

The British
Museum

Amara West

Living in Egyptian Nubia



Neal Spencer, Anna Stevens & Michaela Binder

Map of Nubia

showing ancient sites mentioned in the text



Amara West

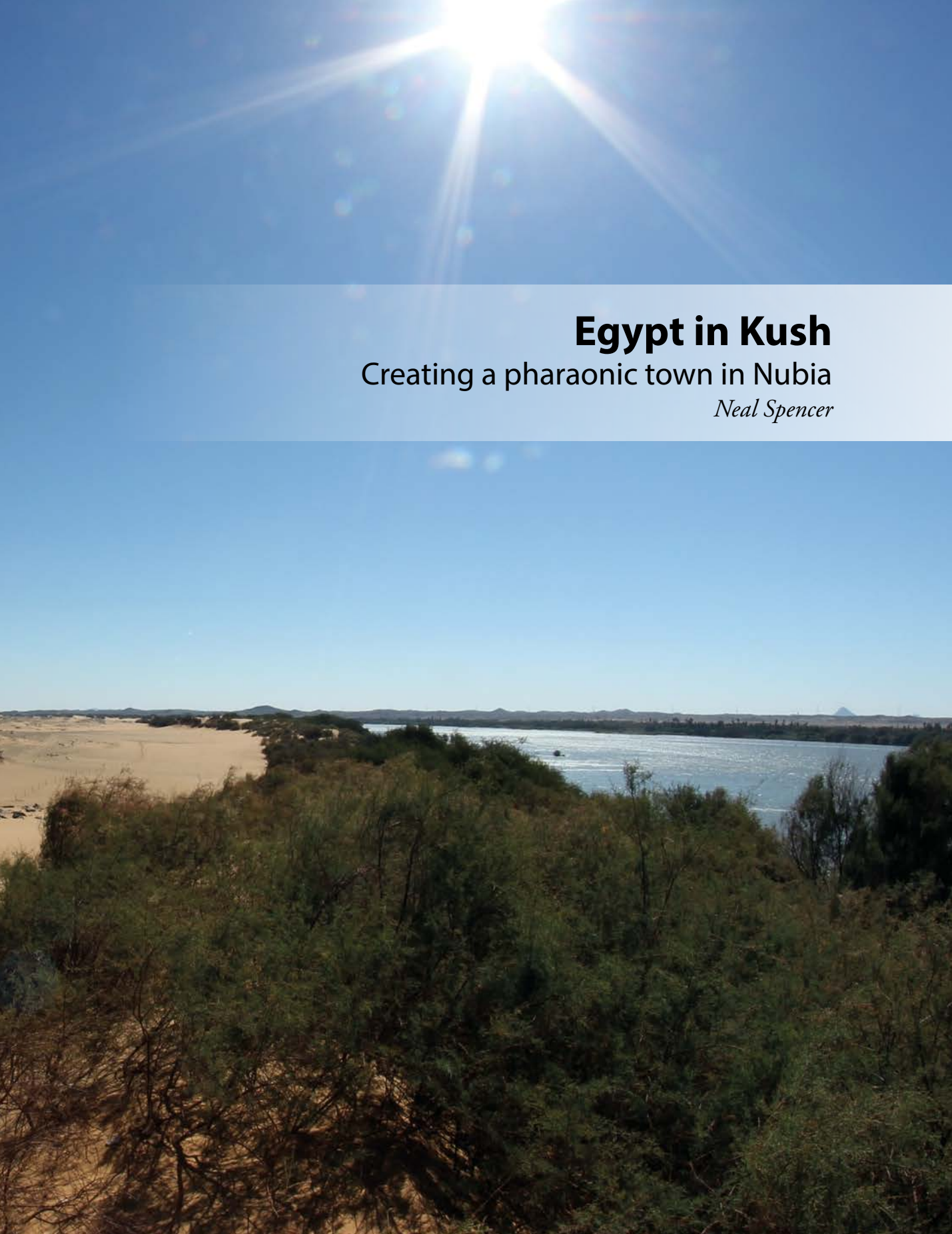
Living in Egyptian Nubia

Neal Spencer, Anna Stevens & Michaela Binder

Contents

Egypt in Kush	2
Creating a pharaonic town in Nubia	
<i>Historical timeline of ancient Egypt and Nubia</i>	<i>6</i>
A changing community	24
Creating spaces for living	
Living in the ancient town	46
Preparing for eternity	68
From ancient town to archaeological site	86
<i>Visiting Amara West</i>	<i>110</i>
<i>Further information</i>	<i>110</i>
<i>Acknowledgements</i>	<i>111</i>





Egypt in Kush

Creating a pharaonic town in Nubia

Neal Spencer

Setting the scene

As pharaoh's armies pushed up the Nile river into Nubia around 1550 BC, through a spectacular landscape of cataracts, mountains, islands and deserts, they set into motion the latest episode in a long history of conflict, trade and migration between Egypt and Nubia. Cultural entanglement – an exchange of ways of living – rather than domination, would be the result.

Nubia, a term first used in Classical times, refers to the region between Aswan in southern Egypt and the Fourth Nile Cataract in Sudan. Like Egypt itself, it is a land defined by the Nile, though Egyptians would have met much that was unfamiliar. Cataract areas, where granite outcrops blister the landscape and river, made boat travel and agriculture rather difficult. One such area is known in Arabic as the Batn el-Hagar: 'the Belly of the Rocks'. The river itself twists and turns, in some places flowing north to south, or west to east. Between the cataract zones, wide alluvial plains were ideal for agriculture sustained by the rich mud deposited by the annual Nile flood. Large islands in the river, rare in Egypt, offered further land for farming, and also strategic places of retreat during times of conflict. The deserts that frame the Nile valley in Nubia vary enormously, from shifting sand dunes to forbidding mountains or moon-like expanses of rocky wilderness.

Previous page

Looking east towards the remains of the ancient town of Amara West.

The Batn el-Hagar or 'Belly of the Rocks' downstream from Amara West. The Nubian Nile river is full of rocky outcrops, difficult for river traffic to navigate.



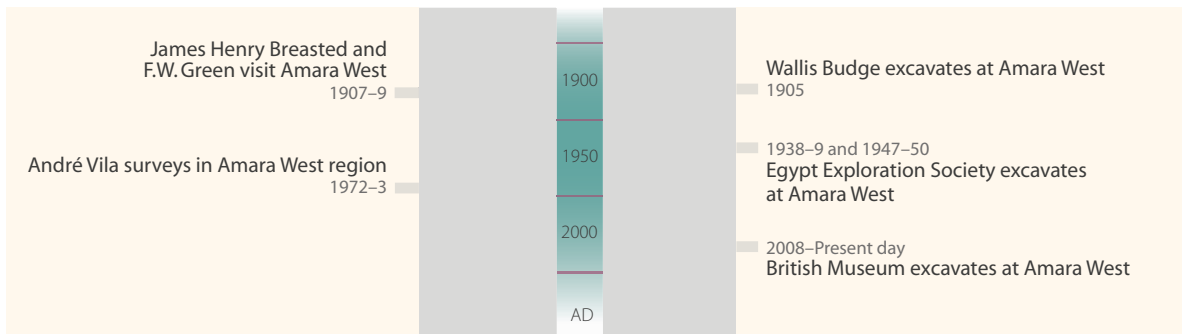
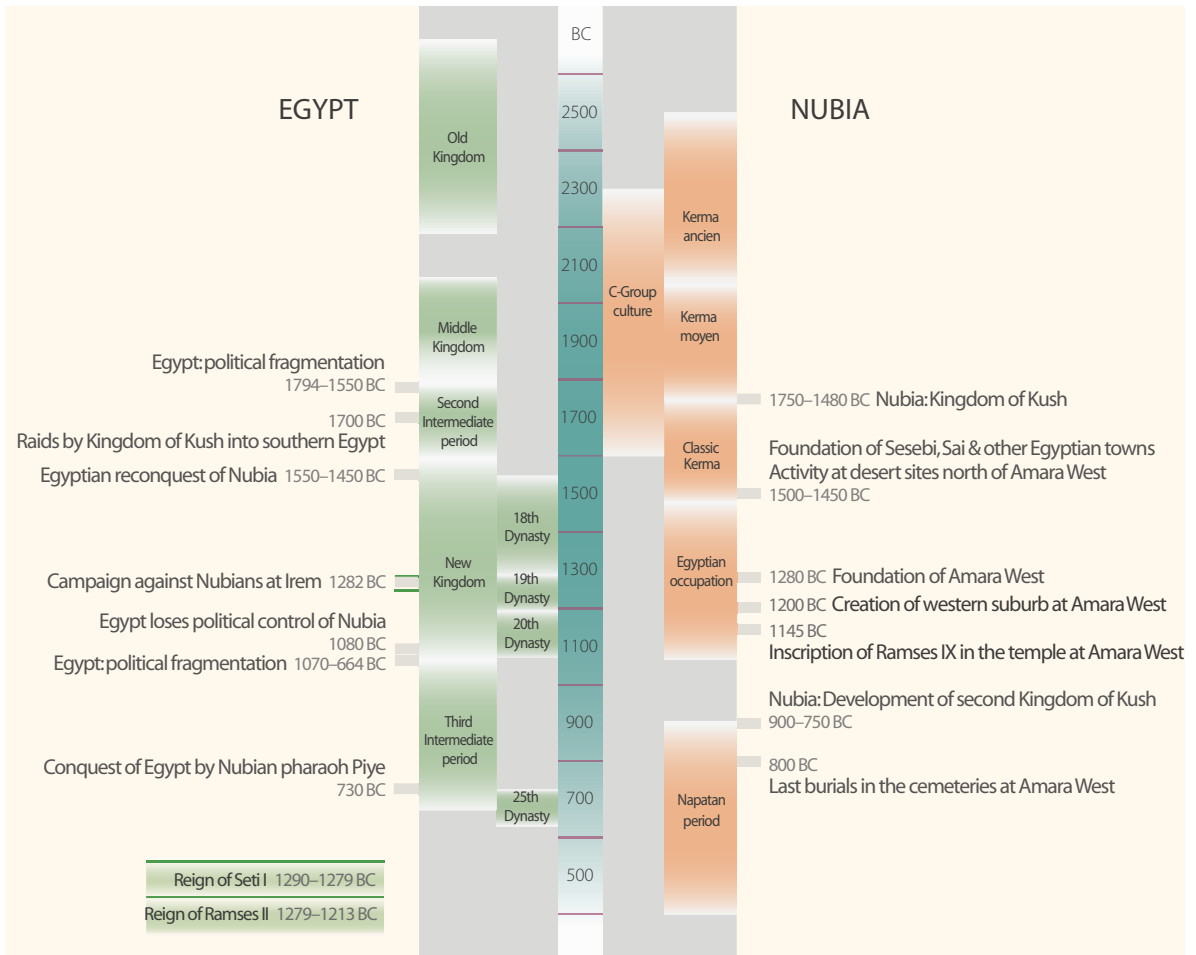
The river valley and the deserts of Nubia were settled by local populations for thousands of years before the town of Amara West was inserted into the landscape. The earliest culturally distinct group are the A-Group people, who occupied Lower Nubia for much of the fourth millennium before being overwhelmed by the growing Egyptian state to the north. Over the centuries that followed, local cultures regrouped and reshaped, and from about 2400 BC three peoples are found in the area: the so-called C-Group, Pan Grave and Kerma cultures. Sharing some cultural traits and territories, each nonetheless remained distinct. The C-Group had its origin in sub-Saharan cultures, and is attested from just upstream of the Second Nile Cataract into the southern part of Egypt. The Pan Grave people were associated largely with the eastern deserts, their name deriving from the distinctive round shallow graves in which they were buried. And the Kerma culture, centred upon the city of Kerma at the Third Nile Cataract, but with a territory that spread from the Second to the Fourth Cataracts, would become the most politically powerful of them all. Out of Kerma culture grew the Kingdom of Kush, which would threaten Egypt's southern borders and prompt the pharaohs of the early New Kingdom to retaliate, pushing their armies into Nubia around 1550 BC, some two centuries before Amara West was founded.

Conflict has often been used to define the interaction between the ancient Egyptians and the peoples of Nubia, and there is no doubt that the history of the region was punctuated with clashes. But what motivated these, and is conflict the full story?



Historical timeline of ancient Egypt and Nubia

with events relating to Amara West and its modern exploration



Entangled for millennia

Egyptian objects (especially pottery vessels) dated as early as 3800 BC – twelve centuries before the Great Pyramid was built – have been found in northern Sudan, in burials of the indigenous A-Group culture. They indicate trade and cultural interaction. Sometime later, from around 3000 BC, inscriptions left by pharaohs of the first dynasties of a united Egypt record expeditions or military campaigns into Nubia. Much debate has revolved around whether Egypt conquered and controlled Nubia due to imperial ideology, or more pragmatically, in order to control and extract resources. Gold from the desert hills, the agricultural potential of the wide plains, and exotica from further south, such as ivory (elephant and hippopotamus), ostrich eggs and feathers, were all sought by the pharaonic state, alongside manpower. Harkhuf, governor of southern Egypt in around 2250 BC, returned from an expedition to Nubia with ‘300 donkeys laden with incense, ebony, oil, panther skins, elephant tusks, throw sticks ...’. During both the Old (2575–2134 BC) and Middle Kingdoms (2040–1640 BC), the pharaonic state built planned towns at intervals along the Nile in Nubia. Some were set on flat ground to control agricultural land, others on

Excavated remains of Kerma,
centre of the Kushite state.





Ramses II tramples on foreign troops, Nubians amongst them, in his temple at Beit el-Wali.

rocky prominences to oversee river and desert traffic. A series of papyri, known as the Semna Dispatches, reflect the detailed observation of people moving around the deserts: ‘the frontier patrol that set out to monitor the desert margin near the fortress ... has returned to report to me saying “we found the track of 32 men and 3 donkeys”’.

The inscriptions and decoration in pharaonic temples portrayed Egypt’s relationship with Nubia as one of complete domination. Upon a stela set up at the border fortress of Semna, Senwosret III described the Nubians as ‘not people one respects; they are wretches, faint of heart’. But pharaonic ideology, and the propaganda that conveyed it, were (unsurprisingly!) not true reflections of reality. People from Nubia, the objects they created and the products they traded were very much a part of Egyptian life. Nubian cooking pots are found in the southern Egyptian city of Elephantine (near Aswan) from at least the Old Kingdom, and soldiers from Nubia were held in high esteem and integrated into Egyptian armies (the Medja). These are probably the Pan Grave people of the Nubian deserts, whose distinctive graves are also found in Egypt, around Elephantine and further north. Cemeteries of the Nubian C-Group culture – the occupants of the Nubian Nile valley – are likewise found around Thebes (Luxor).

The swinging pendulum

Kerma and the Egyptian reconquest

Reaching the peak of its powers around 1600 BC, the great African state of Kush centred on the sprawling city of Kerma, which had first developed about a millennium earlier. Kush, a term used in Egyptian inscriptions, controlled much of Upper Nubia, and at times parts of Lower Nubia and the adjacent deserts. At Kerma, aspects of Egyptian architecture, cult and art were integrated into the indigenous culture, with its distinctive temples, circular audience halls and vast burial mounds (*tumuli*) for the rulers.

At Buhen in Lower Nubia, inscriptions reveal that around 1600 BC, Egyptian(ised) officials now recognised the ruler of Kush as their superior, while cities in Upper Egypt were raided by Kushite armies. The very existence of pharaonic Egypt was endangered, with Hyksos (Canaanite) rulers in the north seeking to combine forces with Kush to attack the Theban state.

Pharaoh Kamose, and his successor Ahmose, led Theban armies towards the north, to reunite Upper and Lower Egypt. Under Ahmose, the armies also headed upstream, south into Nubia, gradually reconquering Kush from around 1550 BC. The process seems to have taken some decades. Further campaigns occurred under Amenhotep I and Tuthmosis I, in about 1500 BC, with a Nubian uprising in the reigns of Tuthmosis II and Hatshepsut. Five centuries of pharaonic rule had begun.

Archaeology rarely leaves any traces of battles, but rather their aftermath. In Nubia, new Egyptian towns were founded at strategic locations. Kerma itself saw the construction of a walled town (Dokki Gel) with Egyptian temples, and other important 'temple-towns' were created at Soleb, Sesebi and Sai. Many of these new Egyptian towns were built on top of, or near, sizeable Kushite settlements, with their distinctive Kerma culture pottery and burial mounds. Some were close to valuable mineral resources, such as large deposits of gold-bearing quartz near Sesebi. The construction of temples before the sacred mountain of Gebel Barkal represents the furthest south that the Egyptian state commissioned large monuments. Further upstream still, 1300km from Egypt's southern frontier at Aswan, large inscriptions at Kurgus proclaim the territorial limits reached by the armies of Tuthmosis I and III, between around 1500 and 1425 BC, with officials of Ramses II adding later inscriptions on the same quartzite boulder.

To administer this vast territory, a Viceroy of Nubia (known as 'King's Son of Kush') reported to pharaoh. The names of successive viceroys are found in monuments across Nubia. Beneath him were two officials: the 'Deputy of Kush' (Upper Nubia) and the 'Deputy of Wawat' (Lower Nubia), presumably responsible for the control and administration of each area. A number of other officials held important roles, including town mayors, the 'overseer of the southern lands' and a range of priests, military men, administrators and of course scribes. The bureaucracy of the Egyptian state was ever-present within the pharaonic towns founded in Nubia.

The age of Ramses

Change in Nubia

The New Kingdom (1550–1070 BC), generally seen as a time of prosperity and empire, was not without turmoil in Egypt itself. The monotheistic experiment of pharaoh Akhenaten, possible father of Tutankhamun, lasted only a few years, ultimately prompting the arrival of a new dynasty of pharaohs: men from a military family. Ramses II is the most famous of this line, but it was his father, Seti I, who instigated changes to Egypt's involvement in Nubia.

In year 8 of Seti I (c. 1299 BC), pharaoh's army led a seven-day campaign against Nubians in an area called Irem, located around six desert wells. The stela commemorating victory, set up at Amara West, describes how 'the foes of the foreign land of Irem are plotting rebellion'. Was the battle a mere skirmish or the quelling of a sizeable resurrection? Only 54 men, 49 children, 66 servants and 420 cattle were seized. In any case, around this time, new towns were founded at Aksha and Amara West, between the Third and Dal Cataracts. Under Seti's son, Ramses II, further changes became evident in Lower Nubia with the construction of vast temples to proclaim pharaoh's rule over Nubia. Abu Simbel is the most grandiose expression of this change. The other temples are now mostly lost under the waters of Lake Nasser. The ensuing 200 years saw, in contrast, less activity at the earlier Egyptian towns of Sesebi, Soleb and Sai. The reasons behind the shift in royal policy towards Egypt's southern border are not clear, but a change in policy is also evident in Libya and the Levant at this time. The natural wealth of Nubia remained central to pharaoh's plans for Nubia: Seti I commissioned a large stela to be carved upon a small sandstone hill overlooking the Nile at Nauri, some 100km south of Amara West. The long text details the produce and goods coming from Nubia, and how these were solely for the benefit of the mortuary temple of the king at Abydos, hundreds of kilometres to the north.

Founding Amara West

A small island, about 800m in length and up to 300m wide, hugging the left bank of the Nile, was chosen by Seti I for a new town: 'house of Menmaatra (Seti I)', known to us as Amara West. Formed from layers of ancient river silt, draped over a bedrock of schist, the island seems to have offered a blank canvas to the town planners: no convincing evidence of occupation prior to the reign of Seti I has been identified. The island offered obvious advantages: it was easy to defend, allowed direct supervision of river traffic and had a plentiful supply of fresh water and food resources – fish but also fertile land on the island itself. Yet questions remain. Why was Sai, the island with an established Egyptian town 13km upstream of Amara West, not suitable? Was the need to supervise traffic across the desert route to Salima Oasis a new priority?

The architects and scribes commissioned to create Amara West adhered to a template familiar from across the early Ramesside empire, from Zawyet Umm el-Rakham and Kom Firin built along Egypt's northwestern frontier, to Aksha in Nubia. These were smaller towns than those of the 18th dynasty: the walled area at Amara West (11,660m²) is dwarfed by those at Sesebi (54,000m²) and Sai (33,320m²). The planned town of 108 × 108m, barely enough room for two football pitches, was defined by a mud-brick enclosure wall (2.3–2.8m thick), coated in a layer of mud plaster, and studded with external bastions and corner towers. Some bricks in the wall were stamped with the name of Seti I. Walkways along the top of the walls, accessed via stairs from the West Gate, provided vantage points for guards. A royal inscription set up at Thebes by Merenptah, son of Ramses II, described the ideal



Shabti (funerary figurine) of Seti I (c. 1290–1279 BC), in whose reign Amara West was created.

Opposite

Kite photograph facing west across the ancient town at Amara West towards Ernetta Island.



Revealing the buried town and landscape

Sophie Hay

Before a trowel hit the sandy surface at Amara West, a geophysical survey allowed us to understand the size, layout and landscape setting of the ancient town and its cemeteries. Gradiometry is a survey technique (opposite above) that measures small changes in the Earth's magnetic field caused by the presence of buried remains. By plotting each data point as a shade of grey, to reflect different magnetic gradients, we can produce a readable plan of the ancient town as it survives under the sand (opposite below). The enclosure wall (100 × 100m) with buttresses against its external face, and external towers at each corner, is clearly visible, the black colour indicating positive anomalies of the mud-brick structure. Inside the town walls, the temple occupies the northeastern corner and its sandstone walls are denoted by negative anomalies (white lines).

The temple forecourt projects out from the town wall, towards the palaeochannel. A blank, smooth area in the data clearly indicates the course of this ancient river channel (see In Depth pp. 90–1). The internal layout of the town is, for the most part, clearly defined by mud-brick buildings laid out in a grid pattern. However, there is a group of buildings in the northwestern quadrant which lies on a different alignment to the orientation of the rest of the town: neighbourhood E13 (see the next chapter, pp. 24–45).

