

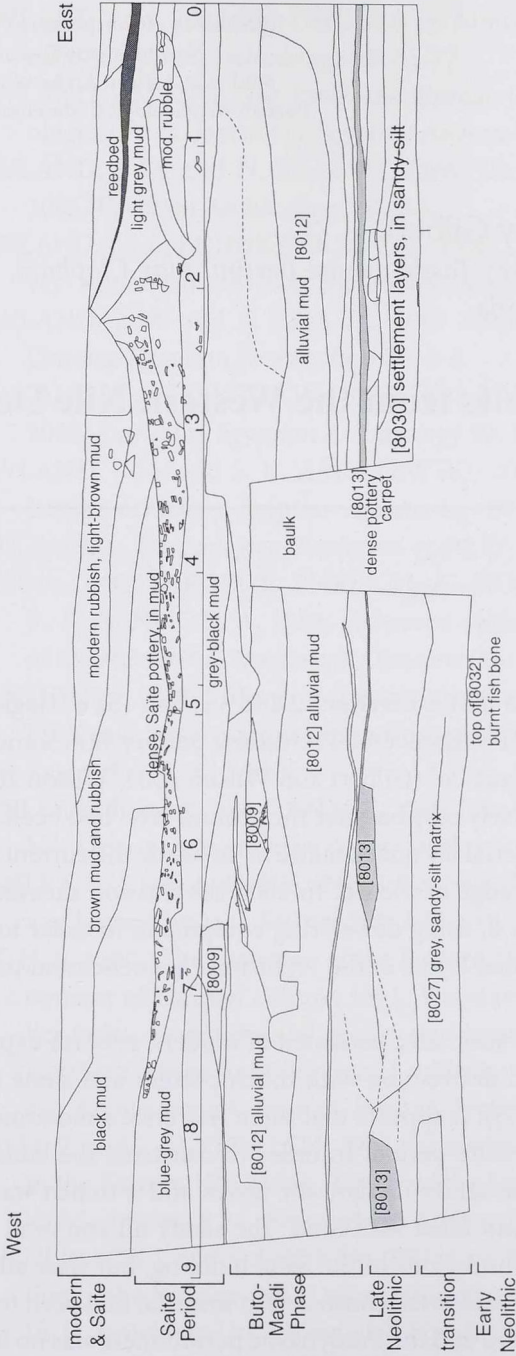
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Prehistoric Sais: Results from the Western Nile Delta Floodplain

