Excavations at Hierakonpolis

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Since 1996 Predynastic research at Hierakonpolis has focused on three discrete localities within this vast site (see B. Adams, this volume, fig.1) : 1) the domestic occupation at HK11, excavated by Ethan Watrall; 2) the cemetery of the working class population at HK43, excavated under the direction of Renée Friedman; and 3) the cemetery of the elite population at HK6, investigated by the late Barbara Adams (see B. Adams this volume). The three localities are roughly contemporary, with remains spanning from Naqada IC to Naqada IIIB, with a small number of finds from the Naqada IIC period and later. Excavation and analyses of these localities by a number of specialists have produced a range of complementary information that is providing a better understanding of this important site in this formative time.

Locality HK11
Located within the Great Wadi (Wadi Abu Suffian), approximately 1.5 km from the edge of the modern cultivation, Locality HK11 (fig. 1) makes up one of the largest concentrations of Predynastic cultural activity on the Hierakonpolis concession. The locality itself covers in excess of 68,000 m² and is made up of several distinct zones of cultural activity. Excavation originally carried out by Fred Harlan (1982 : 14-25) in 1978 and 1979 revealed districts of trash disposal, pottery production and habitation. A nearby cemetery (extensively plundered) and a petroglyph site (HK 61 ; Berger 1982 : 61-5), both located to the southeast of the site proper, serve to reinforce the sheer extent and intensity of occupation in this area during the Predynastic.

Since its inception, one of the major aims of the Hierakonpolis Expedition has been the archaeological study of the household in recognition of its importance as a nexus for activity and social change. The household allows a relatively bounded and non-arbitrary research focus that is potentially cross culturally comparative. After the successful recovery of well-preserved habitation remains at HK29 by Michael Hoffman (1980, 1982), the Expedition has sought to exa-
mine comparable occupations. Attempts to achieve this led to a number of related discoveries, e.g., the Naqada II cult complex at HK29A (Friedman 1996), and the brewery at HK24A (Geller 1989, 1992), but a fully domestic assemblage remained elusive until recently. An extensive magnetometer survey in an undisturbed sector at HK11 carried out by Tomasz Herbich, Director of the Polish Center for Archaeology, in 1999 revealed a number of small but strong anomalies indicative of subsurface settlement remains (Herbich & Friedman 1999).

Excavations undertaken at HK11 by Ethan Watrall in 2000 and enlarged in 2001 succeeded in uncovering a large domestic extended household compound with a variety of storage pits and other domestic features bounded by a remarkably well-preserved fence built of wood post and mud-coated reed matting (Watrall 2000, 2001) fence composed of well-preserved wood posts and mud-coated reed matting. Following visible strata, the excavations revealed six discreet occupational episodes within approximately 30 to 60 cm of depo-
sition. These combine to form an overall picture of a relatively continuous cycle of habitation occupation spanning from the Naqada IC to IIB period, with later incidents of trash disposal in the Naqada IIC period. These excavations have revealed the most clearly defined stratification and chronological phases of a domestic structure found to date in the desert portion of the Hierakonpolis concession. Although detailed analysis of the variety of materials recovered is still in progress, preliminary observations indicate that the stratified remains of the HK11 structure document a period of significant technological and social change in Predynastic society and indicate that the transition from Naqada IC to IIA was one of profound importance.

The first phase (Phase I) is the earliest Predynastic domestic occupation so far found in situ anywhere within the desert region of Hierakonpolis. Dated by diagnostic ceramic material to the Naqada IC-IIA period, evidence for this phase consists of a single sub-rectangular house floor, bounded by an extensive wall trench along the northern edge that is sunk into the yellow Pleistocene sediment of the Wadi terrace. Associated features included post-holes, numerous shallow pot emplacements, a series of small circular features, which may represent post-holes in which small, non-load bearing posts were placed, and a large stone lined hearth (fig. 2). Evidence suggests that, near the stone lined hearth, reed matting overlaid the house floor. A nearby food preparation area featured a large ovoid quartzite grinder and an associated storage pit lined with grey mud.

The following phase (Phase II) is primarily characterised by extensive refuse pits, which cut through portions of the Phase I house floor. The fill in some of these pits suggests that they are of similar date as the Phase I occupation. In a few cases, individual trash disposal events can be distinguished during which a pit was dug into the Phase I house floor and a single load of refuse was deposited. The fill was characterised by relatively loose dark brown/grey sedi-
more than 40 acacia posts, lengthy sections of reed matting were affixed using twine and then coated on the southern side with a light layer of mud. A deliberate gap near the fence’s western end where the posts doubled back probably served as an entrance to an enclosure of still unknown dimensions.