Beyond the town walls, the geophysical survey allowed the discovery and almost immediate interpretation of further structures. A cluster of buildings fanning out from the west wall of the town can be interpreted as large villas – a stark contrast to the dense

layout inside the town wall. This is the area the excavators refer to as the western suburb. The gradiometry does not distinguish between phases, and rarely shows deeply buried buildings, for which excavation is required.

Gradiometry was extended into the two cemeteries. Clear patterns in the distribution and orientation of the grave shafts are evident in Cemetery C while the more complex pyramid chapels set around burial shafts in Cemetery D were also defined. The mapping of these graves allows the excavators to gain a sense of the size and distribution of graves, and to prioritise which parts to excavate. Perhaps the highlight was the discovery of the largest burial structure found at Amara West – a lone mud-brick funerary monument on the crest of the spur above the dry Nile channel.

Seeking to define the shape and depth of ancient Nile channels around Amara West, we deployed a different remote sensing method: ground-penetrating radar (GPR). High-frequency radar pulses are transmitted into the ground, and a sensor measures how these are reflected by subsurface features. By taking thousands of measurements, a three-dimensional model of underground features can be created. The resulting cross-sections of the channel show it as a deep narrow channel, which gradually shifted towards the town.





Entrance to the hypostyle hall
in the temple of Amara West.
*Photograph: Egypt Exploration
Society.*

atmosphere at such fortified towns: ‘fortified battlements are calm; only the sunlight will wake the watchmen, the Medja (guards) sleep, their forms stretched out’.

Three gates were set into the town walls: one facing west, another towards the small northern river channel, and a dedicated entrance to the cult temple. The sandstone West Gate, once brightly painted, portrayed the desired cultural dominance over Nubia. Decorated with the names of Ramses II, its passageway depicted pharaoh fighting against the Nubians (in Irem), and returning in triumph to Egypt. The texts refer to 2,000 enemies killed and 5,000 captured. Anyone passing through the gate, whether able to read the hieroglyphic inscriptions or not, would be left in no doubt as to who was in control.

The temple of Amun-Ra

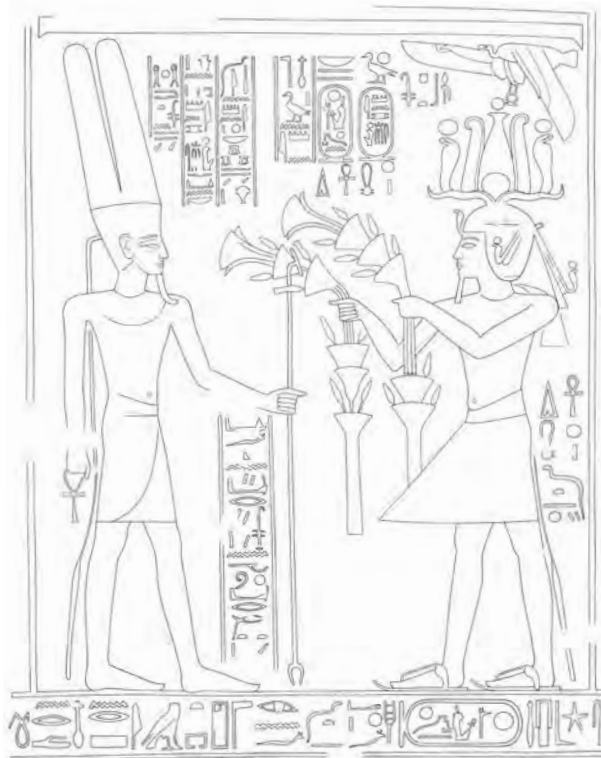
Nearly a quarter of the space inside the walled town was reserved for an Egyptian temple (see inside back cover), excavated by the Egypt Exploration Society in 1938–9. Built with the powdery, white, local sandstone, this was still preserved to a height of 2.3m when revealed by H.W. Fairman and his team. The temple covered an area of 43.5 × 18m, with an additional courtyard of 26.5 × 20.7m extending beyond the town wall, overlooking the small river channel north of the site. The courtyard was paved, and shaded by trees set into pits. It contained two commemorative stelae of Ramses II, one recording the king’s marriage to a Hittite princess and the other a blessing from the god Ptah, received in a dream.

Entrance into the temple itself was through a narrow gate cut through the town wall, decorated with the names of Ramses VI (c. 1151–1143 BC) but also his Viceroy

Ramses II offers a bouquet of flowers to Amun-Ra, as depicted upon a column in the temple at Amara West. *Epigraphic copy: Egypt Exploration Society.*

Below
Names of conquered Nubian places and peoples, each topped with an image of a bound Nubian captive. That on the far left reads 'vile Kush'. Part of the decoration of the hypostyle hall of the temple. *Epigraphic copy: Egypt Exploration Society.*

of Nubia, Ramsesnakht. The layout of the interior of the temple would have been familiar to those who had visited contemporary temples in Egypt. A peristyle court, lined on all sides with a row of columns, was paved with a mixture of sandstone and black schist slabs. The walls were decorated with a large hieroglyphic inscription dated to 'year 6, first day of summer, day 25' of Ramses IX (c. 1126 BC). This is likely to commemorate completion of the temple decoration, nearly 175 years after construction started. It is also the last known royal inscription in Upper Nubia: soon, Egypt would lose political control over the region.



Moving further into the temple one entered the hypostyle hall, a space densely packed with three rows of four columns and originally roofed, designed to evoke the primeval marshes at the time of creation. The decoration in both halls included scenes of pharaoh offering to the gods, but also representations of victorious military campaigns, such as the capture of a Syrian town. Images of bound prisoners – Asiatics, Libyans and Nubians – decorated the base of the walls, further emphasising Egypt's desire to control these chaotic, foreign lands.



Beyond the columned hall lay a broad room, containing a staircase that provided access to the roof, and three side-by-side sanctuaries. The central sanctuary, which was presumably dedicated to a form of the state god Amun-Ra, was 5.7 × 3.0m in size. It would have housed the main divine image of the temple, the focus of daily cult. This statue was probably kept in a sacred boat or shrine, set on the pedestal in the middle of the room. Other gods depicted in the temple included the triad associated with the First Nile Cataract near Aswan (Khnum, Anuket, Satet), alongside Mut and Khonsu, consort and child of Amun-Ra respectively.

Archive photos taken during the clearance of the temple in 1939 suggest a rather austere off-white monument, but the excavators record the survival of blue and yellow paint on the walls, and even gold foil applied to some reliefs. Though pharaonic cult temples were not places of public congregation, they were places where people could encounter the gods. Alongside priests undertaking daily rituals and festival celebrations, individuals could dedicate statues, stelae and other monuments here. A scribe named Amenemhat left a statue – depicting himself in the pious pose of hands on knees – within the peristyle hall, the inscription asking that offerings be placed on the ‘offering table of Amun-Ra’. In the

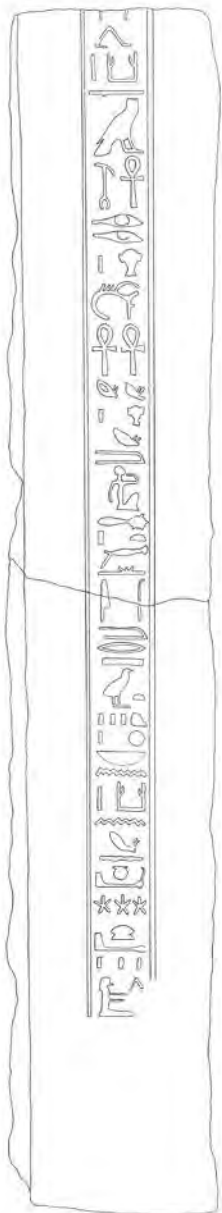


Sandstone stela with a depiction of Amun-Ra as a ram. Found re-used as a cover for a pot buried in the floor of house E13.9.

Opposite

Doorjamb from the Deputy's Residence, inscribed for the Deputy of Kush Sebau-khau. *Epigraphic copy: Egypt Exploration Society.*

Recording decoration in the temple in 1938–9. Photograph: Egypt Exploration Society.



columned hall, a stela showed a man named Nebdjefau offering to the sacred boat of Amun. Elsewhere, the temple walls bear inscriptions left by Viceroys of Nubia, and graffiti in the cursive hieratic script.

The temple lay within a sacred zone defined by a wall, which also contained a series of small magazines. These narrow rooms, with vaulted roofs and stone doorways, were presumably designed to store offerings, archives, cult equipment and other temple property. In one magazine, Egypt Exploration Society (EES) excavators encountered over 400 clay seal-impressions, with the names of Tuthmosis III and Hatshepsut, pharaohs who reigned over 150 years before Amara West was created. Such sealings were probably attached to papyrus archives, or boxes and other containers for storing precious items (see *In Depth* p. 49). Other rooms in the temple compound were perhaps used as secondary chapels and priests' accommodation.

Residence fit for a Deputy

After the temple, the most important building in the town was a formal residential building just inside the West Gate. Excavated in 1947–8, this building covered an area of 24.5 × 29m – much larger than any other house at the site – with walls of up to 1.1m thick. Across decades of refurbishment, its basic layout and function seem to have remained consistent. It included rooms with brick pavements, stone columns (with palm-leaf capitals) and doorways, and external courtyards of over 10 × 10m. The discovery of a series of doorjambs and lintels, inscribed for Deputies of Kush, led the excavators to suggest that the building acted as the official Deputy's Residence – part house, part formal audience hall – of the most senior official in pharaonic Kush. These officials included the Deputy Sebaukhau, who worked under Seti I, and Paser who served Ramses III.

Reading Amenemhat in Upper Nubia

R. B. Parkinson & Neal Spencer

Three excerpts of *The Teaching of King Amenemhat* have been found at Amara West, all inscribed in hieratic – the cursive script preferred for literary and administrative documents. One of the most popular poetic classics from ancient Egypt, the poem presents the dead pharaoh Amenemhat I (c. 1991–1962 BC) speaking to his son and successor, Senwosret I, and urging him to beware of trusting people, since subjects are ungrateful of benevolent rule. Most strikingly, it includes a description of Amenemhat's assassination. Although the date of composition is unclear – it may be early or late Middle Kingdom, or even early New Kingdom – it had been a favourite text to copy for at least 200 years before Amara West was founded.

Two copies were found by the EES within the temple precinct (one shown below, to left), a third (SNM 33307, bottom right) in rubbish layers beneath villa E12.10 (see In Depth p. 36–7) in the western suburb. This excerpt had been written onto a fragment of large pottery storage vessel, using black ink with red dots to mark the ends of lines of verse. This

copy comprises the stanza in which the dead king appeals to 'my partners among men' to make a 'great battle' in order to avenge him.

Such copied excerpts are generally regarded as exercises produced during advanced scribal training across Egypt. These are the first examples that prove that elite scribal culture and training practices were taking place outside Egypt, in this case within occupied Upper Nubia. Its discovery at an 'Egyptian' town in Nubia raises many questions about its meaning there. The text itself is an expression of Egyptian elite culture, and includes verses describing the subjugation of Nubians. As a royal, state, foundation, was Amara West a particularly appropriate place for reading and copying the *Teaching*, supposedly written by an important king from an earlier dynasty? And might Egyptian administrators at Amara West have found particular resonance in the poem's warnings against trusting others? Or was the old text simply too classic, too remote, to inspire any reaction? Finally, how might copyists or readers with a Nubian cultural affiliation have responded to the poem's meditation on rulership and conquest?





Shadia Abdu Rabo excavating a pottery kiln, inside the north town wall, part of the first occupation phase in the town.

Provision and control: what was the town designed for?

Beyond pleasing the gods in the temple, and providing a formal setting for the most senior official at Amara West, who lived in the ancient town, and what did these people do?

Our efforts to understand the early history of the town are hampered by the preservation of later architecture: we simply cannot see enough of the early buildings, as excavations have not systematically removed later architecture. Nonetheless, it seems clear that a large part of the walled town was initially dedicated to formal, institutional buildings, with considerable storage capacity. These took the form of series of long, narrow, vaulted rooms, found in the area south of the temple, but also in the northwestern corner of the town. The first phase of these buildings was levelled early in the town's history, down to one or two courses of bricks. We can only imagine the noise, dirt and commotion as much of the town was demolished and rebuilt.

In several of these magazines, schist and sandstone slabs were used to create a solid floor, an expenditure of effort reflecting the value of objects and goods stored here, perhaps intended to reduce the effects of rodents or insects. A doorjamb found re-used in a 20th dynasty house had been inscribed for an 'overseer of the double granary' Horhotep, an official title appropriate for a town with so much commodity storage space. Alongside the clay seals mentioned above, the discovery of ostraca (scraps of pottery used for writing) bearing delivery notes reflect the type of control exercised by individuals such as Horhotep.

The presence of priests, and an overseer of priests, early in the town's occupation is known from inscribed architecture, but otherwise we are largely ignorant of who lived here at this time. That Nubian societies did not adopt or create a writing system until the

first millennium BC results in the complete absence of Nubian names for individuals living in Amara West.

A problem in understanding early Amara West – the planned town envisioned by pharaoh's officials – is that there seem to be very few houses. It is possible that dense garrison-type accommodation was provided in the southwest quadrant of the walled settlement, but this area has yet to be excavated. The architecture suggests a town with as few as 200 inhabitants. We cannot even be certain that families lived here in the first years of the new town.

From the outset, Amara West was not relying on provisions from outside, whether from Egypt itself or neighbouring towns. One of the earliest features discovered in the town is a small kiln used for producing pottery, set directly on the natural island surface. Do we see here the remnants of the first inhabitants, needing pottery containers for cooking, serving and storing foodstuffs? Some people wanted more exotic items in the home, such as fine Mycenaean pottery (see *In Depth* pp. 62–3). Access to such luxury goods seems to have dwindled over the two centuries that followed.



Political control, cultural exchanges

The early 21st century has witnessed renewed research on Egyptian settlements and cemeteries in Nubia, notably at Kerma (Dokki Gel), Tombos, Sesebi and Sai. Increasingly, it is clear that the relationship between Egypt and Nubia was one of interaction, exchange and influence, rather than simply that of the conqueror dominating the conquered. Indeed, Egyptian influence may have been minimal beyond the pharaonic towns, as suggested by regional survey in the Third Cataract. Using the latest archaeological techniques and scientific analyses, new light can be shed on fundamental questions regarding life in the past.

What was life like in Egyptian Nubia? Who lived in these towns? How did individuals create and change the spaces they lived in? How did they approach food preparation, and interact with the natural landscape? What spiritual concerns can be traced? How did these towns change over time? Why were they eventually abandoned?



Opposite

Record of commodity deliveries, written in hieratic upon a fragment of pottery.

Below

Storage magazine in the centre of area E13. The lower part of the vaulted ceiling is visible to the left.

Underlying all these questions is that of cultural identity and the interaction of people. The evidence from Nubia, but also other instances of colonial rule, lead us to question such stark categories as 'Egyptian' or 'Nubian', a distinction favoured in bombastic ancient temple scenes. When Amara West was founded, around 1300 BC, the individuals who moved there were settling in a region which had been under Egyptian political control for 250 years: the scope for cultural interaction, hybridity, re-interpretation, confusion and blurred identities was vast.

Some of the Nubian elite were co-opted into positions within the Egyptian state, such as the governors of Teh-khet in the Serra area of Lower Nubia. The apparent favouring of Egyptian burial goods in tombs from the 18th dynasty onwards once led Egyptologists to suggest Nubians were largely 'Egyptianised' during the New Kingdom, with overtones of Nubian culture being accepted as inferior to that of Egypt. Ongoing excavation and research is changing these perceptions, teasing out the nuances that must have existed for those living in New Kingdom Nubia. Individuals, households and other groups chose aspects of Egyptian or Nubian culture, within their houses, in how they prepared food or commemorated the dead.

This book explores these questions through the evidence from Amara West.



The desert beyond

Anna Stevens

The Ramesside town of Amara West did not emerge from nowhere, nor exist within an isolated bubble. Once Amara West was created, parts of the desert escarpment were chosen as places to bury the dead, in one case alongside a much earlier Kushite Middle Kerma tomb. To the north of the elite cemetery, the scribe of the temple Hatiay hammered his name and title upon a schist boulder (right). Did he live in the town, or was he passing through Amara West on his way elsewhere? His inscription sits amongst earlier bold carvings of long-horned cattle, reminding us again how the pharaonic presence here was simply the most recent interaction with a busy desert landscape.

Our research seeks to place the town in its historical context in a very local sense. How

was the desert landscape utilised during the occupation of the town itself, and what kind of Egyptian presence existed along this stretch of the river at other times? To achieve this, we include survey of the desert beyond the walled town within our fieldwork programme, following in the footsteps of French archaeologist André Vila in the 1970s.





At first sight, there is little sign of human activity immediately beyond the walled town and its cemeteries. The desert is barren, interrupted by occasional rocky outcrops (bottom left); the only signs of life are camel caravans on their way to Egypt. But, with a careful eye, one starts to notice pieces of scattered pottery, and fragments of quartzite grinding stones. And then lines of stone walls emerge, and circular mounds (*tumuli*). Eventually, the archaeological richness of the desert reveals itself. These are the remains of settlements – some many hundreds or thousands of years older than Amara West.

One large spread of sherds, stone chips and dry stone walls some 2km north of the Ramesside town, on the edge of a dried-up river channel, was investigated in early 2014. Here, at a site designated 2-R-65, there seems to have been a settlement of some kind which dated – to judge from the style of the pottery – to the early-to-mid 18th dynasty. Egyptian and Nubian pottery, of a domestic nature, is mixed amongst ashy layers containing animal bone that represent the rubbish from the

settlement. Part of a faience bowl, beads and scarabs were also found; one unusual stone stamp (right) bears the name *Amenhotep*, a typical 18th dynasty name. There is little doubt that Egyptians were here: this material is not the remnants of trade. Might the settlement be a mining encampment or, making the most of its island location, a place to monitor the Nile or desert routes? Perhaps it functioned as an outpost of the larger 18th dynasty settlement upstream on Sai Island.

But an enigma remains. The pottery seems to date no later than the reign of Tuthmosis III (c. 1479–1425 BC), who ruled around 150 years before the walled town itself was built. What happened in the time in between? Did Egyptians completely vacate the area, only to return several generations later? And why? Perhaps a later 18th dynasty settlement remains for us to discover amongst the rocky outcrops and desert sands.





A changing community

Creating spaces for living

Neal Spencer



Time has a tendency to mask variation but it is now clear that Amara West of 1300 BC, the planned town described in the previous chapter, was very different from what an ancient visitor would have encountered 100 or 200 years later. By looking at how one neighbourhood changed over two centuries, and the creation of a new suburb outside the walled town in around 1200 BC, we start to appreciate the dynamic nature of this town in Egyptian Kush. Going further, we can see how these changes were prompted by individuals and households at Amara West itself, far removed from the power centres of the pharaonic state.

Previous page

Excavations in house E13.5,
January 2013.

Emergence of a neighbourhood

One of the best understood parts of Amara West, designated E13 by 21st century excavators, is the dense agglomeration of buildings beside the Deputy's Residence in the northwestern part of the walled town (see inside back cover). We may never know what those who walked its narrow alleys, or looked across its roofs, thought of this neighbourhood, but we do know it was not initially intended as an area of housing.

Like much of the walled town, the earliest buildings here took the form of a large complex (E12.6) with a series of corridor-like spaces, likely to have been a storage facility controlled by the town's administration. Immediately to the north lay a pottery kiln, sheltered from the wind by the imposing north wall of the town, and perhaps set in an open courtyard. As elsewhere, the area was levelled and rearranged early in the town's history, perhaps in the reigns of Seti I or Ramses II. It remained a space for large-scale commodity storage, with at least three long magazines with vaulted roofs and stone doors. Oddly, these new buildings were set at a 45° angle to the alignment of the walled town, a decision



Sandstone doorway of house
E13.10, levelled for construction
of later house E13.3.

that is difficult to explain, but one that affected all later buildings in this area and is still apparent today.

At some stage, a house of modest size was built flanking the northern edge of this magazine complex, its stone doorway found pushed over, as those building a new house over the top had left it, some 3,200 years ago. But it was during the second half of the 19th dynasty, from around 1250 BC, that the area truly developed into a neighbourhood. Unlike the earlier remodelling of the town, with consistent levelling of buildings, from now on change was played out on a piecemeal basis, undoubtedly the results of individual or household decisions.

A new house (E13.7) was built into and over part of two of the magazines, those closest to the Deputy's Residence. The house featured two large rooms, with finely plastered walls, the lower part whitewashed, and framed with a black line, which turned upwards to frame an arched doorway between the rooms. That to the west was provided with a 3.6m-long bench (*mastaba*) across the southern (back) wall. *Mastabas*, a feature of all but the smallest houses, were probably used everyday for sitting and sleeping, but perhaps also for receiving visitors on more formal occasions. The discovery of dozens of fragments of moulded mud suggests the presence of a painted niche above the bench, later destroyed when the house was levelled. The niche

Room in house E13.7, with
white-washed walls and hearth.
Walls of house E13.4 above.



had been refurbished several times, with decoration in red, blue, green, yellow and white. Its shape recalled elements of Egyptian temple architecture: a hint that the niche might have fulfilled a religious function. Was it the setting for a small stela or other sacred image? The remainder of the house featured rooms which echoed the shapes of the old magazines, but sub-divided to reduce the ‘corridor-like’



Painted architectural moulding, in the shape of cavetto cornice, from house E13.7.

Below
Excavations in alley along south of area E13.

proportions. In some spaces, it is clear that the vaulted roof of the old magazine was still in place.

In creating house E13.7, the builders demolished large magazine walls (some over 2m in height and 60cm thick) and repurposed existing spaces. This prompts several questions. Why were the storerooms no longer needed? Had commodity delivery from Egypt or other towns ceased or diminished? Were the owners of the new house given authority for the demolition? As so often with archaeology, these questions might well remain unanswered. In any case, the people who built house E13.7 – the householders themselves? – were in some ways pioneers who, probably unwittingly, set in motion the colonisation of this neighbourhood for medium-sized houses.





Alleys, work and industry

Plan of final phase of area E13.

