynastic times. The slaughter of these animals, grouped in threes — the number representing a multitude — would have been a

The Libyan Tribute palette.



Detail of the Brooklyn Museum knife handle.

Donkey from Rock Hut Hill.

means to repel evil from the tomb. However, the projection of later beliefs back to this early period, where there are no texts to guide us, must be considered with care.

Moving back in time, donkeys appear on various objects, one of the most famous being the 'Libyan Tribute' or the 'Trees and Towns' palette in the Cairo Museum (Naqada III). On one side, three registers depict domestic animals: bulls, donkeys and rams, above a grove of trees, all symbolizing the wealth of the area identified by inscription as Tehenu (Libya).

Comparable to the palette are the ivory knife handles (Naqada IID–III) covered with rows of various animals, although these appear to be mainly wild species. On the Brooklyn Museum knife handle, more than 227 animals are depicted over ten registers. Among the elephants, gazelles, lions, etc., is a register dedicated entirely to donkeys. The iconography of the knife handles is related to power and the imposition of order over the chaos manifest in the diversity of nature, one of the central planks of Predynastic (and later) religious beliefs. The same concept explains the hunting scene in the Painted Tomb at Hierakonpolis (Naqada IIC). Along with a group of ibex and gazelles being pursued by men and dogs are what may be three wild asses, their number reminiscent of the Dynasty 1 burials.

The donkey of Berlin 22391.

Decorated donkeys bowl from Naga ed Deir N7014.

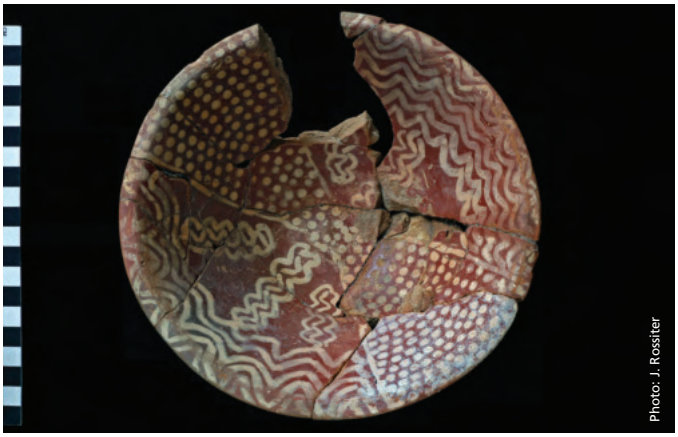
Earlier representations of donkeys are more difficult to identify. One is definitely painted on a White cross-line pot in Berlin (Naqada IB–IIA), possibly followed by a bow with arrow, suggesting the donkey is not a domestic one. With the help of the new panel from Donkey Hill, we can now confirm their presence on two more bowls, since all share the same double outline along the back, the forward pointing ears and the chevrons across the body. While the donkeys on the bowls appear to be loitering around a watering hole (or possibly a trap), the beautifully portrayed animals of the petroglyph appear to be in flight and afflicted by arrows or spears, although it is not clear whether these lines were made at the same time as the drawing. The line by the back legs of the donkey at Rock Hut Hill may also suggest hunting, but a restraint or hobble is equally as plausible, marking it as a counterpart of the nearby boat as a mode of transport.

All of the elements suggest a nuanced meaning for this animal during the Predynastic period. On the one hand, the domesticated donkey was probably already an important means of transport and trade, while the wild ass, as part of nature, was closely related to the idea of dominion and control. Both were important to the élite. Wild asses as part of hunting scenes are relatively common in the rock art of the Eastern Desert. Depictions of this hunt may be at the root of the later association of the donkey with evil; however, at Elkab, where 55 rock-art images of donkeys have been counted, a more extreme explanation has been proposed. Based on their location and orientation in relation to the numerous giraffes and boats, which have been interpreted as symbolic bearers of the sun, it has been suggested that the wild donkey at Elkab is the sun's enemy to be ritually destroyed. Unfortunately, the new Hierakonpolis material is still too limited to be useful in this debate.

The donkey may have been seen as a means of transportation, a favourite pet, hunting prey, a symbol of Seth, or a combination of these. As with many animals, it is this ambivalence that characterizes their relationship with the ancient Egyptians. With their magical and religious interpretation of the world on one hand, and their daily life requirements on the other, the donkey may well represent the medium in which these two spheres met.

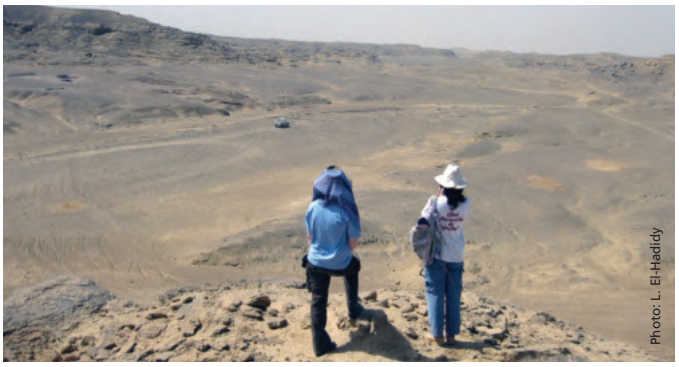
Working in the Wadi

Shoveling the bull at HK6.



Season Bonus: Another piece of the peripatetic pot from HK6.

Dog skull from HK6 Tomb 44.



Looking upwadi from the top of Donkey Hill.

Recording the rock art at Rock Hut Hill.

The Donkey panel.

Fort and More

Still standing and resplendent, the Fort after the rain.

Final fixes on the Fort interior.

Interior view from 8 meters up!

