



Volume 10

SPECIAL CENTENARY EDITION

Fall, 1998

1898–1998: Hierakonpolis Celebrates 100 Years of Discoveries

—by Renée Friedman

On the 100th anniversary of scientific excavation at Hierakonpolis, Egypt's first city continued to provide more Firsts, for which it is justly famous. New and exciting finds, ranging from pachyderms to date pits, were made at every locality examined in this, our third season of renewed field work. Hierakonpolis is indeed among the premier sites for understanding early (and later) Ancient Egypt.

Despite security concerns, a week after the Luxor massacre the Hierakonpolis Expedition bravely returned to the field under the direction of Barbara Adams (Petrie Museum of Egyptian Archaeology) on November 29, 1997. The second part of the season, under the direction of Dr. Renée Friedman (University of California, Berkeley), began on January 7, 1998, which was, coincidentally, the very day, 100 years ago, that Quibell discovered the golden hawk head. This was a very good omen of things to come.

Barbara found the first "first" of the season in the elite Pre- and Early Dynastic cemetery at Locality HK6. Excavations were resumed here to clarify chronological issues raised by the previous excavations by Michael Hoffman.

Instead of recovering evidence of the missing temporal phase, she found something far more impressive: a Predynastic grave which contained the skeleton of an elephant, an unprecedented discovery in a funerary context in Predynastic Egypt and one which suggests that we need to rethink definitions of "wealth" at Hierakonpolis. More firsts soon followed when work and study were resumed in the Predynastic cemetery at HK43 un-

The Firsts of the First Hundred Years

The first hundred years of scientific investigation at Hierakonpolis, the site of Egypt's first capital, has produced a large number of firsts; i.e., the first occurrence of objects, practices and styles that were destined to typify Egyptian civilization, such as the first temple and first mummies. It has also produced a similar number of "onlys," that is, the only preserved example, although other occurrences are documented. There are also a few seconds and thirds just to round out the picture.

A comprehensive list is rather formidable, so here are just some of the fascinating firsts which have led (and are currently leading) to a new and fuller understanding of ancient Egypt at its beginnings. The first group derives from the excavations of exactly 100 years ago (1898-9) when the British Egyptologists John Quibell and Frederick Green came to salvage the site after the depredations of looters.

- The palette of Narmer, c.3100 BC. After the golden mask of King Tutankhamen, it is probably the most reproduced image from Ancient Egypt. Though no longer considered the oldest political document in history, its importance has not diminished.
- The oldest life-sized human statue: a courtier or priest from the temple of Horus, c.3000 BC.

Continued on page 2

der Renée's direction. Sixty-four burials were revealed this season, six of them intact. More wrapped bodies were uncovered and further information about the first mummies was collected. Although these are the graves of the poorer working class inhabitants of ancient Hierakonpolis, two complete copper pins were recovered and one pottery bottle incised with a scene depicting a large bird, perhaps an ostrich, and a giraffe—the first evidence of that animal in this period.

Detailed study of the ample remains of hair collected over the past three seasons revealed the first clear case of using henna to dye gray hair and the first documented example of hair extensions, the practice of using additional swatches of human hair to create an elaborate hairstyle, antedating the next known example by 500 years! On a more grisly note, the physical anthropologists studying the osteological material were able to identify two and possibly three cases of violent death. In addition, a rare congenital deformity was also observed in one individual. Finally, preliminary analysis of the botanical remains found with the bodies suggests that the practice of artificial pollination of dates was already known at Predynastic Hierakonpolis, some 2000

years earlier than previously attested.

In addition to cemetery work, a geophysical survey of the area around the mudbrick enclosure of King Khasekhemwy (Dynasty 2) was carried out by Tomasz Herbich. Several interesting magnetic anomalies in the subsurface topography were identified—mudbrick structures, possibly pottery kilns, streets and, we hope, the locations of Egypt's earliest royal boat graves.

- The earliest painted tomb. The only tomb of the Predynastic period with painted decoration along its plastered walls, depicting a floating funerary cortege and scenes of power and dominion, among them one of the earliest scenes of smiting, later to be a canonical pose of the king (viz., Narmer Palette).
- The largest flint knives ever produced in Egypt, c.3100 BC. Several of the votive offerings at the temple of Horus are gigantic versions of fine objects of status; such as decorated votive maceheads and hard stone bowls, up to 10 times larger than normal and only found at Hierakonpolis.
- The only large-scale metal statuary to come down to us from remote antiquity in Egypt—the over-life-size copper statue of King Pepi I of Dynasty 6, and the smaller statue (of his son?) c.2200 BC. Both have recently been conserved by the Egyptian Museum, Cairo, revealing the exquisite workmanship and remnants of gilding.
- The golden hawk head of the cult image of Horus, c.2300 BC, the oldest (known) cult image in existence. When found, its copper clad body was still just discernible, but disintegrated on contact with the air.
- The oldest stone statue of a known and named personage; the two statues of King Khasekhemwy of Dynasty 2, c.2700 BC.
- The oldest freestanding mudbrick structure in the world, c.2700 BC, still preserved in places to its original 36 foot height. This is the funerary enclosure of King Khasekhemwy, the father of the first pyramid builder, Djoser, and a great builder in his own right, who embellished his “house of eternity” with the first known granite architectural elements carved in the formal and characteristic Egyptian style.

Continued on page 10

New things were also revealed in the decorated Dynastic tombs, the cleaning, conservation and documentation of which are being made possible by a generous three-year grant from the American Research Center in Egypt's Egyptian Antiquities Project. The year's work was concentrated in the New Kingdom tombs of Hormose and Djehuty. Approximately 75 percent of the decoration in the tomb of Hormose was cleaned of soot and grime, revealing previously unknown scenes with painting of the highest quality. As if by magic, previously unsuspected painted decoration in the tomb of Djehuty was also discovered. Even the mundane task of clearing debris from within the tombs revealed some interesting surprises.

The season ran until April 6 and was made immeasurably more comfortable and productive with the installation of the solar power system. This took place, thanks to the logistical skills of Art Muir and the generous donations of our Friends of Nekhen, on January 16. It's another “first,” the first expedition to go totally green, but judging from the interest expressed in our system, others will soon follow. Other home improvements included the completion of a beautiful domed workroom in the unfinished portion of the house compound and a new coat of whitewash and paint all around. The 1997-8 season was a productive and fascinating one. As always, we are grateful to all of our old and the increasing number of new Friends of Nekhen for making our work possible. In particular we would like to thank the British Academy, The Bioanthropology Foundation, Raymond and Beverly Sackler, Tom and Linda Heagy, the LaSalle National Bank, Dr. Clive Cussler and the Institute for Nautical Archaeology, Egypt, for their generosity and for making this centenary year at Hierakonpolis one to remember.

Hierakonpolis in Aswan

In January 1999, a special exhibit of selected finds from 30 years of research by the Hierakonpolis Expedition will take place in the temporary exhibition hall of the new Nubia Museum in Aswan, and is scheduled to run for approximately six months. We are extremely honored to have been asked to mount this exhibition and are grateful to the Secretary General of the Supreme Council of Antiquities, Dr. G. A. Gaballa, for the invitation. We are also very proud to be showing our finds in such a beautiful new museum. It is a wonderful opportunity to display our many treasures from all over the site, accompanied by photographs and information panels providing the archaeological and historical context. Get out your calendars and start planning your visit!

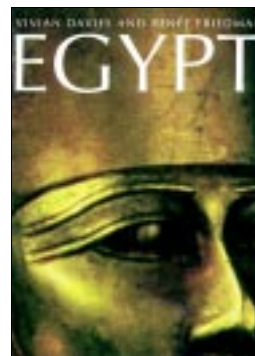
Visit Hierakonpolis Online! www.hierakonpolis.org

EGYPT

By Vivian Davies and Renée Friedman. Published to accompany a five-part TV series, *Egypt (Egypt Uncovered* in the U.S.) is the fascinating story of some of the major aspects of ancient Egypt, rewritten in the light of the most recent discoveries and with the benefit of unprecedented access to key archaeological sites in Egypt and the Sudan and the experts working there. With 200 color illustrations, the majority specially commissioned, *Egypt* provides an up-to-date introduction to the latest advances in our knowledge of one of the world's greatest civilizations.

Vivian Davies is Keeper of Egyptian Antiquities at the British Museum. Renée Friedman is currently Director of the American Expedition to Hierakonpolis, the site of Egypt's first capital.

British Museum Press, £20.00 • Stewart, Tabori & Chang, New York, ISBN 1-55670-818-1, \$29.95.



Something Very Special down in the Elite Cemetery

—by Barbara Adams



Funded by a grant from the British Academy and helped by contributions from the Friends of Nekhen, the first half of the Hierakonpolis expedition—myself, Ian Casey and Richard Jaeschke—warily set off for the site in November, 1997. Egypt was reeling from the incident in Luxor the week before and was eerily quiet. With the help of our friends at ARCE in Cairo, Chicago House in Luxor and the Antiquities Inspectorate in Edfu, we arrived at Hierakonpolis safely, if a little late, to begin work in the elite cemetery at HK6 on November 29.

The HK6 cemetery is located 2km from the desert's edge on the west side of the great wadi, Abu Suffian. From 1979 to 1985, the Hierakonpolis Expedition, under the direction of Michael Hoffman, undertook excavations here, uncovering twelve tombs, some still contained a remarkable amount of valuable and exotic grave goods despite their heavily disturbed condition. At the up-wadi end of the cemetery, several tombs of the transitional Amratian/Gerzean (Naqada Ic-IIa, c. 3600BC) date had been found, while at the down-wadi end three brick-lined tombs clearly belonging to the elite of the Naqada III/Early Dynastic period (c.3100BC) had been uncovered. I wanted to return to the HK6 cemetery to test my hypothesis that the cemetery was used continuously, expanding horizontally through time. I was in search of tombs dating to Hierakonpolis' greatest period, the Gerzean (late Naqada II, c. 3400BC).

Accordingly, we made the decision to excavate part of a square in the central-west part of the cemetery, an area which contained several small grave depressions. We chose this square for two reasons: the surface survey suggested the likelihood that graves dating to late Naqada II might be found in this central part of the cemetery; and, given the lack of time, it seemed sensible to avoid areas which might contain a large,

mudbrick-lined tomb. Work progressed slowly and the objects retrieved in the surface cleaning were puzzling, being a mixture of early Predynastic types, such as over forty chert transverse projectile points (trapezoidal arrowheads) and disc macehead

fragments. Later, Protodynastic artifacts such as fragments of stone vases, obsidian blades and hard orange pottery were found, although there appears to be no large tomb of that date in the vicinity.

Then, when time seemed short and results rather depressing, it began to get interesting. Two tombs were discovered, nos. 13 and 14, both of which were badly disturbed. The bones within Tomb 13 proved to be a mixture of human and dog. It is possible that the remains of at least seven domesticated dogs (skulls and bones and over 40 claw cores) found during surface clearance originated from this tomb. Unfortunately, the few pottery sherds found in situ within the tomb were early rather than late in the Naqada II period. We were fortunate that Theya Molleson, our physical anthropologist, was able to join the expedition for the last eight days, during which she analyzed the human bone from our excavations and the earlier campaigns. She concluded that there were no more than two individuals, an adolescent male and a young adult male, most of the latter's bones coming from Tomb 14.

