

**Volume 29, Number 1
June 2023**

Published twice per year since 1993

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The President's Papyrus

Greetings Amarnaphiles,

In this edition of the Sun, we have three fascinating articles. The first is by Lyla Pinch-Brock, a famous archaeological illustrator who has worked most of her career in Egypt. She has provided us with a wonderful article about the discovery, documentation, and conservation of a recently discovered New Kingdom tomb chapel constructed during the Amarna Period.

Following this we have two articles by the world's best known authority on the Amarna period, Barry Kemp. We are so blessed to have the world's leading authority on Amarna as a regular contributor to this newsletter.

Make no mistake about it, this newsletter provides you with the most authoritative information available. These two authors have chosen the Sun to be the principal vehicle to publish their scholarly writings. Think about it, as a TARF member you have the privilege of receiving the latest information about Amarna with each and every edition of the Akhetaten Sun. Remember that your continued support and membership in this organization has been, and continues to be, an important financial source supporting their work. Thanks! Take care and be safe.

With best wishes always,

Floyd

A Family Affair: Saving a Chapel at Saqqara

Lyla Pinch-Brock

Research Associate, Royal Ontario Museum¹

On a gusty day in March, 2018, near the tomb of Maya on the site of the Leiden-Turin Mission at Saqqara, our archaeologist in charge, Paolo Del Vesco,² was clearing down through a layer of compacted rubble and mud when he was startled to see, slowly emerging from the debris, the heads of a row of small, exquisitely-carved human figures (Figure 1). When the overburden was finally cleared away by hand, five 35 cm - tall almost completely three-dimensional figures were revealed. The figures wear elaborate wigs and pleated garments, and are rendered in the minutest detail, right down to the tiny ties on their robes. Little did de Del Vesco know that this beautiful carving would eventually reach the news media world-over, its preservation and recording made possible through a grant from the Amarna Foundation.



Figure 1: Family group emerging from the sand in 2018 (photo: Lyla Pinch-Brock).

¹ I have entitled this article, “A Family Affair,” because it not only deals with the recording and protection of a unique family group, but also because the work of recording and preserving it involved almost every member of our excavation family.

² Paolo Del Vesco, Christian Greco, Miriam Muller, Nico Staring, Lara Weiss; “Current Research of the Leiden-Turin Mission in Saqqara. A Preliminary Report on the 2018 Season.” *Revista del Museo Egizio* 3 (2019) pp 1-25. Del Vesco is Deputy Director of the Mission.

The National Museum of Antiquities in Leiden has been working at Saqqara since 1975, in cooperation with the Egypt Exploration Society in London. They have made many important discoveries, most notably the tomb of Maya in 1986. Over the past 44 years, the Leiden expedition has excavated, studied and published another eleven monumental tombs and many smaller ones. In 1999, the Egypt Exploration Society left the joint project and in 2015 Leiden teamed up with the Museo Egizio in Turin.