Around 1200 BC, a network of alleys developed around the houses of E13, in effect forming its western and southern boundaries. These would remain in use for the following 150 years. In places less than 1m in width, these must have been shady but cramped spaces, not easy for two people to pass through at the same time: a reminder of how closely entangled this community must have been. There were no open squares, plazas or gardens amongst the houses. Gradually the streets filled up with fine deposits of silt, much of it eroded out from the mud-brick walls of the houses, and with the rubbish people dumped out from the houses, everything from liquid waste to surplus paint. Slowly but surely, the street level rose.

E13.3: a house divided

Neal Spencer

A relatively spacious house (E13.3) of 120m² built against the north end of the magazine complex was only occupied for a short time before it was divided in two. Contemporary administrative papyri from Thebes indicate the fluctuating sizes of households, as births, deaths, marriages and divorces re-shaped who shared dwellings. Archaeology can provide us examples of how the inhabitants responded to such changes and how they prioritised their domestic needs.

A long, though not carefully built, wall was constructed to create a northern (E13.3-N, below, to left) and southern (E13.3-S, below, to right) house. Once divided, the houses embarked on different, though partially shared, histories. Walls added at the front of each house created separate front doors and a small space which both households would have passed through as they moved between street, house and a courtyard with ovens. The division had removed roof or



upper storey access from the northern house, so a new staircase was built. Neither house was provided with a low *mastaba*-bench.

Eventually, the southern house became partly subterranean: as rubbish accumulated outside the house, a staircase down from street into house was built from re-used architecture and grindstones. The first room was a busy place – light filtering in through the front door and stairwell – with grinding emplacements and a clay floor that was replaced at least five times. A grinding emplacement was shifted from one side of the room to the other. Late in the life of the house, a bread oven was added to the first room: presumably the use of the communal cooking court had become unacceptable or at least inconvenient. After moving through the hearth room of each house, presumably a place for eating, sleeping and other more private activities, each house had a ‘back room’. Never provided with a solid floor, these became filled with objects: jewellery, hammerstones, fishing equipment, flint knives ... Were such items being stored here, or simply dumped? A large pottery jar was buried in the floor of the northern house, bearing a hieratic inscription: ‘*aqw*-loaves’. Buried in the mud surface, it would have kept food cool or valuables hidden from view.

The back rooms were also places for spiritual concerns. The northern house had a niche (simple cupboard or shrine?), but that next door was provided with a small stand for a sandstone bust of a man, with a black wig and red-painted face (top right). These ‘ancestor busts’, well known from the contemporary Egyptian village of Deir el-Medina, are thought to have allowed



persons to ask dead relatives to intervene in life, and an unnamed bust such as this could represent different ancestors as required.

The bust became superfluous to requirements as the back room was blocked shut, and life went on in the two small front rooms of the house. Had the back room become too full of unwanted rubbish, or had the ceiling perhaps collapsed? Did a new family move in, and not want such a bust?



█
Hearth and pot-stand in the front room of house E13.5.

Opposite above

Inscribed doorjamb, re-used upside down for a door in house E13.5.

Opposite below

Bread ovens in house E13.4.

In the meantime, the process of house building was unfurling at different speeds across the neighbourhood. The eastern half of the neighbourhood was not converted into living spaces until somewhat later than the rest. Spaces were instead re-used as workshops for processing colour – or at least as dumps for the rubbish created by working with colour. Masses of sherds used as mixing palettes, clumps of red and yellow pigment, and even grindstones still covered in ground-up pigment, were encountered in excavation. To the north, an open courtyard contained several very large ovens or kilns. The discovery of clumps of metallic slag, and ceramic crucibles still coated with copper alloy residue, hint that metal production was taking place in this area. Immediately east of house E13.7, excavation revealed a distinctive pair of curving walls, perhaps built to claim courtyards or outside spaces for a particular building or use.

A 'typical' house

Around the time that Ramses III was on Egypt's throne (c. 1183–1152 BC) – again, there were confrontations with Irem – the whole neighbourhood was transformed into small houses. Those who built along the eastern side of the neighbourhood were less restricted by earlier buildings: the thick layers of fine silty debris, interleaved with deposits of ash and smashed ceramics (rubbish produced by the industrial activities), could be flattened to create a level surface for new houses far more easily than the thick magazine walls.

House E13.5, 12.1 × 6.7m in area (81m²) with an additional oven court along the east wall, can be characterised as a medium-sized house. Entrance from the east-west alley



was through a sandstone doorway, giving access to a broad space, perhaps unroofed, focused around a circular hearth. Such hearths would have been used for cooking, but also providing warmth through cold desert nights: windy winter mornings can also be bitterly cold. A small doorway to the right provided access to a courtyard fitted with three cylindrical bread ovens against its back wall, and also a setting for grindstones and pits which may have been used to make charcoal. A feature of nearly every house, these food-processing suites must have been used for grinding cereal and baking bread, though the ceramic ovens could have been used for other purposes, such as making small fired clay objects. These ovens do not have a very long use-life, as they are brittle and quickly become engulfed in ash and other rubbish. We often find ovens that are chopped down, a new one set over the top. Such an arrangement hints at self-sufficiency in cereal grinding and bread-making, but in one case two small houses seem to share a courtyard (houses E13.3-N and E13.3-S, see *In Depth* pp. 30–1), which immediately suggests social interaction between households. In recent times in parts of Turkey, though each house had similar cylindrical bread ovens (*tannurs*), neighbours would cook their bread in the oven of a different house each day, extending the use-life of their ovens and providing opportunities for social interaction.

The first courtyard of house E13.5 provided access into a small space, barely larger than 3×2.5 m. As it had two further doorways, it is difficult to imagine what kinds of activity or purpose was intended for such a room. Perhaps it was largely transitional: turn left for the staircase to the roof or upper storey, or continue ahead to enter the main room of the house.





Still relatively modest in size, the main room was focused around a low *mastaba*-bench against the back wall. This room, and the two before it, were painted white, at least along the lower parts of the walls: they were spaces suitable for receiving visitors. Hard mud plaster floors, set on brick pavements, would have been hard-wearing and easy to sweep clean. As was common in Egyptian houses, the doors were offset to ensure there was no direct view from the street. None of the houses at Amara West seem to have a built bathroom or toilet. Much like in some traditional villages in Nubia, the surrounding fields and open land were deemed sufficient.

Reconstructed door from house E13.6, inscribed for the gods Amun-Ra, Horus and king Tuthmosis III.

Elsewhere in the neighbourhood, the newly built houses continued to incorporate and repurpose earlier architecture. House E13.7 influenced the layout of the later house built above it (E13.4), though again additional space was colonised by moving the south wall further into the alley.

Architecture for display

Every doorway in house E13.5 was fitted in stone, much of it recycled. One threshold was a recycled door lintel evoking the gods Osiris and Anubis, while another was a re-used doorjamb inscribed for the ‘overseer of the double granary, Horhotep’. The inhabitants were not bothered by, or interested in, the inscriptions: the jambs re-used for the door into the staircase room had been erected upside down, and the inscription covered in a layer of white plaster.

Next door (house E13.6), more care was taken with some older decorated architecture. To mark the transition to the main reception space, a beautifully carved and colourful sandstone lintel was set onto rather roughly cut doorjambs. Intriguingly, the quality of the sandstone used for the lintel suggests it might have been brought from nearby Sai Island,



—
Kite photograph over town, with western suburb to near right.

home to much finer sandstone than Amara West. Was it extracted from a doorway at that site, or was it specifically quarried for a house at Amara West? The former seems more likely. The inscription itself refers to the ‘royal *ka*’ (*ka* is akin to ‘soul’ or ‘life-force’) of Tuthmosis III, a king who ruled nearly three centuries before house E13.6 was built, and who was renowned for extending Egypt’s empire in both the Near East and Nubia. The care taken in installing such a door lintel suggests the inhabitants might have been very aware of the legendary king, and have seen his presence in the house as of benefit to them.

In the end, the E13 neighbourhood block consisted of eight houses, each with doors onto one of the narrow alleys. Papyri from New Kingdom Egypt suggest houses accommodated between three and nine inhabitants: this would imply a community of between 25 and 75 people, who would have bumped into each other in alleys, processed food, and experienced other aspects of life together. Yet the old history of the area was never fully masked: one of the storage magazines lay unchanged at the centre of the houses, probably used as a rubbish dump.

E12.10: a suburban villa

Neal Spencer

Over four times the size of most houses at Amara West, this villa provided expansive space for privacy, working (notably food processing), storage and welcoming guests in a combination of roofed and open-air spaces. The villa recalls the elite estates at Tell el-Amarna, the largest dataset of houses excavated in Egypt. But while at Tell el-Amarna the villas are set within walled compounds provided with structures such as a shrine, a well and storage silos, villa E12.10 combines everything within the house walls. Did the extreme weather, notably the wind, prompt a decision to enclose everything within a defined architectural space? Was security or privacy a motivation, ensuring all parts of the villa could only be reached through the front door? Or, is this simply a domestic arrangement the inhabitants of Amara

West were familiar with, after 100 years of living in the cramped walled town?

The main entrance was fitted with a stone doorway, but also fronted by a brick porch, projecting south from the core part of the villa. These measures would only delay the danger of accumulated debris choking the entrance: eventually a blocking wall was constructed, and steps down from the rising ground level outside. The entrance porch and corridor after the doorway were paved with schist slabs, as in another villa (D12.5), a feature to protect the busiest part of the house from wearing away. Beyond the front door lay a large court (9.4 × 8.8m) that must have been open to the sky and would have offered well-lit space for working, but also shade as the sun moved across the sky and

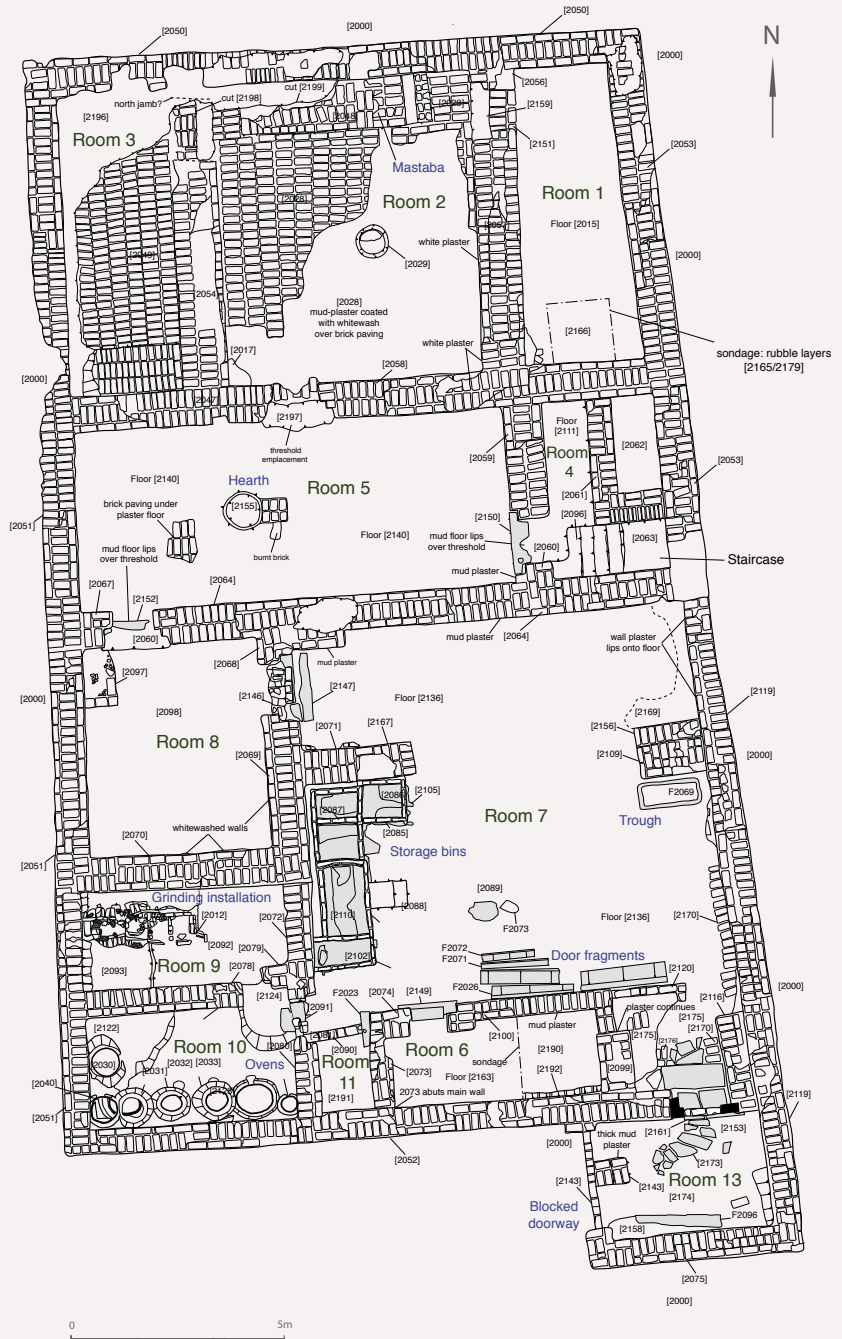


IN DEPTH

the walls cast shadows. Occupied for around 100 years, the house was changed over time and a new room was eventually built into the courtyard, its purpose now unknown.

Along the western wall of the villa lay a series of four storage bins, built of brick set on schist pedestals, presumably to reduce insect and rodent access to the goods stored within, most likely grain. Next to these bins, a door led to a suite of rooms with four grinding emplacements and seven cylindrical ovens. Even if these facilities were not used simultaneously, the villa's inhabitants clearly wanted more capacity for storing, processing and preparing food.

Beyond the open air court lay a transitional room leading to a wide room with a hearth at its centre, and a staircase to the roof or upper storey. Thereafter, one entered the most secluded section of the house: a set of three rooms. The formal reception room was brick-paved, painted white and provided with a *mastaba* against the back wall. A room off to the left had a dedicated bed platform.



Seeking a new life: air, space and ideal homes

The ancient town-dweller produced tiny amounts of waste compared to their modern counterpart but, nonetheless, rubbish did build up over time. Ash from ovens, remains of food processing, butchered bones, chips from stone-working, broken pottery and especially a fine matrix of silt, clay and dust, eroded out from the mud-brick buildings, would all have been familiar to the people of Amara West. Inside the walls, few noticeable rubbish heaps (middens) have been found, but thick layers of refuse have been encountered outside the western wall of the town.

Around 100 years after Amara West was first occupied, the need to colonise this outside space, strewn with rubbish, prompted the creation of an extramural area of housing: what we call the western suburb. Space pressures may have prompted the move outside the walls, but this development also reveals a sense of security: the imposing town walls, with narrow gates and corner towers, were no longer fulfilling a true defensive function (if they ever had).



*Mastaba-bench in house D12.7
in the western suburb.*

First revealed with geophysical survey in 2008 (see *In Depth*, pp. 12–13), the western suburb has up to four large villas, and at least 14 smaller houses in the spaces in between. Further study of this area will provide insights into what people wanted from their houses when not affected by earlier architecture, as inside the town walls.

The two largest villas lie just outside the West Gate of the town, an area with easy access to the Deputy's Residence. The southern villa (D12.5) seems to have been raised up on a mud platform, suggesting that the visibility of these houses was an important consideration for the inhabitants: they sought grand houses in prominent locations. At around 400m², these new houses dwarfed those inside the town walls – and are similar in size to the elite villas at Tell el-Amarna in Egypt.



Staircase in villa E12.10.

Like those Tell el-Amarna villas, they also had considerable storage and food-processing capacity. Yet it is worth remembering that the building materials were identical to those of smaller houses: readily available mud, water, schist and sandstone. Investment of time and labour were the main differences. The range of objects found within these villas is also rather similar to what is encountered in the smaller houses.

Alongside space, the new suburb would have offered more light, and potentially cleaner air. In contrast to the alleys of the walled town, wider open spaces, perhaps some with tree-pits, were found between the houses of the new suburb. Two grids of rectangles modelled in clay are likely to have been garden plots – perhaps for growing herbs and vegetables. At the edge of the suburb, on the slope down to the river, thin walls snake sinuously across the surface, perhaps defining outside spaces (gardens? courts?) associated with houses. Egyptian art of the New Kingdom, particularly in tomb-chapels, presented a rural ideal: the country estate, with villa, gardens and pools, teeming with beautiful birds and resplendent with greenery.

Whether such an ideal was being sought or not, the reality at Amara West (and elsewhere) was probably different. The ovens and grinding emplacements in these houses would have produced copious amounts of

smoke, ash and chaff, which the strong winds would have carried into the air and deposited in and around the houses. As in the town, the open spaces gradually filled with fine silt, clay and other debris; most of the front doors were protected by porches, and needed blocking walls built across them (with steps leading down into the house) to keep out the ever-rising dust and detritus. The western suburb would become an increasingly dense space: houses infilling open areas, garden plots being built over ... life in the western suburb would prove as dynamic as in E13. Yet again, individuals and households were refashioning a neighbourhood to suit their needs.

While the villas featured the combination of bread ovens, grinding emplacements and hearth – effectively an oven, food processor and fireplace – the smaller houses featured some odd choices. Of two adjacent houses built outside villa D12.5, one was provided with two large storage bins and at least four grinding emplacements, while that next door had the opposite: a room dedicated to ovens, but no grinding emplacements until a late addition to one room. Did they share facilities, making a deliberate choice that their households should be linked?

A Nubian building in an Egyptian town

Neal Spencer

Perched against the front of villa E12.10 in the western suburb (see In Depth pp. 36–7) lies an oval mud-brick building (E12.11) that does not fit within Egyptian architectural traditions. Entered from a doorway in the south, the interior was divided by a curving wall, creating a small front room, and a large main space.

What was this building for? In short, we have little idea. That it was not simply a storeroom or animal enclosure is indicated by an L-shaped feature against the back wall of the main room, which was a setting for fires, either for cooking or some other activity. Fire had turned part of the wall red-black. The firing installation seems to have included supports (of stone?), which protected two vertical strips of the wall from burning. No post-holes or column-bases were found on the thick clay-plaster floor, and the size of the second room means it could not have been completely roofed. The amount of rubble suggests the walls were built to a considerable height.

The pottery and objects found within are no different from the 20th dynasty material found in other houses at the town. The

mud floor was refurbished several times – this building was not built for a one-off event, such as a festival or celebration.

This building reflects an indigenous, Nubian, architectural tradition. Circular huts and buildings are largely absent from towns in Egypt, though dry-stone huts were often built in desert environments, where they may only have been inhabited on a seasonal basis. Round or oval buildings are, however, a hallmark of domestic architecture at Kerma from the prehistoric period onwards; in later periods they are built of mud-brick in a similar method to the Amara West building. On a very grand scale, some of the largest Kerma buildings, perhaps temples, audience halls or palaces, were laid out on a circular plan.

Whether house, guard-post, food-processing installation or religious building, E12.11 is a striking example of how individuals or groups could construct something very Nubian in a town that otherwise seems like a re-creation of Egypt in Nubia.



Ancient roofs

Marie Vandenbeusch

Roofs are often the first part of an abandoned building to collapse, and are destroyed when buildings are deliberately dismantled – a common occurrence at Amara West. We are fortunate that fragments of these roofs survive in the archaeological deposits, hinting at how space was used and the nature of upper storeys.

The excavations at Amara West have yielded thousands of mud fragments, themselves parts of roofs but also bearing the impressions of other materials used in roof construction (right). Their careful study allows us to understand how rooms were sheltered and covered. Wooden beams, loose grass, grass gathered together into bundles, woven reed mats and wooden (?) poles were stacked on top of one another, in varying combinations, to create a support for a thick layer of mud, similar to the modern roof in the image below. The study of these fragments indicates that beams could be covered with poles and loose grass, but also that woven mats and grass bundles could replace poles. Wider roofs required stronger materials, such as large wooden beams, to support their span. The builders did not follow fixed rules and favoured multiple combinations of materials within the same house, and even within the same room!



Differences in the thickness of the roof, and how substantial the poles and beams were, might hint at what the roof was designed to do. Some were light coverings, to provide shade or protection from the wind. Others were more substantial: staircases indicate that inhabitants had access to the roofs of houses, which might have been good places to sleep on hot nights, or undertake crafts that needed light or air. Built upper storeys may also have existed, providing more private space.



In 1948–9 and 1949–50, the EES excavators revealed three buildings outside the eastern wall of the town. These included at least one house, and an unusual building in which pots holding snake burials were encountered. Thick drifts of sand, and other rubbish, cover the area southeast and south of the town wall. Does another neighbourhood lie hidden beneath the sand?

Reading the past: frustrations and limitations

The impressive architectural preservation of Amara West houses allows the creation of biographies of spaces – from rooms to houses and neighbourhoods. But these are biographies with whole chapters missing and the print faded on many of the surviving pages. Our knowledge of these houses is restricted to the ground floors: we know people went upstairs,



but not what lay up there, or what activities took place when they were there. Substantial roofs covered some rooms (see *In Depth* p. 41), but were there built upper storeys, with rooms more private than those on the ground floor? Mud-brick walls of the type used for houses at Amara West could have supported buildings of several storeys.

Alternatively, the stairs could have led to open roofs, perhaps delimited by low walls, for activities that required sunlight, or where one could sleep on hot summer nights. We should not assume boundaries between houses on the ground floor were mirrored on the upper storey. Indeed, even at ground floor level, a degree of intermingling of households can be suggested, as interconnecting doors between houses were occasionally created.

The archaeology of New Kingdom towns, indeed any ancient town around the Mediterranean, and in North Africa and the Near East, is generally presented as one bathed in strong sunlight, with walls and buildings casting strong shadows. Yet, much of the lived experience took place at night, and our experience as excavators suggests days hazy with windborne sand were relatively common. Within the ancient town, the matt, brown appearance of mud-brick architecture would have masked much dirt, but also contributed to a dusty environment. Other than the built fixtures such as staircases, doorways, hearths, ovens and grinding emplacements, the houses are now empty of furnishings: textiles, leather, wood and papyrus do not

Sandstone door lintel with depiction of lytjet, with monkey under chair. Found re-used to block a doorway in house D12.7.