Things really picked up when Tomb 14 was found. Early on during the clearance around this tomb, flakes of ivory were noted and many further fragments continued to come out of the fill, finally constituting a small, round, straight tusk. The right side of a large lower jaw lacking teeth, with tooth sockets uncharacteristic of cattle, was found in the south end of the grave, which we identified in the field as a hippopotamus. A rim fragment of a white cross-lined pottery bowl came from the north end of the grave, which, together with the few other sherds, dated the burial again to the early Naqada Ic. The discovery in situ of the white cross-lined sherd was another first for the expedition and was especially exciting together with the "hippopotamus," for that animal is often depicted on this type of pottery.

In the absence of a faunal specialist, Theya Molleson was able to help with the preliminary analysis of the animal bone. Tusk, skull, the right side of the jaw, vertebrae, foot bones, ribs, pelvis and scapula, numerous fragments of long bones, a quantity of unfused epiphyses of this large animal and tooth plates were sorted and photographed. Much to our surprise, Adrian Lister and Paul Davies of the Biology Department, University College London, were able to identify from the photographs these remains as belonging to a juvenile savanna elephant (*Loxodonta africana*)!

Andy Currant of the British Museum of Natural His-



Juvenile elephant tooth plates, which proved to be crucial for identification.



Elephant right mandible and scapula from Tomb 14.

tory estimated the age at approximately 10 years. Elephant teeth migrate from the back to the front (deciduous) of the mandible through six sets, and are used to age the animal. After this, I felt my article in *Nekhen News*8, (Fall 1996) on “Elephants, Hippopotami and Pigs: Museums, Stores and Rooting” was prophetic.

Specimens of the African elephant are unknown from Predynastic sites in Upper Egypt, so this is a very special find. Elephants have been found, however, in Neolithic contexts in the Fayum and the Dakhla oases. Gertrude Caton Thompson excavated the skeleton of an elephant in 1934 at Site K on the shoreline of the Fayum lake that had a concave-based arrowhead lodged in the bones. She could not accept that such a weapon could have killed the animal without the use of poison, even though recent experiments in America have shown that mammoths could have been hunted with Folsom flint points, the spear heads used by native Americans. One of the surface finds from HK6 Sq.18G was a concave-based flint arrowhead, which adds a little intrigue to this story.

Elephants do appear in the rock art of Upper Egypt. In fact, a graffito of an elephant occurs at Locality 61c at Hierakonpolis, in the hills above the Locality 6 cemetery. Unfortunately, the date of this rendering is not known. Various authors have presumed from the depictions known on artifacts that the elephant was still living in Egypt during

Naqada I (c.3800-3500 BC), but had been hunted to extinction by Naqada II (c.3500-3200 BC). However, few of these early depictions derive from excavated contexts.

The only free-standing model known comes from the Naqada I-II settlement at the desert edge at Hierakonpolis, excavated by Henri de Morgan in 1912. It is now in the Brooklyn Museum (09.889.325). A crude pottery figure (H: 4.5 L: 5.8 cm) with a stumpy trunk and relatively small ears, it may suggest that the animal was commonplace enough to have been modeled as a toy, or indicate that it was in some way domesticated.

The expedition will be able to continue work in the Locality 6 cemetery this winter, thanks to a grant from the Institute of Archaeology at University College London, taking with it that all-important component, an archaeozoologist, Sylvia Warman. The discovery of the dogs and the elephant in association with Naqada I human burials makes it apparent that the animal interments are much more extensive and earlier than previously thought. We must be prepared.



Model elephant from the town site at Hierakonpolis. (Brooklyn 09.889.325)



More Mummies: The 1998 Season at HK43

—by Renee Friedman



“Paddy” uncovered. Note the pads at the base of the skull, the chin and jaw, and the hands.

Between January 24 and March 23, a major campaign of continued excavation in the cemetery at HK43 was undertaken with the assistance of physical anthropologists Amy Maish, Gail MacKinnon, Christine Marshall and Joyce Filer; with David Depraetere, Art Muir, Judy McKeehan as archaeologists. We are grateful to the Bioanthropology Foundation, Raymond and Beverly Sackler, and the LaSalle National Bank for the funds which made this work possible. One of the few remaining Predynastic cemeteries relatively undisturbed in modern times, the site is of extreme importance and has continued to provide exciting new information both on the Predynastic population of Hierakonpolis and early burial practices. The general lack of grave goods other than pottery, coupled with the robust physical nature of the bodies suggests that this is the cemetery of Hierakonpolis’ working class inhabitants. It provides a contrast to the elite cemetery at HK6 and the middle class grave field around and beneath the “fort” at HK27.

Several squares immediately adjoining the area excavated in 1997 were opened during the 1998 season. These excavations revealed 64 new burials, bringing the total number of burials excavated at HK43 over the past three years to 141. The clearance of a contiguous area covering over 550m² suggests that, unlike other known Predynastic cemeteries that expanded in a relatively regular linear fashion horizontally over time, the graves in this portion of the HK43 cemetery were arranged in large circles with empty central areas. These groupings, probably of related family members of all ages and sexes, extended over several generations. Pottery recovered this season dates the excavated area of the cemetery to Naqada IIa-IIc (early to mid-Gerzean, c.3600-3400BC) with graves of these periods mixed together without clear temporal zones. It is hoped that the family relationships can be determined by detailed analysis of the osteological and copious soft-tissue remains in future. No evidence has been found so far of what might have stood in the center of these densely packed circles. If anything, it must have been above ground, yet it left no traces. One can suggest an ancestral shrine made of a perishable material, such as wattle and daub, or perhaps a mound of sand or a proto-pyramid, acting as a mound of (re)creation for the entire family.

This season's work provided other new insights into Predynastic burial practices and allowed us to modify some of our previous observations. At the very end of last season we discovered two burials in which the occupants had been partially wrapped in linen (see *Nekhen News* 9, pp. 2-3, 8). This was especially clear around the face and the arms where clumps of linen had been used to pad the body parts before they were wrapped in narrow strips of cloth and then covered with matting.

We found several more "wrapped" burials this season, one of which was completely intact. This intact burial was, thankfully, discovered early on in the season, but in the middle of a raging sandstorm and the day before a scheduled long weekend (which was subsequently shortened). The burial in question (Burial 85) turned out to be that of a young woman (whom we nicknamed Paddy). Her hands and lower arms had been padded with thick bundles of linen and then wrapped. Bundles of linen were also used to pad the area around the head: the base of the skull, neck, forehead and jaw. However, the major part of the face, the eyes, nose, and mouth, were not covered with pads of linen and there is no evidence of any linen wrapping of the entire head, although several layers of matting covered it (see further discussion of this interesting lady by Joann Fletcher on page 7).

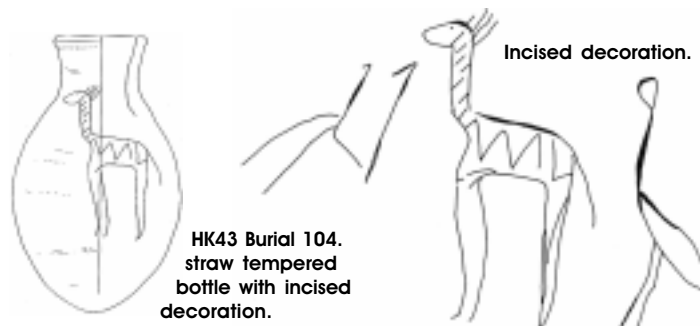
It would now seem that the padding may have served to hold the head in place or magically protect it from later disturbance. On the other hand, as the padded body parts, especially the hands and jaw, are associated with nourishment or the ability to feed oneself, the padding may have been an at-

tempt to preserve for eternity what was necessary for maintenance in the next life.

We also discovered that this practice of padding the head and hands was one restricted to women (last year's identification of a wrapped male was in error). No males were found treated in this fashion. Whether this type of treatment might have led to the development of mummies later remains unclear, but evidence for the use of resin in many of the graves at HK43 does suggest that by the mid-Predynastic period experimentation with artificial mummification was taking place. The primary purpose of this experimentation does not, however, appear to be the artificial preservation of the body. Indeed, these discoveries force us to rethink the standard explanation for the development of mummification. It has long been thought that graves were dug deeper and coffins came into use in an attempt to thwart plundering and protect the body. However, this resulted in losing contact with the hot dry sand which preserved the body. Thus wrappings and mummification were perceived as attempts to do artificially what the hot dry sand had been doing naturally. Clearly that speculation now seems doubtful, but further excavation here and at other sites will be required before what is certain to be a complex issue can be resolved.

Although only women appear to have been wrapped, men did have a few things the ladies did not. A copper needle and one copper pin from two different graves were found this season. Both examples were clearly the prized possession of their owners, as they were placed in leather pouches tied at the waist and hung on the hip. In one case, the pouch itself was recovered and preserved. In both cases the owners were male.

In general, however, grave goods continued to be conspicuous by their absence. Pottery vessels were again the most frequent find. The range of shapes was generally limited to large or small Rough ware bottles and jars, but among them one small rough bottle stands out. This bottle first sparked my interest while I was removing its contents for Ahmed, our botanist (see page 11). I noticed several scratches along one side and became extremely annoyed. I thought to myself, "Our workmen know better than to use a trowel when uncovering whole vessels!" But as I upended the pot to get the last bits of residue out, the light caught the pots and revealed a scene of a giraffe, a bird, perhaps an ostrich, and some sort of rectilinear



figure, lightly incised around its belly. This would have been some pretty fancy trowel work indeed.

The giraffe is carefully drawn with internal markings, while the ostrich is more schematic. Together they constitute an abbreviated version of animal files as found later, greatly elaborated, on the carved ivory knife handles and combs of the Late Predynastic period (Naqada III). We must admit we don't know what they mean. Examples of abbreviated animal files also occur in rock art, but are difficult to date. This pot, datable by shape and association to Naqada IIb (early Gerzean), portrays the earliest dated animal file so far known as well as the first evidence for the giraffe in this phase of the Predynastic period (see page 9). It would seem that HK43 had produced yet another first. Little did I know at the time how much more there was to come!

TRAUMA at HK43

—by Amy Maish

In what may sound like a description of the victims in a murder mystery, this year's excavation at HK43 revealed people with traumatic injuries. We found two young men, aged 20 and 18-20, both of whom had multiple lacerations to the throat, and a woman, aged 35—40, who had multiple skull fractures caused by a blow to the back of the head. Due to the nature of these injuries it is likely these individuals died traumatic or violent deaths. These individuals are interesting—if only because the cause of death among most of the Predynastic inhabitants of the cemetery is indeterminate.

In the final days of excavation we uncovered an intact double burial (Burial 123). Both individuals were male and buried in a tightly flexed position on a reed mat large enough to accommodate them both. When Chris Marshall returned to the lab to begin the inventory of the skeletal material, she noticed a mark on the hyoid bone of one of the males (the hyoid is a small bone located on the front, or anterior, part of the throat just below the jaw). She then took a close look at the cervical vertebrae and noticed four more small cut marks. The alignment of the marks and the angle would indicate the likelihood that the throat was slit by a single cut. There was absolutely no detected evidence of healing and there is little doubt that the sharp force trauma to the neck was the cause of death.