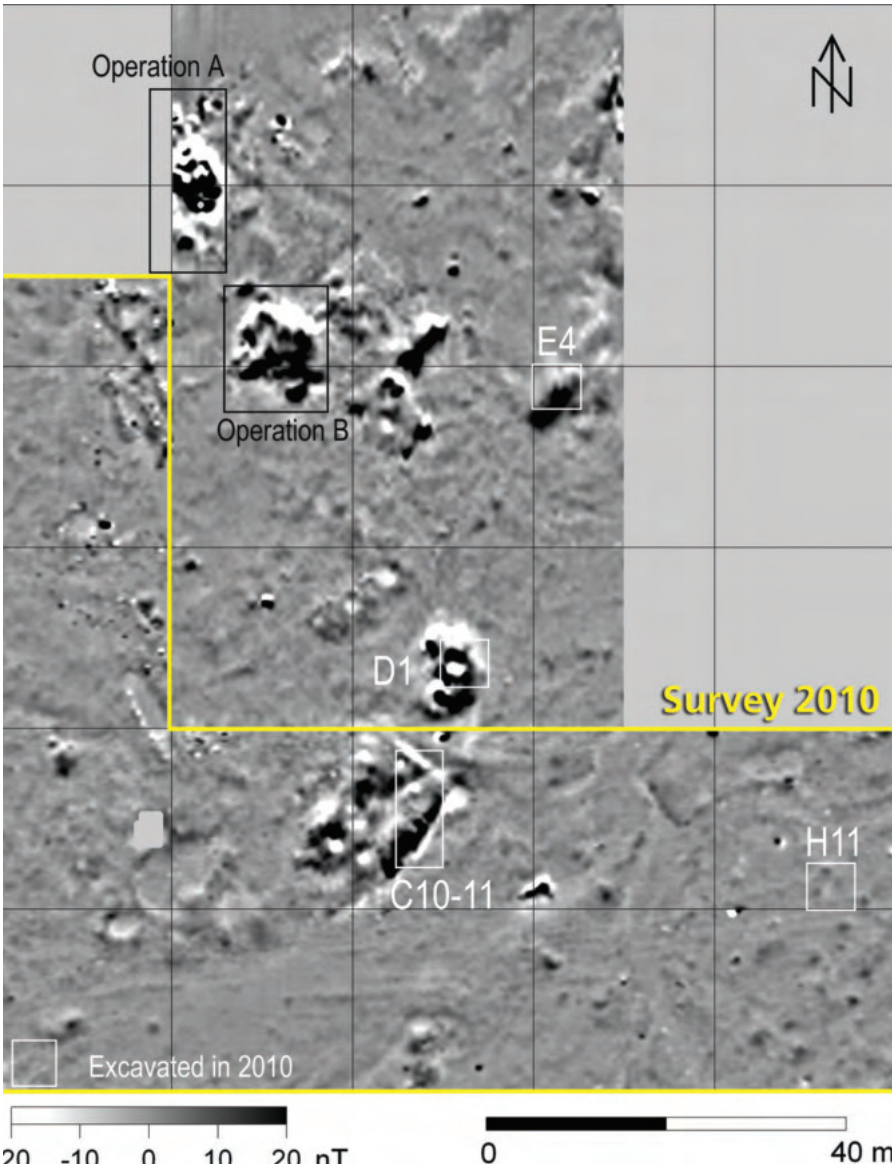
Big business at HK11C. Operation B uncovered.

Back to Magnetometry: Survey 2010

— by Tomasz Herbich, Department of Applied Sciences, Institute of Archaeology and Ethnology, Polish Academy of Sciences, Warsaw

Magnetic surveying of archaeological sites in Egypt is now a well-known method for detecting structures below the surface. It's hard to believe that when we first used this technique at Hierakonpolis in 1998, archaeological geophysics was rarely applied in the Nile Valley. Since then, the method has had notable success in detecting mud brick walls and other features at many sites, although at Hierakonpolis the results have been mixed. The survey on the northern side of the Fort undertaken in 1998 proved that the method performed well for revealing subsurface geology, but was not so effective for locating Predynastic buildings (*Nekhen News* 10: 17; 11: 15–16). The survey of HK6 in 1999 faithfully showed the devastation of the cemetery over the centuries, but the 'noise' obscured the location of the tombs.

The most dramatic results have come from the survey of two areas at HK11C (*Nekhen News* 11: 17). In the north sector, the survey revealed a series of minor anomalies. Interpreted as reflections of fireplaces and domestic hearths, their extent is useful for understanding the size of the settlement. Magnetic prospection in the south region registered at least three large anomalies comparable in intensity to those created by the kiln partly excavated by J. F. Harlan in 1979. Further exploration of this kiln in Operation A (Squares A6–7) revealed an elaborate brewery with circles of fire bars marking the original location of large vats (*Nekhen News* 17: 18–19), while the excavation of Operation B (Squares B4–5) in 2004–2009 showed that another anomaly corresponded to an array of pottery kilns and large, well-preserved cooking vats. Here, the magnetic method has clearly proved its usefulness in the detection of firing installations. Following on from this success, geophysical research was resumed in 2010, expanding on the areas surveyed previously at both HK11C and by the Fort.



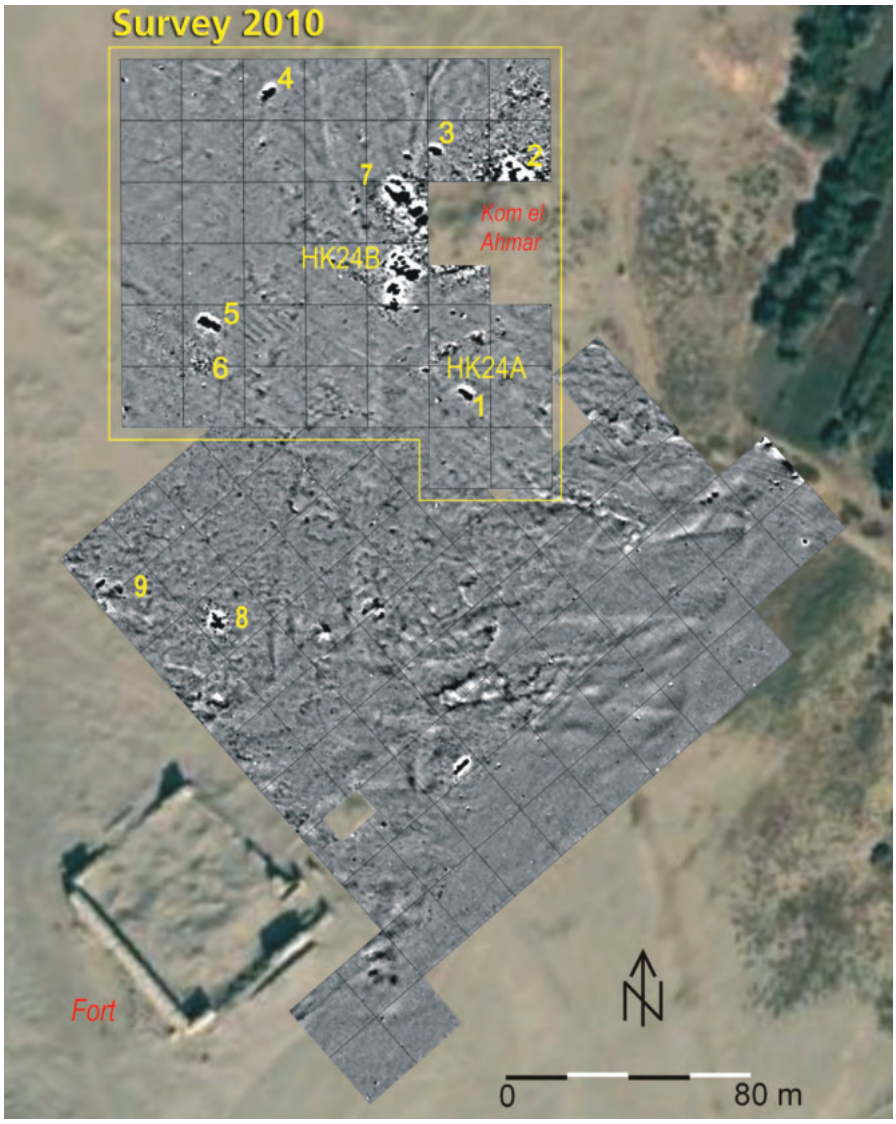
Magnetic map of the south area of HK11C. Geoscan Research fluxgate gradiometers FM256. Sampling grid 0.25 x 0.50 m interpolated to 0.25 x 0.25 m. Dynamics –15/+20 nT (white/black).