Chapel 270

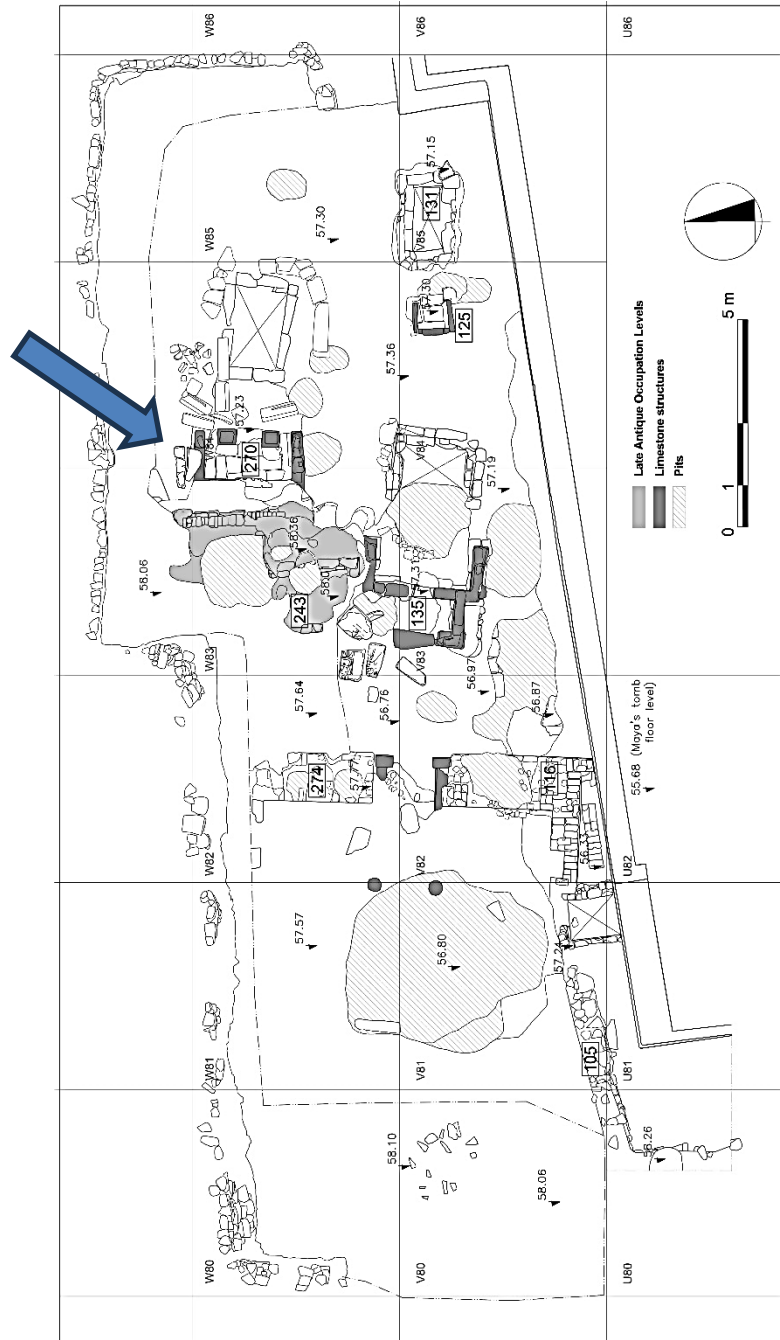


Figure 2: Site plan showing location of feature 270 near tomb of Maya at Saqqara (Plan: Survey Group, Politecnico di Milano).

Architecture

In 2019 the focus of excavation was just north of the tomb of Maya. This otherwise unrevealing area was covered with the debris from clearance and restoration works. Little was expected, so there was considerable excitement when our little chapel, now known officially as early Ramesside Chapel context 270, slowly came into view (see our plan, Figure 2). What remains of it is a three-sided structure 260 cm wide by 140 cm long with a maximum height of a little over half a meter. It was once attached to a much larger structure on the west made of mud brick faced in limestone. There is very little left of this feature. The floor is paved with stone slabs and the bases of two rather slender centrally-placed small columns are still extant. The building was unfortunately constructed of poor-quality limestone blocks. According to Del Vesco, the chapel would have had a curved roof. He believes the closest parallel may be the shrine of Menmaatre-em-heb and his wife Urtnefret now in The Museum of Fine Arts, Boston.³

Decoration

There was doubtless much more decoration in the original building but the poor quality of the limestone obtained against its preservation. What remains is a central group of figures carved in high relief, with shallow reliefs carved to the west and south of it, and a tiny cavetto cornice cut at the level of the figures' heads. Above the central group is the remains of another, unfinished cluster perched on a lintel, apparently seated figures who might have been gods (Figure 3).



Figure 3: View of the chapel showing family group in central location and reliefs to the left and south of it (photo, Nicola Dell'Aqua).

³ Boston Museum of Fine Arts acquisition number 00.690 a-b.

The central group is carved just above floor level and may represent a family (Figure 4). Two women hold the hands of two (unfinished carvings of) children, and they flank two men. Some minor details of the carving of the figures on the right differ from those on the figures on the left, suggesting that two gangs might have been at work. The carving and design is very sensitive; the women hold the hands of the children affectionately, and their arms enfold the shoulders of the men. Their pleated garments are very elaborate, the details, like the finger and toenails and the fringes on the dresses and the elaborate coiffures of the women, are carefully picked-out.