The plot thickened when his grave partner was examined. This young man showed evidence of a rare, possibly congenital, developmental malformation called *craniostenosis*, or premature fusion of the sutures of the skull. This early fusion causes the back of the skull to bulge outward with the continued growth of the brain. If viewed from either the top or the back, the skull looks distinctly triangular in shape. Additionally there is a difference in the level of the left and right eye sockets and malformation of the jaw, which may have been caused by this

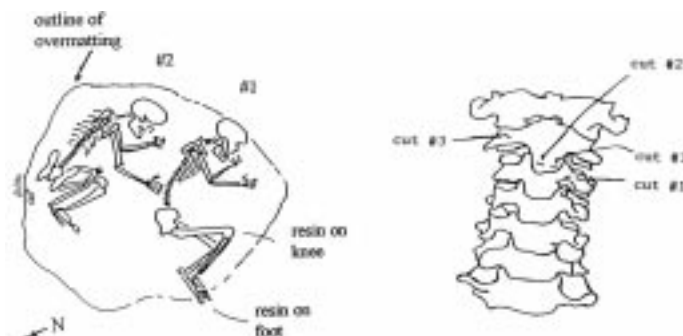
affliction. It is unclear if this condition was the ultimate cause of death, or if it caused any brain damage. Further abnormalities of the legs and knees were also noted, which would have caused a distinctive gait and/or limp. If that weren't enough, several healed fractures of the collarbone and vertebrae of the lower back suggest that the individual did not have an easy life. The relationship of these two young men to one another is unknown and the story of how they came to be together in this grave remains a mystery worthy of a novel.

The other individual (Burial 24) with neck lacerations was found in a highly disturbed context and is not as well preserved as the young men in the double grave. Nonetheless, upon laying his bones out for examination, multiple cut marks were noted on his cervical vertebrae also. The cut marks were deep and there were several of them. One slash was very wide and deep, and one could see where the weapon had become stuck in the bone, lifted and forced back down again in the same direct area, leaving a small, v-shaped wedge of raised bone in the middle of the trauma. Just as in the previous case, and perhaps not surprising, there were no signs of healing.

Our last victim was a woman (Burial 120). When Gail MacKinnon found her lying undisturbed on her left side with both arms crossed over her chest, she appeared normal. It came as a great surprise that, when clearing around the skull, it was found that half of the cranium was missing. After reconstructing the skull with pieces subsequently found some distance away, we could see that the woman had suffered a strong blow to the back left side of her head. When she was struck, the force created fractures that radiated from the point of contact around to the face, forehead and base of the skull. As there is

The two unfortunate young men in Burial 123. One was deformed and the other was possibly murdered.





Plan of Burial 123 and anterior view of the cervical vertebrae of Burial 123 body no. 1.

once again no evidence of healing, it would seem that this injury was the cause of death. In the lab we also discovered that the hair on the left side of the head had been cut off just above the level of the injury, apparently in an attempt to clean up the body. When she was buried, the remaining hair from the left side was combed over to the intact right side of the skull to make her appear whole and normal for eternity.

Another interesting feature of this burial was the organic fibre covering, resembling tree bark, which was found wrapped tightly around each of the limbs and torso, rather like bark pajamas. Further, although this grave was clearly undisturbed, the pottery within it was broken and scattered on either side of the body as if it, too, had been killed. This burial is extremely interesting and, given the curious body treatment, serves to give insight into Predynastic funerary ritual and the preparation of the dead for eternity.

Cases such as those presented above are of great interest to anyone intrigued with Predynastic lifeways. As the evidence from other Predynastic cemeteries and HK43 are put together it will help to determine if these are anomalies or if there are patterns which may answer our many questions about the way these people lived and the influences on their lives.

The Secrets of the Locks Unraveled!

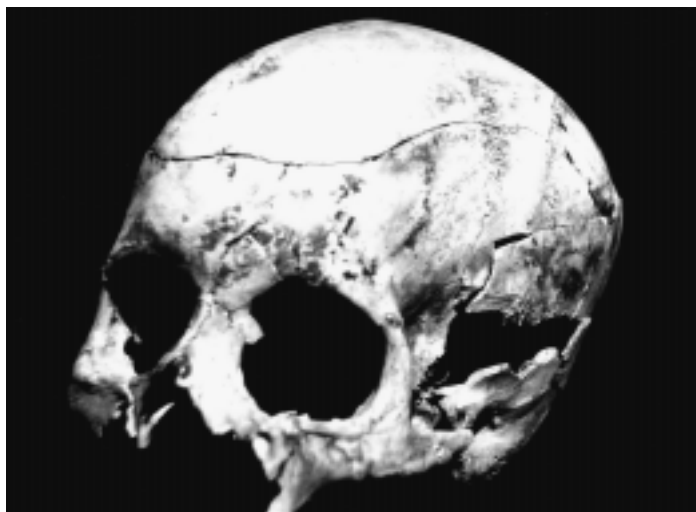
—by Joann Fletcher

Following the latest season at the Predynastic cemetery site HK43, the anticipation felt while writing the article "Hair: Unraveling the Secrets of the Locks!" (*Nekhen News* 9, p.4) has proven to be fully justified. The work itself has involved analysis of the numerous hair samples taken during the 1997 season and new material as it was uncovered on site on an almost daily basis in 1998, with results even more significant than we could have hoped for.

Work in the lab next to the courtyard began with material discovered last season; the assorted packages and containers each carefully unwrapped to reveal a whole range of fascinating hair samples. These were examined microscopically and



Burial 120, an intact burial of a woman. When her head was lifted, we found that the left side of it was missing and the hair from the left had been combed over to the right, as can be seen in this photo. Note also the orange bark-like material which covered all of her limbs very tightly.



Skull of Burial 120 reconstructed, showing the fractures of the skull caused by a blunt force injury to the left side, delivered from behind.

almost immediately we began to find (to borrow a famous line from elsewhere) "wonderful things." As the excavation team returned to the dig house each afternoon via the lab, the latest discoveries under the microscope would be discussed with those made in the field, followed up by animated, if often rather unsavory, lunch-time conversations on everything from head lice to armpit hair.

The vast majority of hair samples discovered at the site were cynotrichous (Caucasian) in type as opposed to



Mudira to Mudira



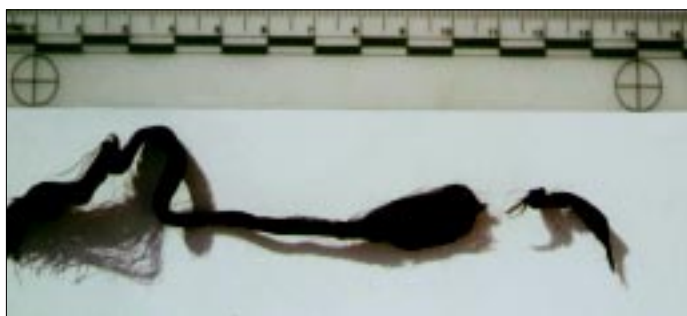
Excavating "Paddy."

heliotrichous (Negroid), a feature which is standard throughout dynastic times. Samples ranged from a single hair to a complete headful, with the largest number originating from the disturbed Burial no. 16, the Mudira (the directress), a female of around 35+ years of age, discovered at the end of last season (illustrated in *Nekhen News* 9, p.4).

When all the various samples associated with this burial had been brought together for study it was possible to attempt recreating the original style as closely as the fragmentary nature of both the hair and skull fragments would allow.

Close inspection revealed that the Mudira's natural hair of slightly more than shoulder-length had been augmented with a considerable number of artificial lengths of false hair, very reminiscent of modern dreadlocks, meticulously worked into the natural hair to create an imposing high coiffure. The complex styling techniques made it clear that her particular hair-style was the result of many hours of careful work carried out by someone other than herself. This particular discovery is therefore extremely significant as it is the earliest evidence for the use of false hair in Egypt (if not the whole of the ancient world), predating previous examples by at least 500 years.

And, if this wasn't sufficient, the same lady also provided us with the earliest evidence for the use of hair dye. In depth examination showed a contrast between the auburn cast of her dark brown hair and a smaller number of unpigmented white strands of hair associated with the aging process. The unpigmented hair had been turned the bright orange color typical of henna, a vegetable dye made from the powdered leaves of the shrub *Lawsonia inermis*. This shrub grows yet in the area and is still used for the same purpose by the local population, who kindly showed us where the best henna bushes were to be found

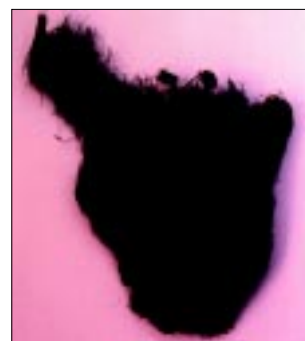


The earliest evidence for hair extensions in Egypt: the false lock of hair and the tiny knot by which it was fastened to the natural hair.

and allowed us to help ourselves to the leaves. They also showed us the heavy grinding stone used specifically for the purpose of grinding the leaves to a fine powder, which is then mixed with water and used to color both the hair and skin. Inspired, we decided to undertake comparative tests using the leaves we had picked, ground down and mixed with water to produce the dye. This dye was then applied to modern hair samples supplied by the current Mudira (Renée). Our tests resulted in exactly the same results as those observed in the ancient samples.

Although most of the hair found is the natural dark brown color, natural red hair was also discovered in association with male Burial no. 79, his hair originally falling in a wavy style ending in small ringlet-type open-center curls. Together with other burials uncovered this season, this reveals the great attention paid to appearance, the hair obviously of great importance to both men and women alike. There were clearly a great range of styles by this early date, from extremely short crops little more than 1cm long as noted in Burial no. 76 (a female of c.25-30 years) to longer styles as demonstrated by the large quantity of dark brown wavy hair set in partially twisted lengths recovered intact in association with Burial no. 91. Although the hair itself was discovered completely detached from the skull, it was possible to determine that it would originally have been set at shoulder length.

The best preserved hair, however, was found in the well-padded Burial no. 85 (nicknamed Paddy), a female of c.20-25 years of age. Careful removal of the upper layers of matting and linen pads allowed the hair to be preserved intact on the head, particularly the delicate free-hanging hair ends around the shoulder area that give the most accurate idea of the original hair length. Further study back in the lab revealed an original shoulder length style of natural waves, extending c.22cm from the crown, with a left side parting and an asymmetrical fringe made up of S-shape curls bordering the eyes. In addition to the excellent preservation of Paddy's cranial hair, her right eyebrow had also survived intact beneath the layers of protective wrappings; a Predynastic Egyptian woman wonderfully preserved down to this last detail.



Beard from Burial no. 79, HK43.

Further facial hair recovered in association with the red-headed man in Burial no. 79 appears to have been cut with a sharp blade, while analysis of one mass of hair discovered last season proved to be an almost complete beard, possibly the oldest surviving example yet found! Body hair was also found during both seasons, including underarm and pubic hair.

A number of hair samples also revealed the egg cases of

head lice (*Pediculus humanus capitis*) in both a hatched and unhatched state, the latter indicating that the individuals in question had probably died while suffering from an infestation. As stated previously, lice much prefer short clean hair and, contrary to popular misconception, are not to be regarded as indicative of poor hygiene standards. In fact, quite the reverse is often the case and their presence helps us to study general day-to-day living conditions. Ongoing detailed analysis of the elemental concentrations of the hair itself is also helping to establish dietary intake while revealing traces of possible nutritional deficiencies and diseases.

Despite its hitherto under-used potential as a source of information, the fascinating study of hair is helping to provide answers to many important questions regarding lifestyle, diet, disease, and even something as simple (or complex) as vanity, all of which are as relevant to us today as they were to the working population of Hierakonpolis over 5000 years ago.

Joann Fletcher has a BA (Hons.) degree in Egyptology & Ancient History from University College London and a doctorate in Egyptian Hair from Manchester University. She has studied hair in museum collections all over the world and has published widely on the subject.