The fence itself was associated with a hard packed grey flooring in which a rock-lined hearth surrounded by reddened soil and ash concentrations was discovered. During the course of excavation on the Phase III house floor, a small copper needle and a finely-made copper fishhook were discovered embedded in the floor. These artefacts, although clearly used exhibited remarkable preservation. The fishhook is of particular interest when one takes into account the variety of species represented in the aquatic faunal assemblage at the site—which is currently some 4 kilometres from the present location of the Nile. They also provide an important indication of the range of subsistence activities in which one household engaged.

In the northwestern section of the excavated area, an installation that included two mud-lined pits and 3 shallower mud-lined features was uncovered. While the deeper pits may have been used for storage, the shallow nature of the others suggests that they may have been pot emplacements. Alternatively, because of the associated botanicals, ash deposits, and numerous «dung cakes», which probably served as a source of fuel, these features may have served as food preparation areas. Discontinuous lines of posts frame this installation, however they may date from a later phase.

The subsequent occupational phase (Phase IV) was characterised by a relatively extensive midden accumulation along the Phase III post and reed matting fence, which was subsequently covered with a second and final hard packed grey floor (Phase V). Significant midden accumulation along the fence, especially near the entrance, continued throughout Phase V.

The refuse was composed of high amounts of animal dung, suggesting that cattle and other domestic animals were kept in this part of the compound at this time.

In all likelihood, the majority of human activity took place further to the north and upwind from the accumulated refuse mid-
Although several pits associated with the Phase V floor have disturbed some of the Phase IV deposits, the material between the floors contained yielded significant cultural material. Of particular note was the discovery of one complete and one partial ceramic nail (fig. 5) (Grubenkopfnagel). Whatever their original purpose (cf. Wilde & Behnert 2002), the archaeological context in which they were found does not support the interpretation that they were used to create mosaics in mud brick architecture; no mud brick was found at HK11, the architecture is entirely of wood and reeds. The discovery of these « nails » in a stratified context in Phase IV and the recovery of a similar object by Harlan during his excavations indicate a date of Naqada IIB for their appearance in Upper Egypt (Friedman 2000).

The final activity phase (Phase VI) is represented by a large refuse pit that was dug down from the top of the occupation to the underlying hard packed Pleistocene Wadi sediments. The pit itself, which is some 86 cm deep and contains diagnostic ceramic material dating from the Naqada IIC, was undoubtedly excavated after the abandonment of the structure.

CERAMICS
The stratified ceramic assemblage from this structure provides a view of changing inventories and production methods over time. Pottery from the excavations was fully quantified by fabric and temper type and all rims, bases, body sherds and reused pieces were counted. The quantification reveals the gradual change in the composition of the assemblage as home-made cooking wares in a range of shale (cf. Midant-Reynes & Buchez 2002 : 175-176, Friedman 1994 : 154) and pottery tempered fabrics (Friedman 1994 : fabric 7 and 27) are replaced by mass produced straw tempered domestic wares. In the lowest levels of the excavation, the Phase I habitation, fine black-topped and red polished table wares comprise 42% of the total assemblage, straw tempered wares 40% and home-made shale and potsherd tempered pottery make up 18%. By Phase III, straw tempered wares make up 73% of the assemblage while the red-polished and home made wares have diminished to 20% and 6% respectively. Over time straw tempered pottery becomes more and more prevalent until it makes up over 85% of the assemblage in the Naqada IIC (Phase VI) trash pit.

In the first phase of occupation, the fine polished pottery exhibits a number of shapes ranging from red-polished bowls of all sizes, large black-topped bowls, red-polished carinated bowls and a number of cylindrical beakers. A few examples of Petrie's C ware serve as fossil indicators of age. Closed forms are present but not common among the fine wares. The black-topped jars tend to be small but are extremely thin and fine. Together this material suggests a date of Nagada IIC-IIA for the initial phase of occupation (Phase I).