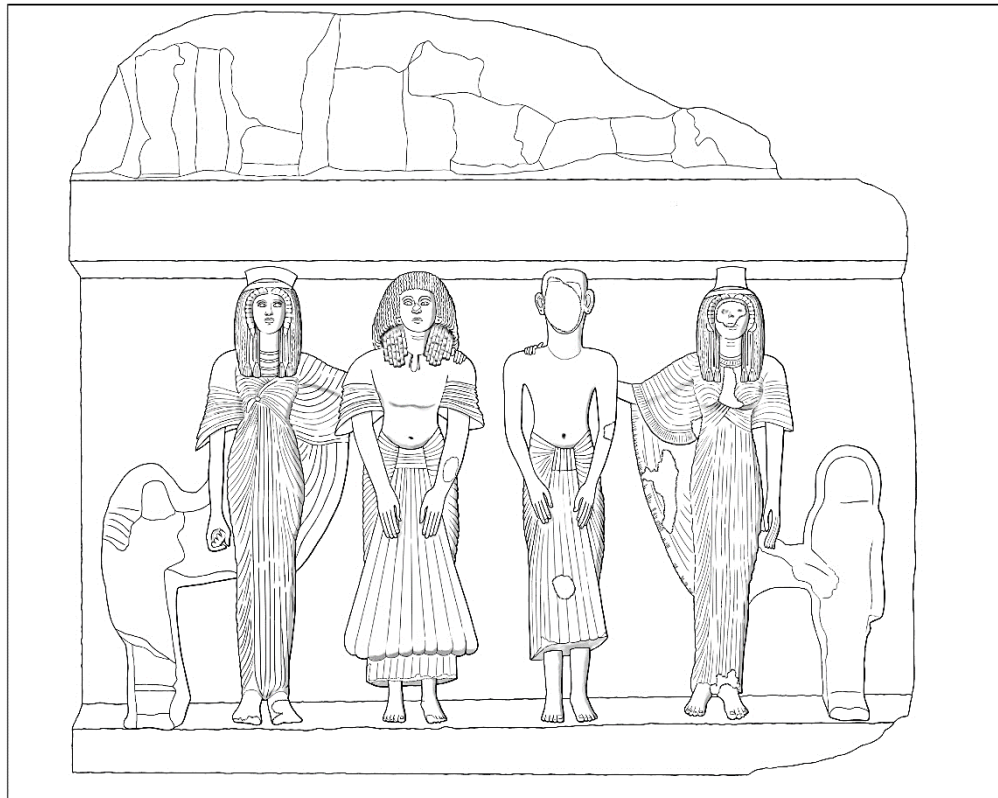


Figure 4: Illustration of family group.

The incised relief immediately to the left of the family group (Figure 5) shows what remains of a group of men apparently bringing offerings to the deceased; an offering table decked with vessels and food stands in front of them. Adjacent to this relief, carved along the south wall, is a mourning scene (Figure 6). On the left is a group of men of high status, evident by their pleated garments, expressing grief. The deceased is shown in front of them, walking beside a funerary barque which is erected on a stand. The barque bears female goddesses kneeling beneath a sail. At the end of the barque, the deceased is greeted by a mourning female. Beyond the barque are cattle and herders carved in two registers.

Parts of the chapel decoration are obviously unfinished, even though the reliefs on the south side bear the remains of paint. Nowhere is the owner named. And, although the type of costume depicted is known from the Amarna Period, the chapel has now been dated to the early Ramesside Period based on stratigraphy.

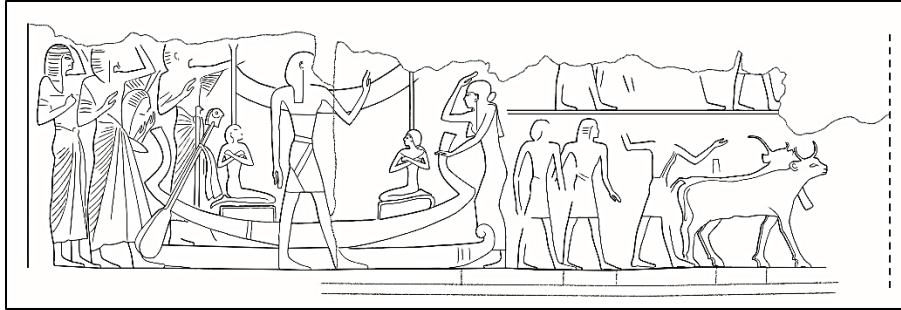


Figure 5: Illustration of offering scene. (Lyla Pinch Brock)

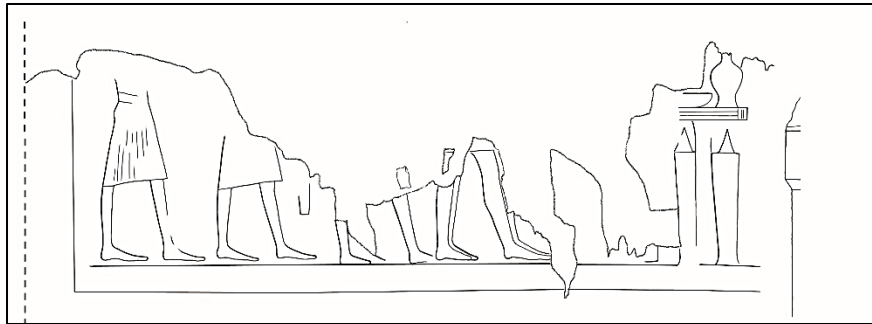


Figure 6: Illustration of mourning scene. (Lyla Pinch Brock).