Introduction

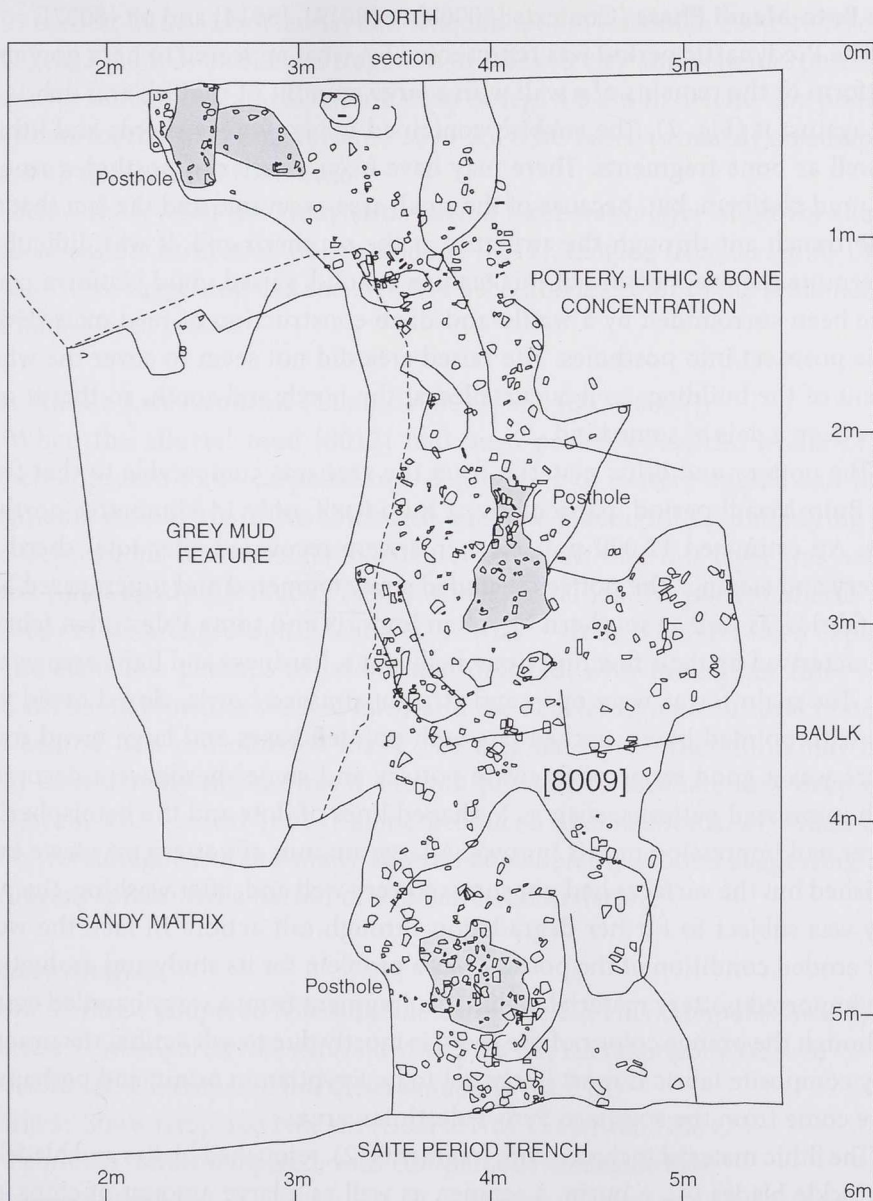
Previous drill auger work and trial excavations 2 and 3 at Sais (Sa el-Hagar) in the Western Nile Delta from 2001-3 discovered Prehistoric pottery, lithics and animal bones in the area of the 'Great Pit' (Gilbert and Wilson 2003; Wilson 2006). Access to the material was relatively easy because the ground level had been lowered to form the Pit and the material lay only a metre or so below the current base level, especially on the western edge of the Pit. In 2005 the mission excavated a 10m by 10m trench, Excavation 8, using dewatering equipment, in order to understand more clearly the stratified layers of the Prehistoric sequence and to collect material for analysis.

The upper levels of the excavation area consisted of modern rubbish deposits and then a layer of Saite period destruction with much pottery and stone fragments (Contexts [8000] to [8007]). It appears that there was once a monumental building at this location in the Saite period. In order to construct the building, an area was cleared down to the sandy Predynastic layers and a trench was cut through the Prehistoric layers and filled with mud. The sandy fill and mud base trench were then used as the foundations of the Saite building, but were all that remained of it, as the stone and mud brick construction material had been totally removed. Between the Saite period and the Predynastic period there was no intervening stratigraphy (Fig. 1).



Excavation 8, North Section

Fig. 1. Northern section of Excavation 8, showing the main layers and phases.



Excavation 8, North-West sector of trench

Fig. 2. Plan of the north-west sector of Excavation 8, showing Buto-Maadi period phase.

The Buto-Maadi Phase (Contexts [80008] to [8012], [8014] and pit [8027])

The Predynastic period was represented by, what appeared to be, a grey mud platform or the remains of a wall with a large amount of rubbish and debris lying against it (Fig. 2). The rubbish contained many pottery sherds and lithics, as well as bone fragments. There may have been a series of postholes around the mud platform, but, because of the small area excavated and the fact that the Saite trench cut through the structure at the southern end, it was difficult to determine the exact nature of this feature. A solid, raised, mud platform could have been surrounded by a wattle-and-daub construction of reed mats tied to large posts set into postholes. The raised area did not seem to cover the whole extent of the building, as it is curtailed at the north and south, so that it may have been a dais of some kind.