Excavations in house E13.8, built against the inside of the north town wall.

survive. Wall hangings or mats could have transformed the appearance and feel of domestic spaces. Small stone tables were found in house E13.3-S, and big heavy objects may have been littered across the floor of some rooms: large grinding stones (some easily portable, others not), hammerstones, anvils and pots set on stands, to hold drinking water and other liquids.

The application of colour to the drab brown architecture could also be transformative, and it is common for several rooms in a house to be coloured white, though not always to the ceiling. This usually includes the main reception room with a *mastaba*-bench. The white-painted walls probably increased the amount of light reflection inside the houses, and added a sense of cleanliness. In some places, there are more bold outbreaks of colour: yellow walls behind the *mastaba* in house E13.7, the colourful decorated niche above it, or examples of house rooms with vaulted ceilings decorated with painted patterns.

A more difficult challenge for the archaeologist is to access the named individuals who lived at Amara West. Other than the Deputies mentioned in the previous chapter, we have encountered few names. A door lintel, found re-used in a modest suburban house, depicts a lady in attire fashionable in the late New Kingdom – wearing a long wig and flowing dress – seated on a finely modelled chair with leonine feet. Two details immediately make her seem more real, more individual: a pet monkey prances under the chair, and she is named Iytjet. The next chapter will seek to populate the houses of Amara West with people, and to describe their activities and possessions – even if we may never know their names.

Surfaces for living

Mat Dalton

Much of everyday life at Amara West would have taken place on house floors, and these surfaces yield clues as to how different areas of individual houses were used and even about widely shared ideas (and perhaps even ideals) of appropriate domestic life in the ancient town.

Well-made mud plaster floors appear to have been considered an integral feature of the large, square rooms found towards the rear of many large and medium-sized houses at Amara West. These rooms, with their enhanced wall decoration, hearth and *mastaba*-bench, might reflect a concern for cultural standards of hospitality and

social display. The frequent renovation and re-laying of their floors may also result from the importance of upholding a well-maintained aesthetic in these spaces. The feel of different floor types was probably also an important consideration in how and where they were used. Mud plaster mixed with plant fibre (such as chaff) helps retain a pleasant temperature for long portions of hot days and cold desert nights. These surfaces can feel comfortable and clean when walking bare-footed, and may thus have been one of the ways that household living spaces were differentiated from rubbish-strewn streets and outdoor areas. More 'informal' surfaces such as trampled dirt floors are



favoured for the ‘dead-ends’ in houses and spaces used for particularly messy activities, such as baking in wood-fired bread ovens.

Informal surfaces are more permeable than hard mud plaster floors, and often incorporate detritus from the activities that occurred upon them, including small artefacts or sub-millimetre-thick layers of red pigment. Some traces of activity are invisible without detailed scientific analyses: spatial geochemical testing for trace elements such as phosphorus shows that discrete areas of the main mud-plastered room in house E13.3 (see In Depth pp. 30–1) probably had quantities of very fine solid or liquid organic waste trodden into it. Were animals housed here, or was the waste used for fuel or other activities? The high magnification thin section image to the right illustrates the mass of information contained in deposits within and outside houses.

The scientific analysis of built floors can also tell us about the people who laid them. Ethnoarchaeological research in ‘traditional’ Nubian houses (left: mud-plastered courtyard in a house on Ernetta Island) reveals that contemporary mud plaster production is a highly skilled practice, with distinctive and persistent individual recipes identifiable in thin sections of multiple overlaying floors from a house on Ernetta Island. The compositional similarity of several superimposed floor sequences in building E12.11 (see In Depth p. 40) might suggest the involvement of the same person in their creation, while the wide variation in mud plaster recipes between houses examined so far may also imply that laying floors was an architectural practice based primarily within the household, rather than being a specialised or standardised trade.

Mud surfaces and floors can reveal how some inhabitants chose to order their own house and domestic life. Floors were renovated more often than architecture, so this evidence often exists at a finer timescale than the larger programmes of house building and modification seen in the town.





Living in the ancient town

Anna Stevens



The people of Amara West

Who were the people of Amara West and how can we repopulate the town with their life stories? For much of its occupation, Amara West would have been a mixed community of men, women and children. Some would have been administrators, and others labourers. Egyptians, and almost certainly Nubians, lived in and around the town.

The people who settled here in the beginning of the town's occupation, perhaps numbering just two hundred or so, may not have been new arrivals from Egypt, but relocated from other pharaonic towns such as Sesebi, Sai and Kawa. In this case, the 'Egyptian' settlers of the town created in 1300 BC may already have been used to the landscape, aware of Nubian customs, and perhaps even familiar with local languages. They may have been quite at ease with their surroundings. Many may have been of Nubian origin, and considered themselves as both Egyptian and Nubian.

Over the generations that followed, as the town grew and its appearance altered, the population also changed. Ongoing immigration to the site, and family expansion, perhaps boosted its numbers, prompting expansion into the western suburb. As new family groups were created, the settlement was not only enlarged, but was also continually adapted to suit the changing needs of its inhabitants: new houses were built, and others subdivided

Previous page

Objects found in and around ancient houses at Amara West.

Houses D12.6 (foreground) and D12.7 in the western suburb, during excavations in February 2014.



Seals: Miniature expressions of pharaonic power and control

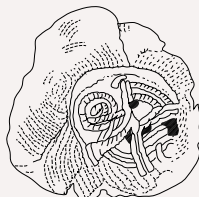
Marie Vandenbeusch

Stamps of different sizes and shapes were commonly used in ancient Egypt in the process of sealing jars, boxes, important documents written on papyri, or any element enclosing valuable information or goods. At Amara West, we find small lumps of Nile clay bearing seal impressions on one side, with the opposite faces imprinted with part of the object that was sealed – perhaps a papyrus scroll, or a box closed with string (below centre). Usually oval, the impression results from pressing a seal, generally a small scarab, into the mud when still moist. The seal and its impressions are not usually found together, but a scarab buried with a young woman in one of the New Kingdom graves (G234) matches two seal impressions found in the town (right) – a rare find.

Most of the seal impressions are badly preserved, broken, and very difficult to identify amongst mud-brick rubble. Careful study under different lighting can reveal the motifs – sometimes reconstructing an original seal from fragments of numerous impressions. The imagery that survives includes a wide selection of gods, animals, hieroglyphs and a non-figurative motif made of ellipses and scrolls. Royal cartouches appear on many examples: the prenomen Menkheperra belonging to pharaoh Tuthmosis III is amongst the most common. A renowned warrior king of the 18th dynasty, his name and memory lived on in the practice of sealing for centuries after his death.



Royal power is suggested through other motifs. One striking example shows a male figure standing on a chariot, pulling an arrow back in a bow (below right). He is preceded by several armed enemies, in a chaotic jumble. This very lively scene echoes formal temple scenes promoting Egyptian supremacy over enemies. Another seal depicts a lion overpowering a kneeling enemy with arms tied behind his back (below left). A uraeus, the erect cobra frequently symbolising the Egyptian king, appears on the lion's back, imparting royal powers to the animal. Other seals allude to gods – baboons worshipping an obelisk, the tilapia-fish as symbol of rebirth – but none yet bear the names and titles of officials. The Amara West seal impressions not only display the rhetoric of Egyptian supremacy over Nubia and religious beliefs, but their material use reflects the presence of the pharaonic bureaucracy, in this remote town in Nubia.



(see In Depth pp. 30–1), perhaps due to an unexpected death and the freeing up of a property, or a marriage and the creation of a family group needing housing. One of the fascinating things about the town is how much freedom the people themselves had to create and re-create its urban fabric.

Home life

The houses were fairly dark and crowded spaces, especially those inside the walled town. Such conditions were probably attractive in many ways: small windows let in less heat and dust, and are often favoured in modern Nubian houses. Close-quarter living could have encouraged cooperation and close relationships between households. In many ways, life here must have mimicked that at the tomb-builders' village of Deir el-Medina at Luxor in Egypt, another small, walled town of the same date as Amara West, with houses of similar sizes. Texts written on potsherds, stone flakes and papyrus from Deir el-Medina enlighten us on all sorts of aspects of village life, from everyday transactions to theft, murder and adultery. Everyone knew everyone else's business!

The Amara West houses were probably a dynamic mixture of private family space, workplace and meeting areas. The positioning of *mastabas* in rooms near the back of the house suggests that this part of the house was often used for receiving guests. Side rooms seem to have served for food preparation and cooking, and other activities that generated smoke, dust and other rubbish,



A long storage magazine in area E13, subdivided into smaller spaces. The small space in the foreground was filled with the rubbish from preparing colour paint.

such as the chipping of stone tools. These rooms were often (although not always) left open to the sky or only partly covered by a roof to let smoke escape (see In Depth p. 41). Despite the residents' best efforts to keep houses clean, the atmosphere of the town must often have been dusty and smoky, owing to domestic industry exacerbated by the workshops for producing pottery and other goods located elsewhere inside the town. The analyses of skeletons from the cemeteries evoke some of the diseases suffered by inhabitants (see In Depth pp. 58 and 66), many perhaps caused or worsened by the living conditions, including the breathing of polluted air.

Egyptian tradition also demanded private space, especially for women around the time of birth and menstruation, and the Amara West houses are likely to have included areas that were shut off to visitors, at least sometimes. Sketches on potsherds from Deir el-Medina and elsewhere show women nursing infants in the weeks after birth in what seem to be bowers, draped with flowering vines. Perhaps some of the space on rooftops was given over to similar constructions. The small houses, perhaps housing large extended families, would have needed flexible spaces. Rooftops were probably used for sleeping in the hotter months; *mastabas* are a logical place to take a rest during the day; craft activities may have been moved from outside (rooftops?) to inner rooms to escape the heat of a summer's day.

Work and leisure

The people of Amara West were there to represent Egyptian interests in Nubia, at least initially. Some would have been administrators, officials and scribes, taking advantage of an education that gave them the ability to read and write; rare skills at this time in the ancient world. Hints of their day jobs occur in the small mud seals with impressed designs that would often have closed papyrus documents (see In Depth p. 49), and in the fragments of pottery vessels inscribed with commodities. These officials linked Amara West to the world beyond, and were the elite of the town. But their houses sat side-by-side with those of people who were less well-off. The small and mid-sized houses of the E13 neighbourhood crowd up quite closely to the Deputy's Residence itself, and as the street level rose over time might even have occupied higher ground.

—
A Nubian cooking pot (top right), an Egyptian storage jar, and a set of stone tools, as found upon the clay floor of a room in house D12.6.



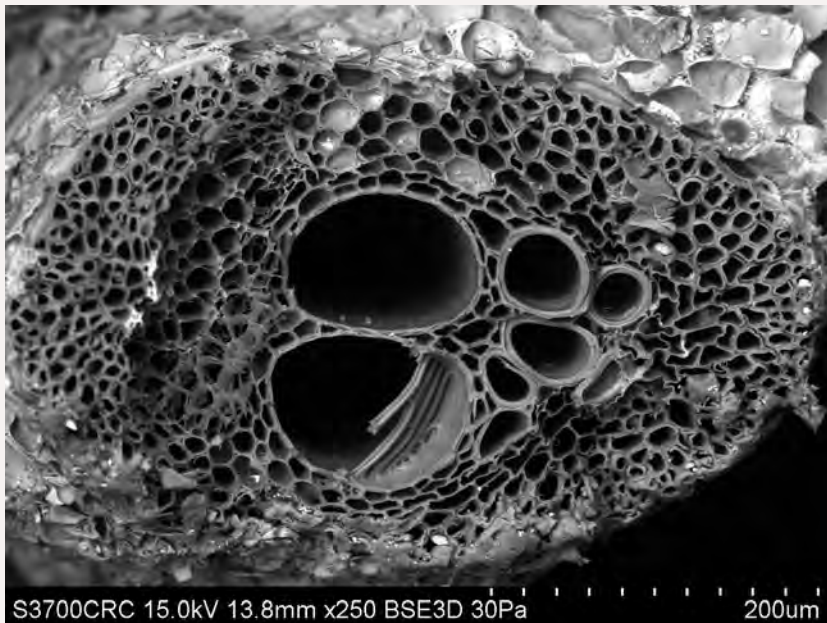
At the cemeteries, small pit graves are scattered amongst larger graves with more elaborate superstructures. Outwardly, at least, there is little sense of segregation on the basis of economic wealth at Amara West. Town life was a shared experience, and many of its hardships did not

Ancient plant use

Philippa Ryan & Caroline Cartwright

Remains from archaeological excavations in ancient villages and towns can tell us about the range of plants used in everyday life. Most of those surviving at Amara West have been charred: cereal grains and chaff, alongside seeds from weeds and fruits. The charcoal provides evidence of woody resources exploited, particularly those used for fuel. Most of the charred remains, which represent a mixture of fuel, food processing waste and other debris, have become burnt within household ovens and hearths. Phytoliths – opaline silica casts of plant cells – also preserve information about plants that have been turned to ash or plant parts that rarely survive in fires, such as leaves and stems. These microscopic remains can tell us about plant use in areas away from burning, such as in storage magazines.

Houses at Amara West have evidence for well-preserved bread ovens and dedicated areas for cereal processing, suggesting people made their own bread. Some houses had considerable storage facilities (mud and stone bins), but others did not: were the latter reliant on distributed grain? The cereals used at Amara West were emmer wheat (*Triticum dicoccum*) and hulled six-row barley (*Hordeum vulgare*). Wheat varieties grown in present-day Egypt and Sudan are 'free-threshing', which refers to the easy separation of grains and chaff during threshing. In contrast, emmer and hulled barley require additional post-threshing processing to release grains from tightly encasing husks (chaff); this has to happen before grains can be milled into flour. However, these hulled cereals offer better protection from





pests – an important consideration when cereal was such a fundamental commodity, especially as the climate became more arid. Other crops included lentils (*Lens culinaris*), melons (*Cucumis melo*) and flax (*Linum usitatissimum*). Fruits present included the sycamore fig (*Ficus sycomorus*) and that of the doum-palm (*Hyphaene thebaica*).

Better preservation conditions in the cemeteries result in the survival of wooden funerary furniture. Coffins, headrests and Nubian funerary beds were typically made of sycamore fig (*F. sycomorus*), though tamarisk (*Tamarix* spp.) was also used. Both types of tree were the main components within the charcoal record for domestic fuel, alongside doum-palm (*H. thebaica*). A scanning electron microscope image of doum-palm charcoal is shown to the left, and the tree still grows at the desert edge near Amara West (above), along with Christ's thorn (*Ziziphus spina-christi*) and several acacia species (*Acacia* spp.).

One research objective is to investigate whether there were changes in plant use at Amara West across time, perhaps connected to the environmental shifts identified in local and regional geological studies (see In Depth pp. 90–1). At present, the diet seems to have been based predominantly on pharaonic crops, but it is not yet obvious whether Nubian patterns of plant use were present in the town. Archaeobotanical study is being complemented with research into modern patterns of plant subsistence, and how that is changing, in the Amara West area. Plants can reveal interactions between people and the Nile valley ecosystem, in the past and present.

discriminate. One young man with a type of cancer perhaps caused by breathing smoky air (see *In Depth* p. 66) was far from the poorest member of the community. But we might wonder if we are missing the very poor – those who perhaps slept outdoors, or in shacks that leave no archaeological signature – and how they fared.

Many of the population would have been specialised craftspeople and labourers: potters making cooking pots, builders erecting and refurbishing houses, quarrymen extracting stone for the temple, alongside agricultural workers and fishermen supplying food

for the town. The economic world of the town seems to have been a local one, in the sense that it was not producing much for redistribution back to Egypt or beyond. We are not yet sure how far it was connected with the mining of gold from quartzite veins and surface deposits in the surrounding hills and desert plains, like some of the other Egyptian towns in Nubia. This seems not to have been its main purpose, but we do find chips of quartz and grindstones with gold flecks in the town, suggesting that some gold processing was taking place – arduous work, undoubtedly.

Maintaining the household must have been another on-going burden. There was the never-ending responsibility of producing food and goods for daily consumption, in a time long before fast food. We have no evidence from pharaonic towns for shops or taverns producing ready-prepared dishes. The production of bread, the staple food for the ancient Egyptians, was particularly time-consuming, the grains in use at this time in the Nile valley requiring more processing than those preferred today (see *In Depth* pp. 52–3). The grain first had to be separated from the husk (probably by mortar and pestle), then the loose husks removed by winnowing with a sieve, and finally the grain milled on a grindstone to produce flour: all this before the cooking even began. Processing food, washing laundry at the riverbank, and carting water supplies may have been tasks that were often shared across households, and probably involved all able hands, including children. We might imagine that these were opportunities for lively exchanges of the kind documented in the Deir el-Medina texts.

From traces of arthritis to broken limbs, signs of physically stressful lives appear again and again on the skeletons of the people of Amara West, a result of both slow, long-term wear and tear, and sudden accidents (see *In Depth* p. 58). Some households evidently struggled to provide food of good nutritional quality, to judge from the short stature of many of the individuals studied from the cemeteries: a possible hint of poor nutrition in childhood. Apart from cereals, pulses such as lentils and fruits were available to eat (see *In*



—
A set of storage bins, raised on stone platforms, in villa E12.10. (see *In Depth* pp. 36–7).

█
A court shared by houses E13.3-N and E13.3-S, used for making charcoal, grinding cereal and cooking bread.

Depth pp. 52–3). The island setting of the town, and the presence of stone sinkers for fishing nets (see In Depth pp. 56–7), suggest that fish featured in the diet, too. But it is difficult to know how widely such foods were available and it may have been mainly the elite who regularly enjoyed a varied and well-rounded diet. Meat was almost certainly a luxury. But was life harsher on the Nubian frontier than it was in contemporary Egyptian towns? Not necessarily: settlements such as Tell el-Amarna in Egypt, occupied a generation or so before Amara West was founded, provide a picture of similarly tough lives.

Another side of life in the town is revealed by discoveries that speak of leisure time. Ivory sticks found in a burial seem to be gaming pieces, to be inserted into recesses on a gaming board (the board itself lost to termites and dampness). A common find within the town are pieces of pottery that have been ground down into small regular discs – again, perhaps, gaming counters, or aids to keep track of everyday transactions. Another possible pastime, especially for the town's elite, may have been hunting for game along the fertile riverbanks, or in the desert beyond – a common theme in Egyptian tomb scenes. Wild species are sometimes found amongst the animal bones recovered from the town: are some the remnants of hunting expeditions?



Fishing around Amara West

Shadia Abdu Rabo

The Nile channels that wrapped around the island town offered a readily available supply of fishy food, whilst tiny bones found in houses confirm that fish was an important part of the diet for the ancient inhabitants of Amara West. Over six years of excavation, many small schist and steatite fishing weights have also been found within the houses (below): these are our best evidence for ancient fishing practices. Apart from several small copper alloy hooks, ideal for catching fish, we have no other material evidence for fishing practices: nets, floats and fishing lines were made of wood or plant fibre that has not survived. Objects decorated with depictions of fish include a pottery ostrakon and a small plaque (below, top left).

More than 60 of these weights have been found during British Museum excavations, mostly made of the soft stone steatite, though sometimes of schist, sandstone or pottery. Unlike schist, visible all around the site, the source of this steatite is unknown: was it imported specifically to make these objects? The weights are generally smoothed, perhaps intentionally, but also as a result of wear.

They have a range of shapes, being either cylindrical or rectangular in section with varying ends (rounded, tapered, squared), generally around 5cm long and 11g in weight. The defining characteristic is the presence of one, two or three grooves carved into them, to allow the attachment of fishing lines.



Two grooves are most common, perhaps to ensure the attachment was secure. Those with only one groove are wider, and two are drilled with two holes, perhaps for pulling the weight when used with a line. Are those without grooves unfinished? These weights were most likely used to sink hand nets, specifically cast nets which are circular in shape and thrown by a single person, either from a shallow area of water or from a boat. The weights ensured that the net sank beneath the surface, rather than floated, but were light enough not to drag it to the muddy bottom of the river. They may have also been used in conjunction with a hook – these are sometimes found in the same area as the weights.

These unspectacular objects are not well documented from other sites, though examples have been found at the town of Buhen in Lower Nubia. Such practical objects often take different forms in different communities, reflecting the materials available locally. Interestingly, the effectiveness of such objects is shown by their longevity. Some 2,000 years after Amara West was abandoned, the inhabitants of Kulubnarti, a Medieval village north of Amara West, were using almost identical sinkers. Sadly, large-scale fishing is no longer practised in the area: since the construction of the Aswan High Dam, it has moved to the rich waters of Lake Nasser.



Breaking bones, dying young

Michaela Binder

The dead can tell us a lot about the living. Features on bones can tell us about age-at-death, some diseases, injuries and whether the individual was male or female. At Amara West, around 250 individuals were excavated between 2009 and 2014: these skeletons are now housed in the British Museum, donated by the National Corporation of Antiquities & Museums (Sudan). A large proportion of the individuals died well before the age of 35, indicating a relatively unhealthy living environment. The exact cause of death is impossible to determine in the majority of cases, but the environmental background and living environment provide clues. Being situated on the banks of the Nile, the area may have been infested by diseases like malaria or schistosomiasis (a chronic disease caused by exposure to parasitic worms, still common in Africa today). Rubbish deposits and organic waste in the alleys between houses would have provided an ideal breeding ground for insects and rodents transmitting infectious diseases. Close proximity to animals – in the houses, alleys and fields – would have further facilitated the spread of diseases such as tuberculosis or brucellosis. A high number of individuals had evidence of new bone deposition on the ribs and in the sinuses: a sign of chronic respiratory infections.

The skeletons reveal a somewhat hazardous lifestyle, with a high proportion of individuals having suffered from fractures. The image shows the upper arm bones of a man (Grave 211): one has a healed fracture. Such breaks are probably the result of accidents rather than violence or warfare. Climbing tall palm trees, walking across unstable upper storey floors and roofs, and handling large animals were all activities fraught with danger. A



particularly severe example is a woman (Sk 237) from a post-New Kingdom grave, who died between the age of 36 and 50. Shortly before her death she incurred injuries to her breastbone and several ribs. Bone deposition around the margins of the fractures indicates that they were not fully healed at the time of death. This may suggest that her death was at least partially related to the severe injuries to the upper body, which may have impacted on her lungs or other internal organs. Despite the severity of her injuries, the woman survived for at least two or three weeks, which suggests that some form of care was provided within the community. Along with evidence of degenerative joint disease – a sign of heavy physical labour – the skeletal evidence suggests a largely agricultural community, struggling with the daily hazards of maintaining subsistence in an increasingly challenging environment.