Recording the Chapel

In the fall of 2022 I arrived on site (Figure 7) to record the scenes in the chapel for publication, thanks to a grant from the Amarna Foundation. I was greatly assisted in my work by our photographer, Nicola Dell'Aqua, who provided photographs for me to check details off-site, and who took photos at different angles and in different lighting so I could see certain parts of the reliefs not readily visible to the naked eye.



Figure 7: Lyla Pinch Brock getting ready to record the Little Chapel at Saqqara (photo: Barbara Aston).

The photogrammetric survey team from the Politecnico di Milano produced an excellent 3D model of the site which was invaluable for measuring elements.



Figure 8: Lyla Pinch Brock drawing family group in Little Chapel area (photo: Barbara Aston).

My work consisted of making measured drawings of the statues and reliefs (Figure 8) for publication. I examined and checked the details with a magnifying glass and noted them with pencil on calque tracings placed over enlarged photographs. Off-site, I searched for comparanda for the hair, garments and content of the incised reliefs and scanned the final drawings into the computer. Then I inked them in on a giant Wacom tablet using established artistic conventions.



Figure 9: Constructing the protection for the Little Chapel (photo: Servass Neijens).



Figure 10: Conservators Basma Zaghoul Ismail and Yousef Hammadi removing dirt and stains from the monument (photo: Servass Neijens).



Figure 11: Family group after conservation (photo: Servass Neijens).

Protecting the Chapel

On site, a temporary shelter made of plywood coving plastic sheeting had been constructed over the chapel shortly after its discovery. It remained in place up until 2023, when we finally removed it completely to enable conservation work.

The same year the Amarna Foundation kindly offered to pay for a more permanent structure made of sturdy limestone blocks fixed and coated with cement and fitted with windows and a door (Figure 9). But before that was constructed, we brought in our experienced conservators, Basma Zaghoul Ismail and Yousef Hammadi to do the conservation work on the chapel and its reliefs (Figure 10). For a number of weeks they cleaned and stabilised the carvings and also the whole of the interior of the chapel, removing a great deal of mud and stains that had obscured the beauty of the statues. They also uncovered paint on the southern relief – yellow, red, blue – and some red on one of the sandals of the family group (Figure 11).

We are considering producing a three-dimensional copy of the chapel using photogrammetry. But for now, our most pressing need is to protect it on site, for which our very sturdy new stone structure is ideal (Figure 12). Certainly, preserving this chapel, like protecting all of Egypt's monuments in a time of global warming, continues to be our top priority.



Figure 12: New protection for the Little Chapel installed on site (photo: Servass Neijens).

How many rock tombs are at Amarna?¹

Barry Kemp

The straightforward answer to this question is 25, plus the four tombs in the royal valley which carry the numbers 26 to 29.² This assumes a particular definition of a rock tomb at Amarna, namely, one or more chambers cut into the slopes of the escarpment which surrounds Amarna, mostly with some decorated walls, often with a named ancient owner and generally regarded as needing the protection of a lockable iron door. Davies went on to explain:

'Many of the southern tombs remained wholly or partially buried until recently. In 1883 the work of clearance was begun by M. Maspero, and many of the texts then discovered were published by M. Bouriant, who also later wrote a description of the scenes in the tomb of Akhenaten. In 1893 M. Grébaut completed the work, and furnished the inscribed tombs of both groups with iron doors' (Davies 1903: 5).



Figure 1: A location amidst the southern group of rock tombs (between nos. 9 and 12) where a start has been made on cutting a tomb façade in the rock. View to the north-east.

¹ This article continues an earlier piece of mine, 'The rock tombs of Amarna', in the *Akhetaten Sun*, vol. 19, no. 2, December 2013, 8–16. exhausted the possibilities (Davies 1906: 7).

² The numbering adopted is that officially given to the tombs and used in Baedeker's most recent editions. The older numeration of Lepsius began at the other end of the series' (Davies 1903: 7, note 1).