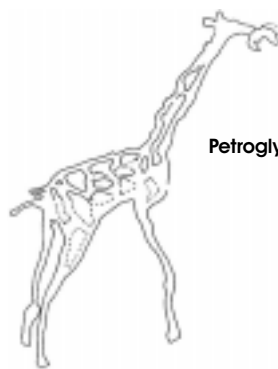


Joann Fletcher contemplates "Paddy" and her fully preserved head of hair.

Giraffes in Ancient Egypt

—by Dirk Huyge

What animal has more grace than the long-legged giraffe? Surely the elegance of this majestic creature must have appealed to the ancient Egyptians as it does to us now. That the early inhabitants of the Nile Valley were well acquainted with this tallest living animal is a recognized fact. Several pieces of evidence, both visual depictions and actual bone finds, attest to this. At an early time the giraffe (*Giraffa camelopardalis*) was certainly part of the indigenous animal world of Egypt. Together with other elements of large "Ethiopian" fauna, such as elephants, rhinoceros and various types of antelope, giraffes populated the Nile Valley and its desert fringes. The moister



Petroglyph from HK61.



Stylized giraffes on White cross-lined pottery of the Naqada I period.

environmental conditions and lush, savanna-like vegetation of the Predynastic period (c. 5500–3150 BC) may even have sustained sizable herds of this animal. We do not know with certainty when the giraffe disappeared from the ancient Egyptian ecological stage. Most probably this happened during the Early Dynastic period (c. 3150–2650 BC) or over the course of the early Old Kingdom at the very latest. The increasing aridity, together with competition from grazing herds of cattle and other household animals for food as well as, perhaps, other threatening factors, must have forced this animal into more southern regions.

Representations of giraffe are a recurrent feature on White cross-lined pottery of the Naqada I or Amratian period (c. 3900–3650 BC). From the same period we know of oval-shaped cosmetic palettes with incised giraffes and several long toothed ivory combs crowned by one or several sculptured silhouettes of this animal. During Naqada II, or Gerzean times (c. 3650–3300 BC), giraffes seem to have been less popular subjects. The delightful newly discovered giraffe incised on the little jar from the cemetery at HK43 is one of the very few representations that can be assigned to this time period. It is only during the Naqada III, or Terminal Predynastic period (3300–3150 BC), that we find numerous representations again. Clearly the giraffe is one of the major animals occurring on a large variety of elite objects, such as ivory knife handles, mace handles, and ceremonial slate palettes. It is often part of heraldic compositions on the latter documents, showing two confronting animals flanking a date palm.

Much more common than on moveable archaeological objects are giraffes in Predynastic rock art. Several hundred giraffes (maybe many more—no one has ever counted them!) have been engraved on the rock faces and boulders of the Nile Valley and its neighboring deserts. For example, a magnificent, life like example, possibly of Late or Terminal Predynastic age, was discovered at a rock art site (HK61) at Hierakonpolis.

Giraffes are only occasionally represented in Old Kingdom and later art, but become common in the New Kingdom. In almost all cases these animals are part of tribute scenes, in which exotic rarities are presented to the Egyptian rulers by tributary African vassal peoples. Among the best-known examples are

the magnificent giraffe in the Theban tomb chapel of the vizier Rekhmire (18th Dynasty) and that in Ramesses II's rock-cut temple of Beit el Wali in Lower Nubia (19th Dynasty). On the basis of its star-shaped skin pattern, the former is possibly a Masai giraffe (*Giraffa camelopardalis tippelskirchi*), a southern subspecies whose current distribution is limited to Southern Kenya, Tanzania, Mozambique, Malawi, and Zambia.

In contrast to this abundant pictorial evidence stands the scarcity of actual bone finds of this animal on archaeological sites. Giraffe bones have been found at several early Neolithic locations in the Western Desert of Egypt, but are very rare in the Nile Valley itself. The possible occurrence of giraffe remains in an Early Predynastic settlement at Hierakonpolis still needs to be confirmed. Apart from this, some giraffe vertebrae have been found in a late Old Kingdom necropolis on the island of Elephantine, in the far south of Egypt. Evidently, hunting this long-necked mammal was not a major economic preoccupation of the ancient Egyptians. Yet one remarkable find must be mentioned: that of a skull fragment of a giraffe bull in a New Kingdom royal residence at Qantir (Piramesse) in the eastern part of the Nile Delta. Most likely this animal was imported from the south and formed part of a Ramesside royal menagerie or hunting park. Alternatively, the skull fragment could have been an exotic hunting trophy, imported as such (maybe still attached to the skin) and put on display on a palace wall. As a matter of fact, giraffe skins and tail hairs were also employed for manufacturing furniture covers and ornamental wigs.

Dirk Huyge is an associate curator at the Royal Museum for Art and History (Egyptian Collection) in Brussels and a staff member of the Belgian Archeological Expedition to Elkab, our sister-city across the river. He will be directing a rock art expedition to El-Hosh, about 50km south of Hierakonpolis in November. The rock drawings in this area are believed to be among the oldest in Egypt, and giraffe engravings abound.



Nubians presenting a giraffe in the tomb-chapel of Rekhmire at Thebes (18th Dynasty).



Giraffes flanking a palm tree on a Naqada III ceremonial palette.

The Firsts of the First Hundred Years *(continued)*

Since 1967, the present Hierakonpolis Expedition has continued to investigate the site and each year has uncovered new firsts, by which the full significance and importance of the site can be understood. Here is a check list to help you keep track:

- The earliest preserved house in Egypt, c.3600 BC. The house of a potter, it is preserved because the potter worked too closely to where he lived and accidentally burnt it down while firing a load of pots.
- Egypt's earliest temple, c.3500 BC. A large structure, originally fronted by huge cedar timbers, it was to become the prototype for temple architecture for millennia to come.
- Egypt's first industrial brewery, c.3600 BC. It is estimated that this brewery could produce about 300 gallons of beer a day, which could supply a daily ration for over 200 people. Only a small fraction of this quarter has been investigated so far. The secret to Hierakonpolis' greatness may have been the early development of the redistributive economy which later kept Egypt alive.
- The first mummies, c.3600 BC. Predynastic burials in which the hands and head area have been padded with linen bundles and then wrapped in bandages, predating other examples by at least 400 years.
- The first evidence for hair extensions/hair weaving, c.3400 BC, to create elaborate hair styles, and the oldest documented use of henna to cover grey hair. These new discoveries predate other evidence by 500 years.
- The oldest preserved beard, c.3400 BC. This is a full male beard, well shaped and trimmed.
- The first and only known elephant burial, c.3600 BC, perhaps in association with a hunting ritual for the next life. This burial occurs in a cemetery which contains many early animal burials, some for the first time: graves of baboons, dogs, sea shells, and cattle, including a triple interment of a bull, cow and calf, anticipating the family triads worshipped in most Egyptian temples. The burial of these animals gives us reason to suspect that at Hierakonpolis, the elite didn't just take their wealth with them, they took their entire world!
- The first stone-cut tomb, c.3100 BC, a huge, deep cutting into the underlying bedrock, with a side chamber sealed with a portcullis stone as would later be the case in the pyramids.
- The earliest preserved royal palace, c.2900 BC. While the funerary enclosure was a palace for eternity, this building, ornamented with the same niched brick pattern, is the only known example of an early palace of the living.
- First evidence of popular religious practice in the form of a ritual deposit of ostrich feathers, c.1500 BC, buried at a remote hill-ock covered with petroglyphs. The deposit helps to explain some of the obscure carved symbols as well as ambiguous statements in religious texts of millennia later.
- One of the only known rock paintings in Egypt north of the first cataract.
- One of only a handful of tombs of the Second Intermediate period (c.1550 BC), of the early New Kingdom (c.1500 BC), and of the end of the New Kingdom (c.1100 BC), each with unique paintings and surprisingly personal inscriptions.





Artificial Pollination: Archaeobotanical studies at HK43

—by Ahmed Fahmy

The 1998 season saw intensive archaeobotanical studies continuing on the material collected in cemetery HK43. A total of 18 liters of sediment were recovered from the contents of the numerous complete pots found this season. These pot contents were analyzed for plant macro-remains (seeds and fruits, and so forth). The first step was to dry sieve the sediments through 2mm and 0.5mm meshes to reduce the size of the samples and remove the sand. The plant macro-remains were then separated with the aid of our new stereo microscope. A 10X magnification was used to assort the botanical material. At higher magnification, 25X, it was possible to identify most of the plant material to the species level.



Date pits were found in seven different burials. Their remarkable size strongly suggests artificial pollination was being practiced.

The results of this season's analysis were much the same as that of last year. The great amount of emmer wheat (mostly spikelet fragments) in the studied samples provides further evidence of the main role of emmer wheat (*Triticum dicoccum*) in the agricultural economy of Predynastic Hierakonpolis.

Soil samples were also collected from the thoracic region of intact and semi-intact burials this season and we were successful in identifying stomach contents. In the sample retrieved from the well-preserved Burial 76, that of a young woman, achenes of a plant of the compositae family were found. This

is a broad family, which encompasses thistles, artichokes, and even camomile. Thus, these remains may have had a medicinal use, apparently unsuccessful in this case, alas. Identification of this material to species level will increase our knowledge about its significance to the inhabitants; however, further micro-morphological analysis is required.

The recovery of date palm stones increases the significance of the cemetery at HK43 to the archaeobotany of Egypt. Date pits were found in seven different burials. In one semi-intact burial (in which only the head was missing) numerous date pits were found beneath the upper matting in the region behind the pelvis. The remarkable size of these pits (length: 16-38mm, diameter 6-12mm) strongly suggests that artificial pollination of the date palm was practiced by the Predynastic inhabitants. Artificial pollination ensures fertilization of all flowers on female palms and a yield of a good quality. The practice of artificial pollination involves introducing the white powdery pollen of the male palm into the flower of the female palm. There are many methods, but it requires some skill and knowledge that today is still passed down from father to son.

The first recorded use of artificial pollination among date-palm cultivars is during the Middle Kingdom (1800 BC). However, given the importance of dates in the diet of Ancient Egypt, some scholars think this practice must have been known as early as the Old Kingdom. These findings from HK43 place the use of artificial pollination in Ancient Egypt about 2000 years earlier than had been previously cited and marks yet another first for Hierakonpolis.

Dr. Ahmed Fahmy is a Lecturer in Botany at Helwan University. He wrote his Ph.D. dissertation on plant remains from HK29A.



Triticum dicoccum, emmer wheat



Hmm. It's nice,
but is it really *me*?



Your membership in The Friends of Nekhen

is an invaluable aid to the project's goals of excavation, preservation, and publication.

Without you, our job would be not only more difficult but perhaps imperiled.

We need you! Join or renew today!

Recovering the Secrets of the Tombs

—by Ed Johnson

January 8, 1998 marked the beginning of the first campaign of a three-year program of intensive conservation and recording of the decorated tombs of Dynastic date at Hierakonpolis. Funds were provided by USAID and administered by the Egyptian Antiquities Project of the American Research Center in Egypt.

As readers of *Nekhen News* will remember, preliminary work on these tombs commenced in 1996, when iron gates were installed to secure the tombs and prevent further vandalism and robbery from which they had unfortunately suffered. The 1997 season saw preliminary work, when conservators began to analyze the nature of the conservation problems existing in the tombs and develop a protocol for treating them. In the 1998 season, attention was focused mainly in the late Ramesside tomb of Hormose and the early New Kingdom tomb of Djehuty and the results far exceeded our expectations.



The Hand of the Master Revealed, or, An Ancient Nose Job.