■
A necklace of carnelian and faience emerging during excavations in house E13.6.

And something of personal lives is shown in artefacts such as pendants, beads and amulets, made of brightly coloured faience, of stone or often of ostrich eggshell, a popular local material. These were objects of personal adornment, used to make their wearers – men, women and children – feel attractive. Sometimes they show religious emblems, and speak of the magical tools that people had at their disposal to counteract everyday perils and misfortune. Attacks by animals such as crocodiles, snakes and scorpions, and swarms of blackfly (*nimiti*), still occur today in this area. Diseases would have constantly threatened, in a time long before antibiotics. Fertility, the protection of children, and the continuation of the family line was a widespread concern, in a world where childhood mortality was common. The god Bes, a composite lion and dwarf, was a particularly popular protector of children and is shown on pendants from Amara West. Another poignant find are figurines, hand-modelled from clay, of naked females (sometimes highly stylised), that were probably used in fertility rituals (see *In Depth* pp. 64–5).

The sources of threat were not only forces visible in the here and now. The Egyptians believed in a rich world of intermediary spirits who could bring benefit to the living, but also cause them harm. Amongst them were the disgruntled dead. The ancestor bust found in house E13.3-S (see p. 31) would have been the focus of a cult, receiving offerings of food and drink, and probably prayers. Its location in the back of the house suggests that the cult might have been a private family concern, and not shared widely with visitors to the home. Remembering family ancestors might have been particularly important to Egyptians living far from home, whilst satisfying the ancestors would have helped ensure that they left the living in peace. But, in time, the cult ceased, and the statue was forgotten behind a blocked-up wall; was the family slowly losing ties with its past?

Nubian lives, Egyptian lives

Perspectives on the world

What did ‘cultural entanglement’ look like at Amara West? Outwardly, in its architecture, the town has left a cultural imprint that is almost entirely Egyptian, from its thick mud-brick wall to the internal fittings, décor and layout of its houses. One rare exception is the oval structure more reminiscent of Nubian architectural traditions than Egyptian ones (see In Depth p. 40).

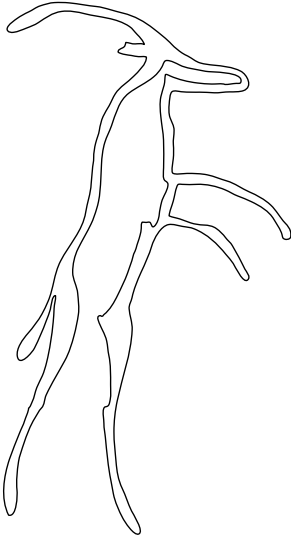
When we look more deeply at the site, at objects that people used as they went about their daily lives, a more complicated picture of cultural interaction emerges. Amongst vessels used as cooking pots (often burnt on the outside) there are large numbers made in Nubian styles, increasingly so as time passes (see In Depth pp. 62–3). Were Nubians engaged as potters, or even as cooks? And might this show that Nubian methods of food preparation were also in use in the Egyptian town?

Cultural entanglement appears even more acutely in the burial assemblages from the cemeteries (see In Depth pp. 74–5). It is difficult to tell from skeletal remains whether a person was Nubian, Egyptian, or of mixed origin, but individual graves here can include elements from both Egyptian funerary traditions (pyramids, anthropoid coffins) and Nubian (crouched burial position, burial on a bed) – expressed most strongly in the periods post-dating the occupation of the town. It is as though people saved up the most potent expression of who they were, no matter how culturally complicated that identity may have been, for the transition to death.

In effect, we are approaching the issue of what kind of worldview the people of Amara West had. Many of them must have spent their entire lives on this small island, aware of the world beyond from goods that were imported into the site, from correspondence that came in on papyri and ostraca, and from visitors: Egyptian administrators, travelling soldiers and traders, groups of desert nomads ... What perspectives shaped their world? Temple cult would have been a strong conduit for Egyptian culture, and amongst cult items such as stelae and statues from the houses, it is Egyptian material that dominates. Another important sign that the inhabitants were still firmly engaged with the broader Egyptian worldview is the discovery of copies of an Egyptian poem, the *Teaching of Amenemhat* (see In Depth p. 18).



Nubian cooking pot from house D12.6.



Incised image of a gazelle or oryx, upon a large pottery storage vessel.

Right

Finely carved bone brooch, perhaps to embellish a piece of clothing.

The conduits for Egyptian material culture, however – art, temple cult and writing – leave strong physical imprints, and are designed to represent ideals. Nubian language, in contrast, was not written down at this time. Local thoughts on the world may have been expressed quite differently; for example, through oral traditions or dance, clothing and hairstyles – expressions that leave little trace in the archaeological record at Amara West. A finely carved bone brooch offers us an insight into Nubian personal adornment, and hints of local artistic culture survive as figurative potmarks carved into the surfaces of vessels. More elaborate than the Egyptian potmarks, these may show not only local participation in the circulation of commodities, but also an appreciation of Nubian cultural expression in and of itself. Amongst the female figurines from the town are elaborately modelled examples in a style not known at Egyptian sites – they may be Nubian, and are more complicated little works of art than the simpler Egyptian-style figures (see *In Depth* pp. 64–5).

Amara West may have been founded to represent Egyptian interests in Nubia, but individual lives do not follow rules. Interpersonal relationships develop, people have a need for practical things and solutions, and they have an attraction to things of beauty and sophistication. Ideas change hands. Some of those buried in the Nubian style in the cemeteries took with them to the grave amulets of the Egyptian god Bes. He was a helpful spirit for all, regardless of ethnicity. And so might local knowledge of childbirth and fertility have appealed to Egyptians.



Making and using pottery

Anna Garnett

The thousands of pottery sherds we study each year (right: sorting sherds on site) are what remains of the vessels used by inhabitants to store and transport commodities, but also to prepare and serve food and drink: the equivalents of modern aluminium saucepans, tea glasses and plastic boxes.

Who were the makers of this pottery? A circular kiln excavated beneath house E13.8 would have been used to make small vessels on site: dirty, smoky work. Potters

were unfavourably caricatured in the famous Egyptian literary text, the *Satire of the Trades*: 'He is muddier with clay than swine to burn under his earth; his clothes are solid as a block and his headcloth is rags, until the air enters his nose coming directly from his kiln.'

The majority of vessels from Amara West were produced locally or imported from the Egyptian Nile valley, echoing fashions for contemporary shapes in Egypt. Made either from clay collected from the riverbanks, or marl (desert) clay, these Egyptian forms were made on a potter's wheel. In contrast, the local (Nubian) tradition was for hand-formed vessels. Most are large cooking pots (see p. 60), but we also come across finer-quality vessels. Hybrid traditions also developed: we encounter 'Egyptian'-style bowls made by hand rather than wheel – perhaps by Nubians?

Studying these vessel fragments, and where they are found, can provide insights as to how spaces were used over time – and how that changed. For example, pottery sherds from cooking jars and bread trays confirm areas of food production, especially when found in association with features such as fireplaces, ovens or grinding emplacements. Large vessels were sunk in the floors of houses to store food or keep valuables safe. High-density sherd deposits are indicative of ancient rubbish dumps and can reveal a great deal of information about the range of pottery used over time, even if we cannot be sure in what rooms or houses the pots were used. Some pottery was made specifically for burials, such as beer jars (left), to ensure an eternal supply of food and drink for the dead.





Though it is comparatively rare, we find pottery made from clays which can be identified (through macroscopic and microscopic analyses) as imports, i.e. from the Egyptian oases or the Levant. A group of fine Mycenaean stirrup jars (right) found in the town is likely to have been used for storing luxury ointments and oils. Neutron Activation Analysis to measure the elements present in the clay fabrics of these vessels indicates they were produced in Cyprus and the Greek mainland, rather than being imitations made in Egypt. The sherds can help unravel a complex story of supply and trade networks, illustrating that Amara West was far from being an isolated settlement but was trading objects – and ideas – with the wider Nile valley and eastern Mediterranean.



Family, fertility and figurines

Anna Stevens

Life along the ancient Nile was tough, especially for the very young. Childhood illnesses, infections and accidents must have been constant threats at a town like Amara West. Up to 33% of individuals at Amara West died before the age of six during the 10th and 9th centuries BC (few sub-adult burials of the New Kingdom have been found). Childbirth was, of course, a perilous time for mothers too.

The ancient Egyptians have left us a wealth of magical and medical texts that tell of their concerns for mother and child. There were spells to aid conception, prevent miscarriage, induce birth, and predict whether a newborn would live or die. Spells to protect infants and children were especially popular, and the world of the living was populated with images of protective divinities and with

ritual objects connected with childhood, childbirth and fertility. Amongst the most popular were figurines in the shape of naked females, over 30 of which have been found amongst the houses of Amara West. Most are flat rectangular plaques, hand-modelled out of mud, on which the pubic triangle, breasts and navel were incised, impressed or attached as appliques. Sometimes a head was modelled, jewellery such as girdles marked as dots and lines, and designs representing tattoos or scarification impressed into the clay. Limbs are never shown: the emphasis is very much on sexual features. We assume the figures were used in rituals related to human fertility, perhaps as charms to aid conception.

These plaque figures are striking in the way they stylise the female image, and are very



different from representations of women found in formal Egyptian art: the figures might reflect a kind of folk tradition. Yet despite their simple appearance, they may have been potent images. Mud, for the ancient Egyptians, was a material that symbolised life, creation and fertility, and spells could have been said over the figures to render them powerful. Egyptian communities are known to have included magical practitioners, such as seers and amulet-makers. Would they have been present at a distant town like Amara West, or were people more reliant on ritual knowledge passed down within families?

Other Amara West figures are more elaborate: modelled in the round with legs together in a semi-seated position (below right and left), they have noticeably large buttocks and hips.

One carefully shaped figure is painted red with a dotted and black-painted pubic triangle. A navel has been impressed, and breaks in the paint show where modelled breasts were once applied. The shape is less obviously Egyptian, but recalls the long tradition of making and using female figurines in Nubia.

The female figurines of Amara West were tools that people used to fight back against dangers in the world around them. They reflect an approach to personal health that is alien to many people in the world today, but are at the same time a poignant reminder of the concern for children and for creating families that is common to us all.



Cancer in the ancient town

Michaela Binder

In 2013, the skeleton of a young man was excavated from Grave 244 at Amara West (see In Depth pp. 82–3). Analysis revealed he died from cancer: this is the oldest intact skeleton with evidence of this type of cancer to be found anywhere in the world.

Today, cancer is the second leading cause of death worldwide, but very few examples of ancient cancer have been identified. Many types of cancer are connected to modern living conditions, particularly smoking and environmental pollution. These factors may not have affected people in the past to the same extent as they do today. Cancer is also a disease that affects older people and with a lower life expectancy in the ancient world, due to infectious diseases and malnutrition, few individuals would have lived long enough to develop it. Finally, diagnosing cancer in archaeological human remains is very difficult because it mainly affects the soft tissue, which rarely survives.

The young man from Amara West (Sk 244-8) died between the age of 25 and 35, and was buried alongside others, perhaps members of his family, in a large underground chamber tomb (G244) in Cemetery C. The body was placed in a painted wooden coffin, with an Egyptian-style scaraboid in his hands.

The bones of the upper body are riddled with a large number of holes, 5–25mm in diameter (the first rib is shown below left). In the radiographs, an even larger number of holes can be seen under the surface. These holes were caused by a malignant cancer spreading from a tumour in the soft tissue. It is not possible to know whether the tumour was located in the lungs, breast, stomach or another organ, but his living environment can give some clues as to what may have caused the disease. Schistosomiasis, a parasitic disease which was and still is a major health problem in the Nile valley, can cause breast cancer in men. Smoke from wood fires within houses can also have a detrimental effect on health and potentially lead to lung cancer.

At Amara West, many houses had bread ovens set up in roofed rooms, which would have quickly filled up with smoke, exposing people to potentially harmful substances.

Understanding the evolution and history of cancer, and factors that could have caused the disease prior to the onset of modern living conditions, is important not only for archaeology but also for medical research. Skeletal human remains, set within a well-documented historical, archaeological and environmental context, are a key element for our understanding of how the disease has developed. This may support new research strategies and therapies in order to tackle one of the world's deadliest diseases.




Opposite

Restrung beads in carnelian, faience and ostrich eggshell, found in a grave but likely to have been worn in life.





A person wearing a black beanie and a dark jacket is kneeling in a cave, meticulously cleaning a skull on the ground with a brush. The cave walls are made of rough, brown rock. A black bucket is visible to the right. The scene is dimly lit, with a light source from the right casting shadows.

Preparing for eternity

Michaela Binder

The way we treat our dead represents one of the principal expressions of human cultural behaviour, deeply rooted within spiritual concepts and belief systems. The location and architectural layout of the tomb, assemblage of grave goods, preparation and treatment of the dead body are determined by factors such as ethnic identity, social status, age, gender or belief systems. Both in ancient Nubian and Egyptian cultures, caring for and commemorating the dead took a central role, as evidenced by the lavishly decorated tombs, funerary monuments and mortuary temples found along the Nile valley.

Ancient Egyptian beliefs about the afterlife, and the elaborate rituals ensuring the rebirth and prosperity of the deceased, are well attested in archaeological, iconographic and textual sources. In contrast, no Nubian written sources survive to indicate mortuary beliefs, so we must rely on archaeological evidence: grave goods, treatment of the dead body and tomb monuments.

The cemeteries of Amara West

Sixty graves have been excavated to date at Amara West, providing insights into the spiritual world of the people of Amara West, their attitude to and perception of life beyond death. These tombs also give us an additional perspective on the cultural entanglement between Egypt and Nubia. Two distinctive locations were used for burial at Amara West: Cemetery C to the northeast of the town and Cemetery D to the northwest. Both cemeteries are situated north of the palaeochannel which when flowing created a natural boundary between



Previous page

Excavating one of the five burial chambers of tomb G244.

Recording skeletons in the burial chamber of a tomb (G243) in Cemetery C.



Excavations in Cemetery C.

cemetery and town. We must remember that the cemeteries were also places for the living, when tombs were being prepared, during funerary ceremonies, and on occasions when offerings were placed at the tombs of deceased family members.

Cemetery D is situated on the desert escarpment overlooking the town. It comprises an area of approximately 6.5ha, demarcated by high rocky outcrops to the north and steep slopes towards the palaeochannel to the south and east. The inhabitants of Amara West were not the first to use the escarpment for burial, as a small number of Middle Kerma graves, dating to around 2050–1750 BC, have been found. The New Kingdom graves were built in close proximity to these earlier tomb monuments, which would still have been visible. Does this choice reflect ancestral ties to a local Nubian population? Or a symbolic act of claiming ownership of the area?

The second burial ground, Cemetery C, was established in a distinctively different setting, on a low alluvial terrace. Covering an area of approximately 2.5ha, the cemetery is demarcated by a desert escarpment to the east, a *wadi* (dried-up water channel) to the west and the palaeochannel to the south. Up to 100 graves have been identified in geophysical survey, though the area has been badly affected by wind erosion. Tombs at the northern end of the cemetery were eroded down to only 0.80m below the present surface level, though their layout suggests they would have once been considerably deeper. On the southern end, the cemetery borders the palaeochannel which would have been flowing when some of the tombs were built: some of the chambers may have been inundated and damaged by occasional floods.

Both cemeteries were in use at the same time: from the earliest phase of occupation of the settlement, around 1300 BC, onwards. The reason why two separate locations were used simultaneously is not yet fully understood but it seems possible that factors such as social status and/or ethnic identity were at play. The majority of tombs in both cemeteries, however, date to the three centuries after the end of the New Kingdom. Burial activity in the cemeteries continues in an almost unchanged way into the 10th, 9th and 8th centuries BC – a period not yet represented by architecture in the town.

Temples for the dead: tomb architecture at Amara West

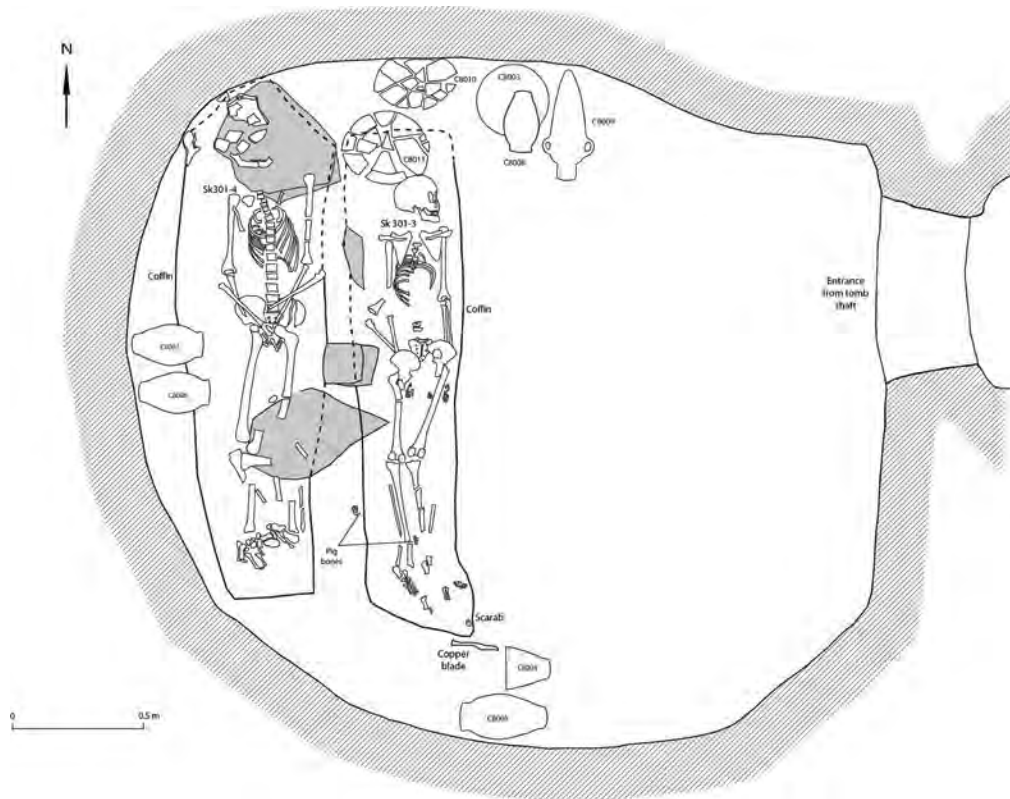
In the ancient Egyptian belief system, the tomb fulfilled a central function as the physical environment for the afterlife. It not only provided the final resting place for the deceased but also represented the location for the cult performed in order to ensure eternal life. Consequently, the configuration, alignment, layout and location of a tomb were determined by spiritual considerations. Two main components can usually be recognised: a substructure, reserved for the burial, and a superstructure in which the ancestor cults took place. The architectural form of these elements varied considerably over the course of ancient Egyptian history but also according to the social status of the deceased, finding their most lavish expressions in burials of the elite.

At Amara West, this configuration is best exemplified by three elite tombs located in a cluster in the western part of Cemetery D (G112, G301, G309). Each tomb features a rectangular funerary chapel (12–15m²) constructed from mud-brick. A small platform attached to the western side of the shaft provided the basis for a small pyramid, constructed from mud-brick or another material. Similar tomb superstructures can be found in cemeteries associated with New Kingdom Egyptian settlements throughout Nubia, such as at Aniba, Sai, Sesebi and Tombos. The alignment of the superstructures reflects the strong cosmological symbolism inherent to ancient Egyptian beliefs, with the chapel opening towards the rising sun in the east (symbolising rebirth) and the pyramid to the west (symbolising entry to the world of the dead). Fragments of large numbers of ceramic vessels present on the surface on the eastern side of these chapels attest to the performance of an offering cult, perhaps during burial ceremonies and regular visits by family members.

—

The chapel of tomb G301, with base for a small pyramid in foreground.





Plan of the western burial chamber in tomb G301, with burials of one male and one female individual, in coffins.

A vertical shaft led from the centre of the chapel down to burial chambers, 2.2–2.4m below the surface. In the Cemetery D tombs, the builders had to chisel through schist bedrock for the last metre of the shaft and the burial chambers. Small holes carved into the sides of the shafts made clambering up and down easier. The entrances to the chambers were originally sealed with bricks and mud plaster. All had been opened by looters, perhaps shortly after burial.

The main burial chamber was located on the western side of the shaft with the entrance towards the east – again facing the rising sun. Each burial chamber was roughly circular or rectangular, covering a floor area of 5–6m² and being only 80–100cm in height. Additional chambers were carved on the eastern side of the shaft, though less carefully cut into the bedrock. Dating these chambers is difficult as they had been thoroughly looted and contained only disturbed material, though pottery vessel fragments suggest they may have been added after the end of the New Kingdom.

A different form of mud-brick structure was used in two other tombs in Cemetery D, with a rectangular vaulted structure set into the shaft (G101, G305), creating an additional chamber underneath. Vaulted chambers of this form are also found in contemporary cemeteries at Egyptian sites in Nubia, such as Tombos. At Amara West, however, it remains unclear if they were used for burials. Tombs with subterranean burial chambers were

Nubian burial customs

Michaela Binder

Prior to the Egyptian occupation of Nubia, local funerary customs were markedly different from those of their neighbours to the north: burial mounds (*tumuli*) marked tombs, and the deceased were buried in a contracted body position on their side, some placed on funerary beds and wrapped in animal hides. People were usually buried alone in simple pits. With the reoccupation of Nubia by the pharaonic state around 1500 BC, cemeteries began to appear more Egyptian in character: underground chamber tombs housed family burials, pyramids were constructed to mark elite tombs and bodies were placed in an extended position in wooden coffins.

The tombs at Amara West reflect this general trend – unsurprisingly, as the area had been

under Egyptian political control for 200 years before the town was founded. Elements of Egyptian funerary culture had become deeply ingrained into local culture. Nevertheless some findings in the cemeteries attest to the survival of Nubian customs alongside the predominant Egyptian cultural expressions.