The pottery and lithic material from the area was comparable to that from the Buto-Maadi period, particularly at Buto itself, only 14 kilometres north of Sais. An estimated 12,000 pottery sherds were recovered after total sherd recovery and sieving. The pottery included straw tempered and untempered Nile silt fabrics, as well as southern Egyptian imports and some Palestinian fabrics, characterised by their fine limestone inclusions, hardness and light orange colour. The main forms were open and straight rimmed bowls, closed ovoid vessels with pointed bases, necked jars with pointed bases and large bread trays. There was a good range of fineware pottery and some sherds were decorated with impressed patterns, such as V-shaped lines of dots and the hemispherical finger nail impression motifs in rows. A large amount of pottery may have been polished but the surfaces had not survived very well and, after washing, the pottery was subject to further degradation through salt action. In fact, the worn and eroded condition of the pottery was a problem for its study and evaluation. The imported pottery material included a fragment from a wavy handled vessel. Although the orange colour of the sherd is mostly due to salt action, the orange-grey composite fabric is most likely not to be Egyptian in origin and perhaps to have come from the southern Syro-Palestinian area.

The lithic material included core fragments (2), retouched blades and bladelets (8), sickle blades (4), a burin, a scraper, as well as a large amount of chips and chunks of chert debris. A hammer axe and a hammerstone of chert and a lower grindstone of pink and grey quartzite also came from context [8009].

A few objects were found including a carnelian discoidal bead (SF05), four pottery cylindrical 'nails' (SF01a-c and SF04) similar to those found at Buto (von der Way 1987: 247-9, fig. 9, 1992: Fig. 2, 1997: Pl. 57; von der Way 1992,

1997 earliest Buto-Maadi levels) and Hierakonpolis (Friedman 2000: 13 Naqada IIAB, ca. 3700 BC) and also a fragment of a baked clay anthropomorphic figurine with indistinct features and no head or legs 4.8 cm in height. The preliminary date for this material is around 3600-3500 BC based primarily on comparison with the material from Buto.

Below the level of the Predynastic period there was a layer of brown alluvial mud across the excavation trench, context [8012], ranging from 30 cm to 10 cm in thickness, suggesting that the area had been flooded prior to the settlement in the Buto-Maadi period.

Sais Middle-Late Neolithic (Contexts [8013] and [8021-8030])

When the alluvial mud [8012] had been peeled away, the whole of the trench appeared to be carpeted in a dense layer of pottery sherds and lithic fragments around 10-15 cm thick and, in some places, filling underlying pits and depressions to a considerable degree. It seems that this layer was once a much fuller sandy-silt matrix (soil), which contained the pottery sherds and perhaps other archaeological features. The layer seemed to have been exposed to the elements, perhaps dried out and deflated, with the lighter finer sand and silt being blown or washed away and the heavier human cultural material left behind in a consolidated mass. The original layers, therefore, may have been considerably thicker but it was not possible to estimate how deep they had been. The context [8013] alone produced 50,652 sherds, of which only 3.1% were diagnostic and many showed considerably eroded suggesting that the layer represented a period of exposure and deflation.

Pottery Analysis

Fabric 1: Straw tempered Nile silt (Nile B2 to fine C2; Hierakonpolis Ware 1)

Fabric 2: Untempered Nile silt (Nile A to Fine B1; Hierakonpolis Ware 2)

Fabric 22: Untempered fine (Hierakonpolis Ware 22)

Fabric 3: Straw tempered Nile silt (Coarse Nile C; Helwan Nile C*)

Fabric 3A: Straw tempered, with conspicuous limestone bits

Fabric 4: not used

Fabric 5: Imports: often sandy-grey composite fabric

Fabric 99: Used for large brick-like chunks of baked clay.

The pottery from this level and all of the Neolithic contexts showed a preponderance of untempered fabrics (Table 1), in contrast to the majority of straw

Table 1. Main contexts, fabrics and diagnostics statistics.

	[8009]	[8013]	[8016]	[8021]	[8032]
F1	84.3%	20.9%	27.3%	15.1%	13.2%
F2	13.4%	77.8%	69%	76.6%	79.6%
F22	0.5%	0.5%	0.8%	1.8%	1.8%
F3	1.4%	0.9%	2.6%	5.8%	3.2%
F5	-	0.1%	-	0.1%	-
F99	0.4%	0.1%	0.3%	0.6%	2.2%
Diagnostics	6.9%	3.1%	2.1%	10.1%	8.6%
Total sherds	13,456	50,652	14,269	1,977	1,763

tempered fabrics in the Buto-Maadi level. Although 36 sherds with impressed decoration were collected from [8013], this was a smaller proportion of the total sherds than the 11 from [8009]. The decoration mostly consisted of impressed dot patterns, arranged in horizontal rows, but there were also some incised line and grass patterns. The forms of the vessels included many highly polished bowls and open vessels, ranging from red to brown to purple to black in colour, but there were also closed ovoid jars and large, straight or closed-rim containers. Eleven fired bricks were also found in the layer, perhaps from hearth surrounds.