Once secured, the problems of conserving the finely painted plaster of the tomb's walls could be tackled. The painted plaster required a variety of approaches, as it exhibited several types of deterioration. Thick layers of mud and animal dung covered the lower levels of the walls and very tenacious sooty black material, probably the result of fires lit in the tomb by inhabitants, both ancient and modern, badly obscured the details and the colors of the paintings. It was difficult to see much detail under the soot even with one's face right against the wall.

Various tests had been made during the 1997 season to see what could be used to remove this soot, keeping in mind that Egyptian wall paintings are very different from, and are more delicate than, European-style fresco paintings. Fresco paintings are done on wet lime plaster and the pigment materials chemically bind with the plaster as it dries. Egyptian paintings were done on gypsum plaster after it had dried, and there-



The deft hand of the master: toe lengthening.



Before and after: cleaning of the tomb of Hormose revealed the skill of the craftsmen and their sophisticated use of color.

The tomb of Hormose, the First Prophet of Horus of Nekhen, takes pride of place in the Burg el Hammam, or Pigeon Hill. Hormose's tomb is one of only a few Dynasty 20 tombs known, making it extremely important in our understanding and documentation of this somewhat shadowy period of Egyptian history. Although it is the largest tomb on the hill and commands the best view, the sandstone into which it was cut is amongst the poorest. Faults and fissures were already apparent when the tomb was built and were later filled in with plaster by the ancient masons. These measures, however, have not stood the test of time and gaps in the ceiling and walls of the tomb have allowed the ingress of both rain water and a large and fearless colony of bats which have caused substantial damage to the decorated plaster. Our first priority was to plug these holes, a task to which Joe Majer, our construction supervisor, devoted his expertise with great success.

fore tempera or secco paintings, which simply lie on top of the surface but are not chemically bonded to it. Such painting is much more delicate and easily damaged or erased, especially as the Egyptian pigments are water soluble.



An elegant lady in the tomb of Hormose.

We had decided on a poultice of ammonium carbonate, EDTA, and carboxymethylcellulose dissolved in distilled water. This was brushed over the surface, covered with plastic so that it would not dry out too quickly, and left for 20-30 minutes. The plastic was then carefully peeled back so as not to dislodge any of the loose paint or plaster and the wall gently washed down to remove the poulticing chemicals. In this way, most, if not all, of the sooty stain was lifted and removed.

The results were dramatic. The cleaned portions of the paintings were as different from the uncleared as day is from night, revealing details of the artist's hand we had never hoped we could recover. For example, who would have imagined that as one of the elegant ladies approaching a table laden with offerings reappeared from beneath the grime, close inspection would reveal that the line of her toe had been changed and lengthened after the master artist had come through and corrected the initial drawing. Likewise, the master's deft touch

was responsible for instant weight loss, thinning her thighs and adjusting her feminine proportions. Another lady received cosmetic surgery when her overly aquiline profile was redrafted into a more refined visage.

The cleaning also revealed a very sophisticated use of color in this tomb. The combinations of colors, one applied over the other, provide an attractive range of pinks, beiges and creams. This is especially clear on an offering table which sprang to life from beneath the gloom. It testifies to the high level of the artistic capability of the craftsmen, who, it seems, may not have been local talent but imported perhaps from the Great Temple of Amun at Karnak where the family of Hormose's wife was very highly placed. In fact, the majority of ancestors shown in the tomb are not from the family of Hormose, but from that of his wife, a woman who seems to have been at the forefront in the growth of women's religious and secular power during the Late Period in Egypt. We hope to learn more about this process and her status as more of this important tomb is cleaned.

Conservation work in the tomb of Djehuty also succeeded in revealing some of its secrets. Although carved inscriptions, including the damaged biographical inscription, had appeared to be its only decoration, when conservator Lamia Hadidi began cleaning what looked to be plain white walls, details not seen before appeared like magic. It had seemed that all of the paint in this tomb had disappeared, we now suspect that an interaction of the thin wall plaster and the binder making up the paint caused the loss of color. When the walls were carefully moistened with distilled water (by gentle patting with wet cotton balls or with a fine mist) the invisible reappeared.

The first to appear was Osiris seated on a throne, then a complete figure of the goddess of the West with a falcon on her head; the colors red, green, yellow and white were still discernible, but only when the wall was moistened. This phenomenon, known as color saturation, is commonly seen whenever a surface is dampened with any liquid, as the liquid changes both color saturation and the refractive index of the underlying traces of paint. However, once the water has evaporated, in just

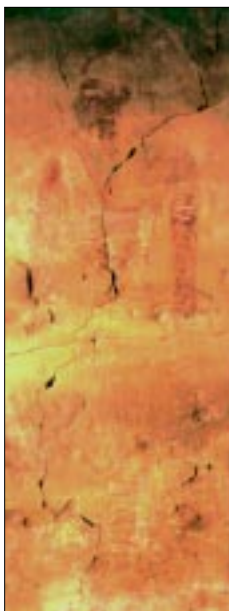
a minute or two, the figures disappear almost completely. Because we simply patted the walls with wet cotton balls or lightly sprayed the areas with



Lamia Hadidi cleaning a tomb.

just enough water, we avoided abrading the paint or overwetting it. With this safe, easy and repeatable process it should be possible to test other tombs which appear undecorated or faded beyond hope, and reconstruct their full decorative scheme.

The unexpected discovery of both the quality and extent of the decoration in the tombs of Djehuty and Hormose has made the conservation work in the 1998 season an extremely rewarding experience. It was very exciting to bring these secrets to light after hundreds and perhaps thousands of years. Needless to say, we are looking forward to discovering more secrets to report here over the next two seasons.



The Lady of the West reappears.

to be more difficult than envisioned. In the tomb of Hormose the British excavators of a century ago, J. E. Quibell and F. W. Green, had laid a hard-packed dirt floor to attain an artificial level in the main chamber of the tomb so as to make it comfortable as a living space. It was a bit of a chore to remove it all, but in the process we recovered more evidence of their stay, ranging from old newspaper clippings and hat pins to archaeological artifacts from their excavations. The lead foil from a wine bottle or two suggests that life in the tombs wasn't too bad!

To enable us to place these tombs in their context, the eight other undecorated tombs on the upper terrace of the Burg el Hammam hill were also planned. However, prior to their planning, they also had to be cleared of debris. It is known that many of the tombs and their shafts were cleared during the early part of the last century, with many pieces, such as the stela of Hormeni and Djehuty's Book of the Dead entering the collections of European museums. Thus little of interest was expected within these tombs. Clearance of the tombs by the British excavators for use as living quarters left many of them filled only with windblown debris.

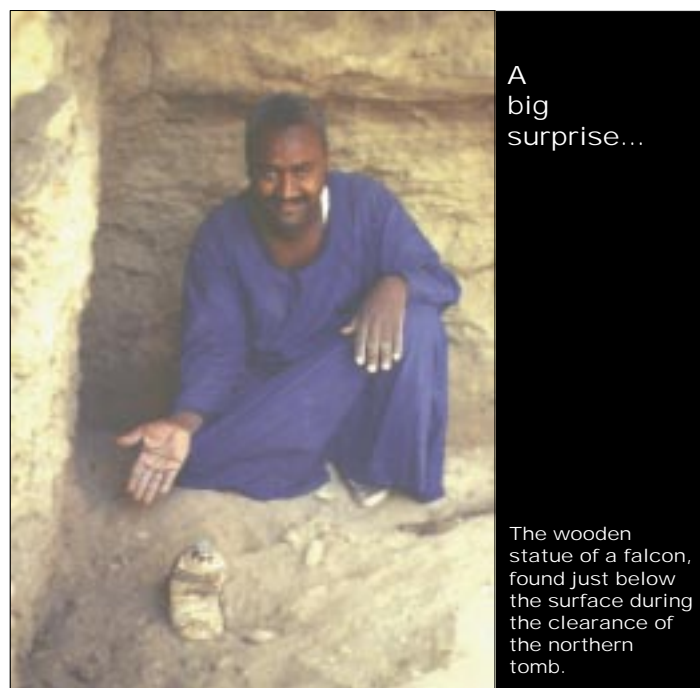
Archaeology of Archaeologists

—by Renee Friedman

As part of the conservation and documentation program in the Dynastic tombs, accurate plans and sections were made for the first time by Günter Heindl, who has produced excellent tomb plans for the German Mission for years. We feel very lucky to have him as part of our team. Before he could begin, however, the tombs had to be cleared of debris and the exact location of the burial shafts uncovered. In some cases this proved




The north tomb still contained much of its content: the falcon statue, blue faience mummy beads, a faience scarab, bronze ring and the nose of the wooden mummy mask.



A big surprise...

The wooden statue of a falcon, found just below the surface during the clearance of the northern tomb.

The tomb furthest north along the cliff terrace proved to be an exception. Much to our surprise it was a tomb still full of its (highly disturbed) contents. Approximately 20cm below the level of the windblown debris a complete wooden statue of Sokar as a squatting falcon was discovered, its painted plaster still well preserved. The presence and preservation of this statue were even more surprising in light of further discoveries made within this tomb. Excavations revealed a pit in the center of the tomb's first chamber, approximately 30cm to the north of where the falcon figure was found. This pit was filled with numerous pieces of century-old English newspaper torn into strips and crumbled. When organic material known as

Horus shone on the horizon
...And there was light! 



Close-up of solar cells.
(See article p. 20)



coprolites appeared in the same pit, the purpose of the newspaper and the pit became clear. Although our enthusiasm for the work diminished, continued excavation revealed that this pit, Quibell and Green's latrine, had actually cut through the remnants of the wooden coffin on which the falcon figure originally sat. Only extensively termite-eaten fragments of this coffin could be recovered, but evidence for manufacturing technique was plentiful and wood analysis is currently in progress.

A large number of blue faience mummy beads were recovered and a blue faience scarab which was originally woven into the beaded mummy net. Large quantities of cloth were also collected as well as fragments of painted cartonnage, the nose from a wooden mummy mask, and four reconstructible pottery vessels dating to the 26th Dynasty, c.700–600BC. Careful excavation showed that the coffin had been hauled up from the shaft and upended, the body of the owner then pulled out and the resin-coated bandages of his mummy ripped open. Perhaps at the same time (but probably later) the painted plaster of the coffin was stripped off and burned down to make cement. What a sorry history of indignities!

There are several lessons here. The one for the archaeologist is perhaps the most obvious and one which we have taken to heart: Watch where you go!

In December 1997, a distinguished gentleman rang the bell at the Department of Egyptian Antiquities at the British Museum to inquire whether anyone would be interested in the personal diaries of his father—a certain F. W. Green. You can imagine our surprise and delight—F. W. Green was one of the original excavators of Hierakonpolis in 1899 and the discoverer of the famous Painted Tomb. His excavation notes, published by Barbara Adams (Ancient Hierakonpolis Supplement, 1974) show him to be a skilled archaeologist to whom we owe a great deal of our understanding of the early work at the site. His diaries (2 volumes) are a wonderful complement to these field notes and are filled with delightful personal observations about life in the very tombs we are conserving, mixed with details of his work and working interpretations. They provide a warm glimpse into the personality of a remarkable Egyptologist about whom we know so little. John Green, his youngest son, has kindly agreed to tell us more.

F. W. Green (1869–1949): A Family Profile

—by J. C. Green

Frederick W. Green was born in London, the only son of a London solicitor. He was privately educated before going up to Jesus College, Cambridge, to study the Natural Sciences (1891). His interest in Egyptology was fired at a very early age when his aunt, Mrs. Thorburn, who had lived in Alexandria, presented him with artifacts including a magnificent granite head of Senures III, now in the Fitzwilliam Museum, Cambridge. We have a hieroglyphic text he painted and copied on a small coloured wood panel when aged seven as well as a vocabulary in an exercise book compiled when he was thirteen.