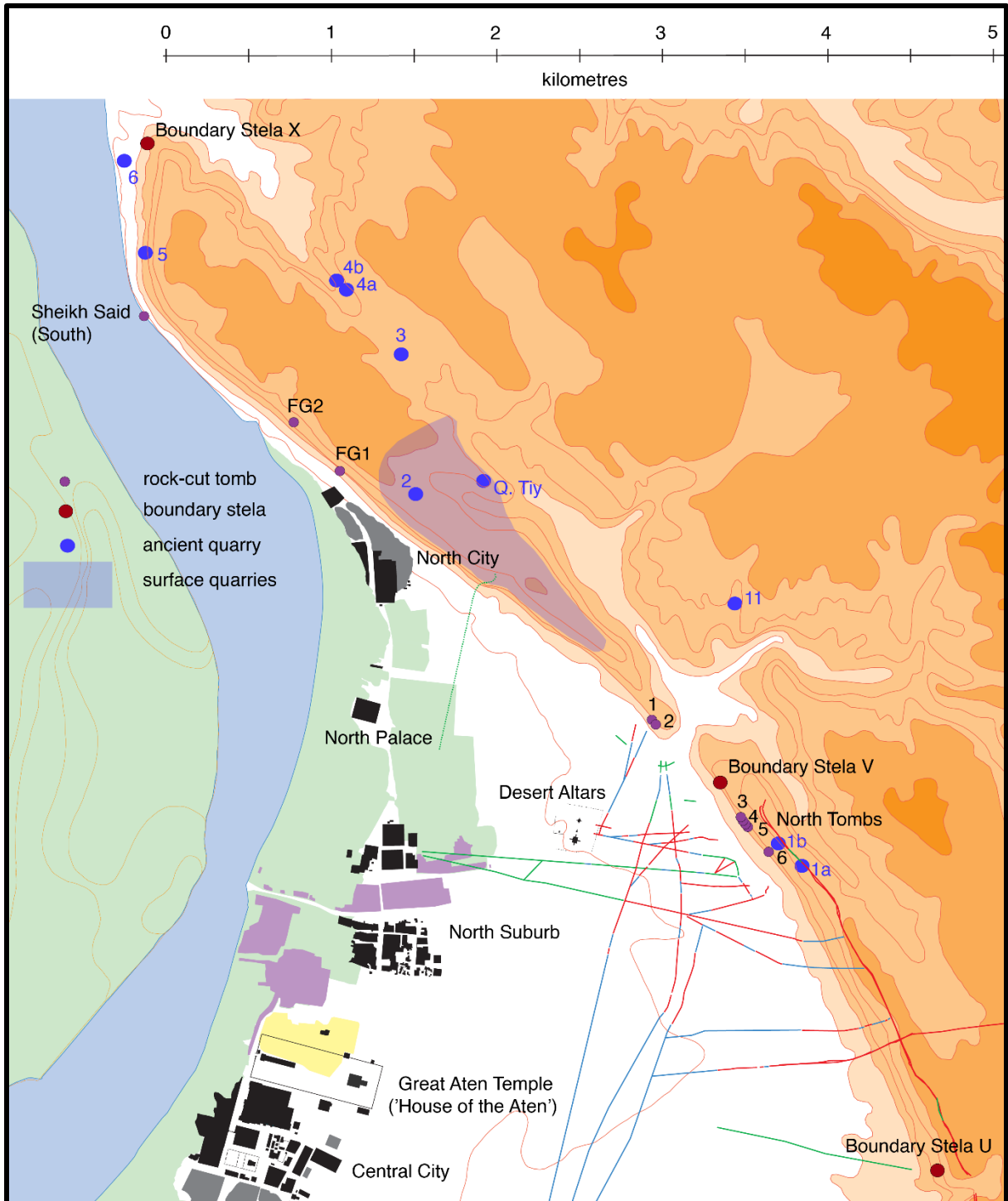


Figure 2: Map of the northern part of Amarna, showing rock tombs (with numbers), boundary stelae and quarries.

In fact, of the numbered tombs six were left without an iron door. Someone who noticed this was Bob Hanawalt who, before he founded the Amarna Research Foundation, made a donation to pay to have iron doors fitted to them. This was done during a hot September month in the 1990s.