Although small finds were rare, one cylindrical pottery bead was found (SF06a), along with a cylindrical bone bead (SF06b), a flat square bone bead (SF06c) and a bone rod which may once have been an awl or pin (SF12).

The lithics included a number of bifacial flint (chert) tools including fragments of three hollow based arrow heads, a sickle blade, three sickle stones, a bifacial blade (Fig. 3), almost 700 whole or fragmentary blades and bladelets, as well as cores and a large quantity of debitage. The material suggested that flint tools were being prepared at the site in large quantities, with the raw material having been brought from the desert edges, either to the west or south of the delta. The types of material found compared closely to the late Neolithic levels at Merimde, Levels III-V onward (Eiwanger 1992: 51-58), perhaps dating to between 4500-3800 BC (Hendrickx 1999: 60-61). Other stone tools from [8013] included a stone grinder and two hammerstones made from red and yellow orthoquartzite, as well as a flint axe and two hammerstones.

The material suggested that this area was settled, perhaps over a considerable period of time and was contemporary with the later Merimde levels. With the



Fig. 3. Bifacial flint sickle stones from [8013] and a knife blade from [8021].

removal of the deflated layer a number of pits, red sand colourations and dark patches were exposed on the sandy-silt matrix (Figure 4). Pottery, lithics, stones and bone were embedded throughout this layer, context [8030] suggesting that it was the earlier phase of the settlement in this location in Neolithic times. Although the interpretation of the form of the settlement here is difficult because of the small area excavated, it is possible that at least two or three small structures were represented. The red colouration in the soil at [8030] seems to show the presence of circular features, perhaps pot or basket emplacements, where the vessel has been removed or decayed, leaving a circular ghost image behind. Similarly, the longer, straight features may be fallen posts, long since disintegrated. The deeper slots could be post-holes or organic slots, which were later filled by the compacted pottery material from above.