He had a wide range of interests and abilities. He was very good with his hands, particularly in fine metal work, making his own microscopes and telescopes, and in motor mechanics.



F. W. Green: Summit of Jebel Meeteq, Red Sea Hills 1897-98 (Geological Survey)

He was an early owner of a motor car and motorcycle. He also had a penny-farthing bicycle which he rode through the Eastern Desert of Egypt much to the amazement of the natives who had never seen such a contraption. He maintained an interest in science and with his inquiring mind could talk disarmingly on a wide range of subjects: astronomy, radio, history, church architecture and geology, to mention a few. He was a good linguist, having been brought up for a period in the south of France when his father retired, and after leaving Cambridge attended a three year University course in Egyptology at Göttingen, Germany. He was a careful draughtsman and a fair water colourist. When a boy, his father had insisted on some drawing every day. This is reflected in his beautiful hand in writing hieroglyphics.

During one of his long vacations from Cambridge he went on an expedition with Hogarth to Mesopotamia, or "Mespot" as he called it, as the mapmaker. Territories of the Ottoman Empire were no-go areas at this time, behind a sort of Iron Curtain. It was not surprising, therefore, that all of the maps and survey materials were confiscated by the War Office immediately on their return. Perhaps they contributed to the scanty maps available to the Army in the "Mespot" Campaign in 1916. Similarly, when my elder brother and I were serving in the Western Desert of Egypt in 1941, we were intrigued to note some dotted tracks on our maps were signed "FWG 1896."

His early years in Egypt seem to have been engaged mainly in geological and topographical surveys with geologist Dr. Hume and others, but always with a keen eye for the archaeological evidence, as his personal diaries show. About this time he also worked with Flinders Petrie. This experience must have served him in good stead for his work at Hierakonpolis. Later on, his annual routine was to go out to Egypt in the autumn and return home about May the following year to work on his notes at home and in the Fitzwilliam Museum. He was Honorary Keeper of the Egyptian Department there for about fifty years and for a period was Deputy Director of the Museum.

In 1906 he married Hilda Constance Crookenden, the eldest daughter of Colonel H. H. Crookenden, R.A. She was very supportive of him in his work and sometimes accompanied him to Egypt. The last time was to join the expedition at Armant in 1929-30. They had a very happy family of five children and encouraged us to take interest in a variety of subjects as well as archaeology. They were very affected by the death of their eldest daughter from peritonitis when aged nine (1917) and found it difficult to speak about her to us younger children.

He had a quiet unflappable nature with a nice sense of humour. We never knew him to lose his temper or speak sharply to anyone. (I was absolutely appalled by my first encounter with prep school masters. I had never seen or heard anyone

speak or behave like that!) He was very much against giving what he called "the school master's answer" to questions. He always gave us a full scholarly reply. If it wasn't his subject he would tell us to go and ask old Minns (Disney Professor of Archaeology at Cambridge) or his equivalent; a daunting suggestion to a boy of thirteen, but of course Ellis Minns was one of his close friends. And the famous Egyptologist, Professor F. L. Griffith, was my godfather.

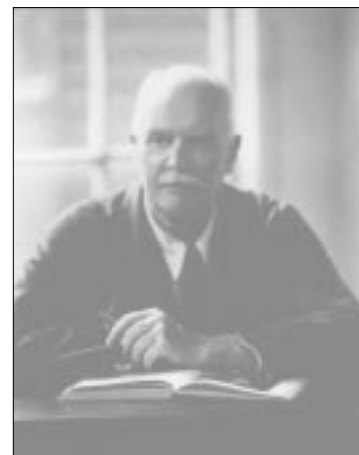
He encouraged my brothers and me in our teenage interests in old motor cars and motorcycles, helping us to strip down old "bangers" from scrap dealers and put them on the road again, often making spare parts on his lathe. He once saw a 1913 Bull-nosed Morris Oxford in the Cambridge Cattle Market and bought it for us for thirty-five shillings. This occupied us all for three or four school vacations. We had a big garden and drive with a hay field where we all learnt to drive and ride motorcycles when still under age (fourteen years).

When he was sixty-five he became interested in flying. He kept it secret from my mother until he had obtained his "A" License (Private Pilot's License) and bought a second hand small, open cockpit, low-winged aircraft (Dutch Klemm). He encouraged us to learn to fly, too. He enjoyed cross-country flights, landing in fields close to his friend's houses, much to their surprise. About this time he also took us skiing in Switzerland. He considered curling only for old men and quickly switched to learning to ski. Before leaving for Egypt that year he had obtained a bronze medal in skiing during his first season.

When the war came in 1939, he became a member of a First Aid Mobile Unit headed by the local physician. He was the driver and mechanic of the former laundry van turned ambulance. Thankfully, the Unit was never required to deal with a major bombing incident.

A sympathetic and kind man, he could put at ease all he met.

Chichester, January 1998



F. W. Green
Cambridge 1938



Join the Friends of Nekhen
and help us continue to make these discoveries.
See page 23 for details.



Magnetic Survey at Hierakonpolis

—by Tomasz Herbich



Tomasz Herbich walks the grid with the gradiometer in the shadow of the "fort."

In 1991, an expedition from the University of Pennsylvania Museum of Archaeology and Anthropology/Yale University, headed by David O'Connor and William Kelly Simpson, discovered 12 boat graves at the North Cemetery in Abydos. The boats were situated in the immediate vicinity of the massive enclosure, or funerary temple (Shunet ez Zebib), of King Khasekhemwy of Dynasty 2, on the northeastern side facing the Nile.

The objective of geophysical research at Hierakonpolis, carried out March 20-30, 1998, was to determine whether boat graves could also be found near the so-called "fort," a similar mudbrick enclosure also built by King Khasekhemwy, probably early in his reign, making it the oldest freestanding mudbrick structure in the world. While it remains unclear why Khasekhemwy built two of these huge structures, the possibility that both might be similar in their subsidiary attributes was exciting, and it was decided that a geophysical survey would be the most efficient means to discover if this were the case. The area surveyed is located northwest of the enclosure, stretching from the "fort" to the edge of the cultivation.

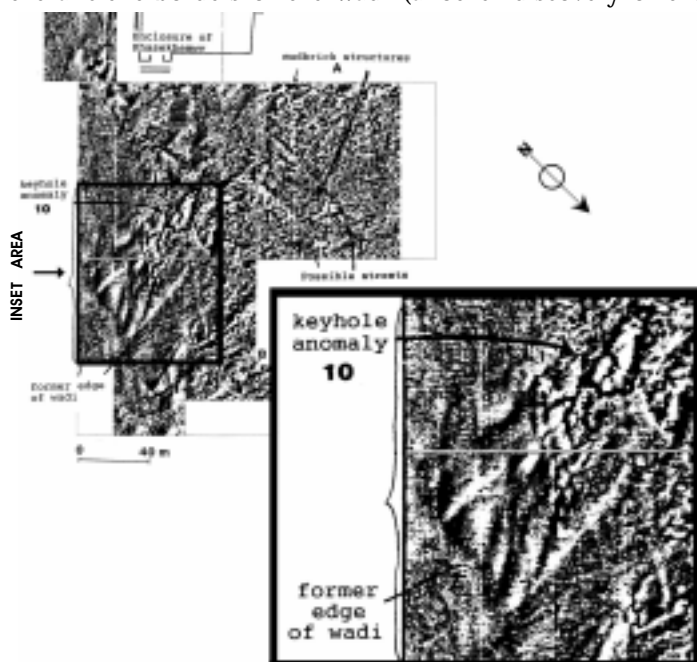
The magnetic survey method was chosen in view of the nature of the objects for which we were looking. It was clear from O'Connor's discoveries at Abydos that boat graves were constructed using mudbrick, a material which exhibits magnetic susceptibility that is easily registered when the bricks occur in a magnetically sterile sandy environment. The survey was carried out using a Geoscan Research FM36 gradiometer which records changes in magnetic field intensity with an accuracy of 0.1nT at a surveying time of 0.1sec. A half-meter surveying grid was used, and measurements were taken every half meter in linear series a half meter apart. To survey an area of 1 hectare at this grid it is necessary to traverse 40 km with

the instrument—a hard job in Upper Egypt, even during wintertime! However, the effort is compensated by the higher quality of the magnetic field intensity map, a factor that is of importance especially when recording objects that are characterized by small magnetic susceptibility.

The Abydos boat graves were of an elongated shape, 27m long and up to 3.5m wide on average, situated in a row parallel to one another immediately next to the enclosure. Therefore, one would expect to find on the magnetic map a series of elongated anomalies generated by the mudbrick casing of the graves (the wood used for the hulls is not magnetically susceptible), all of them of similar shape and orientation. We cannot see any such structures on our map.

Nevertheless, some distance from the enclosure (about 100m NE), and, surprisingly, lying under the wadi floor, peculiar anomalies were recorded. The anomalies are of an elongated shape and comparable in orientation to the boat burials at Abydos (approximately perpendicular to the front, or northeastern, wall of the enclosure), but irregularly spaced. The length of the anomalies ranges from 7 to 15m, the width from 2 to 3m.

As intriguing as the possibility of boat graves might be, there are, of course, other possible explanations. The distinct border between the area of the anomalies and the sterile area to the east, and the fact that all of the anomalies are about the same size, support a different interpretation: perhaps it is the western edge of a settlement site that we are dealing with here. Since these elongated anomalies are located on the very edge of the ancient borders of the wadi (another discovery of the



magnetic survey), it is possible that they represent destroyed habitations from an early period in the history of Hierakonpolis. What these anomalies are, boats or settlement traces, can be verified only through excavation.

Also, nothing short of excavation will determine the nature of an intriguing, large keyhole-shaped anomaly (10) to be determined. It could be a reflection of a thick mudbrick wall or casing. Interesting is the pure sand filling of the interior. There is no indication of mudbrick or construction debris and this suggests that the sand filling was intentional. It may well be a pit, but a massive one: a little more than 20m in length, with a width of 7.5m at the west end and 13.5m on the east.

It was also possible to isolate a number of anomalies that most likely reflect structures of a settlement (A). In fact, some of these walls are partly visible on the surface. Anomalies with the biggest magnetic field intensity amplitudes are probably evidence of the pottery and beer production known to take place in this area, as one can see concentrations of potsherds, baked clay and ashes on the surface. Test pits are necessary to interpret two further anomalies, one 100m long, another 80m long, and both 3-5m wide. Do they reflect streets?

The survey covered an area of 3 hectares and is the third largest magnetic survey in Egypt to date. In a very short time it provided a great deal of intriguing preliminary information, the real value of which remains to be determined in the future. The truth is that almost every site has its own "geophysical code" and it takes several seasons of close cooperation between archaeologist and geophysicist to gather enough clues to interpret the geophysical data. The beginnings are very promising at Hierakonpolis. With so many structures already visible on the magnetic map we can be sure that the final results will not disappoint. We will have to wait until next season to see if we have found what we were looking for, but whatever we find, new and important information about the site itself and geophysical techniques will certainly result. It is only the beginning.

This research was conceived on the initiative of the Institute of Nautical Archaeology (INA) in Egypt. The survey was undertaken with the assistance of Douglas Haldane and Adel Farouk and was made possible with funding generously provided by Dr. Clive Cussler, to whom we are very grateful.