With the exception of G244 (see In Depth pp. 82–3), the graves that date to the main occupation of the town appear entirely Egyptian in nature. Yet after the end of the New Kingdom, Nubian elements become more common: three chamber tombs in Cemetery D featured low *tumuli*, and in several tombs in both Cemeteries C and D, people started using funerary beds alongside Egyptian-style coffins again. These became



a popular funerary item in Nubia from the Middle Kerma period (2050–1750 BC) onwards and closely resemble the traditional Nubian funerary bed (*angareeb*) still widely used in Sudan today. They perhaps reflect the fact that in the Nubian belief system death was perceived as a form of sleep. The fragments recovered from the Amara West graves include bed terminals, bed legs and side planks, some of which still had parts of the stringing preserved (below left: parts of a funerary bed found in situ, in G314).

In two graves, individuals were placed in a contracted burial position. This practice can be traced back to prehistory in Nubia and remained the preferred burial position throughout all periods of Kerma culture. The contracted burials, two females and an infant, occur alongside extended bodies in chamber tombs, perhaps suggesting individual choice, or even intermarriage. While Nubian cooking pots are common in the town, pottery of Nubian tradition is exceedingly rare at the cemeteries, although a fine handmade bowl was placed with an infant inside a niche burial in Cemetery C (right).

Due to looting and re-use the picture we are gaining of cultural expression from the cemeteries at Amara West is probably incomplete. Because many bodies were disturbed, it is possible that the number of contracted burials was considerably higher. Moreover, many items typically associated with Nubian funerary customs were made from organic materials and may simply not have survived. Nevertheless, the graves



clearly show that even though Nubian funerary customs may have fallen out of fashion for a while within some parts of the society, they experienced a revival after the end of the New Kingdom, resulting in a unique, hybrid blend of expressions taken from both Egyptian and Nubian cultures.

also provided with burial mounds of alluvial silt covered with schist stones. Burial mounds of this form, called *tumuli*, are one of the most characteristic features of local burial customs, used in most periods of ancient Nubian history. The combination of Egyptian-style burial chambers with a Nubian tomb monument is a remarkable example of cultural interactions taking place at Amara West (see In Depth pp. 82–3).

Most of the tombs at Amara West, however, were simple chamber tombs without surviving superstructures. Featuring one or two chambers, on the eastern and/or western side of the shaft, they remained the predominant grave type well into the 10th and 9th centuries BC, especially in Cemetery C. Differences in the assemblage of burial goods, number of individuals interred, and also location of the graves, suggest that these were the graves of the non-elite. Chamber tombs were regularly used for several individuals, perhaps belonging to a family group, but it is nonetheless notable that some of the simpler tombs contained very large numbers of individuals: up to 37 adults and children were buried in one chamber.

At some point during the 10th or 9th century BC, the chamber tombs apparently fell out of fashion and a different, smaller type of grave was introduced. Burials were now made in small niches, set off to one side of a vertical shaft.

In most cases the niches were only used for one burial, but a few held the remains of two or three bodies. The reasons for this shift in tomb architecture are unknown: objects placed in these graves are similar to those that accompanied burials in chamber tombs.



Remains of a painted wooden coffin lid, depicting a woman wearing yellow ear-studs. Found in the western burial chamber beneath a pyramid chapel (G309).

Containers for the dead

The placement, position and preparation of the dead body were important aspects of ancient Egyptian funerary ritual, all designed to ensure rebirth into an eternal afterlife. Extensive looting in ancient and modern times, along with the practice of using tombs over several generations, makes interpretation of burial assemblages very difficult at Amara West. In many graves, even though objects may be present, they are detached from the individual they

were once associated with and we therefore lose much information about their significance and context.

Bodies were usually placed on their backs in an extended position, following standard Egyptian patterns. Traces of textile from wrapping were recovered from a small number of individuals, but the position of the skeletal elements in other bodies suggests that they were tightly wrapped. Whether any other elements of the mummification process were carried out – drying of the body, application of resin, removal of organs – cannot be ascertained due to the poor state of preservation.

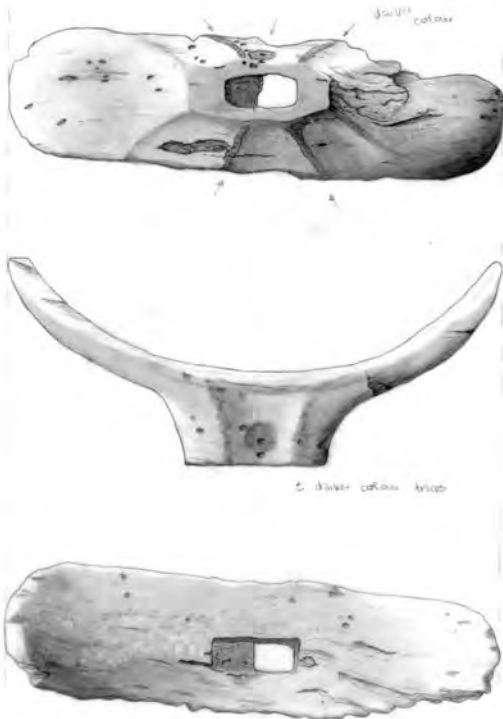
Special significance was assigned to the container in which the body was placed. In ancient Egyptian funerary ritual, the coffin represented the single most important item provided in the grave. It was both a physical container for the body and a symbolic representation of the universe around the deceased. The form, decoration and materials of the coffin varied considerably according to time period and social status. At Amara West, wooden coffins made from sycamore fig were the most popular funerary container in the New Kingdom and after, but due to termite activity and the chemical composition of the surrounding soil they were very poorly preserved. Sycamore fig wood was of relatively low quality, but was widely available, so these coffins were probably made locally. In contemporary Egypt, coffins were usually of anthropoid shape, but again it is difficult to ascertain whether this trend was followed at Amara West. On the inner and outer side, the coffins were

decorated with a thin layer of white plaster painted with red, yellow, black and blue pigment. In most cases, the decorated plaster was reduced to small fragments of paint. Most feature simple motifs: no examples of hieroglyphs or scenes of gods have been found to date.

Under some collapsed ceiling fragments in the western chamber of G309, parts of the lid of a coffin for a young adult woman survived (see p. 76). The fragile remains preserved most of the red-painted face, black wig and headdress, along with yellow ear-studs moulded onto the wood, in a style consistent with late New Kingdom coffins in Egypt. The red face is unusual on a female coffin: were local craftsmen not concerned with Egyptian stylistic conventions, where red was the colour of choice for males, or was the coffin originally intended for a male burial?

Nubian funerary culture employed a different kind of funerary container, the burial bed. The examples found at Amara West were mostly used after the end of the New Kingdom (see In Depth pp. 74–5). A third type of funerary container also became popular during the later phases of use of Amara West. The bodies were wrapped in a cover of doum-palm, a soft wood of very poor quality. These were left

Field drawing showing parts of a wooden headrest found in tomb G201.



entirely undecorated, and their exact shape is difficult to ascertain. In some cases remnants of rope and a slight tapering in the head and foot end can be observed. The factors determining the choice of funerary container are not yet fully understood. The use of funerary beds almost certainly indicates identification with Nubian cultural heritage, whereas the doum-palm containers might reflect social differences or a declining availability of good wood due to increasing aridity.

Sustaining the dead

Ceramic vessels were the most common grave goods found in the cemeteries, the custom of placing vessels with food offerings for the deceased inside graves being part of both ancient Egyptian and Nubian funerary cultures. Beer jars, plates, bowls with red-painted rims and pilgrim flasks were popular choices. Much less variety is found in the ceramic assemblage at the cemetery than in the town, as certain vessels were obviously considered more suitable for use in the graves than others. Beer jars and later pilgrim flasks, which only occur during the 10th and 9th centuries BC, may have been used to perform libation rituals during the offering cult. They rarely show signs of use prior to deposition in the grave, indicating that they were specifically made to place with the dead.

Small amulets – figures of gods or scarabs – provided magical protection in the afterlife. The scarabs, made of faience, ivory or steatite, were usually placed in the hands of the deceased. Symbol of Khepri, the morning form of the sun-god, the scarab was associated with the notion of eternal rebirth; but these objects were also used in the town as seals (see *In Depth* p. 49). Life and death were intertwined at ancient towns such as Amara West.

A small number of amulets depicting Egyptian deities such as Bes or Isis were also found within tombs, mainly of the 10th and 9th centuries BC. Some of these amulets, made from faience, stone or ivory, show heavy signs of wear and of re-working, raising the question of whether the ancient Egyptian belief system was still being adhered to 500 years after the Egyptian conquest of Nubia (see *In Depth* p. 84).

Other types of grave goods included jewellery (bead necklaces, ear- and hair-rings) and cosmetic items (razors, mirrors, pins and containers for ointments and powders), albeit in very small numbers. While this may be explained by the looting of the tombs, grave goods made from organic materials simply may not have survived: small fragments suggest that baskets or wooden boxes with inlays were also placed with some burials. Headrests have been found in a number of tombs, but canopic jars (for the preservation of internal organs) were not used. Only one shabti (servant figure placed in tombs) has been encountered to date: an unusual ceramic figure found discarded in the shaft of Grave 301.



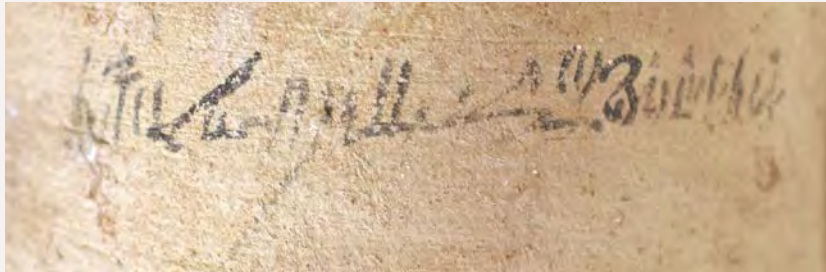
Fired clay shabti (funerary figurine) found in the shaft of tomb G301.

Fine imported wine

Anna Garnett

In the western burial chamber beneath a pyramid chapel (G301) in Cemetery D, an array of beer jars, shallow bowls and a wine jar were found buried alongside a man and woman in wooden coffins (see p. 73). The wine jar (C8009) has a hieratic inscription on the exterior reading 'year 10, wine of 3 days (fermentation) of the vineyard of Hormes', which tells us that the jar originally contained wine made from grapes grown on the property of a private individual. Traces of the

original clay stopper remain, which would have sealed the wine after fermentation. The distinctive marl (desert) clay used to make this jar suggests that the vessel, and its contents, were imported from Egypt. The style of the inscription indicates that the 'year 10' refers to the reign of Ramses II, so the wine was produced around 1280 BC. Was it placed in the tomb for the deceased, or had the contents already been enjoyed in life?



Cultural entanglement at Amara West

Evidence from the cemeteries

By the time Amara West was founded, Nubia had already been under Egyptian control for almost 200 years. The people settling at Amara West may have come from other pharaonic towns, such as nearby Sai, from Nubian communities, and some from Egypt itself. As at other pharaonic towns in Nubia, the dead were buried in the cemeteries beside the town and not returned to their place of origin.

The graves at Amara West clearly reflect a society that followed Egyptian funerary rituals, at least in terms of architecture, attempts to preserve the body, and the placing of grave goods to ensure sustenance for the dead. However, despite problems of preservation, it seems clear that some important features of standard Egyptian funerary customs were absent. In addition, elements of local Nubian customs such as funerary beds or burial mounds were retained, and were consciously included alongside Egyptian cultural markers. The variability in approaches to burial indicates a considerable amount of individual choice. In burying their dead, the inhabitants of Amara West were expressing a spectrum of cultural alignments, from Egyptian to Nubian (and everything in between), the result of centuries of entanglement between the two neighbouring cultures, but also a reflection of the changing, dynamic nature of the town itself.



Revealing a faience vessel in a burial chamber of tomb G244.



Decorated scarabs interred with the dead.

Grave 244: Egyptian and Nubian in death

Michaela Binder

Excavations in 2013 brought about the discovery of perhaps the most surprising of tombs at Amara West: G244. Located on the southwestern side of Cemetery C, this tomb is providing new perspectives on our understanding of the cultural processes taking place at New Kingdom Amara West, despite having been badly looted.

Above ground, a circular burial mound (*tumulus*) spanning 18m in diameter and constructed from alluvial silt and schist stones marks the location of the tomb: a typically Nubian monument. Abundant pottery post-dating the known occupation of the

cemetery suggests ancestor veneration still being practised well after the cemeteries had been abandoned. Underneath the surface, however, the grave comprises a multi-chambered substructure, a typical layout for Egyptian graves. It is by far the largest burial complex discovered at Amara West.

A 2.80m-deep shaft provides access to the burial chambers: three on the western side and two on the eastern side (below). At least 20 people, including adults and children, were buried in G244, amongst them the young man who suffered from cancer (see In Depth p. 66). The burials in the back chambers were



almost entirely destroyed. In both central chambers, however, windblown sand entered through the opened doorways, covering the bodies soon after the main phase of interment, protecting them from disturbance.

At least 110 different pottery vessels, by far the largest assemblage of ceramics recovered from a tomb at Amara West, were placed within the grave and indicate a 20th dynasty date. The adult individuals were all wrapped in textiles and buried in wooden coffins decorated with painted plaster. Several were provided with scarabs, and jewellery such as carnelian ear- or hair-rings. The children were particularly richly equipped, with fine items such as an ivory comb and bracelets, along with ivory sticks, perhaps parts of a game. This represents the only New Kingdom tomb at Amara West where children were buried alongside adults. Other important finds from this tomb include two fine faience vessels (below right), needles in copper alloy, several headrests and an ostrich egg drilled with a hole to be used as a vessel (top right).

In terms of size and wealth of grave goods, the tomb equals the Egyptian-style elite pyramid tombs of Amara West. Despite the overwhelmingly Egyptian character of the substructure, the ivory jewellery, ostrich egg vessels and even the presence of children within the tomb attests to considerable Nubian influences. The *tumulus* – the only part visible to everyone on the surface – clearly indicates that to outsiders, the people buried in the tomb wanted to be remembered as Nubians; while inside, the dead availed themselves of Egyptian methods to ensure an eternal life.



An unusual amulet

Michaela Binder

Amulets of deities found at Amara West and other New Kingdom sites in Nubia, used for protection and to ensure the good fortune of their owner, generally conform to traditional Egyptian models and iconography.

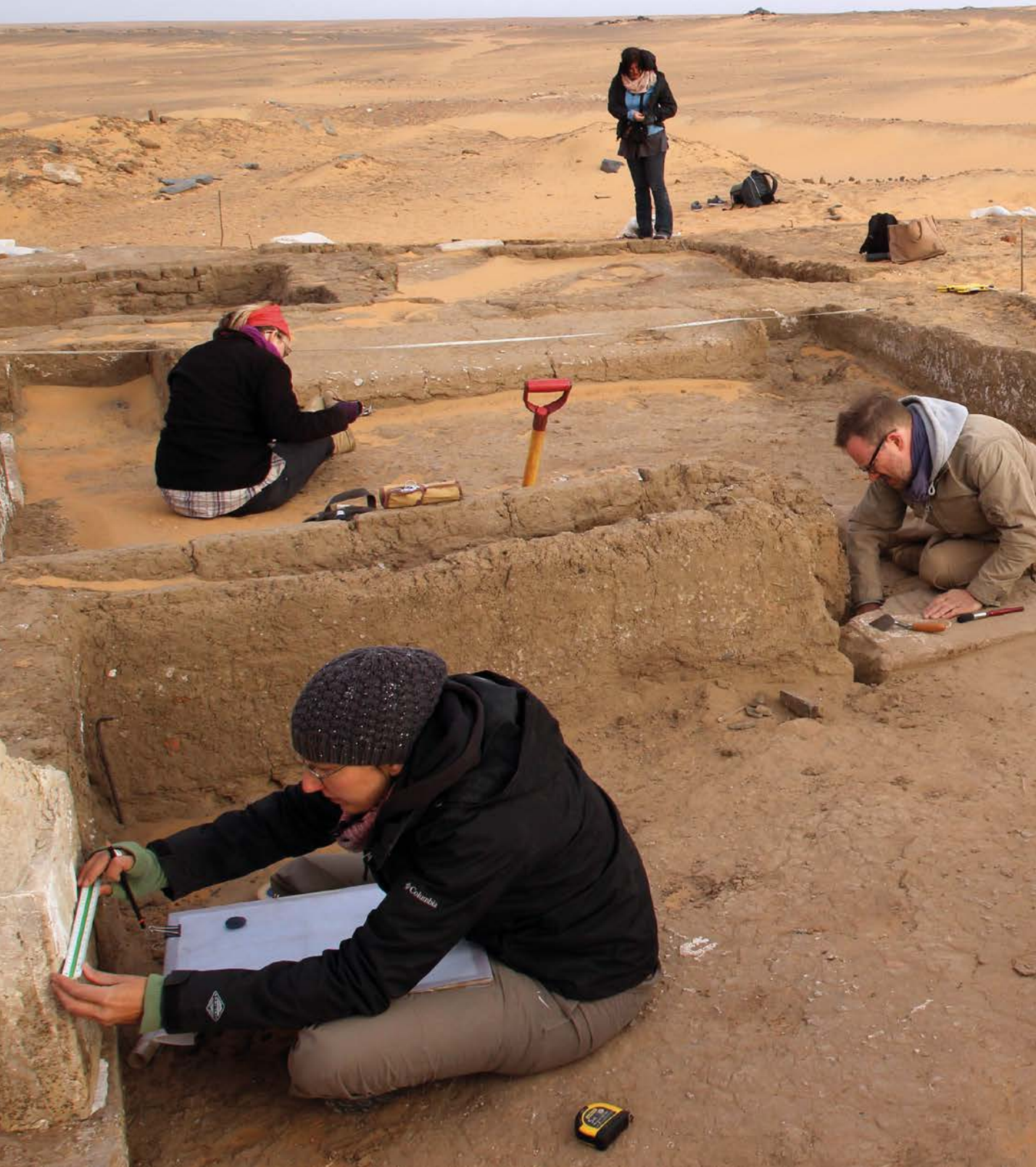
A small ivory amulet of the god Bes, found in a post-New Kingdom niche burial in Cemetery C, is a remarkable exception to this trend. Bes was generally regarded as a protector of the household, women, and children, and amulets of the gods were popular parts of burial assemblages. This figurine, only 6cm in height, features all the familiar attributes of the god: a disproportionately large head

and belly, a long tail, a tongue hanging out of the mouth and a headdress or wig. However, the depiction of the face, resembling an African mask rather than an Egyptian deity, is unique. It exemplifies how elements of Egyptian culture were altered and adjusted by craftsmen according to local patterns and perhaps taste. Whether this also reflects adherence to Egyptian belief systems remains unknown. At some point, holes were drilled in the upper torso of the amulet, as it was changed from an amulet worn on a string, perhaps in life, to one that may have been sewn onto the clothing of the deceased.



Colourful faience beads used to adorn the dead.





From ancient town to archaeological site

Neal Spencer



Towards the end ...

Unlike Pompeii, most cities, towns and villages of antiquity died a slow death. Amara West was once thought to have been abandoned because Egypt lost political control of Kush (Upper Nubia) around 1070 BC. This relies on certain assumptions, namely that most inhabitants would have wanted to return to Egypt, were probably Egyptian and that the town's primary function was still as a state foundation. Rather, environmental changes may have been the key factor: as the desert encroached and it became more difficult to farm, sites on the opposite bank would have become more attractive (see *In Depth* pp. 90–1).

A disconnect exists in our understanding of Amara West's later stages. The cemeteries indicate people were being buried at Amara West into the 8th century BC, and there is a scatter

Previous page

Recording house E13.5.



Sand accumulating against a house on Ernetta Island.

of contemporaneous pottery across the surface of the town site. However, no architecture of this period survives: were the later inhabitants living in already existing buildings? Or have these later buildings simply been scoured away by the windblown sand, along with any deposits, leaving the pottery and stone artefacts to slump onto earlier layers? A series of dry stone walls, at the western edge of the site, may be all that remains of structures built with a combination of stone, bricks and mud, but the date of these is currently uncertain.

Whether the buildings immediately at the surface when we start excavating an area really are the last structures built and occupied at the site remains unknown. But we do know the inhabitants were resisting increasing sand ingressions, building retaining walls to stop sand burying the entranceways to their houses (see *In Depth* pp. 92–3). Some spaces were

being abandoned or repurposed: blocked up, or divided into spaces without doors, perhaps for use as animal pens. We might imagine empty houses next to those occupied, as visible in many Nubian villages today.

Mud-brick architecture, made from a plentiful locally available resource, is quick to erect and change. Yet once houses, or parts thereof, are abandoned, they can deteriorate quickly. Termites and other insects eat away at the organic material in the roof (mats, reeds, wood), which often collapses first. Wind, and occasional rain, scour the wall surfaces; the vortices of airborne sand erode away wall bases, eventually resulting in walls toppling over. Animal activity, bird nests and insect burrows also eat away at the ancient remains. We often see the reverse sequence as we excavate, first encountering wall collapse (the last event) before we reach roofing material and the original floor.

The sand that continues to accumulate eventually saves the town for posterity. Once rooms and buildings are filled to the top of the architecture, equilibrium is reached: the walls are protected from further erosion, and there is nothing to catch further sand. This results in well-preserved buildings, with wall-tops all standing to a similar height, just beneath the modern ground surface.

This model of natural processes only tells part of the story, of course. Human intervention creates different results: houses can be cleaned out with belongings brought to the next dwelling place, leaving behind only what is thought to be of no value, broken, too heavy, forgotten or lost. In villa E12.10, someone carefully stacked all the architectural elements in the courtyard; was this part of a plan to re-use them that was never completed?

■
An area of the ancient town excavated in 2011, now almost entirely filled with windblown sand.