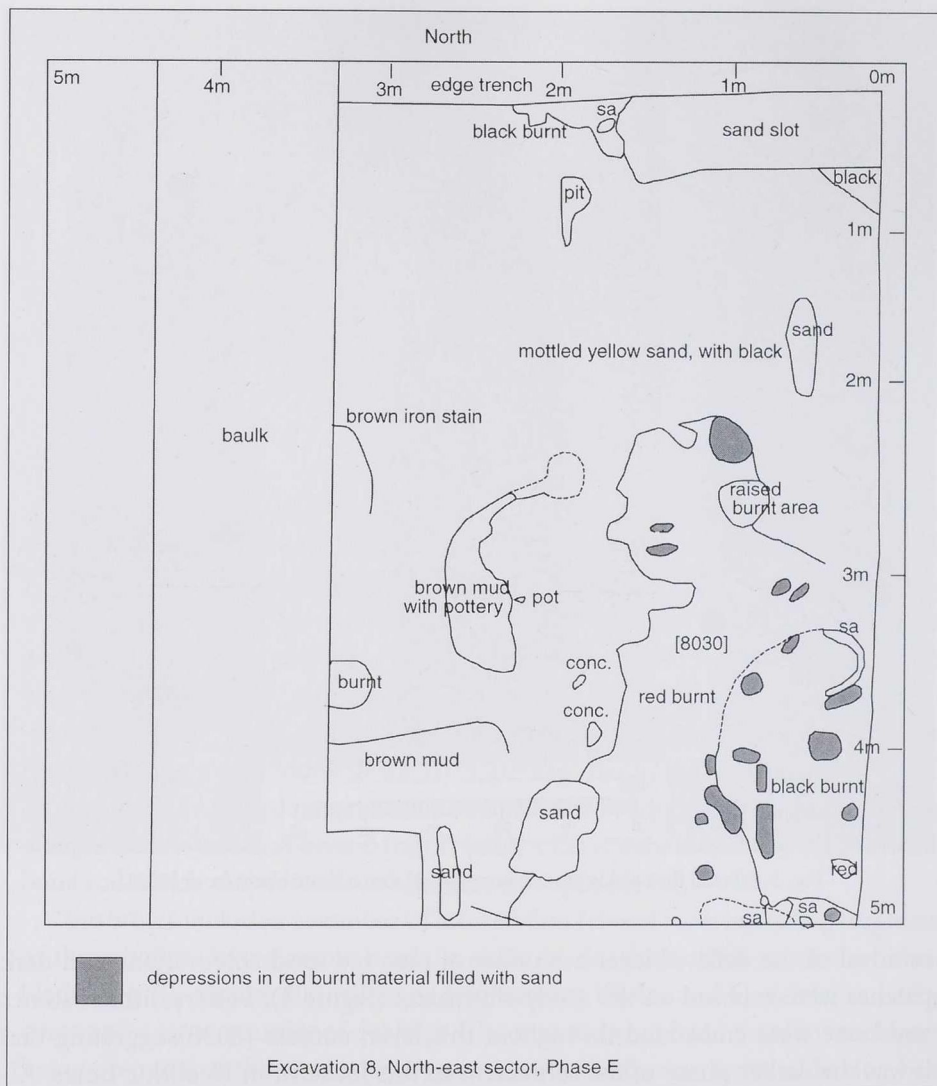


Fig. 4. North-east sector of Excavation 8, Phase E [8030].

The lithics from this settlement material comprised bladelets and a bifacial fragment. There was also a chert hammerstone, a yellow orthoquartzite grindstone and a number of chunks of red and yellow/brown orthoquartzite also from this context, which perhaps came originally from the Gebel el-Ahmar area.

In the sandy-silt matrix associated with this settlement layer, there was found a bone harpoon (cf. Eiwanger 1988: tf. 53 II.1103) (Figure 5), a baked clay net



Fig. 5. Bone harpoon from Early Neolithic settlement layers. Length 12cm.

weight, as well as pottery sherds from highly polished ovoid, closed jars. This type of material seems to be similar to that from Merimde Level II, an intermediate phase between the earliest levels at Merimde and the late Neolithic levels III-V. The exact phasing of these layers [8021, 8023 and 8030] was made difficult by several pits from the upper Buto-Maadi layers into the lower layers, which contained several almost complete ovoid necked jars with pointed bases. It seemed that the earlier layers had been disturbed in places by later digging from above.

Sais Early Neolithic, Contexts [8032-3]

The third main level [8032] consisted of a thick layer of concentrated red and black burnt material, mostly made up of fish bone and pottery, with some chert and orthoquartzite chips and tools. This level was also associated with an increase in sherds decorated with incised 'herring bone' pattern (Fig. 6). As this layer seems to have been associated with fish processing on a large scale the fish pattern on the pottery may indicate the primary activity and production or processing activities of the people living here. This level was most clear in the western part of the trench, where there was also a red burnt hearth and a cooking pot in situ. They lay next to a remarkable stump of the sandy-silt matrix which had dark linear discolourations, like brickwork. If this were the case, then the 'bricks' would have been made of sandy-silt and were cemented together with a darker brown mud. Only a small number of flint tools were found in the layers, but they included a small point and blade tool. There was a large number of orthoquartzite grindstones, hammerstones and chunks from the burnt material.

The herring-bone pattern pottery was red and black burnished and seems to come from straight sided, round base bowls. It can be compared to the material