The new survey at HK11C was intended to provide information on the full extent of the industrial activities in the area, and assist the investigators in choosing a new focus for excavation. The measurements detected a large complex of anomalies covering an area of 20 x 10 m (C10–11), with high amplitude values corresponding to those observed at Operation B. However, as discussed in the next report, the excavation of this and other anomalies revealed only thick layers of burnt debris. No new industrial structures were uncovered, which is surprising, but significant for understanding the landscape and the scale of production in this portion of the site.

Locating industrial installations was also the aim of the survey to the north of the Fort. Two breweries or 'vat features' were already known in the area: HK24A, excavated in 1988–89 and then covered over; and HK24B examined in 2007

(*Nekhen News* 19: 25) and still visible. Examination of surface debris in the general vicinity suggested at least six more places of production (1, 3, 5–6, 8–9 on the map), but because of extensive disturbance, verification by geophysical means was desired. Magnetic research registered a series of anomalies with values typical for industrial features. The key to this interpretation was the anomaly corresponding to the exposed remains of the HK24B brewery, which the survey showed was still only partly excavated (a situation promptly corrected, see below). Corresponding to surface indications, anomalies marked 1, 3 and 5 have similar values and orientation as the HK24B brewery complex, and significantly they are also rectangular.

The magnetometer also registered anomalies at locations without clear production traces on the surface (2, 4 and 7). Surprising was the negative verification of site 6; the surface is covered with a dense cluster of firebars, yet the magnetic results deny the presence of a brewery here. Instead, the bars probably originate from feature 5, located 10m to the north, although surface indications there are minimal. The survey also showed that the HK24A area may have many more facets than suggested by its earlier excavation and that a large array of installations seems to be awaiting discovery at feature 7.



Magnetic map of the area north of the Fort. Geoscan Research fluxgate gradiometers FM256. Sampling grid 0.25 x 0.50 m. Dynamics –8.5/+10 nT (white/black).

Given the experience at HK11C, these magnetic anomalies will have to be excavated to determine their true nature; nevertheless, the new survey suggests extensive activities here. Located near the center of the Predynastic town, this is perhaps to be expected, but if all of the features are breweries, the scale of production was truly phenomenal, matching the great mound of debris (*Kom el Ahmar*) in their midst.


Magnetometer surveying around the *Kom el Ahmar.*

The discoveries made throughout the past decade thanks to geophysical prospection have provided unique information on industrial activities in the Predynastic age. The results have also fostered a number of experimental archaeological projects which seek to reproduce both pottery and beer production (*Nekhen News* 17: 20–23; 21: 21). It is always nice to enjoy some moments of pleasure in the midst of the more tedious aspects of the research process and these experiments, especially on the production of the latter, will undoubtedly be the source of a few of these!

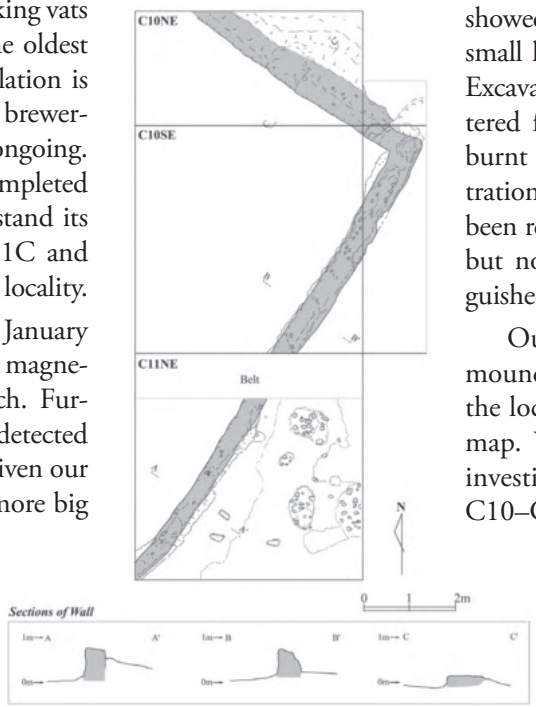
Hitting the Wall: Testing Anomalies at HK11C

— Masahiro Baba, Waseda University, Tokyo, Japan

In 1999, a magnetometer survey of HK11C revealed a number of high intensity magnetic anomalies. Examination of one, chosen at random, led to the discovery of the well-preserved brewing and pottery production complex at Operation B, with its impressive cooking vats (see page 17). The pottery kilns are the oldest known from Egypt, and the vat installation is likely to be among the world's earliest breweries, though detailed analysis is still ongoing. The excavation of Operation B was completed in 2009, but we still needed to understand its relationship to other remains at HK11C and determine the full function of this wadi locality.

With these objectives in mind, in January 2010 we returned to HK11C with a magnetometer survey led by Tomasz Herbich. Further high amplitude anomalies were detected and four were chosen for excavation. Given our previous success, we expected to find more big vats, but we got a big surprise instead.

Our first target was a small mound in Square D1 where a roughly circular anomaly was visible on the magnetometer map. The excavation of a 5 x 5m unit revealed a dense accumulation of charcoal and ash over 1m deep. Despite thorough investigation, no features or objects were found, just ash and lots of it.



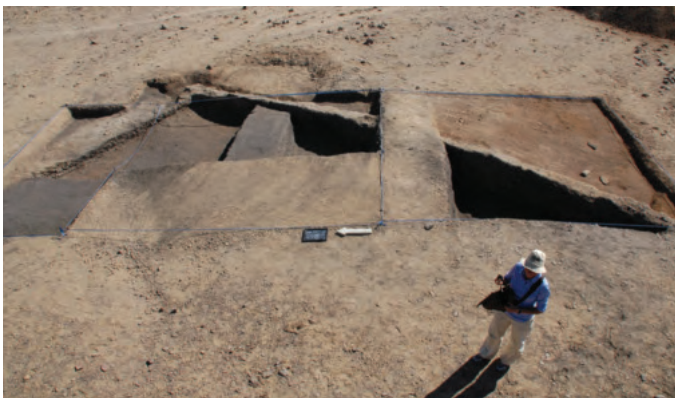
The wall at HK11C, plan and section.

Undaunted, we next tried a high amplitude anomaly of rectangular shape situated near the eastern edge of wadi terrace in Square E4. Just 10cm below the surface, an occupation phase appeared in association with a line of wooden posts running north-south and continuing beyond the excavation unit. Below this phase, here yet again, charcoal debris devoid of features had accumulated for over 1m upon the burnt surface of the terrace. Clearly, the original topography of HK11C was quite different from what we see today.

Starting to get a little concerned, we decided to try something different. The magnetometry map showed a rectangular feature surrounding small low value anomalies in Square H11. Excavation revealed parts of a white-plastered floor 5cm below the surface. A red burnt feature (hearth?) and some concentrations of charcoal and ash appear to have been responsible for the magnetic readings, but no distinct structure could be distinguished.

Our final attempt was made on a low mound at the southern edge of HK11C, the location of the largest anomaly on the map. With great expectations, we began investigation of the eastern part (Squares C10–C11). This revealed a large, straight wall running for 11.5m before turning a corner at its northeast end and continuing to the southwest. The wall has a maximum height of 0.8m, but is lower (c. 0.5m high) in the northwest, with no clear exterior face. Made of fist-sized lumps of clay with stone and sherds added to the surfaces for strength, the construction technique has no parallel. The wall is free-standing and its base was probably set within a shallow trench, but this remains to be verified. It is an impressive structure, but what was it for?