Amara West and the shrinking Nile

Jamie Woodward & Mark Macklin

A series of well-preserved old river channels is a distinctive feature of the landscape around Amara West. One of the palaeochannels lies immediately north of the town: it may have been much like the small channel beside Ernetta Island today (below). The dried-up channel at Amara West raises key questions, fundamental to our understanding of life here. When did flow in this channel cease to be permanent? Was the town founded on an island? Was the abandonment of the town linked to the failure of this channel and resulting changes to living conditions?

A deep circular pit was dug into the palaeochannel at a point northeast of the temple gateway, revealing a series of well-preserved flood deposits: silts and windblown sands reworked by river flow. This sequence

represents intermittent flooding of a dry channel during high floods. The oldest sand layer dated to 1270 BC \pm 215, on the basis of Optically Stimulated Luminescence (OSL). The deposits indicate that the river channel was no longer perennial at this time. A longer, deeper, trench was then cut into the palaeochannel, right up to the edge of the ancient town (below right). Beneath layers with flood sediments mixed with pottery and charcoal – tumbled from the town down into the river – we encountered thick layers of fine-grained grey waterborne silts with no cultural material, deposited when the channel flowed throughout the year.

Combining OSL and radiocarbon dates from charcoal (see below right), we can now reconstruct a local history of the Nile. The



town was founded at a time of significant hydrological change. When Amara West was founded around 1300 BC, it was located on an island – the northern channel flowed continuously. This channel ceased to be perennial shortly before 1270 (± 215) BC. The end of permanent flows in the palaeochannel appears to have taken place early in the town's brief history. Elsewhere in northern Sudan, we also see evidence of the Nile beginning to contract, from around 1500 BC onwards.

Further geomorphological research in the desert north of Amara West generated more data that helps to recreate the ancient environment of Amara West – building a quite different picture from what we see today. Preliminary dating from a larger system of palaeochannels, in the desert 2km north of the modern Nile, suggests that the Amara

West island was one of a number in a wide valley floor with multiple river channels. We are beginning to understand how the empire building of the Egyptian New Kingdom (1550–1070 BC) was taking place against a backdrop of rapid change in the river Nile: significant falls in the height of the summer floods and a shrinking of the channel network after around 1300 BC. In many reaches where the river had flowed in multiple channels across wide fertile plains, flood flows fell dramatically to occupy just a single channel. These changes had a profound impact upon riverside land use and the viability of settlements. As channels dried out, large areas of land became difficult to cultivate, islands became part of the desert, and towns were engulfed under windblown sand (see In Depth pp. 92–3).



Sand engulfs the town

Mat Dalton

The latest preserved houses at Amara West, built around 1160 BC, usually feature thin rectangular or semi-circular walls outside their front doors, such as in house E13.4 (top right). These walls are frequently accompanied by a drop from the outside street surface down into the house, and were residents' first line of defence against the steadily rising outdoor deposits that threatened to engulf their houses. None of the walls are particularly substantial-looking structures. Most give the impression of having been quickly assembled, and often added to, using whatever materials came to hand, such as broken mud-bricks or large pieces of architectural stonework salvaged from older buildings.

Rising street levels are common within densely packed urban environments formed

of mud-brick buildings. They occur as buildings are eroded away or demolished, as people dump rubbish into the space outside their houses, or when animals deposit droppings that are not cleared away. Excavation, micromorphological thin section and laser particle size analyses of samples from a long-lived alley (E13.12) within the walled town have shown how these processes took place at Amara West itself. The analyses also revealed the effects of a more serious existential threat to the town's inhabitants, brought about by environmental change and desertification during the site's later New Kingdom history.

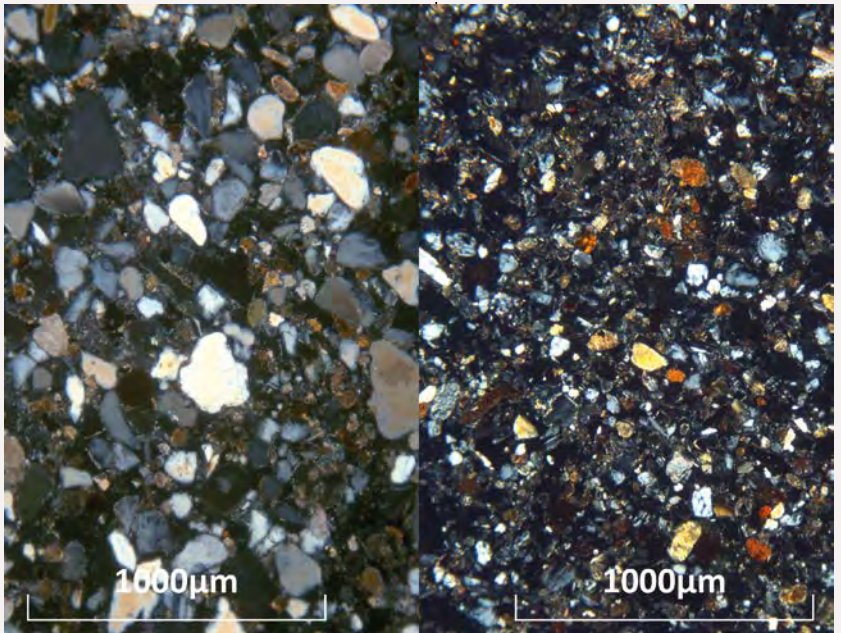
The latest occupation deposits in the alley, contemporary with the use of the adjacent late houses, contain considerably more fine



windblown desert sand grains than earlier deposits: from a stable average of 6% in lower layers to 35% in the last phases of the sequence (below right). As fine sand was not a significant ingredient of building materials at Amara West, these sediments were almost certainly deposited by the sand-laden Saharan winds that still scour the site today (left).

The river Nile is an effective barrier to most windblown sand, so these sediments were probably deposited after the island town's northern river channel had either temporarily or semi-permanently dried up. The intermixing of the sand with town rubbish indicates people were still living here during the early stages of the large-scale sand influx. Later, a thick deposit of homogenous yellow windblown sand with almost no occupational debris sealed these mixed deposits, identical to the sediments that now fill our trenches between (and on windy days during) excavation seasons. This sand is also found above and below the wall and ceiling collapse layers in most abandoned 20th dynasty houses at Amara West. As far as we can tell, these buildings were never rebuilt after their final destruction.

This sand influx is one effect of a period of environmental stress that would have made living at the town very difficult, not only in terms of agriculture but also in keeping houses inhabitable. These deposits bear witness to both the lead-up to and actual New Kingdom abandonment of Amara West. This evidence supports the idea that it was changing environmental conditions – rather than political circumstances – that prompted the final abandonment of the town.



In other cases, rubbish and discarded objects are left for the archaeologist to find many centuries later. Some are abandoned where they were used, others much further away. More confusion is caused by post-abandonment intervention. This can include extracting valuable stone architecture from an abandoned room or house, to re-use nearby, but also the digging out of spaces to use much later. In villa E12.10, a Medieval pot was found on the floor next to the New Kingdom stairs. On a much larger scale, particularly at the southern end of the site, there was large-scale quarrying out of walls. The diggers extracted old mud-brick, to crush up and use as the basis for new bricks – thought to be stronger than bricks made from freshly dug clay. This quarrying created a moonscape of dug-out walls and disturbed deposits. Dating this activity is often impossible, as the quarrying churns up pottery old and new. Some may be ancient, some Medieval and some perhaps early 20th century.

'Rediscovery'

Towns, cemeteries and cult structures had largely moved to the opposite bank in the 1st millennium BC. The most impressive monument, the Meroitic temple of Amara East, was still standing until its destruction in the late 19th century. Amara West, largely buried, may have remained part of local knowledge for centuries, as parts of it were quarried out and visitors collected objects of interest or value. Medieval pottery found near the Nile bank

Opposite

Photograph from the Breasted expedition archive, of an inscription of Ramses II in the temple at Amara West (February 1907). *Photograph: Oriental Institute.*



James Henry Breasted and family leaving Amara, in February 1907. *Photograph: Oriental Institute.*



southeast of the New Kingdom town shows that people were present in the area and presumably aware of the site. But the understanding of its history and function may not have been accurate – Amara West became known as Abkenissa, the term *kenissa* (church) implying that the ancient remains were thought of as a Christian monument (church remains are prominent across Nubia). Stone architectural elements from the ancient town made it as far as Ernetta Island, a few kilometres upstream.

‘Rediscovery’, really the recording of monuments for the first time by European visitors, would have to wait until the early 20th century. The monuments of Nubia – pharaonic temples, Meroitic pyramids and so

on – were sought out by travellers from the late 18th century, inspired by Classical accounts of Nubia and ‘Aethiopia’. Amara West, abandoned, eroded and largely buried, did not attract the attention of well-known travellers such as Johann Ludwig Burckhardt, who passed through in March 1811, disguised as ‘Sheikh Ibrahim’. Like the Royal Prussian Expedition (1842–5) of Karl Richard Lepsius, Burckhardt described only the Meroitic temple on the opposite bank.

The first decade of the 20th century saw three renowned Egyptologists visit Amara West, and record what they saw. Wallis Budge, then Keeper of Antiquities at the British Museum, arrived first, in the spring of 1905. He describes their approach: ‘the river bank was very steep, and the space between its top and the water’s edge was a mass of sand, into which we sank up to the knees at every step. The ruins were about half a mile from the river, and the ground was covered with a thick layer of bright yellow sand, beautiful to look at, but very unpleasant to walk through’. After describing parts of the temple, Budge returned the next day with workmen and tools, clearing one of the Ramses II stelae in the temple forecourt. They then ‘made several trial diggings in other parts of the site, but we found nothing worth carrying away’, reflecting the main purpose of so many early excavations: seeking objects for museums.

In February 1907, on his second journey through Nubia, the American James Henry Breasted passed through Amara West on his way back to Egypt, noting his boat could travel no further north, presumably due to the rocky rapids by the site. Breasted recognised the vulnerability of the site, and focused upon the same stela seen by Budge: ‘we photographed it in sections and made exhaustively collated hand copies. When the proposed removal takes place, much of the inscribed surface will inevitably be lost, and it would seem that such a record as we took the time to make will then be the only source for a knowledge of the document as found’. He reserves space to criticise Budge’s interpretation of the inscription. After a brief visit to the Meroitic temple, Breasted and his party transferred to a camel caravan to continue downstream.

Wallis Budge, former Keeper of Antiquities at the British Museum, photographed in 1906, the year after his brief visit to Amara West. Photograph: British Museum.





H.W. Fairman outside the EES expedition house (Amara East) during the 1938–9 season.
Photograph: Egypt Exploration Society.

The Welsh Egyptologist F.W. Green, journeying through Nubia, camped at Amara West on December 17th, 1909. In his diaries, he describes ‘my temple’, with columns bearing the cartouches of Ramses II, and criticised the workmanship as ‘very rough, as is usual with the work of his reign’. Green suggests the temple would need at least two weeks to clear, substantially less than proved necessary several decades later!

The 1930s and 1940s

A systematic exploration of the ancient town would only commence in 1938, when H.W. Fairman moved Egypt Exploration Society excavations from Sesebi to Amara West. Iestyn Edwards, later to become Keeper of Egyptian Antiquities at the British Museum, joined the team from that first season. Arriving on February 14th, the team exposed parts of the temple and opened test trenches across the town mound, including one down to the natural island surface.

Fairman and his team returned in the winter of 1938–9, before World War II delayed any further excavations. The temple was completely cleared during this season, with workmen also being sent to excavate tombs in the cemeteries. The location of these tombs was not recorded in the rush at the end of the season, but several were rediscovered by the British Museum project in 2009. Three seasons at the end of the 1940s, the last two directed by Peter Shinnie, saw the excavation of two parts of the town, around the Deputy’s Residence and south of the temple. The motivation to work on the town was not initially prompted by an interest in settlement archaeology, but rather a desire to create spoil that

could cover the temple. This approach deserves credit, however: the temple still lies beneath that spoil, protected from wind erosion and damage.

The excavations of Fairman and Shinnie were very much of their time: a focus on architecture and monuments, with a desire to link features to historical events or reigns. Floors or occupation deposits were not considered in detail, and of course many forms of scientific analyses had not then been developed. EES excavations were funded by subscribing institutions, mostly museums, so there was an expectation of monuments – which Amara West did not meet. As Fairman wrote: ‘from the point of view of material booty it has been a profound disappointment.’

Fairman and Shinnie relied on vast numbers of local workmen, supervised by foremen (*rayyis*) from Quft in southern Egypt. Their house lay on the opposite bank, but many of the men slept in temporary accommodation at the site. One of the boys employed by Shinnie still lives near our current dig house (see *In Depth* pp.108–9). The need to supervise workmen, while recording ancient remains, took its toll on the team’s mood. Towards the end of the 1938–9 season, Fairman complains that ‘Peter Fell made two finds and has gone berserk as a consequence ... another broken stela ... has no reliefs but is inscribed in very faint black ink, and I have not the time nor the intention to work on it before we leave’. At the end of the season, objects were crated up to be trucked back to Khartoum – long before any tarmac roads existed – or shipped back to England for onward distribution to museums.

Despite the limitations of mid-20th-century archaeology, Fairman and Shinnie’s work illustrated the potential of the site for further research, both in revealing well-preserved domestic architecture, and in considering the landscape around: Fairman realised that Amara West lay on an ancient island. He described it as: ‘an exceptional site that has presented conditions and circumstances that are without parallel in any other Egyptian site yet excavated.’

Workman enjoying a cigarette break in Cemetery D at Amara West, during the 1947–8 season.
Photograph: Egypt Exploration Society.



On New Year's Day 1950, Peter Shinnie left Amara West. The Decauville railway (a light portable railway used to remove spoil from the site) was sold to the French project at Sai, where it can still be seen today, abandoned and rusting. The EES excavations were never published, other than in preliminary form, by the excavators. Patricia Spencer published the town and temple architecture, alongside some pottery and information on the cemeteries, in two volumes based on the excavation archives in 1997 and 2002 (see Further information, pp. 110–11).

In the early 1970s, under the auspices of the Sudan Antiquities Service, André Vila conducted a series of survey seasons south of the Dal Cataract, revealing important information about settlement patterns before, during and after the New Kingdom. A volume dedicated to the Amara West area presents 53 of these sites (see In Depth pp. 22–3), at some of which excavations were undertaken, including both cemeteries at Amara West. Vila later re-dated the tombs to the Napatan era (8th–7th centuries BC), but our excavations have revealed many were dug and used for burials in the late New Kingdom.

Current interdisciplinary research at Amara West

Archaeological work resumed at Amara West on January 9th, 2008. The archaeological site appeared frozen in time. Since New Year's Day 1950, little seemed to have changed: the EES spoil heaps were still visible, the areas they had excavated simply filled with clean windblown sand. Much has changed, however, in how we excavate. We travel to site by motor-boat (only introduced to the area in the 1980s), rely on mobile phones to communicate between site and dig house, answer emails and post daily blog posts and register finds online. Our sponsors – funding bodies and trusts – are interested in research questions and knowledge, not the acquisition of nice objects for museums. Yet some things do not change: the howling

— Sieving of archaeological deposits from area E13.





—
Mud-plastered walls and floor, with a grinding emplacement and drying dates, within a traditional house on Ernetta Island.

winds, the challenges of well-preserved architecture and the masses of pottery that need processing.

Our seasons, of between 6 and 12 weeks, take place early in the year, before the heat of the summer. We work six days a week, with Friday off, from 7am to 2pm on site with workmen, and after in the expedition house, or recording on site. As with much archaeology, the working day is methodical, often boring and occasionally punctuated by excitement. It sometimes seems like a safari, with the twice-weekly camel caravans passing on their way to Egypt, or the crocodile sightings on the boat journey from site. A highlight is the Nubian breakfast brought by the workmen: aubergine stews, thick *gurassa*-pancakes with preserved fish, homemade yoghurt, parchment-like *kisra*-bread, tomato and chilli salads and, of course, *fuul*-beans in various guises.

Archaeology in the 21st century is a mixture of the old and new. Seasons comprise a bewildering array of people – in 2014, 31 specialists from 12 countries – to excavate houses, study botanical remains (see *In Depth* pp. 52–3), draw artefacts, analyse pigment samples (see *In Depth* pp. 100–1) or create virtual three-dimensional modelling of architecture (see *In Depth* pp. 102–3). Digesting the colossal amounts of data is a task that takes years. Our 2014

season produced 126 gigabytes of data, 2,489 archaeological record photographs, 2,233 finds photographs, 24,391 photographs for 3D modelling, and 4,156 kite photographs.

Not everything we bring back to London from Sudan is digital. The National Corporation of Antiquities & Museums generously donate skeletal collections from the cemetery excavations to the British Museum (see *In Depth* pp. 58, 66 and 104–5), where they will remain accessible to scholars researching the bioarchaeology of the Nile valley. The 2014 season saw us return with 589 archaeological samples and 176 phytolith samples, which will provide new insights into life in the town (see *In Depth* pp. 44–5 and 52–3), alongside kilos of archaeological drawings.

Living with Ernetta

Our experience of working at Amara West has largely been shaped by living on Ernetta, an island 1km upstream of the ancient site. Wallis Budge had visited it in 1905, but expressed disappointment at the absence of antiquities. Our project team has lived on the island since 2008, and from the following year in a series of adjacent houses which have been converted to create an expedition house for living and working in. We journey down the Nile every

The science of colour

Kate Fulcher

Producing colour to decorate homes and belongings was a source of ongoing activity for the people of Amara West, involving high-temperature processing, grinding and mixing. Colour processing is an understudied aspect of ancient manufacture, but is one that can inform us about interaction and trade with other towns, regions and countries. All the colours used on walls in ancient Egypt and Nubia were inorganic substances ground to a powder and suspended in a liquid. White, black, yellow, red, blue and green are the colours most often found. The people of

Amara West also mixed pigments together in pottery bowls and on sherds (below) to create grey and orange, with darker and lighter shades created by mixing in black and white.

Most of the colours came from rocks, ground into a powder using a grindstone and hammerstone – several examples of such tools, still with colour adhering to them, have been found in the town. The powder would then be mixed with a liquid, such as water, egg or natural resin, to form a paint that could be applied to walls or objects. Two



manufactured pigments were also used in ancient Egypt: 'Egyptian blue' and green frit. These were made using the same ingredients, but in different ratios. Sand (silica and lime), copper filings and a flux such as plant ash were mixed together and heated to a high temperature – about 1000°C – at which point either blue or green crystals formed in an amorphous glassy phase. Egyptian blue occurs on sherds used as mixing palettes at Amara West, and it is hoped that further research will determine whether it was manufactured at the site, or imported from Egypt.

To identify pigments after sampling (below), we first use a powerful tool: our eye. Some look dull and others are sparkly; even the tone of the colour can suggest which pigment was being used. The rare yellow pigment jarosite, for example, is much paler than the common yellow ochre. Next, we might examine the

pigment under an optical microscope. This can reveal a lot about its identity, and the way it was prepared. Some pigments, such as Egyptian blue, are formed of crystals, which are visible under a microscope. Crushed rock, by contrast, looks like a very fine powder.

Several analytical techniques are used. On site, a handheld portable X-ray fluorescence spectrometer (pXRF) bombards samples with X-rays and analyses the X-rays that are emitted in response. The energy levels of these determine the elements present in the sample. Some pigments contain diagnostic elements that would not otherwise be expected to be present, such as copper (Egyptian blue) or arsenic (realgar and orpiment). Further analyses, with scanning electron microscopes, Raman spectroscopy and X-ray diffraction, take place back in London laboratories.



Amara West 3D

Susie Green

Archaeological excavation is a destructive process; it is only by removing later levels that we can understand the earlier ones. In order to preserve as much information as possible at Amara West, the latest technology is being used to create a detailed three-dimensional (3D) model of the archaeology as it is revealed.

The 3D recording processes commonly used by archaeologists are laser scanning and photogrammetry. At Amara West the fine windblown dust and complex architecture make the use of bulky and expensive laser scanning equipment impractical, so we use a type of photogrammetry known as 'Structure from Motion'. This takes a large number of photographs of the same subject from different angles and uses triangulation to calculate the position of cameras, and then points, in 3D space (far right). The result is a dense 'pointcloud' accurately representing the surface of the subject. The points are processed using software to create a detailed virtual model onto which the photographs can be projected to restore the exact appearance of the surface.

The photographs are taken using a handheld digital camera, which allows the archaeologists to move quickly and gives them the flexibility to capture even the most awkward shapes, such as the chambers of a tomb. The wind quickly fills excavated rooms with sand, so speed is important. The bright sun and deep shadows in Sudan are unsuitable for capturing surface colour, so all the photographs are taken before sunrise, in the shade of a canopy, or on a rare cloudy day.

Between 200 and 500 photographs are taken of each room. This amounts to 180 gigabytes of images for the E13 neighbourhood alone. In addition to the ground-based images, a camera carried by a kite is used to photograph



Amara West from above (below left and see pp. 11, 35). This allows high resolution orthographic images to be created which can be used to model the surrounding area. Control points are surveyed and these are used to georeference the 3D model so that it is correctly scaled and located in virtual space. The result is a 3D representation of Amara West and the surrounding area. The models are detailed enough to show the shape of every brick, colours of different deposits and surfaces, and even the small pieces of pottery that are occasionally trapped between them.

We hope such visualisations will not only allow the archaeologists to continue studying the town when they are not on site, but also convey the spatiality of the ancient town to those who cannot visit. Gaming software allows the model to be walked through, or flown over. Eventually, the model should provide an environment in which information about objects, pottery and occupation phases can be brought together, as we try and populate the town of Amara West with the activities and things that once made it a busy town in Upper Nubia.