The straw tempered wares are limited. In the early stages the straw tempered fabric appears to be used mainly for large forms: large storage jars and mixing bowls that would be difficult to create in other denser or coarser fabrics. There are, however, a few jars with reinforced rims of straw tempered fabric in the early phase (Phase I-II).
The shoulders on these early forms are low and the bases are rounded. Soot found adhering to the exterior suggests that some were used for cooking, however, cooking pots were generally composed of shale or potsherd tempered pottery. These home-made vessels appear as low-shouldered jars with direct rim, or slightly restricted bowls with hard, wet smoothed exteriors. The numerous mending holes found amongst the shale and potsherd tempered sherds suggests that these vessels were highly prized and even after the vessel had broken, the sherds were reused and reshaped into a variety of tools, scrapers, lids, and squares of unknown function. The shale temper fabric was also used to make large mixing bowls. Fragments of shale appear on the interior surface forming a hard surface for mixing or grinding. Although no doubt more difficult to make than straw tempered vessels, they were clearly more suited to this function. The hard exterior surfaces are less porous and the shale or potsherd temper also promotes thermal stability, allowing the pot to withstand differences in temperature without cracking much longer than a straw tempered vessel. Nevertheless, the mass produced straw tempered cooking pots eventually prevail and the production of home-made cooking vessels ceases. By phase V any home made vessels are relics (Friedman 2001).

TEXTILES

Textile remains from the 2000-2001 excavations at HK11 also point to changing technologies. The small amount of clean, woven cloth and spun yarn discarded in the various refuse pits were examined and analysed by Jana Jones (Macquarie University). The textiles were made of very good quality, well-prepared flax, and were very finely and evenly spun. The recovered samples also suggest that the spinners and weavers of this period were in the midst of a technological change. They were combining an old technique of using Z-spun, 2-plied yarns that appears in Egypt c. 5,000 BC, with a new technique of S-spun threads, which is characteristic of Dynastic Egyptian textiles. The date and development of the S-spun threads has long been a question and further analysis of the stratified remains from HK11 may help to address this issue. In addition to numerous spindle whorls, a small bundle of weaving remnants comprised of woven cloth and loose yarn was discovered in the Phase I occupation. Both sets of artefacts greatly serve to reinforce the notion that the inhabitants of HK11 were engaged in the manufacture and production of fine textiles (Jones 2001, 2002).

PRELIMINARY LITHIC ANALYSIS

In order to obtain a complete picture of lithic production and consumption in the Predynastic household, 100% recovery was undertaken. All debitage, cores, and tools were subjected to intensive attribute analysis. While the data is currently undergoing rigorous statistical treatment and analysis, it is possible to present a very preliminary report as to the findings and conclusions.

In total, 2601 pieces of lithic debitage were recovered from the 2001 excavations from all phases. As shown in fig. 6, the absolute values are skewed towards three main raw material types: flint (49.6%), chert (32.7%), and quartz (9.7%). The remainder of the debitage recovered is represented by sandstone (3.3%), granite (0.58%), schist (0.50%), quartzite (2.4%), carnelian (0.69%), basalt (0.30%), and petrified wood (0.08%). In total, 287 lithic diagnostic lithic tools were recovered. As outlined in fig. 7, the tools themselves cover a wide variety of types. By far, the best-represented tool class is the retouched pieces (49.8%), followed by backed blades/bladelets (11.8%), endscrapers (6.6%), denticulates (4.5%), notched pieces (4.2%), sickle blades (4.2%), burins (3.5%), drills (2.6%), perforators (2.5%), sidescrapers (2.7%), knives (2.1%), and circular scrapers (0.70%). The dominance of retouched pieces, most of which exhibit very light and irregular retouch represents an extremely expedient industry. The statistically
low amount of examples from the formalised tool classes suggests a situation in which raw material was abundant and activities called for a far wider variety of tools. This type of assemblage is very characteristic of activity in a domestic context. While an assemblage for an animal processing site or industrial area would be very focused on a specific set of tool classes, a domestic assemblage reflects the fluidity of activity that is characteristic of a household. Other lithic finds include the mid-section of chipped stone animal figurine, three fragments of small discoid maceheads, and a fragment of a cylindrical limestone vessel with a small vertical handle.

FAUNAL REMAINS
The faunal assemblage, amounting to approximately 4000 elements, was examined by Wim Van Neer and Veerle Linseele. This material is in a relatively good state of preservation, with remains of horns and skin preserved in some instances. The traditional domestic species (cattle, sheep/goat and - to a lesser extent - pig) predominate. Hunted species were not common but included gazelle (Gazella dorcas), hippopotamus (Hippopotamus amphibius), fox (Vulpes ruepelli) and crocodile (Crocodylus niloticus). Among the fish, Nile perch (Lates niloticus) and Synodontis catfish predominate. Mormyrids, tilapia, Barbus bynni, Bagrus and Clarias are relatively rare. Burned bones are abundant and their spatial distribution needs to be verified. Bones of a human neonate were also recovered from one of the trash pits.