Outside the structure, we found remnants of a white plastered floor covered with typical household debris (sherds, lithics, dung, animal bones and seeds), including one complete quartzite grinding stone (mano), a rare find across the



All that ash! The structure at HK11C and its fill.

Detail of the wall construction.

entire site. However, once inside the walls, we were again confronted with a filling composed entirely of layers of charcoal and ash. Small amounts of pottery, lithics and animal bones were recovered, but no features were observed.

The ceramics from the ashy fill were dominated by fragments of modelled rim jars of straw-tempered Nile silt (70% of the total), identical in shape and abundance to those found at Operation B. Two fragmentary mace heads and a complete 'clay nail' found in the fill also have parallels there. Thus, it seems likely that the wall structure was reused for the disposal of ash and refuse from the Operation B installation, and was probably constructed earlier. It may have been an animal enclosure or storage facility, but so far we have no evidence by which to deduce its function.

If the anomaly truly reflects its size, it is 20m long and 10m wide—a significant structure. More impressive still is the 160 cubic meters of ash it contains. The sheer quantity of burnt debris discovered this season suggests that the pottery and beer production works at Operations A and B were intensively used for a considerable period of time. It also indicates that they were cleaned out regularly with the debris taken away for deposit elsewhere, sometimes radically altering the landscape. It was clearly a major operation. In the coming season we intend to hit the wall again to learn more about this large structure and the big business at HK11C.

Nekhen Beer

Starting with just 25 seeds, initially sprouted for us by Chicago House's gardeners, we are now growing our third major crop of emmer wheat (*Triticum dicoccum*). This is the first time that this traditional wheat of Ancient Egypt has been grown in this country since the Roman period, when it was supplanted by free threshing wheat. We hope that by the end of the 2011 season we will have a sufficient supply to begin our reproductive experiments and recreate the authentic beer of Nekhen in the good old fashioned way, of course, for educational purposes only (honest). Cheers!

Emmer crop 2010.

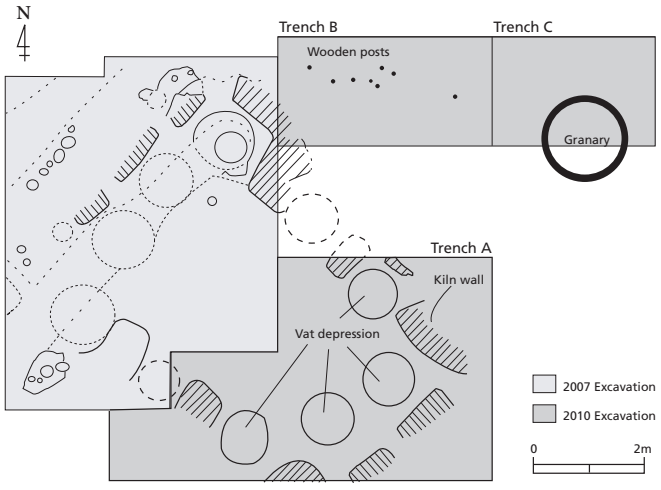
In the Shadow of the Red Mound: HK24B in 2010

— Izumi H. Takamiya, Kinki University, Japan, and Noriyuki Shirai, Leiden University, Netherlands

Located at the base of the *Kom el Ahmar,* the original 'Red Mound' of burnt debris, after which the entire site is now known, is HK24B, a brewery or cooking installation initially investigated in 2007 (see *Nekhen News* 19: 25). In February 2010 we returned to this site for two reasons. First, we wanted to finish what had been started, especially after the new magnetometer survey indicated that much remained to be explored. Second, we wanted to investigate the nearby traces of a mud brick granary in order to clarify its chronological and functional relationship to the brewery complex.

The exploration of the granary is especially important because in 1898, J.E. Quibell noted at least 12 beehive-shaped mud brick granaries built into the *Kom el Ahmar.* Excavating two of these (the rest had been heavily disturbed by fertilizer diggers), he found little, but dated them to the early Old Kingdom for reasons now unclear, since we can see no material of the period anywhere in the vicinity. The outline of these granaries can still be observed on the mound, but the traces we wished to explore were located at its base, flush with the ground surface and adjacent to HK24B. Recently tested C14 samples date the brewery to 3510–3426 BC calibrated (4613+/-40BP: IFAO-Cairo), placing it firmly in the Predynastic. If we could make a connection with the granary, we could not only resolve the dating issue, but also provide new insights into grain storage and management at this early time.

To accomplish these goals we opened two trenches: Trench A (4 x 5m), contiguous with the 2007 excavations, and Trench B–C (2 x 8m), to the north.



Plan of the HK24B complex.

View from the Red Mound. Remnants of Quibell's granaries overlooking HK24B.

Granary masonry.

Exploration of Trench A revealed the eastern continuation of the brewery and exposed the full plan of the structure (except on the north). As a result, we now know that this semi-subterranean installation, its floor more than 60cm below the ground surface, is rectangular in shape with interior dimensions of approximately 6.5 x 5m. Around the perimeter are short, plaster-coated wall segments, built of mud and potsherds, of the type already familiar from HK11C Operation B. The interior surfaces of these walls as well as the floor of the structure are burnt bright red, indicating high heat. Between each wall segment is an opening, now choked with ash and charcoal or closed with mud and sherds, which facilitated the insertion of fuel and the controlled ventilation of the fire. Beside each wall, and sometimes set within a sort of niche between three wall segments, is a circular depression surrounded by burnt soil and ash in which a large ceramic vat had originally been placed, though only fragments of the vats themselves were found. Together with the evidence uncovered in 2007, our excavations indicate that the complex originally contained at least ten large vats, although not all of them may have been built or in use at the same time. It is hard to say more since it appears that the vats were intentionally removed in antiquity, possibly for use in the nearby installations detected by the magnetometer.

Quibell's granaries, 1898.

To the north, Trench B–C was opened to investigate the granary and tie it to the complex. The excavations quickly revealed the top of a circular silo, about 1.5m in diameter, built of a signal thickness of gray mud bricks, each measuring 24 x 12 x 10cm. Because time was short and the weather quite hot, the contents of the granary were left untouched for careful examination in the coming season. To determine its depth, we excavated down along one side, exposing seven courses of masonry still *in situ*. To the west of the granary, a layer of chaff and straw on the hard natural surface suggests ancient threshing activities took place here. This is what we might expect near a granary, but due to rodent activity and the limited exposure, we can't be completely sure about the association. It is possible (but unlikely) that the granary was built later in a pit dug into earlier deposits. We intend to investigate this more fully in 2011.

Also still to be resolved is the relationship of the granary to the line of ten wooden posts we uncovered along the north side of the complex. This line possibly connects with the postholes found on the west side in 2007 and may indicate that a fence once ran around the entire installation. Post walls around other cooking installations have been observed at HK11C Operation A and also at Tell el-Farkha in the Delta.