During his survey of the sites of both the northern and southern groups of rock tombs Davies noted more than 25, all without decoration, however. Nonetheless, he methodically drew plans and elevations and wrote brief descriptions of all of them. He did not, however, add fresh numbers to the sequence. Instead he chose the number of the nearest numbered tomb and added a letter, thus 3A, 3B, and so on. Altogether these additional tombs amounted to 16 which can be taken with some confidence as being of the Amarna Period. Davies identified four more (6A to 6D) but their proximity to the centre of the Christian community (tomb 6 itself having been turned into a church) makes a case for them being of this later period. In the wadi system behind tombs 2 and 3 Davies noted 'four small tombs' (Davies 1905: 3–4, Pl. I, inset, no. 6) but their date is uncertain, not least because of quarrying of the Ramesside Period in the vicinity (although this is also the location of the North Tombs Cemetery of pit graves of the Amarna Period). There remain places where someone has made a start on a cutting intended for a rock tomb but has abandoned the work at an early stage (Figure 1). Davies, noting how quickly the southern tombs area sanded up, cleared places where tell-tale traces remained on the surface but admitted that this had not

One can say, as a generality, that the crucial element which turns a cutting into a tomb is the presence of a doorway. For Amarna this means a doorway with frame that extends, at the top, to a roll-moulding and cavetto cornice. Two of Davies' numbered tombs, however (9B and 9C, Davies 1906: Pls. XXX, XXXIV; Davies 1908: 12), were small chambers reached by fairly short vertical shafts descending from the desert surface and not cut into a rock face, with a few steps cut into the side that aided access to the chamber. This is a tomb type of which examples are known from cemeteries at the Workmen's Village (Peet and Woolley 1923: 108, Pl. XXV, chapel 555; also p. 94, chapel 525; Hulin 1985: 35–38), Stone Village (Stevens 2012: 384–411) and the North Desert Cemetery (Stevens, *et al.* 2023; Stevens, *et al.* Forthcoming). They are not rock tombs as the term is usually understood but are still tombs that have been cut into the bedrock of Amarna. They illustrate how classification categories often merge, one into another, the distinguishing criteria being somewhat arbitrary.

Doorways in rock faces bring a psychological element of uneasiness into play, encouraging thoughts of mystery within and drawing the visitor to enter even if to peril. The story of Ali Baba and the Forty Thieves is built around a cave which can only be entered by uttering magic words. The entrance to the dwarf-kingdom of Moria under the mountains in Tolkien's *Lord of the Rings* is also in a rock face and can only be opened by uttering a password. Imaginative interpretation can also supply such a doorway where none actually exists. Davies records for Boundary Stela P that it 'was blown to pieces by gunpowder a few years ago by Copts, who expected, as all Egyptians do, to find that the stela was a door to a hidden treasure-chamber' (Davies 1908: 25 and note 7).

The ancient Egyptians (at least of the New Kingdom and later) built up a mythology of gateways, sometimes explicitly in the mountain, guarded by spiritual forces and through which the sun-god and the spirit of a person had to pass, using knowledge of names and other words to succeed. We can surmise that the inhabitants of Amarna will have approached the desert necropolis behind their city as a landscape that was far from being imaginatively neutral. So the god's father Ay (tomb 25) is wished, in a

text in his tomb: 'May you stride through the gates of the Otherworld (the *Duat*). May you see Ra at dawn at his appearance in the eastern horizon; and may you see the Aten at his setting in the western horizon of heaven' (Murnane 1995: 120; Kemp 2012: 254–255).