BOTANICAL REMAINS
The level of preservation of other organic material was equally high. Plant remains were prevalent and are being analysed by

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<th>Absolute Debitage Raw Material Values</th>
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Fig. 6
Absolute Debitage Raw Material Values.

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<th>Absolute Lithic Tool Values</th>
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<td>Endscrapers</td>
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Fig. 7
Absolute Lithic Tool Values.
Refuse of emmer wheat (Triticum dicoccum) and bread/macaroni wheat (T. durum/aestivum) including glume bases, forks and rachis internodes and barley (Hordeum vulgare) grains were retrieved from upon and between the floor levels. Morphological examination of the animal dung revealed a fodder composed of grains of barley mixed with wheat chaff.

Seeds of winter and all-year field weeds were also recovered, including: Crypsis alopecuroides, Phalaris minor, Lolium temulentum, Setaria verticillata and Solanum nigrum. These weeds seemed to be and are still components of the field weed assemblages associated with the growth of winter crops (wheat and barley).

The current palaeoethnobotanical analysis shows the significance of HK11 as a unique archaeological opportunity to obtain information on the past relations between man and plants. It has been proved that the Predynastic economy of Hierakonpolis was based on the cultivation of cereals, especially emmer wheat, as major constituent of the inhabitants subsistence strategy while barley was used mainly as fodder (Fahmy 2002).

**Locality HK43**

The Predynastic cemetery at locality HK43 (fig. 8) is located at the southeastern edge of the concession area, at the edge of the Wadi Khamsini. Investigation of this cemetery was initiated in 1996 when a land reclamation scheme threatened to destroy it. After five seasons of investigation, 260 graves representing nearly 300 individuals have been uncovered (fig. 9). Almost all are robust individuals with extensive muscle attachments, who had been buried in a flexed position within mat-lined pits with very few grave goods, if any, suggesting that this cemetery is that of the working class inhabitants of ancient Hierakonpolis in the Naqada IIA-C period (3600-3400BC).

Excavation has been concentrated in the southern sector of the cemetery, where the original desert surface has not suffered from deflation. The clearance of a contiguous area of over 1400m² suggests that the graves were roughly arranged in large densely packed circles around empty centres. These groupings, probably of related family members of all ages and sexes, appear to extend over several generations. Fragments of large domestic pottery, unlike the ceramics found in the graves, i.e., large bowls, cooking pots, etc., recovered from the upper levels of the circle centres suggest that these areas were used to celebrate a funerary feast. The majority of burials in this area date to Naqada IIB, with some graves of Naqada IIC in the northern part of the excavated area. On the silt ridge to the north, there are larger rectangular graves of the Naqada IID period, but these have been extensively plundered in modern times.

The dating of the graves is complicated by the fact that less than half of them contain...
datable grave goods. Although almost all of the graves contain matting, sometimes in multiple layers below and above the body, pottery, whole or in pieces, is not always present. When it does occur, it appears in a very limited range of forms: small and large Rough ware bottles (R91, 93 series), conical jars (R81n, 82b), Polished red ware bowls and more rarely, Black-topped red beakers (B35b) and small jars (B72a). Only 3 graves contained palettes, one of which had been broken in half and badly chipped before deposition. Beads are also very rare and thus far appear to be restricted to children.

The richest burials found to date in terms of the number of offerings belong to women. Burial 209, of an older woman, approximately 45 years of age at her death, dates to the Naqada IIC period. It contained the largest amount and widest variety of grave goods of any burial so far found, although several objects had been well-used before their deposition in the grave. The ceramic assemblage included three Polished red ware bowls, a deep bowl of marl fabric and two Rough ware bottles whose necks had already broken off and the edges ground down before they were placed in the grave. This burial also included two stone vessels (fig. 10), one of calcite, though badly chipped, and one of basalt as well as a bone hair comb (fig. 11) that had also already lost a tang (Friedman 2002).

All copper items, of which only three have been recovered (2 pins and a chisel, fig. 12), are found only with men, apparently carried in a pouch by the left hip. The copper as it oxidised occasionally stained the bones green. The green stained hip and finger bones of one male indicates that a copper item was once included in his grave (B245), but more interestingly, this individual also had cut marks on his second cervical vertebra indicating that his throat had been slit.
Fig. 10
Basalt jar (a) and alabaster jar (b) from burial 209 at HK43. Scale 1:2.

Fig. 11
Bone hair comb from Burial 209 at HK43. Scale 1:1.