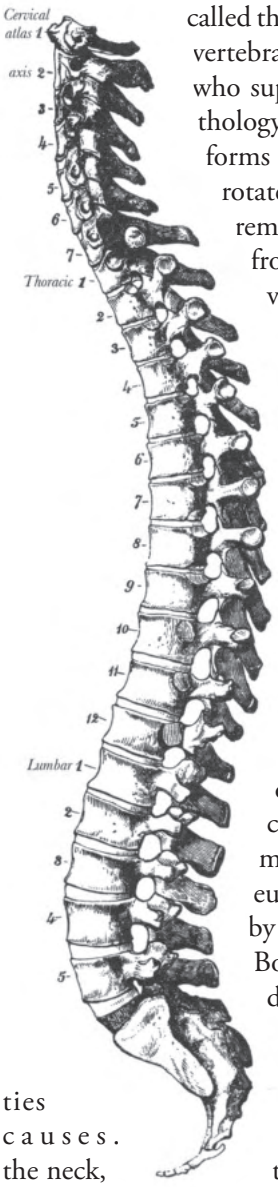
Perched at the edge of the desert, the *Kom el Ahmar,* a mound of ash, charcoal, burnt soil and pottery sherds over 50m long, 30m wide and 3.5m high, attests to intensive industrial activity over a substantial period of time. It is no surprise that it is complicated. Even though we have not yet worked out all of the details, with the components uncovered so far at HK24B we can begin to build up a better picture of the appearance and range of activities taking place in the shadow of the Red Mound.

The excavation was financed by Grant-in-Aid for Scientific Research (Kakenhi) in Japan.

Pain In the Neck? An Abnormality from HK27C

— Daniel Antoine, British Museum, London

While re-examining the skeletons from the C–Group Cemetery at HK27C in preparation for the final publication (it really was meant to be a study season), evidence for a pathological condition rarely described in the archaeological literature was observed on the spine of an adult. In humans, the seven bones that support the skull and make up the neck portion of the spinal column are called the cervical vertebrae. The uppermost vertebra is called the atlas, after the Titan who supported the heavens in Greek mythology. It is followed by the axis, which forms a pivot on which the atlas can rotate, allowing the head to turn. The remaining five are simply numbered from top to bottom (C3 to C7). Cervical vertebrae are morphologically distinct from the other vertebrae of the back in that they have small holes, called transverse foramina (TF), on either side of the vertebral body (VB). The foramina allow the vertebral artery to pass through and supply blood to the brain. Two abnormalities of the vertebral artery, tortuosities and aneurysms, can produce lesions on the bodies of the cervical vertebrae.



Lateral view of the spine.

Tortuosities occur when part of the vertebral artery becomes coiled or looped, creating an abnormal 'tortuous' segment, whereas aneurysms are localized dilations caused by the weakening of the arterial wall. Both abnormalities can cause pressure defects, or depressions, in adjacent vertebrae, but the bone lesions are hard to differentiate. Tortuosities and aneurysms can have multiple causes. These include blunt trauma to the neck, thickening of the arterial wall due to a build-up of fatty materials such as cholesterol, or they may be congenital. Significantly, such pressure defects have only been reported in three other archaeological assemblages: one from a Coffin period site in Japan (c. 1600 years BP), two from a medieval cemetery site in Britain (15th century AD), and six from Kushite burials at Kawa, Sudan (c. 300 BC–400 AD).

A single pressure defect was identified on the spine of the body buried in Tomb 6 at HK27C. Unfortunately, the remains were incomplete and the age and sex could not be determined. Of the vertebrae preserved, only C3 (shown here) had a large pressure defect around the left transverse foramen, while C4 also had an enlarged left transverse foramen but no other remodelling. Unfortunately, C5 and C6 were missing. The appearance and location of the pressure defect on C3 suggests that it was caused by an abnormality of the vertebral artery, but whether it is an aneurysm or a tortuosity is difficult to determine from the bones alone. Modern clinical research has shown that tortuosities occur in approximately 1 in 10 people, they are more likely to affect the left side, and in most cases are asymptomatic and non-life threatening. On the other hand, cervical aneurysms are rare, affecting roughly 1 in 100,000, they can occur on either side of the vertebrae and are usually fatal. The odds suggest that the lesion found at HK27C is more likely to be the result of a tortuosity, particularly as the left side is affected.

The relatively discreet changes associated with these lesions may explain why so few examples have been reported from archaeological assemblages. Careful examination is required to determine whether the past prevalence of such conditions actually differed from that in modern populations. This example from the C-Group cemetery represents the earliest evidence of such an abnormality found to date. Whether this condition would have been a pain in the neck is uncertain, but don't worry if your neck is hurting—you've probably just spent too long at the computer!

Inferior (bottom) view of the 3rd cervical vertebra from Tomb 6 at HK27C. A pressure defect has remodelled and enlarged the left transverse foramen (TF) and caused bone loss (arrow). The right transverse foramen is unaffected, and its standard circular shape and lack of bone loss in the area (star) between it and the vertebral body (VB) indicates that the vertebral artery passed through without problems on this side.

The Watercolours of Frederick William Green

— András Zboray, FJ Expedition, Budapest, Hungary

In the early part of 2010, various paintings and possession of the British Egyptologist F.W. Green (1869–1949) surfaced on the online auction site eBay. Green is known from his work at Hierakonpolis in 1898–99 and his discovery of the famous Painted Tomb (see *Nekhen News* 10: 15–16; 11: 24–25). The items auctioned included 173 watercolour paintings together with childhood drawings, early sketchbooks and some later notes on Egypt. The paintings were purchased by a number of buyers, including the author.

Investigation revealed that all of the items were originally purchased as a single lot at a West Sussex auction. The author was fortunate enough to be permitted to photograph the entire collection before its dispersal to various buyers. These paintings certainly do not include all of the watercolours made by Green during his lifetime, but they do seem to represent most periods in his life. A CD of the collection has been compiled, which is available to researchers upon request.

Of the 173 paintings, more than half are signed or initialled by F.W. Green, many with dates and descriptive notes on the face or the recto. Nearly all of the unsigned ones are clearly by his hand, although four are different. Two of these are signed Christina Green (his daughter), and the other two also appear to be her work.

The paintings are all landscapes, made either in England or on one of Green's voyages to Egypt and elsewhere. The dates and themes suggest they were recreational. None portray any of his archaeological activities, although a few were made during his geological survey of the Eastern Desert (1896) and his campaigns at Elkab (1898) and Hierakonpolis (1899). The paintings can be grouped into four categories by date and theme.

Mons Claudianus, 1897 (Zboray collection).

Early Paintings 1894–1909

Most of the 30 paintings in this group are made on distinctive thick cardboard, 14 x 7 inches in dimensions. Eight are English landscapes, while seven depict a voyage made to Italy in 1896, and four were made on sea voyages returning from Egypt in 1898 and 1909. This group also includes 12 paintings made in Egypt in 1896–1899 showing localities in the Eastern Desert, Giza, and views of Edfu, Elkab and Hierakonpolis.

Despite his prolonged stay at Hierakonpolis (December 1898–May 1899), only two painting were made, both from the vantage point of his accommodations in the New Kingdom tombs. Mainly inspired by the beautiful views of the Eastern Desert hills on the opposite bank, one includes an arrow and notation pointing to the cemetery we now know as HK43 and the Painted Tomb. Unfortunately, there is not enough detail to pinpoint this elusive tomb more closely, and it is no doubt due to the energy Green expended on its recording (see box below) that more recreational drawings were not made. This painting also includes the only large-scale human figure in the collection: a charming pencil sketch of a man named Giushi, who is still remembered in the village today as a person of exceptional character.