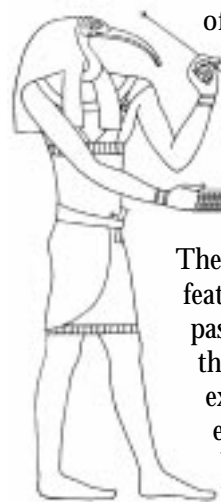
Tomasz Herbich is the Director of the Polish Center of Mediterranean Archaeology in Cairo. He has done geophysical research on a number of archaeological sites in Egypt, Sudan, Poland and Germany.

Memberships in the Friends of Nekhen make wonderful Christmas gifts. See page 23 for details.



Hierakonpolis Online

—by Ethan Watrall



The Hierakonpolis Expedition and the Friends of Nekhen are pleased to announce the Hierakonpolis web site. Located at **www.hierakonpolis.org**, Hierakonpolis Online is designed to be a major source of information about the expedition, the history and prehistory of the site, and the Friends of Nekhen.

The site will ultimately include such exciting features as interactive site maps for exploring past and present discoveries, information on the history of excavation at Hierakonpolis, extensive reading lists, and information on expedition members. In addition, there will be special areas only accessible to the Friends of Nekhen where the latest discoveries can be viewed and issues of Nekhen News can be downloaded. Portions of Hierakonpolis Online are still under construction, but members can visit today and gain access to these exclusive areas with a special password, located on your *Nekhen News* address label.

As the senior designer for the project, I would like to introduce myself to the membership. I am currently doing my Ph.D. in the Department of Anthropology at Indiana University. My primary academic interest is the role the household played in the rise of complex societies. Between my two primary areas of focus (Midwestern United States and Predynastic Egypt), I hope to better understand the role of the household in prehistory. I also work extensively with interactive multimedia, and am the co-founder of Dreamtime Developers (<http://www.dreamtime-developers.com>), a firm which generates, authors, and implements interactive multimedia. I encourage you to voice your opinions on what you would like to see in Hierakonpolis Online. I can be reached at ecwatral@indiana.edu or watrall@dreamtime-developers.com.



www.hierakonpolis.org

The Friends of Nekhen is dedicated to assisting the Hierakonpolis Expedition in their work of learning more about the Egyptian civilization's earliest beginnings. Tax-deductible in the U.S., **JOIN or RENEW TODAY!**

Hierakonpolis in Cairo

To celebrate the 100th year of its discovery, the Cairo Museum, in cooperation with the German Archaeological Institute in Cairo (DAIK) and the Romisch-Germanische Zentralmuseum in Mainz, began the conservation of the copper statues of King Pepi I (Dynasty 6) from Hierakonpolis. These are the oldest examples of large-scale metal statuary to come down to us from antiquity.

J.E. Quibell found these statues at Nekhen soon after he discovered the famous golden hawk head of the cult statue of Horus (see *Nekhen News* 9, p. 12-13). Like the hawk, the Pepi statues were found dismantled in a pit beneath the floor of one of the rooms which made up the later mudbrick temple atop the reveted sand mound.

Quibell described how he found a singular spectacle at a depth of 1m below the base of the wall: the two legs of a life-size copper statue lay side by side. Below and beyond the thighs, the face appeared, and the left forearm stood up on one side. (*Hierakonpolis II*, p. 27-8). A sheet of copper with the name and titles of Pepi I was found adhering to the chest.

Later, when the statue was taken up to the tomb of Hormose in which they were living, they discovered another complete statue within its hollow trunk! Smaller, it was constructed in the same way; overlapping plates of copper joined together by rows of nails over a wooden core, now vanished. It proved impossible to remove the smaller statue in the field so both were dispatched to the Cairo Museum, where they were separated and reassembled. The larger statue, complete except for hips and crown (originally made of a gilded plaster), stood an amazing 1.77m or 5'8" in height. Together the two statues, probably of Pepi and perhaps his son, stood on a plinth, also sheathed in copper.

In their day, this group must have been a dazzling sight: the gleaming copper of the skin contrasting with the lifelike eyes of obsidian and white limestone. However, it was feared that removal of the corrosion would destroy them because so little of the actual metal remained. Luckily, advances in analytical and conservation methods have proved this not to be the case, and the recent conservation of the smaller statue restores it to some of its former glory. This statue is now on display in the Cairo Museum. It is well worth a visit to see it, just to ponder the previously hidden curls of the hair and the engaging features of the face of one of Egypt's great kings. Work is now underway on the larger figure, where great things are also expected.

The statue *in situ*, together with a pottery lion and a figure made of schist.

Schist figure.

Pottery lion.

Statue of King Pepi I.



The smaller statue: before and after conservation efforts.



The recently conserved smaller statue.



THE HIERAKONPOLIS HOME PAGES

Horus Shone in the Horizon ...and There Was Light!

Thanks to the generous contributions of a number of Friends of Nekhen, the "Horus Project" described in last year's *Nekhen News* has become a reality, and we now have a wonderful solar energy system producing electricity to light Hoffman House.



The ability to enjoy evening activities with light at the flick of a switch instead of breathing noxious fumes from butagas lamps has made a very significant impact on the culture of the occupants. No longer is answering a call of nature in the middle of the night an obstacle course followed by an ordeal. Cooking at night is now not a two-person job, as the position of cook's torch bearer has been eliminated. And, last but not least, turning out a computer document requires the simple task of plugging the laptop into the wall rather than borrowing and setting up a motor generator or making a run to a hotel in Luxor or Aswan. Thanks, Horus, you've made our night!

The "turnkey" system was obtained from ASET (Arabian Solar Energy & Technology Co.) in Cairo which designed and installed the system to specifications we provided. ASET is a major Egyptian solar energy system supplier and is an agent for the highly regarded Siemens (German) solar photovoltaic cells. The ASET crew that did the installation was extremely professional and all the work was first class.

When the system was turned on everything worked perfectly. Initially we used power very sparingly so we would be sure not to overload the system. Colored lamps on the Regulator indicate the state of charge of the battery bank; we wanted to avoid the dreaded flashing red lamp, which would indicate only 35% of the battery charge capacity remained. Gradually we left more house lights on for longer times, and even turned all the lights on for several hours when we went to a dinner at the village. Coming back later in the dark desert night, the brilliantly lit house was a spectacular sight—and the Regulator lamp was still green (more than 80% battery capacity was left). Even Joe Majer's use of heavy power tools for a construction project didn't phase the green lamp. It was not until much later in the season that the red light blinked. This happened when we were joined by a surveyor with a refrigerator and a crew who needed to recharge large batteries at night, all while a raging sand storm blotted out the sun for two days. Only then did we consider the system fully checked out and feel comfortable with ASET's statement that the system could sup-

port a small refrigerator in addition to the lights, an amenity we hope to add through the Friends of Nekhen's generosity.

Technical Specifications

The system consists of 10 solar panels, each containing 36 single crystal silicon photovoltaic cells. The panels are mounted in an aluminum frame and oriented and set at an angle for maximum insolation during the January to March time frame (due South at an angle of approximately 30°). There is room for two additional panels in the frame should these be required in the future. The frame is bolted to a concrete foundation and is designed to withstand a wind of 300 km/hr. The panels are Egycell Solar Modules SP75, each producing a peak power of 75 Watts at maximum insolation and are rated for 4.4 Amps at 17 Volts. The large-area Siemens solar cells (approx. 12 cm in diameter) are assembled into the hermetically sealed panels by Egycell in Egypt. Egycell is a "captive" supplier to ASET.

A series-parallel connection of the solar panels provides power to a Morning Star Corp. (U.S.) Type Pro 30 Solar Regulator. This device conditions and controls the power at a nominal 24 Volts for charging a bank of 10 batteries at a maximum current of 30 Amps. The regulator senses when the batteries are fully charged and interrupts the current to the batteries to prevent over charging. The batteries are GNB Technologies (U.S.) Photovoltaic Batteries Type Sunlyte 12-5000X, similar to a 12 Volt automobile battery but especially designed for photovoltaic applications. The sealed batteries have a capacity of 100 Ampere-hours at 12 Volts DC each and a 10-year design life, and are configured in a series-parallel arrangement so each battery is charged at 12 Volts. The final element in the system is the Siemens (German) DC-AC Inverter Type SP 1500/24. This device takes the 24 Volt DC output of the battery bank and converts it to 230 Volt AC, 50 Hz power, which is the standard power in Egypt. The maximum output of the Inverter is 1500 Watts. The picture on page 15 is an interior view of the Equipment Room that was made by upgrading an unused mudbrick shed along the East wall of the complex. The battery bank is on the ground, the DC-AC Inverter is the larger oblong box, and the Regulator is the smaller box (see photos p. 15).



Art Muir and house manager Sidain in front of Beit Hoffman's new solar power system.



Water Works

While not as spectacular as the solar electric system, another very significant improvement in the dig house infrastructure was made during this past season: the installation of a hydraulically operated automatic flow control system.

Our water supply from the nearby village is not completely reliable. Sometimes we have water pressure, sometimes we don't. This problem was originally addressed by installing a water tank on the roof. When there was good pressure, one filled the tank and then climbed over the roof to check when the tank was full and close a valve to keep it from overflowing thus endangering the foundation. When the pressure dropped, another roof climb was required to open the valve while another valve at the ground level supply had to be closed to prevent water from the tank from flowing back to the village. When the pressure came back, one had to reverse the process and fill the tank again. And because all these manual operations were not always exactly timed, we sometimes found ourselves without water.

Art Muir and Joe Majer designed an automatic flow control system to eliminate all the manual valve operations through the use of two check valves and a float valve. Components were available in Edfu fortunately, and a village plumber installed valves and rerouted piping as required. The new system worked perfectly, and the roof climbs are no longer required. Too bad in a way—the view from the roof is very nice.

What do you get when you cross Hapy with Horus? Answer: Hapy-Horus—a solar hot water system, something we badly need. Since Hoffman House has no gas, we do not have a hot water heater. "Sun showers," 5 gallon flat plastic bags with hose, shower head and valve attached, have been used for showers. We fill the bags at night, place them in the courtyard and during the day the sun heats the water. By mid-afternoon there is hot water. When there is a large crew the courtyard space taken up by bags is significant. To take a shower one grabs a bag, hangs it on a nail in the wall above the shower stall and then squats so the rather puny spray of water will reach head and body. Water is used sparingly (2 showers per bag) or there won't be enough water for everyone.

While do-able, we would like a more user-friendly approach to hot showers. One simple approach would be a gas water heater with tanked gas carried in regularly. A more elegant and environmentally friendly one would be to use a solar hot water heater. These are extremely practical in warm, sunny climates; unfortunately, for various technical reasons, such a system is not a good choice for Hoffman House. The location of the "new wing" is such, however, that a solar hot water heater could work very nicely. So let's do it!

The cost of such a system installed would be around \$1,500 to \$2,000 (U.S.). In addition we would have to add shower stalls, water supply piping and sewer lines to the new wing, all of which might double the sum required. The Friends of Nekhen were very generous last year in making donations to the Horus Project. We ask them to again help us modernize the complex infrastructure by donating to the Hapy-Horus Project. This will not only make Horus happy, but a lot of archaeologists as well! Work crews of many seasons to come will much appreciate your generosity.