Fig. 12
Copper chisel from Burial 166 at HK43. Scale 1:1.
To date we have found nine individuals with exactly this type of injury to the 1-3 cervical vertebrae and hyoid, always delivered from the front, including two examples, which provide evidence of full decapitation. The victims in this case were an elderly couple, who were found in a tight embrace within their grave (B147), their heads apparently placed before their chests. The male was aged 60+ and the female was aged 50-59 at time of death and examination of the cervical vertebrae of both individuals revealed a pronounced number of cut-marks; over fifteen were found across and through the neck of the male (Maish 1998, Maish & Friedman 1999, Friedman et al 1999: 13-14).

The example with a copper grave good makes it unlikely that human sacrifice subsidiary to more elite burial is the reason for these injuries. Instead, these lacerations may be associated with a funerary ritual of real or ritual dismemberment and then the rearticulation or re « creation » of body. This is especially suggested by Burial 85 (fig. 15), that of a young woman, whose neck had been cut, before the neck area and the hands were padded with thick layers of resin-soaked textiles.

Three clear examples of burials in which textiles have been used to pad the hands (fig. 14), the neck and part of the head have been discovered in this cemetery. All are burials of women (Burial 16, 71 and 85).

The textiles used in this process have been analysed by Jana Jones. She has observed two main textile qualities: a very fine open weave, « gauze »-like material that comprised the majority of the wrappings, and a coarser more tightly woven fabric. Each piece of textile was generally folded into pads of 8-10 layers, rather than cut into strips. These layers appear to have been soaked in a resinous matter, and moulded and systematically pressed to the shape of the body until the desired thickness was achieved. The very fine textile would have been extremely malleable and easily moulded to shape. Around the hands the coarser textile was used almost exclusively. The outer shroud that appears to have covered all of the bodies in the cemetery was also of the coarser quality. Unlike the other grave goods, there is no evidence of the reuse of old household material and it would appear that these textiles were specifically produced for the funerary context (Jones 2002).

Textiles were also used to wrap internal organs, which were apparently removed and then returned to body cavity. There are three especially well documented examples of this practice. From Burial 71 (fig. 16), in which a young woman with padded hands and neck was found intact under a well
preserved reed mat, an internal organ covered in a resin soaked cloth was found in the abdominal cavity. Other examples were recovered from the chest cavities of the male in Burial 44 and the female in Burial 28, both of whom were found intact from neck down beneath a well-preserved reed mat.

All this evidence suggests these practices, which may represent early experimentation with mummification, were developed for a ritual purpose that may have impeded putrefaction but had little if anything to do with the actual preservation of the appearance of the body. However their appearance was still of importance, as the dyed grey hair and the hair extensions of an older woman and a sheepskin toupee make clear.

The high standard of organic preservation makes the HK43 cemetery unique in modern times. The hot dry sand has preserved delicate matting, basketry, textiles and food stuffs, as well as human skin, fingernails, hair, internal organs, stomach contents and coprolites. Offerings of bread and beer left in the grave have allowed for analysis of diet and food preparation, while the preservation of ingested foods in the alimentary canals of the bodies provides valuable and non-circumstantial information about individual meals and short-term diet. Preliminary micro-botanical analysis of the rehydrated gut contents by Dr Ahmed Fahmy confirms the presence of phytoliths, probably of emmer wheat, fruit epicarp fragments, probably of dates and starch grains and there is evidence for a difference in grain preparation for juveniles and adults that must be confirmed (Fahmy 2000). Although the better preservation of cereals in archaeological remains has led some to question the reality of its superior role, separation of wheat micro-remains (epidermal cells and starch grains) from human gut contents proves that this crop was highly appreciated by the ancient inhabi-
Cereal husk fragments found in the stomach contents and attributed to emmer wheat based on significant anatomical features of the epidermis, suggest that hulled grains of emmer wheat were subjected whole for grinding without dehusking (Fahmy 2002, Friedman et al 1999: 14-18). The excavation of HK43 is shedding new light on how the working class Egyptians of the time lived, and how they buried their dead. We also see tantalising suggestions of the nature of their belief in the afterlife. Hierakonpolis is one of the few sites at which separated and distinct cemeteries for the different segments of society have been found, and while HK43 is very important in its own right, it takes on added significance when compared to the elite cemetery HK6 and the contemporary settlement. Together, they provide a unique opportunity to study the effects of social status differentiation at the same place and time in history, in an era when the foundations of the Egyptian civilisation were being laid.
Bibliographie