View from the tombs looking east, Kom el Ahmar, 1899 and pencil sketch of Giushi.

Looking north from Somers Clarke's house, Nusrab, March 1924. The walls of Elkab are visible in the distance (Zboray collection).

Travels 1923–1938

These 81 paintings record various overseas travels, of which 38 were made in Egypt. Eleven are from the spring of 1923, when Green stayed with the architect (and first surveyor of the Fort) Somers Clarke at his houses at Hilmia (near Heliopolis) and Aswan. Another 16 are from the spring of 1924 and show localities around Elkab, when Green was staying at Clarke's house at Nusrab (presently home to the Belgian mission). Three paintings were made at Saqqara in September 1929, and another three from 1937 depict Abu Roash and modern Helwan. The final paintings made in Egypt are a series of five produced at Elkab and Aswan in February 1938.

Ten paintings were made en-route, showing sea views of Mt. Etna, Sicily and the North African coast. In the spring of 1925 Green made a month-long visit to Palestine, recorded by 17 paintings, making it the best documented of his voyages. Scenes include views of Jerusalem, Mount Carmel and the Sea of Galilee.

From Saqqara looking north to Giza, 20 September 1929 (Zboray collection).

During the summer of 1929 Green attended the Meeting of the British Association in South Africa. Eight paintings record the sea voyages (going via the Ascension Island and St. Helena, returning to Egypt via Mombasa and the Red Sea), and one was made at Great Zimbabwe, although not showing the ruins themselves. Green probably visited the site following the lecture by Gertrude Caton Thompson, who gave her first account of the Zimbabwe excavations at the meetings, receiving a very mixed reception which she recalls in her autobiography (*Mixed Memoirs* 1983). The remaining seven paintings record a 1933 visit to Brittany and a stop in Cyprus in 1937 on the return voyage from Egypt.

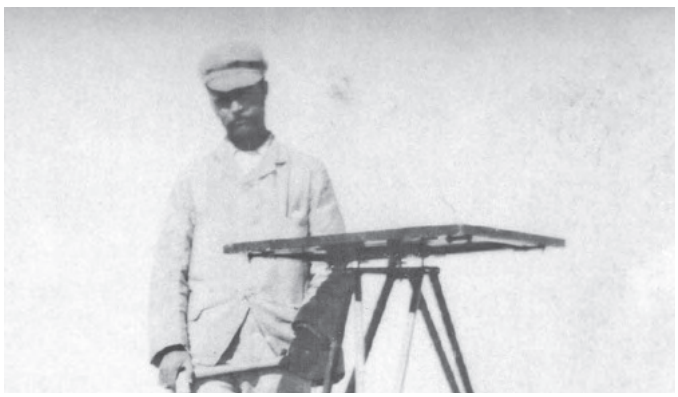
England and Wales 1926–1948 and Unidentified

In the collection, 41 paintings were made at localities in England and Wales, while a further 16 have no inscription or date, but their subjects suggest locations outside England. Some may have been made in southern France, where Green's father spent much of his later years, or on other travels in Europe.

Childhood Drawings, Early Sketchbooks and Notes

In addition to the paintings, other items offered for sale included a number of drawings and sketches on an Egyptian theme that were made by Green when he was young (two are dated 1882 when he was 13). A small painted wooden tablet with hieroglyphs may be that referred to in the biographical profile published in *Nekhen News* 10. Another batch consisted of six sketchbooks and several loose drawings from Green's formative years, when he commenced a serious study of art. Subjects include animals, furniture, mechanical drawings, portraits and some landscapes. Six pages of handwritten notes on Egypt, possibly a draft article, complete the collection.

While not treasure troves of archaeological information like Green's notebooks (in Cambridge) and personal diaries (British Museum), these paintings provide charming glimpses into the life, times and artistic talents of one of Egyptology's unsung heroes.



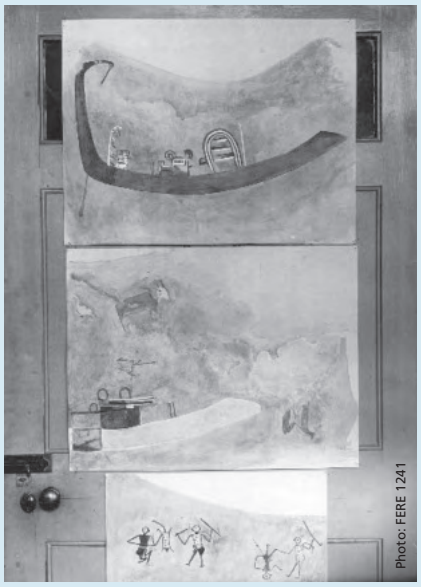
F.W. Green in the Eastern Desert, 1896.

Green and the Painted Tomb

On 5 February 1899, F.W. Green discovered the Painted Tomb, still the only Predynastic tomb with painted decoration. To record the scenes on its plastered walls, Green notes in his diary that he initially tried tracing paper sent from Cairo, but this was too thick and opaque. As a result, he was forced to record the scenes in watercolours, a task that took him nearly four months under very trying conditions (see *Nekhen News* 11: 24–25). Lucky for us, he was such a talented artist.

The main scene was over 1m high and 4m long, and its recording was accomplished on individual sheets, a selection of which were tacked to a door and photographed (somewhere in the UK) by the Belgian scholar Jean Capart while researching his book *Primitive Art in Egypt* (1905). These individual drawings were eventually reassembled by Green on a long roll of oilcloth, which was used to create the lavish half-size facsimile reproduction that appeared in 1950, shortly after his death.

The original roll now resides in the Archives of the Griffith Institute of Oxford. Estimated to comprise around 50 individual paintings, it is a remarkable testament to his artistic abilities and stamina as well as being an invaluable record of this unique tomb.



Capart's photo (courtesy of the Association Égyptologique Reine Élisabeth).

Weird Weather

— Renée Friedman

Just as Green was beset by odd climatic conditions while recording the Painted Tomb (rain, heat and sandstorms), we too experienced our share of weird weather this year, as did the rest of the world.

The first strange event occurred in January when we were sitting down to dinner. We thought we had been overrun by paparazzi — flashbulbs were going off everywhere. We soon realized this was the opening salvo of a slow moving electrical storm with the most mesmerizing sheet lightening ever seen. It rumbled past loudly during the night, but luckily reserved the majority of its aqueous load for the Eastern Desert. Concerned for the Fort, we rushed down the next morning to find it completely unfazed, if a little damp, and resplendent in the freshly cleansed air.

Coming in from the south, the storm ushered in a balmy winter. As reports of harsh arctic conditions filtered in from northern climes, we were feeling pretty pleased with ourselves, that is, until balmy turned into boiling. We weren't quite so smug when night-time temperature inside the house hit 43°C (109°F), the insects went into overdrive, and the solar power batteries failed (like most people, no battery is happy over 35°C). Hot, in the dark, and mosquito bitten, all we could do was pray for a big wind to blow it all away. When it did come, 23 days later, we were relieved, but unprepared for its ferocity. Not only did it blow the heat away, but it also took the guard's tent at the Fort with it. After 15 years of faithful service, the tent is no more.