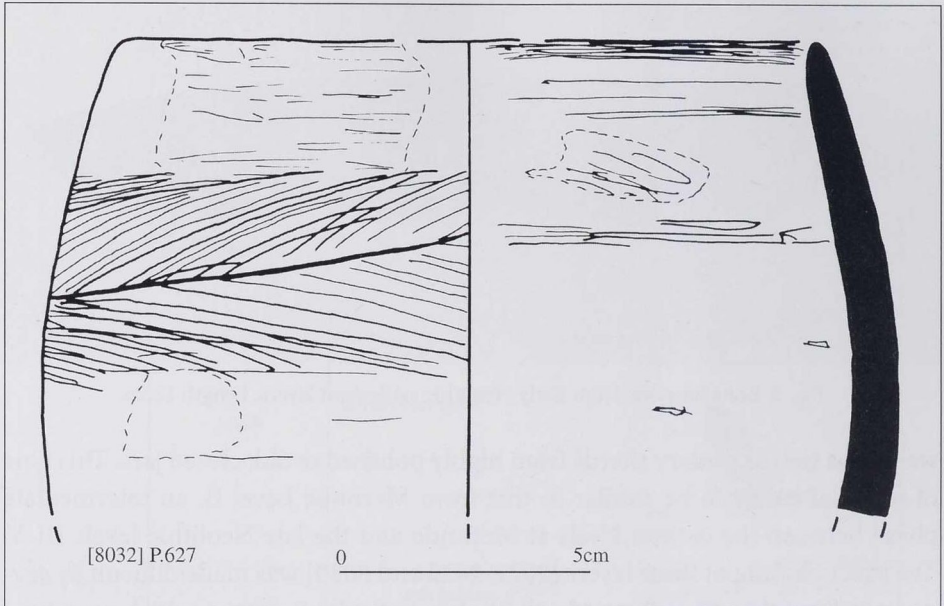


Fig. 6. Herring-bone motif on vessel, diameter estimated at 14 cm.

from Merimde Level I (Ursicht) and if so would then date to the Early Neolithic period, perhaps ca. 6000-4800 BC (Midant-Reynes 2000: 108-113). However, the pottery layer may have lain above the top level of the fish-midden and so the midden layer may be slightly earlier in date again. It remains to be seen, however, if this can be classed as a true Epipaleolithic layer and thus complete the sequence of cultural transitions in Excavation 8 at Sais.

The bottom of the burnt fish bone layer was not located due to time constraints. In fact the layer dived down steeply under the eastern section, suggesting that it lay upon a slope or hill-side of some kind (Figure 7). It is possible that this was the river-bank and that the early Neolithic area was upon the western bank or sand-bar of a river branch (Wilson 2006: 111). It may be in a protected position on the eastern side of a river levee which would have been ideal for settlement. It seems that the river, however, moved from this course and flooded the area creating the silty-sand material upon which the Middle and Late Neolithic settlement was based. The implication is that between these two periods the Saite settlement had moved from the western riverbank to the eastern bank, where it remains until the present day. The cause of this significant change in the environment in the Late Neolithic period may have been a crevasse splay with the river bursting through a levee during a period of high flooding.



Fig. 7. Excavation 8, with [8032]-[8033] the dark area in the foreground; [8030] to the right (east) and [8023] in the left hand corner (south-west). North is at the top, the ranging rods are 2m long.

Animal bone, botanical remains and lifestyles

Around 15,000 fish bones were recovered from the burnt layers [8032-8033], of which around one third could be identified because of the small, fragmentary and burnt nature of the bone. The most common species of fish were clariid catfish, then tilapia fish, then *Synodontis* catfish followed by smaller numbers of other freshwater species. It is possible that the fish could have been most easily caught at the beginning or end of the annual flood season when they were caught out in the flooding channels or drying floodplain. The variation in ages and types of fish suggests, however, that they were caught all year around in shallow and deep waters and that the fishing was not seasonal. In turn, this suggests a more permanent human presence on the river bank than was first assumed. The burnt nature of the fish-bones suggests that they may have been smoked in order to preserve them for consumption throughout the year or for 'export'.

The identifiable animal bone was dominated by pig bones at all periods of the Prehistoric and Predynastic. There is a rise in the number of cattle bones during the later Neolithic period, as well as sheep or goat bones. The brittle nature of the smaller animal bones, however, means that the numbers could be skewed due to

preservation. Donkey bones were identified in all phases and a hippopotamus bone fragment was found in the early Neolithic layers. There were also a number of human bones in the Neolithic phases.

Other evidence

Drill augering in the area has confirmed the presence of these Prehistoric layers, including the dense fish-bone midden to the north of the excavation area and running underneath the modern village of Sa el-Hagar. It is possible that the Prehistoric area may have covered up to 4 hectares, but not all of the area is accessible. In fact, even the area of the excavation is now the civic rubbish dump and will be developed for building projects within the next five years.

Six carbon samples were collected and sent to the Radiocarbon Dating Laboratory at the Institut Français d'Archéologie Orientale in Cairo. Unfortunately, following an extensive pre-treatment programme to clean the samples, which were contaminated by fine silt, the amount of carbon left for radiocarbon dating was considered to be too small to give an accurate result for all of the samples (pers. comm. Mohammed Maharan) (Table 2). It seems, therefore, that the results must be discounted.