Other Home Improvements

Once we had light and water, our desire next turned to space; work space to be exact. With funds provided by the Bioanthropology Foundation, construction was commenced to complete one of the rooms in the unfinished house complex. After a hard day of planning the tombs, Günter Heindl supervised the construction and worked out our needs. The walls were filled in; double-leaved windows with screens(!) and shutters were ordered from Luxor, floor tiles were custom made, and electrical wiring was set in place. When the room received its final coat of whitewash (by our cook, Ali, between stirs to the lentil soup), we wanted to extend the season just to use it. The results are fabulous: a light airy room, with ample space for most of our working needs and a great new home for the 100x binocular microscope we were able to purchase with funds from the Bioanthropology Foundation.

But the improvements didn't end there. A fresh coat of whitewash was applied to the house, wooden doors were given a much needed varnish, and permanent steps were finally built outside each of the bedrooms. With your help, Beit Hoffman is becoming more livable, and, more importantly, more workable.



The workshop ready for business.



The workshop under construction.



The Narmer Palette: A Forgotten Member

—by Vivian Davies and Renee Friedman

When the ceremonial palette of Narmer was discovered in 1898 it was an immediate sensation. That same year Quibell published a description and drawing of the palette (reproduced below), and several casts of it were made, two of which are in the British Museum while another now hangs in the Petrie Museum. While working on the television documentary and the accompanying book *Egypt (UK)–Egypt Uncovered (USA)*, we examined these casts closely and noticed a number of details which are not reproduced in Quibell's drawing and have consistently been overlooked by subsequent scholars.

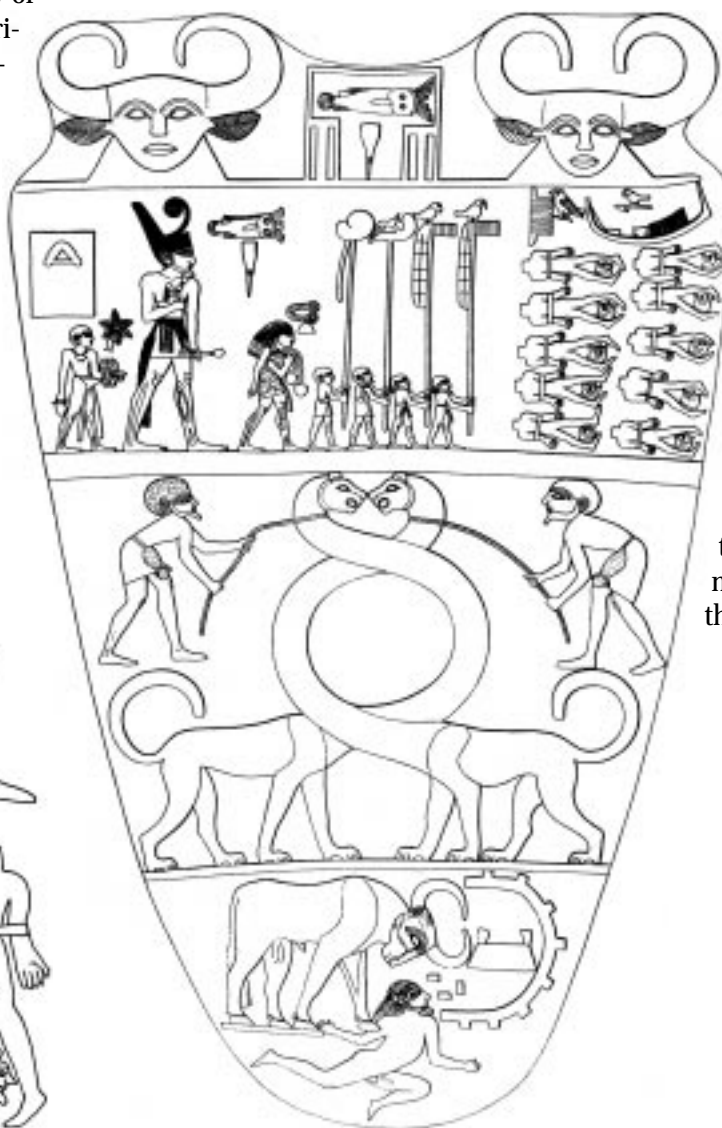
The most prominent of these overlooked details was a big surprise. It occurs on the obverse, in the second register, which portrays the king wearing the Red Crown striding in a triumphal procession toward two rows of ten decapitated men. Laid out horizontally, the men are bound as captives at the elbows, with their severed heads placed between their ankles. The heads, although minuscule in scale, are carefully carved with beards, eyes and eyebrows. All, save the one belonging to the first or lowest figure in the left row, are crowned with what has remained a curious and much-discussed sausage-shaped object.

Quibell suggested that this object was a two-horned cap or helmet while Petrie

identified it as the skins and horns from a bull. Others have proposed feather headdresses or even White Crowns. Several theories about the identity of the slain enemy have followed from these interpretations. However, close inspection of the cast, followed by a careful look at the actual palette in Cairo, reveals that the artist who carved this scene left a large and unambiguous key for understanding what the object really is. This key is to be found on that lowest body in the first row of captives. It turns out that his head alone lacks the enigmatic object because the "object" is still in its original place, protruding from between his legs. Left out of the drawing, due either to oversight or Victorian sensibilities, but clearly present and visible on good photographs, the object in question is the

man's penis. The object on each of their heads is surely, then, nothing other than their otherwise missing member. The severance of the heads and members of the enemy signifies not only their utter humiliation, but also their total extinction in this world and the next. Deprived of these vital body parts, they can never be re-born.

The overall message is clear: Narmer, the King, is the undeniable victor. Eternal death, unremembered, is the fate of those who defy him.



Detail of captives in light of new observations.

Reverse of Narmer Palette. (Quibell's drawing)



Obverse of Narmer Palette.



For more information on Narmer and his Palette, visit www.narmer.com

Help the Hierakonpolis Project: Join the Friends of Nekhen

Hierakonpolis is a site intimately associated with the birth of the Egyptian state at about 3100 BC. Its hoary antiquity and links with the first pharaohs were recognized by the ancient Egyptians, and nearly a century of archaeological research has confirmed this vast site's central role in the transition from prehistory to history and the rise of early Egyptian civilization. The largest Predynastic site still extant and accessible anywhere in Egypt, Hierakonpolis is continually providing exciting new glimpses into this formative and surprisingly sophisticated age.

The Hierakonpolis Expedition is a long established research project investigating the origins of Egyptian civilization. Since 1967, archaeologists and scientists have systematically explored the settlements, cemeteries, and temples of this rich site in an attempt to better understand the cultural and environmental processes that transformed a land of farming, herding and fishing villages into the world's first nation state.

The Hierakonpolis Expedition staff is drawn from colleges, universities, museums, and private walks of life throughout the United States, Britain, Egypt, and the world—professionals who have been working together in a cooperative scientific endeavor to produce over 30 years of exciting discoveries.

Friends of Nekhen

Nekhen is the ancient Egyptian name for the modern site of Hierakonpolis. The **Friends of Nekhen** is a group of concerned organizations and individuals, scholars and lay persons alike, which is helping the Hierakonpolis Expedition to continue its work and achieve its goals. In return for their support, **Friends of Nekhen** will receive an attractive badge bearing the project's official insignia—a Predynastic boat petroglyph from Hierakonpolis with the logo, **Friends of Nekhen**, written in ancient Egyptian hieroglyphs and in English. The members' newsletter, **NEKHEN NEWS**, describes and illustrates the Expedition's latest discoveries and accomplishments. Membership in the **Friends of Nekhen** also entitles you to special travel arrangements with Expedition tours and reduced rates on Egyptian Studies Association publications. **Your help is needed** to achieve the project's goals of excavation, preservation and publication. Site report publication and resumed excavations are the current priorities. Your contribution (tax-deductible in the U.S.) will support important research that might not otherwise be possible.

Hierakonpolis Online

The Hierakonpolis website is designed to be a major source of information about the expedition, the history and prehistory of the site, and about the Friends of Nekhen. Membership entitles you to the **Nekhen Password**, giving you access to exclusive areas at our website (see p. 18 for details). Here you can track progress as it happens, view the important and exciting new discoveries made each season, get to know the staff, and more. Keep your eye on www.hierakonpolis.org!



SORRY, SIRE! IT LOOKS LIKE WE'VE BEEN HIT BY THE MILLENNIUM BUG!

Visit Hierakonpolis Online! www.hierakonpolis.org

The membership category I prefer is:

- ☐ **Regular** \$25/£17 ☐ **Patron** \$500/£250
☐ **Sponsor** \$250/£150 ☐ **Sustaining** \$1000/£500
☐ **Student*** \$20/£12
*enclose copy of current student ID card

— **This is a renewal for the 1998-99 season.**
(If you have already renewed, thank you!)

☐ **Gift** (choose a category above & mark with "G")

Gift from: _____

A card will be sent in your name to the recipient if you wish:

☐ Yes, I want a card sent. ☐ No, do not send a card.

Fill in recipient's name/address in space provided below.

Make your check payable to:

U.S. —
Milwaukee Public Museum (Nekhen)
The Friends of Nekhen
 c/o Carter Lupton
 Milwaukee Public Museum
 800 West Wells Street
 Milwaukee, WI 53233 USA.

England —
Egyptian Studies Association (ESA)
 c/o Petrie Museum of
 Egyptian Archaeology
 University College London
 Gower Street
 London WC1E 6BT, UK

Special contribution for

The Hapy-Horus Project

(see article page 21)

\$ _____ Please enter your name in the space provided below.



Membership Application

I would like to help the Hierakonpolis Expedition by joining the Friends of Nekhen. In return for my tax deductible contribution, I understand that I will receive a badge, newsletter, and reduced rates on expedition publications. My membership will also entitle me to join expedition tours to Egypt visiting the site of Hierakonpolis.

Name _____

Address _____

City _____ State/Province _____ Postal Code _____ Country _____



NEKHEN NEWS

is published for

The Friends of Nekhen

by the

Milwaukee Public Museum

800 West Wells Street

Milwaukee, WI 53233-1478 U.S.A.

PH: 414.278.2797 • FAX: 414.278.6100

e-Mail: LUPTON@MPM1.MPM.EDU

Carter Lupton, Head, History Section

Editor-in-Chief

D.G. Park/The Edge

Graphic Design/Layout

124 Monte Cresta

Oakland, CA 94611 U.S.A.

PH: 510.653.4885 • FAX: 510.653.6535

e-Mail: DGEDGE@AOL.COM

Renée Friedman

Co-Director, Hierakonpolis Expedition

Co-Editor of NEKHEN NEWS

Barbara Adams

Co-Director, Hierakonpolis Expedition

Co-Editor of NEKHEN NEWS

www.hierakonpolis.org



IN THIS ISSUE

1898–1998: Hierakonpolis Celebrates 100 Years	1
Hierakonpolis in Aswan	2
Something Very Special in the Elite Cemetery	3
More Mummies	4
Trauma at HK43	6
Secrets of the Locks Unraveled	7
Giraffes in Ancient Egypt	9
Artificial Pollination: Archaeobotanical Studies at HK43	11
Recovering the Secrets of the Tombs	12
Archaeology of Archaeologists	14
F. W. Green: A Family Profile	15
Magnetic Survey at Hierakonpolis	17
Hierakonpolis Online	18
Hierakonpolis in Cairo	19
The Hierakonpolis Home Pages	20
The Narmer Palette: A Forgotten Member	22
Membership	23



SPECIAL CENTENARY ISSUE

The Friends of Nekhen

Milwaukee Public Museum

800 West Wells Street

Milwaukee, WI 53233-1478 U.S.A.

c/o Carter Lupton



© 1998 The Hierakonpolis Expedition