Health deterioration in the 1st millennium BC

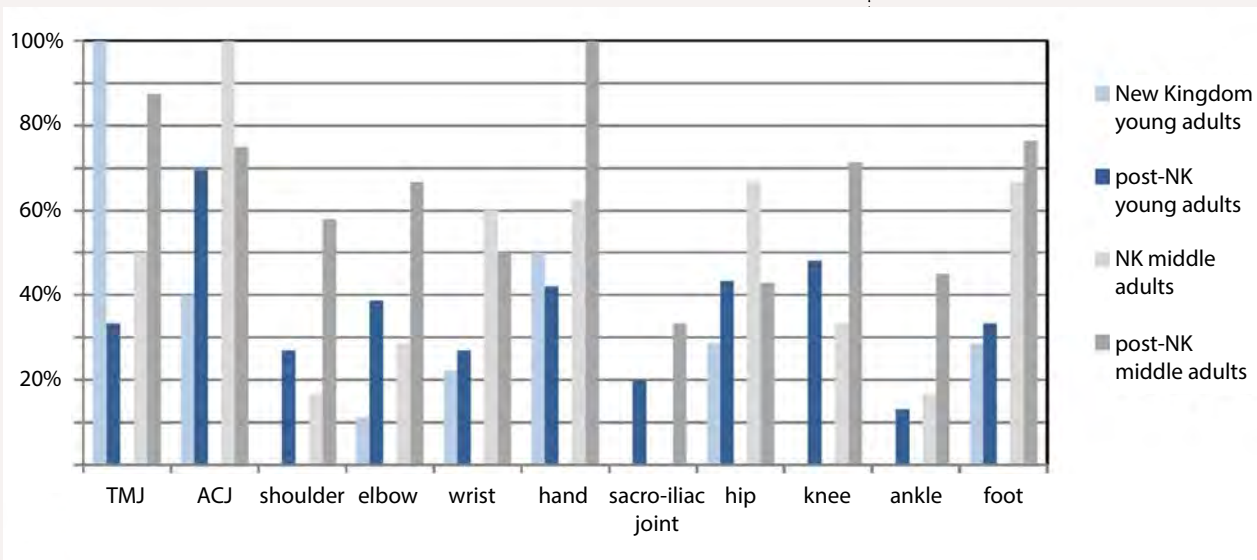
Michaela Binder

Famines arising from crop failure, an increase in carriers of infectious diseases or a rise in respiratory diseases are all recognised impacts of environmental change. The skeletal human remains from Amara West, ranging in date from the foundations of the town in 1300 BC until the abandonment of the area in the 8th century BC, allow us to investigate how environmental changes affected people's health and way of life across time. Though the skeletal remains from Amara West, such as the individual from G305 illustrated below, vividly illustrate that life here was never easy (see In Depth pp. 58, 66), environmental deterioration put additional strains on the

people living in the area during the early 1st millennium BC. Several changes are evident in the skeletons analysed thus far.

Respiratory diseases became more common in the 10th century BC and later, possibly as a consequence of increasing levels of air pollution caused by windblown sands, as evident in the later New Kingdom occupation layers (see In Depth pp. 92–3). The frequencies of degenerative joint disease also rose significantly during the post-New Kingdom period (the graph to right illustrates rise in prevalence of osteoarthritis), indicating a higher degree of physical activity. This may be





explained by changing modes of subsistence (a different dietary pattern) or by an increased intensity of labour. With an increasingly dry climate and the failure of the northern Nile channel, followed by an influx of sand, fields would have required more physical labour to remain viable. The increase in levels of joint disease may well reflect these processes.

Skeletal remains can also act as a primary source of data for changing climatic conditions through the analysis of stable oxygen isotopes in bones and teeth. The ratio of oxygen isotopes ^{16}O to ^{18}O in human skeletal tissues reflects the isotopic composition of the water that people drank, which in turn varies according to the amount of rainfall, altitude, latitude and local climate. Higher temperature leads to increased evaporation of the lighter isotope ^{16}O , leading to higher values of the isotope ratio. The predominant source of drinking water for

people at Amara West would have been Nile water. Isotope ratios in dental enamel have been analysed for 36 individuals who lived at the site both during the New Kingdom and post-New Kingdom periods. These show a statistically significant difference, with higher values of the isotope ratio during the later period. This shift may reflect the general climatic changes occurring in the wider region, with decreasing rainfall in the source regions of the Nile, perhaps coupled with increasing evaporation due to higher temperatures occurring along the river. Bone and teeth of the people of Amara West therefore add further evidence to the emerging picture of major environmental deterioration occurring in the area in the late 2nd and early 1st millennium BC.



Workmen returning home after
a day excavating at Amara West,
February 2014.

morning to reach the site, and the local town of Abri provides everything from the thrice-weekly *souk* (market) to equipment made to order by carpenters and blacksmiths.

The workmen employed on site are nearly all from this island, including electricians, builders, nurses and policemen, but also university graduates in civil engineering. None had archaeological experience before the project started, so have been trained 'on the job'. We communicate in Arabic and English, but Nubian is the main language used by the workmen and villagers.

Unwittingly, the choice of Ernetta has greatly informed our understanding of the ancient site and possible lived experiences. As with any attempt to draw parallels between societies across significant stretches of time this needs to be undertaken with caution. The layout of the traditional houses on the island is very different to those we are excavating: they are set around vast courtyards, without staircases to roofs or upper storeys. However, it is the use of the same materials – mud and plants (though metal and cement are becoming increasingly prominent) – that prove so informative to archaeologists. Through living in the same spaces for months, returning around the same time each year, we gain an appreciation of how the walls and especially floors weather and erode over time, how mats laid across a mud floor leave an impression within a few days, or how layers of water-splashed clay form crusty surface layers around water-jar emplacements.

Living in the village also reminds us of possible responses to the local and built environment. Mats are not usually left on floors, but taken up after use, as scorpions favour lurking underneath. Much of the day is spent in dark or shaded spaces, partly due to the sun, but also to avoid the wind and especially the seasonal biting *nimiti*-flies, which plague the area for around six weeks every year. Some rooms are rarely used at all, except when hosting visitors, and many rooms have no windows (or a small one that remains closed), with the only light coming from the doorway.

On a larger geographical scale, Ernetta also informs us about the ancient Nile, and the agricultural potential of islands, separated from the northern winds carrying Saharan sand. Though somewhat larger than the ancient island of Amara West, Ernetta is morphologically similar, being an alluvial island separated from the north bank by a smaller river channel, which at low river can become a mere stream.

Another parallel lies in the stress placed on communities, and their subsistence strategies, in the face of considerable climate change. While the fluctuations in Nile patterns that affected ancient Amara West were naturally induced (see *In Depth* pp. 90–1), the present-day inhabitants of Ernetta are faced with a changed Nile regime created by the construction of the Merowe Dam, near the Fourth Cataract. Within a matter of years, erosion patterns along the alluvial edges of the island are changing, prompting a shift in the range of crops preferred by villagers.

The archaeology of Amara West is shaped, informed – and ultimately only possible at all – by working and living with the villagers of Ernetta Island.

Amara West 1947–50: inscribed in Nubian memory

Shadia Abdu Rabo & Neal Spencer

'We were always sad at sunset on the last day of excavation', remembered Mohamed Saayed. Along with Osman Daoud and Mohamed Abdelhain Saleh, Mohamed is one of three Ernetta villagers who participated in the EES excavations at the site under H.W. Fairman (1947–8) and then Peter Shinnie (1948–9, 1949–50). Another, Ali Mohamed Ali, lives at Amara East, near the site of the Meroitic temple. We are fortunate that Mohamed, living near our dig house, has been generous in sharing his memories of the excavations, offering a very different view to that recorded by the British Egyptologists.

Mohamed was born in 1939, and lived on Ernetta Island all his life. At the age of ten, Mohamed joined other Sudanese workmen brought from towns and villages across Nubia, as far north as Wadi Halfa (170km from Amara West) to excavate in the ancient

town (as shown in an archive image from 1947, below). The men were accommodated in tents and wood-and-reed shelters near the ancient town. But those living locally, like Mohamed, stayed at home, and took a sailboat at 6am every morning, from the eastern (downstream) end of Ernetta. Mohamed recounts how high winds could delay the crossing – the British archaeologists travelled by rowboat over from Amara East. On some days, high winds stopped work altogether, but the men were still paid.

Mohamed carried baskets of spoil to the narrow-gauge railway cars used to move it outside the town walls, and recalls seeing inscribed stones, beads and amulets come out of the ground. Men were rewarded with small payments of *baksheesh* for finding nice objects. Pottery not selected for study was discarded into the sand dunes and tamarisk





trees by the Nile. Today, we worry about the *nimiti*-flies, but Mohamed claims they were much worse in the 1940s. He emphasised that the salary represented a considerable income for his family. He also worked for other expeditions, including at Buhen and Sai.

The remainder of the year saw Mohamed help his family tend to fields on Ernetta. Marriage to Fatma in 1972 prompted Mohamed to reduce the number of excavation projects he worked on. Moving into a new house near his father's, Mohamed has since focused on farm work. He still lives in that house today, with two of his daughters and a son; three other daughters and four sons have left

Ernetta to live elsewhere in Sudan and in Saudi Arabia. Fatma passed away recently, but Mohamed's second wife Aisha still lives nearby. There is still a family connection to Amara West – his son Amjad worked with us in Cemetery C in 2009, and one of the site policemen, Rami, is Mohamed's nephew.

We frequently see Mohamed as we walk around the island, tending to fields of *fuul*-beans, barley, wheat, fenugreek and chick peas. He returned to the site in 2008 (above with site guard Mounir Ali Salah) to share his memories with us.

Visiting Amara West

Anyone wishing to visit the site should obtain permission from the National Corporation of Antiquities (Sudan), either in Khartoum (adjacent to the Sudan National Museum) or Wadi Halfa. The site is most easily accessed by motor-boat from the town of Abri; boatmen can be found near the landing adjacent to the *souk*. The site is 4km downstream, and accessed by clambering up the sandy slope. The archaeological areas (town and two cemeteries) are now defined by a perimeter fence, within which visitors can see parts of the ancient houses, the town wall and west gate, and architectural fragments scattered across the surface. The temple is not currently visible, protected beneath metres of spoil. Less is visible in the cemeteries, other than the outline of funerary chapels (in Cemetery D) and low *tumulus* mounds in Cemetery C.

The police post at the site features a shaded veranda, within which information panels on the history of Amara West, and results of ongoing research, can be found. We ask people to take care during their visit – the mud-brick buildings of the ancient town are easily damaged.

Objects from Amara West can be found in museums across the world, following the division of finds after the Egypt Exploration Society excavations. These include the Brooklyn Museum of Art, the British Museum and the Musée du Louvre. In Khartoum, the Sudan National Museum displays a selection of artefacts from both the EES and BM excavations.

For further information about The British Museum:
www.britishmuseum.org
The British Museum collection can be searched at:
www.britishmuseum.org/collection

Images

(page 8) Plaster cast of scene from Beit el-Wali temple, British Museum, © The Trustees of the British Museum
(page 10) Faience shabti, British Museum EA 22818, © The Trustees of the British Museum
(pages 14–15, 17, 96–7, 108) Courtesy of the Egypt Exploration Society
(pages 94, 95 upper) Courtesy of the Oriental Institute, University of Chicago
(all other images) Courtesy of the British Museum Amara West Research Project.

Text © the authors 2014

First published 2014 by the Trustees of the British Museum
Great Russell Street, London WC1B 3DG
All Rights Reserved

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

ISBN 987-0-7141-9125-6

Designed by Turchini Design Ltd
Printed by Latimer Trend & Company Ltd

Further information

For more information on Amara West research, visit www.britishmuseum.org/AmaraWest. During excavation seasons (generally January–March), regular updates are posted on the project blog: <http://blog.amarawest.britishmuseum.org>.

Publications of the Amara West research project:

- Binder, M. 2011. 'The 10th–9th century BC – New Evidence from Cemetery C of Amara West', *Sudan & Nubia* 15: 39–53.
http://issuu.com/sudarchrs/docs/s_n15_binder
- Binder, M. and Roberts, C. 2014. 'Calcified structures associated with human skeletal remains: Possible atherosclerosis affecting the population buried at Amara West, Sudan (1300–800BC)', *International Journal of Paleopathology* 6: 20–9.
- Binder, M., and Spencer, N. 2014. 'The bioarchaeology of Amara West in Nubia: Investigating the impacts of political, cultural and environmental change on health and diet', in A. Fletcher, D. Antoine, and J.D. Hill (eds), *Regarding the Dead. Human Remains in the British Museum*. London: 123–36.
- Binder M., Spencer, N., and Millet, M. 2011. 'Cemetery D at Amara West: The Ramesside Period and its aftermath', *British Museum Studies in Ancient Egypt and Sudan* 16: 47–99. www.britishmuseum.org/research/publications/online_journals/bmsaes/issue_16/binder_spencer_millet.aspx
- Binder, M., Roberts, C., Spencer, N., Antoine, D., and Cartwright, C. 2014. 'On the antiquity of cancer: Evidence for metastatic carcinoma in a young man from ancient Nubia (c. 1200 BC)'. *PLOS One*. www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0090924
- Spencer, N. 2009. 'Cemeteries and a late Ramesside suburb at Amara West', *Sudan & Nubia* 13: 47–61.
http://issuu.com/sudarchrs/docs/s_n13_spencer
- Spencer, N. 2010. 'Nubian architecture in an Egyptian town? Building E12.11 at Amara West', *Sudan & Nubia* 14: 15–24.
http://issuu.com/sudarchrs/docs/s_n14_spencer
- Spencer, N. 2014. 'Amara West: Considerations on urban life in occupied Kush', in J.R. Anderson and D.A. Welsby (eds), *Proceedings of the 12th International Conference for Nubian Studies. 1–6 August 2012, London*. British Museum Publications on Egypt and Sudan 1. Leuven: 457–85.
- Spencer, N. 2014. 'Creating a neighbourhood within a changing town: Household and other agencies at Amara West in Nubia', in M. Müller (ed), *Household Studies in Complex Societies: (Micro)-Archaeological and Textual Approaches*. OIS 10. Chicago.
- Spencer, N., Macklin, M. and Woodward, J. 2012. 'Re-assessing the abandonment of Amara West: The impact of a changing Nile?', *Sudan & Nubia* 16: 37–47.

Publications of Egypt Exploration Society (www.ees.ac.uk) excavations:

Spencer, P. 1997. *Amara West, I: The Architectural Report*. Excavation Memoir 63. London.

Spencer, P. 2002. *Amara West, II: The Cemetery and the Pottery Corpus*. Excavation Memoir 69. London.

Historical and cultural context of Egypt and Nubia:

Edwards, D.N. 2004. *The Nubian Past. An Archaeology of the Sudan*. London.

Smith, S.T. 2003. *Wretched Kush*. London, New York.

Acknowledgements

The fieldwork at Amara West takes place under the auspices of the National Corporation of Antiquities & Museums. Particular thanks are due to our inspector, Shadia Abdu Rabo (Sudan National Museum), and Bioarchaeology Field School participants Mohamed Saad and Murtada Bushara. In Khartoum, the support of Abdelrahman Ali, Salah Mohamed Ahmed, Hassan Ahmed and Hassan Hussein Idris of NCAM, is gratefully acknowledged. In and around Amara West, the assistance of Mounir Ali Salah, and our landlords Kawsir Mohamed Ali and Mohamed Ezz ed-Din, have been essential to the ongoing fieldwork. In Khartoum, George Pagoulatos and his family and staff at the Acropole Hotel proved as hospitable and helpful as ever, while Waleed Arafat (Lendi Travel) makes the logistics of getting a big project started and finished each year seem easy.

The fieldwork would not be possible without generous funding from the Leverhulme Trust (2010–2014), the British Academy (2009), the Fondation Michela Schiff Giorgini (2010, 2013, 2014), the Institute for Bioarchaeology (2012–) and the Thames Valley Ancient Egypt Society. The project is now part of the Qatar-Sudan Archaeological Project, whose support has transformed the research.

Much of the research is undertaken in collaboration with specialists from various institutions. Other than the authors in this book, particular thanks are due to Marie Millet for research on ceramics (now Musée du Louvre), Michelle Buzon on strontium isotope analyses (Purdue University), Charlotte Roberts on bioarchaeology (Durham University), Charles French (micromorphology; University of Cambridge), Robert Demarée (University of Leiden) on hieratic ostraca, Ian Freestone (pigment

analyses; UCL), John Meadows (14C dates; Kiel University) and Hans Mommsen (NAA analyses; University of Bonn). A preliminary analysis of faunal remains was undertaken by Jeremy Clutterbunk (then University of Southampton). The geophysical survey was undertaken by the British School at Rome and Archaeological Prospection Service of The University of Southampton, and geomorphological research with the Universities of Manchester and Aberystwyth. Thanks are due to the Egypt Exploration Society (Chris Naunton, Carl Graves, Patricia Spencer) and Oriental Institute, Chicago (Austin Kramer, John Larson) for permission to use, and assistance with, archival images.

In the British Museum, thanks are due to Michela Spataro, Thibaut Deviese, Janet Ambers, Philip Kevin, Marei Hacke, Rebecca Stacey and Maïckel van Bellegem (Department of Conservation & Scientific Research); and Claire Messenger, Tania Watkins, Evan York, Vivian Davies (particularly for the F.W. Green diaries), Derek Welsby, Julie Anderson, Daniel Antoine, Patricia Usick, Shezza Rashwan and Daniel Bowmar (Department of Ancient Egypt & Sudan). Carolyn Jones edited the text, and Carla Turchini (Turchini Design Ltd) designed the layout. The Arabic edition was translated by Shezza Rashwan and Hany Rashwan with the assistance of Shadia Abdu Rabo, and set by World Accent.

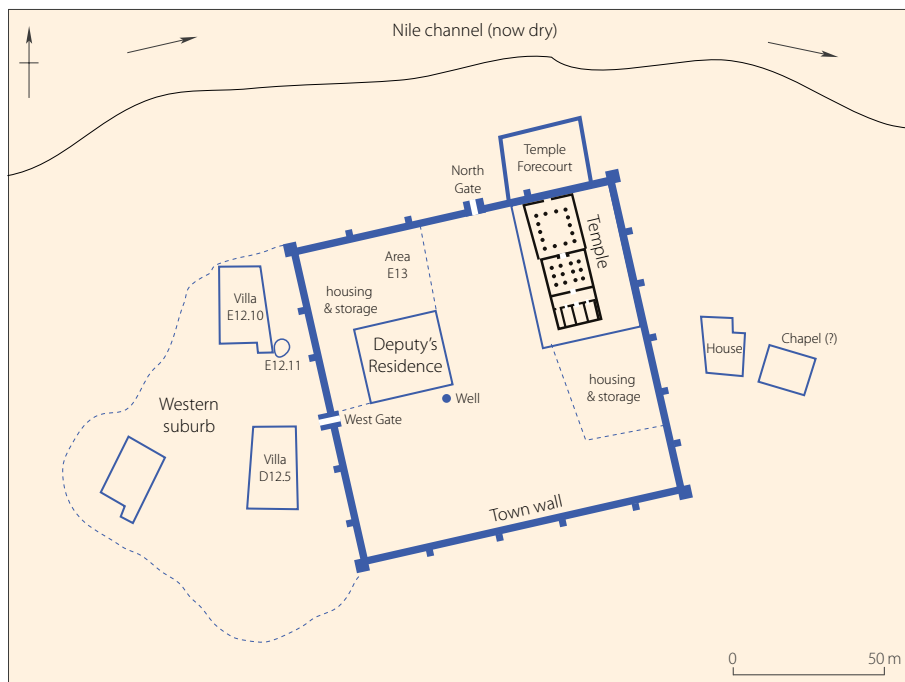
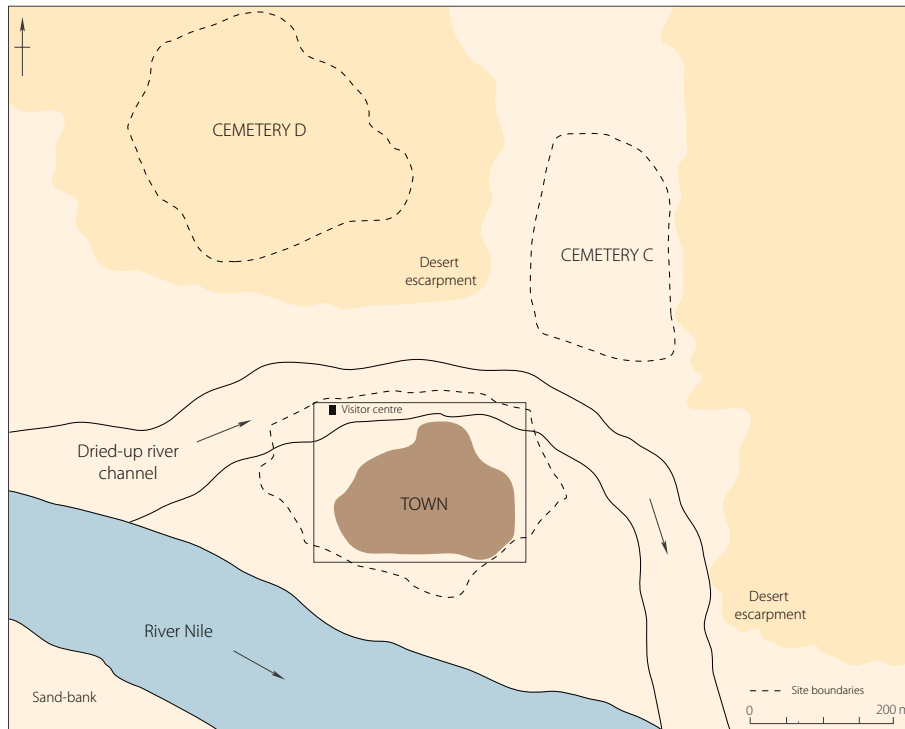
Following page

Heading to Amara West at dawn for another day of excavation.



Map of Amara West town and cemeteries

Plan of town, below





Amara West

Living in Egyptian Nubia

In 1300 BC, pharaonic Egypt created a new town on the windswept banks of the Nile in northern Sudan: Amara West. Designed as a centre for the control of occupied Upper Nubia, the town flourished for 200 years. An interdisciplinary research project, led by the British Museum, has been working at the site since 2008. What was it like to live in Egyptian Nubia? What things did the inhabitants make and how did they interact with the spiritual world? How was food prepared, and how healthy were the inhabitants? How did the town change over two centuries of occupation? What role did Nubian culture play in this apparently Egyptian town? Why was the town abandoned? This book offers a glimpse of the intricacies of everyday life under empire in Egyptian Nubia.