For many reasons, it was a winter to remember, but not one we'd like to repeat. Fingers crossed for better conditions the world over in 2011.

Storm over Hoffman House.

Fort Finale: Phase One Finished

— Renée Friedman and Richard Jaeschke

We are proud to report that Phase One of the Fort conservation—repair of the most critically endangered and crumbling areas—is finally finished. Thank you all for your support and encouragement over the years. It is no exaggeration to say that we couldn't have done it without you. Friends of Nekhen were the sole supporters of the work in 2010, and your generosity allowed us to apply the final touches to ensure that the Fort, the ceremonial enclosure of King Khasekhemwy (c. 2700 BC) and the oldest freestanding mud brick structure in the world, will be with us for a long time to come. Thank you again!

Before this phase of the project could be finalized, two areas needed to be addressed. First, we had to complete the consolidation of a detaching segment of the west wall—the last remnant of the interior central gap. Insufficient bricks kept us from dealing with it in 2009, but resupplied, we sealed the deal quickly using our well-tested incremental technique. Looking at it now, it is hard to believe this wall was once only 52cm away from collapse!

Next, we shifted our attention to the precarious northeast corner. In 2007 we began the construction of a buttress along its east side in order to support the surviving masonry and allow us to fill in its dangerously collapsed north face in safety. The 40,000 bricks it has ultimately taken to complete this corner show just how much of the original brick work had been lost.

The east buttress was laboriously built upwards over the years in a series of steps, which served as working platforms. Having finally made it to the top this February, we took a minute to enjoy the spectacular view from 8m up, before we began to work our way down again, turning the steps into a smooth, unscalable slope. Now secured, the north wall was quickly filled in flush with the surrounding masonry and the final major fix to the monument was finished. In the time remaining we attended to other repairs, filling in gaps and eroded areas around the entrance gate and the perimeter walls. Wasp-eaten areas on the south wall were also restored, leaving the Fort strengthened and ready to face the future.

Nearing the top in the northeast.

Shifting fortunes: the south wall segment is leaning inward. Help!

The emergency repairs necessary to keep the Fort standing for another 5000 years (hopefully) are now complete. Of course, there is still plenty to do. For example, the wind scoured faces on the interior need filling, the thermal cracks in the wall matrices should be repaired, and there is also the northwest corner, estimated to require 80,000 bricks to rebuild. We'll leave this for Phase Two.

a separating segment of the south wall, which is starting to lean treacherously inwards. Its collapse would be a major catastrophe, especially to the preserved pilasters on its exterior face. While we could shore it up with scaffolding and braces, this would ruin the vista at the entrance and make visitation dangerous, if not impossible. Instead, we would rather fix it permanently by restoring the eroded interior wall, patching the exterior face and halting the crack. We want to do this as soon as possible, but funding is holding us back. Please remember to renew your membership in the Friends of Nekhen. Together we did it before and I know we can do it again!

Working our way back down again.

Closure on the Enclosure: A Fort Retrospective

— Richard Jaeschke, Devon, UK

Phase One being finished means that the Fort is less likely to fall down than before we began. In short, the major undercuts at foundation level have been filled in, the corners have been stabilised, and the ground level inside and outside the walls has been restored. In order to truly appreciate how much we have accomplished, you need to know where we started. To celebrate closure on this phase of the conservation, we offer a brief overview of our progress for new readers and a trip down memory lane for our loyal Friends.

Way back in 1983, my wife and I were asked by Mike Hoffman to make an assessment of the Enclosure and draft a conservation plan. I left feeling sorry for the poor fool who would have to take on that project some day. Little did I expect that the day would come almost 20 years later and the fool would be me.

Already in 1983, it was clear that the Fort needed help, but it wasn't until several thousand bricks fell from the northeast corner in 2002 that positive things started to happen. In 2004, a grant from the World Monuments Fund meant the long awaited repairs could finally commence.

After consulting the experts who were working on the Shunet el Zebib, Khasekhemwy's other, bigger and slightly younger mud brick monument in Abydos, we jumped into the project. The first task was to develop suitable new bricks since ultimately about 400,000 bricks were going to be needed to fix it all. With 320 bricks to the cubic meter, you can get some idea of size of the task we faced and still do. Eventually, we came up with a brick just like the ancient ones — exactly what we needed, since a better brick would deflect erosional forces on to the ancient masonry, and a poorer brick would simply erode away.

Next we needed a mason who was not only competent at bricklaying but also sympathetic to the needs of an ancient monument. We found all this and more in Abdullah Noor, from the local village, who has worked with us from the beginning.

After restoring the ground level around the exterior, we started in on the southwest corner, and apparently just in time. Cracks appearing in 2007 told us that the monument had moved, but luckily it was thwarted by the newly rebuilt corner. Now settled into its new situation, it was more stable than ever, but the 'what ifs' are haunting.

Richardat the Fort.

With a renewed sense of urgency we wasted no time in tackling the many and varied gaps before us, while always mindful that even the best intentions could bring several hundred tons of history down on our heads. Our policy was to minimise the risks to the monument and crew by working in discrete sections. Each section completed in turn would strengthen the area and allow the next section to be worked safely. In this way we could approach even the most daunting damage, and section by section, the exterior of the west wall, including the major gap at its center, was restored to a fair semblance of its former glory.

The interior, however, was a harder nut to crack. Any visitor — ourselves included — must agree that the overwhelming feeling one gets when standing within the Fort beside its tower-

Collapse at the northeast corner — the event that started it all off.

Master mason Abdullah Noor.

West wall before and after and a bit in between.

ing west wall is a feeling of, well, being overwhelmed. Getting close to the yawning and destabilizing holes at the centre of this massive wall was a frightening experience. It became even more so when we discovered that prior to our repairs, only two rows of brick were still in place at the base of these holes. That is just 52cm holding up a wall nearly 10m high and 5m thick!

But before we could deal with that big bad gap, the ridges and valleys disfiguring the interior of the monument needed to be flattened to give us space in which to work. This was a mammoth undertaking and it is still only partly accomplished, but the new vistas it has opened up are stunning. Time, however, was running out. In the course of this task, it became all too clear that the west wall was on the move again, slumping into this major gap, and it wasn't going to wait for our schedule. Emergency bracing of the gap and central wall with temporary supports of steel and timber held it for the summer until, once again, the masterful work of our mason's team was able to fill it in, making it safe and stable. The last bit of this consolidation was completed in 2010.

Repairing gaps both big and small.

Meanwhile, repairs to the original collapse that had started the conservation project in the first place were slowly reaching completion. Now that the highly eroded and precarious northeast corner has been restored and the buttress on the east converted from a step to a true pyramid, all major repairs of the First Phase are complete. But the filling in of minor holes in the fabric of the monument is no less important. Even a small hole leaves the bricks above unsupported and provides access for birds, insects and other fauna. It need not take millennia for a small hole to turn into a large one and eventually cause a disastrous collapse. Thus, over the course of the project, numerous areas all around the monument have been treated and plugged.

Working so closely with a monument teaches you many things. We can now document the two phases over which the Fort was constructed and the different materials and techniques used. We also know more about the enigmatic building in its interior and can pinpoint places were one can still see the gleaming white gypsum plaster that once coated its walls, making it a stunning sight in the ancient landscape.