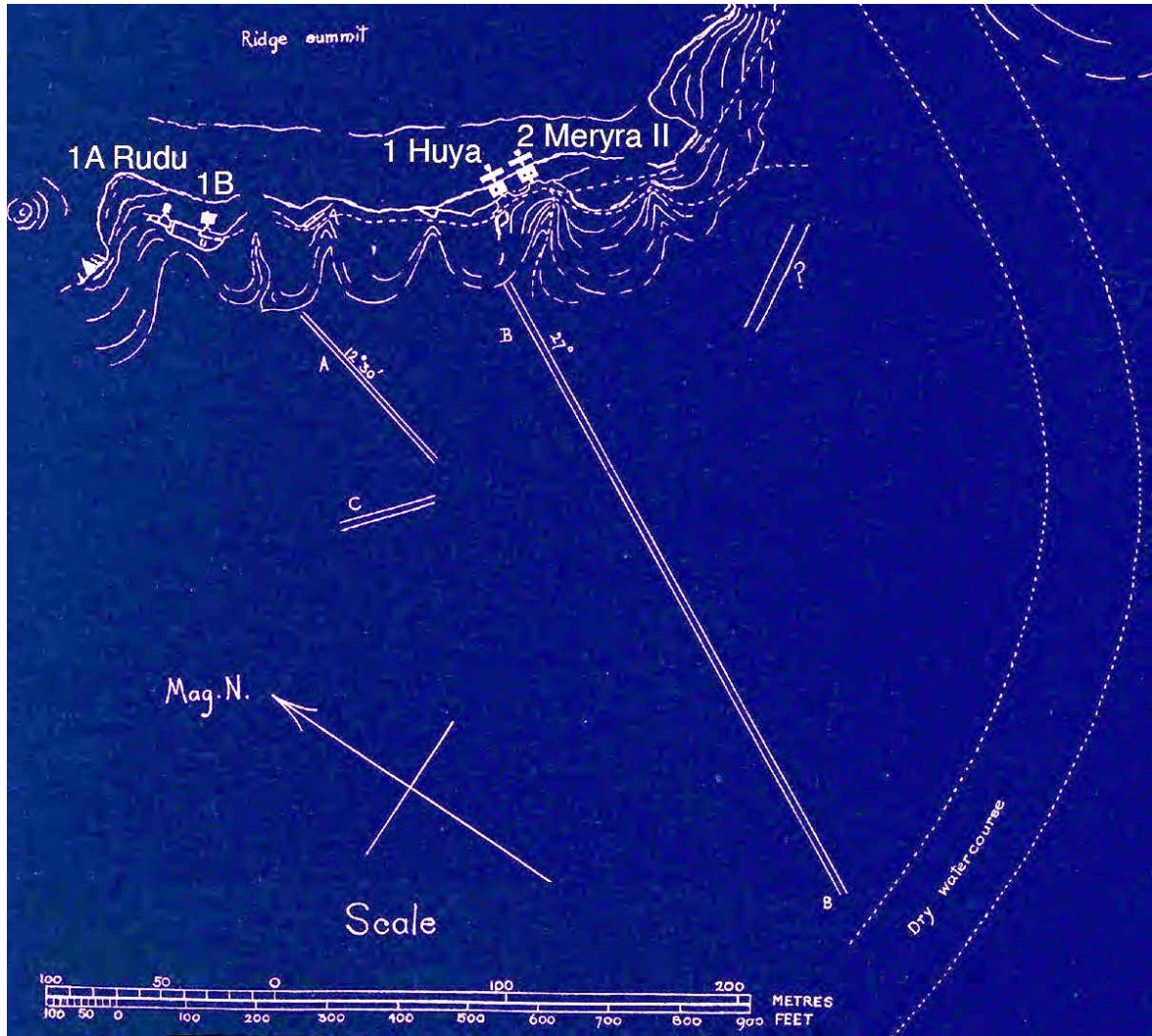


Figure 3: A portion of the map of the north tombs by N. de G. Davies, showing tombs 1 and 2, and 1A and 1B. After Davies 1905: Pl. I.

Tombs 1A and 1B

The smaller rock tombs have a place in a discussion about the place that tomb preparation had in the minds of the people of Amarna. A good place to start is a pair in the northern group of tombs cut into the cliff face about 400 feet (120 metres) to the north-west (to the left as you face them) from the well-known tombs of the officials Huya (no. 1) and Meryra II (no. 2; Davies 1905: Pl. 1 and our Figures 2 and 3 for maps). Davies made a careful record of them and gave them the numbers 1A and 1B (Figure 4). Each consisted of a single chamber entered through a deep doorway, the chamber of 1B more than twice the size of that in 1A. The walls of both are devoid of decoration (Figure 5). The façades, however, were carefully cut and given a cavetto

cornice (Figure 6). The lack of internal decoration does not really justify the term 'unfinished'. The owners might have begun the preparation of their tombs with no ambition to continue with the many steps, involving several different craftsmen, needed to create the fully decorated tomb. As a mark, nevertheless, of how they regarded their status, their tombs stood at the end of one of the desert roads that led out from the city to the rock tombs, a sign that they expected a proper funeral with formal procession to the tomb and regular visits by the family thereafter (Figure 2; Davies 1905: 6, Pl. I; also Kemp 2012: Pl. XI).