Conclusions and present state of research

The fish midden, with an apparent emphasis on shallow water fish including catfish and deep water fish including perch and tilapia suggests that there was a settlement on the riverbank or part of a settlement devoted to the specialised exploitation of the river and pools or lakes. The intensive processing of the fish and perhaps their storage in fish-motif vessels, may suggest an organised programme directed towards storage of the commodity throughout the year after a busy inundation season. The community may have been able to continue in the dryer parts of the year to fish the river, or they may have moved on. This phase of lifestyle seems to have ended when the peculiar environment of the riverbank next to a deep river channel changed, perhaps with the movement of the river channel at the end of the Epipalaeolithic-Early Neolithic period. The new settlement on the eastern bank of the river on high ground, still subject to flooding at high flood times, was more concerned with raising domesticates and growing cereal crops. The apparent emphasis on pig rearing, suggests that this was the animal of choice because of its versatility and omnivorous nature. Cattle and ovri-caprid herds were, however, not unknown but whether they stayed here all year round or moved here at certain times in their lifecycle or at certain seasons of the year is not clear. That they grew and collected grains for processing and eating is indicated

Table 2. Radiocarbon dates from Sais samples, with 2 sigma calibration.

[8013]	Cal 919-176 BC (95.4 %)
[8013]	Cal 552-110 BC (91.3 %)
[8022]	Cal 806-88 BC (94.5 %)
[8023]	Cal 670-20 BC (89%)
[8024]	Cal 594 BC - AD 238 (91.9 %)

by the sickle blades and the grindstones, which occur even in the Early Neolithic levels and into the Late Neolithic period. Then, after some sort of hiatus where the living site was abandoned, the surface was deflated and flooded for perhaps 300 years, it was resettled in the Buto-Maadi period. People may not have moved away from the Sais area, but perhaps only from this particular site, because our geological work has also detected another underlying sand bank of some kind to the north under the modern antiquities area of Kom Rebwa. Here, in drill augers there is also Predynastic pottery at depths of around 7m below ground level – a little more inaccessible for excavation.

Excavation 8 has assisted greatly in understanding the stratigraphy of the material excavated in Excavation 2 and 3 (Wilson 2006), as well as confirmed the presence of Neolithic and perhaps late Epipalaeolithic material in the floodplain of the Delta (see also Krzyżaniak 1992), but it has also highlighted problematic areas in the interpretation of the data. Firstly, the disappointing results from the radiocarbon samples suggest that if small samples from such important contexts cannot survive the pre-treatment process, then alternative methods of preparation or dealing with the material should be sought. Archaeologists can play their part in the careful collection of samples, but the authorities need to recognise that the nature of the facilities available is also a sensitive issue.

Secondly, the material does enable us to present a kind of model of lifestyle and exploitation of resources at Sais in the Neolithic period, but it also highlights the organised nature of fish exploitation in the earliest phases, perhaps focused around the inundation season. In turn, it may be supposed that during the rest of the year, they focused on other activities, perhaps not represented in the dataset at Sais and that it may be necessary to look further afield in order to construct the living pattern for the whole year.

Thirdly, the Neolithic layers seem to provide a complex sequence, with disturbance from above, which is divided from the Buto-Maadi phase by a change in environment or in the settled locality. This change should be investigated further

and also the exact nature of the Buto-Maadi period settlement could be determined by more extensive excavation to the north of this trench. Finally, in the light of other Neolithic work the time at which and process by which domesticates arrived into Egypt is still unclear from the material so far studied. It also seems at Sais that there is of an adaptation of the Neolithic package, with reliance upon the domestication of the pig, perhaps more suited to the wetter conditions of the Delta. Current work into Neolithic animal DNA may be applied to the Sais zooarchaeological material in order to fill the gap in our knowledge about ancient animal species in Egypt. In turn, the results may have some underlying cultural and ideological implications for the Saite Neolithic society and lifestyles.

The Sais team is working towards the publication of the Excavation 8 material in order to set this site within the wider context of the Neolithic in the Delta, in Egypt and much further afield including Europe and the Near East.

Acknowledgements

This paper presents the results of the Prehistoric period excavations at Sais (Sa el-Hagar) in north-western Egypt and some preliminary observations on the material found. The work is supported by the Egypt Exploration Society, Durham University and the Supreme Council of Antiquities, Egypt and was funded by the Arts and Humanities Research Council, UK.

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