Phase Two may still be ahead of us, but already, in six short seasons, we have been able to stabilize the monument, making it more attractive and better understood. It is no longer just an old ruin; it is one of the most significant early constructions of the ancient world. It has been a privilege to be a part of this project and I thank you all again for helping us to attain closure on this phase of the conservation of this truly remarkable enclosure.

THE HIERAKONPOLIS HOME PAGE

Owners in the Paws of a Fickle Feline

Feisty from the day she joined the team, Dusty is shaping up to be a major force in the Mouse Patrol. But it is not just mice (lizards, grasshoppers and especially toes) that she has under control. Although the following was written about another cat, it describes our Little Miss just as perfectly. Yet, with that adorable little face, it is hard to believe she really means it…

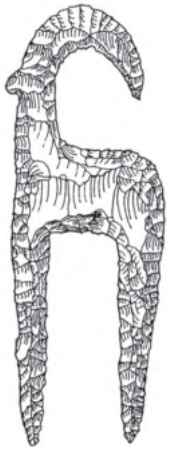
You insolent beings, I do not want the paltry rations another eats like he has fasted for forty days. You are idiots for not being able to read my mind. I control you like a human controls a dog that is gleefully stupid when it is loved. You are marionettes displayed on the mantle, with me as your master. I pull the strings of your hearts with my wide eyed, deviously innocent gaze. Do not bother groveling to me; just give me my desires, or I will make your punishment worse than Sekhmet could render. Your ears will bleed from my cacophony; and your gait will be lumbering. I will watch you like the great hawk gliding in the sky circles his prey ready for attack. Your hands will be callused, your back will ache, as I demand you open the door for me again (and again). It will be in vain, since I turn away every time. Worse, I will spread my mass and barricade your every path. I will freeze my stare and whine. If these actions do not break your granite resolve, at the loving stroke of midnight, I will sink my claws into your arm while feigning the blessed sleep of a saint. — Hannah Friedman

Mistress of all she surveys.

Thanks to Tina and the gang at Chicago House, Luxor, who took her in for the summer, Dusty will be with us in 2011 for more toe-biting adventures.

New and Forthcoming Publications

— by Renée Friedman



Coming soon (summer 2011): ***Egypt at its Origins 3.*** *Proceedings of the third international colloquium 'Origin of the State, Predynastic and Early Dynastic Egypt', London, 27th July–1st August 2008* edited by Renée F. Friedman and Peter N. Fiske. Orientalia Lovaniensia Analecta. Peeters, Leuven.

Of course, aspects of Hierakonpolis are discussed in almost all of the 54 contributions to this volume, but here is a sample of those dealing in detail with the excavations and materials from around the site. Many places and names should be familiar from the pages of the *Nekhen News* (where you heard them first!)

Masahiro Baba. Pottery production at Hierakonpolis in the Naqada II period: Towards a reconstruction of the firing technique. (Also available in *British Museum Studies in Ancient Egypt and Sudan* 13: 1–23. www.britishmuseum.org/research/ online_journals/bmsaes)

Renee F. Friedman, Wim Van Neer & Veerle Linseele. The elite Predynastic cemetery at Hierakonpolis: 2009–2010 update.

Arthur H. Muir, Jr. & Renée F. Friedman. Analysis of Predynastic ostrich eggshells from Hierakonpolis and beyond.

Patricia Perry. Sources of power in Predynastic Hierakonpolis: Legacies for Egyptian kingship.

Izumi H. Takamiya & Hitoshi Endo. Variations in lithic productions at Hierakonpolis: A preliminary report from the excavations of HK11C Squares A6–A7.

Sonia R. Zakrzewski & Joseph Powell. Cranial variability and population diversity at Hierakonpolis.

Also don't miss the fruits of our labours at the temple at HK29A in a triple play in the *Journal of the American Research Center in Egypt* 45 (2009). Out now!

R.F. Friedman. Hierakonpolis Locality HK29A: The Predynastic ceremonial center revisited. *JARCE* 45: 79–103.

V. Linseele, W. Van Neer & R. Friedman. Special animals from a special place? The fauna from HK29A at Predynastic Hierakonpolis. *JARCE* 45: 105–136.

A.G. Fahmy & M. Fadl, 2009. Plant macroremains from Locality HK 29A at Hierakonpolis, Egypt. *JARCE* 45: 137–152.

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.

In return for your contribution 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.

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.

Ways to Contribute

I would like to help the Hierakonpolis Expedition to explore and conserve the site of Hierakonpolis, ancient Nekhen. In return for my contribution (tax deductible in the USA), I will receive the annual newsletter, the *Nekhen News*.

The contribution category I prefer is:

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_____ This is a renewal for the 2010–2011 season. (If you have already renewed, thank you!)

Make your check/cheque payable to

United Kingdom/Europe—
The Friends of Nekhen Trust
c/o Hierakonpolis Expedition
Dept. of Ancient Egypt & Sudan
The British Museum
London WC1B 3DG
UK

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

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ATTN: Molly Hickok

Please indicate your interest as 'Nekhen Excavations' to ensure your donation reaches us.

To pay by credit card, see www.afm.org or e-mail *friendsofnekhen@yahoo.com*

Welcome to the Fort

Entrance gate to the Enclosure of Khasekhemwy (the Fort).

"Welcome to the Fort." Just one more fix and we'll feel a lot more comfortable about saying that. The star marks the spot in question. Here you can see where a detaching section of the south wall is starting to lean ominously inwards because its inner face is heavily eroded. Once restored, it should hold the Fort without affecting the entrance vista and then we'll be delighted to invite you in for a visit any time. We have already been able to accomplish so much with your support. Your special contributions to the Fort Fund are deeply appreciated.

Special contribution for the
Fort Fund

$/£/€ _____

Name: _____

Address: _____

_____

City: _____

State/Province: _____ Postcode: _____

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Prefer to receive the *Nekhen News* as a PDF file? Let us know at: *friendsofnekhen@yahoo.com*

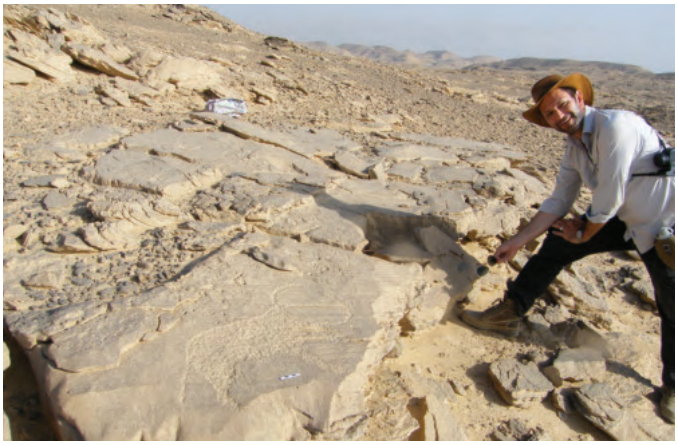
Hierakonpolis Highlights 2010

Fort Finale (see page 27).

The only thing left: an arrow from Tomb 20 (see page 4)

Lucky dogs (see page 4).

A new face at HK6 (see page 5).



Rock Art revelations (see page 12).