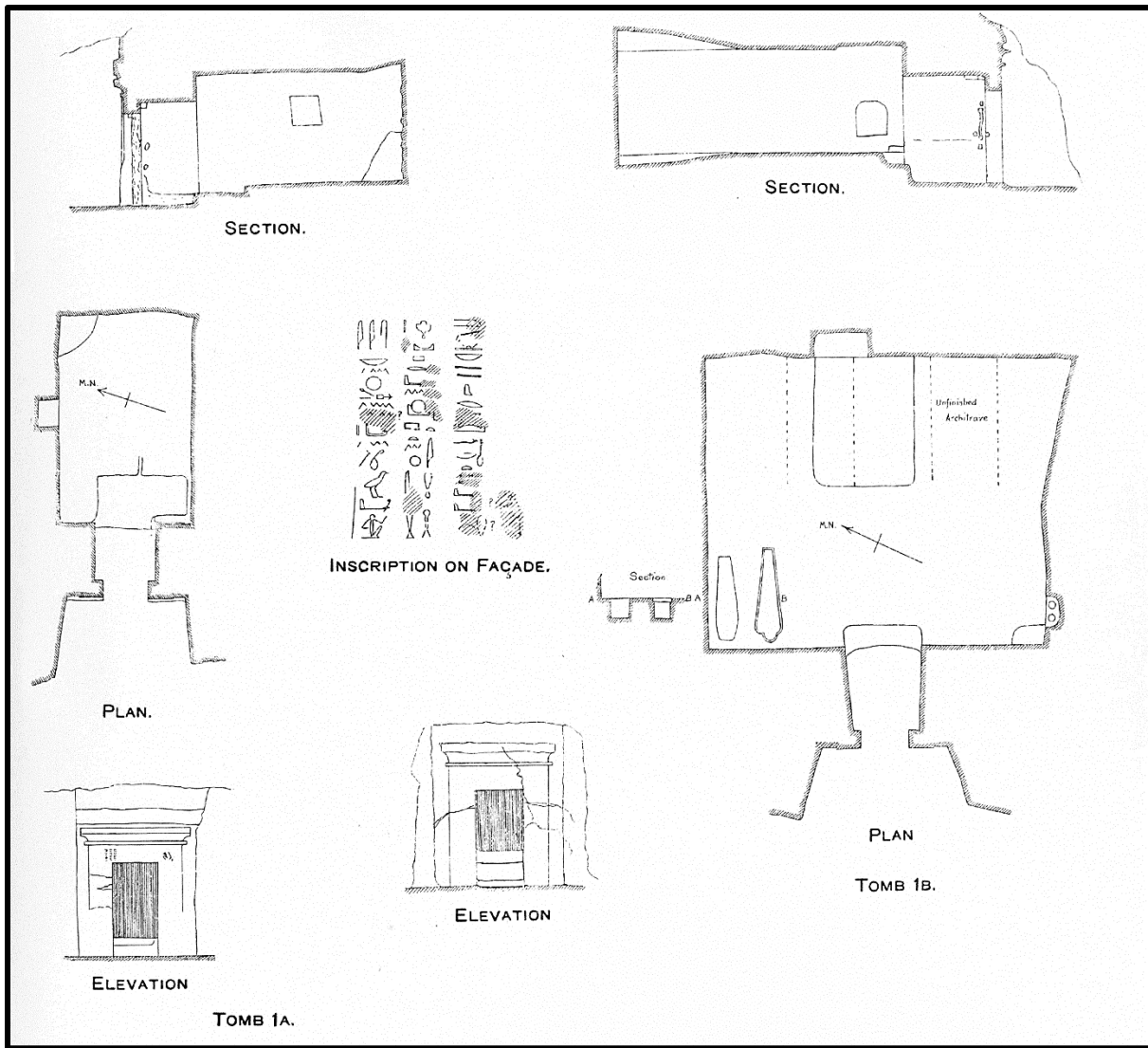


Figure 4: The plans and other details of tombs 1A and 1B drawn by N. de G. Davies. After Davies 1905: Pl. XLII.

Who were these men? It is as well to remind ourselves who their two neighbours were, Huya and Meryra II. The former was chief steward of Queen Tiy (Murnane 1995: no. 66) and the latter was steward to Queen Nefertiti (Murnane 1995: no. 71). Apart from locating their tombs together in a somewhat isolated part of the cemetery they shared a wish to commemorate prominently in their tombs the reception of foreign tribute

which took place in Akhenaten's twelfth regnal year. It seems likely that the owners of tombs 1A and 1B were members of the household (perhaps as relatives) of their grander neighbours. Although tomb 1A is undecorated on the inside, a hieroglyphic inscription of four vertical columns is roughly cut into the façade just above the top left corner of the doorway (Figures 4 and 7). It has suffered from exposure but remains seemingly unchanged since Davies made a very creditable copy. It translates as:

["...May he grant...] in the presence of the Lord of the Two Lands and a good burial which is [the king's] to give on the great mountain of Akhetaten, like every favourite of Waenra. For the ka of Rudu" (Murnane 1995: 185).

Murnane describes the prayer as accompanying pictures of a man kneeling at both ends of the lintel, but I could not see these when I visited the tomb. The tomb and the name of its owner had earlier been spotted by Petrie who marks its position on his map, along with the approach roads (Petrie 1894: Pl. XXXV). Rudu claimed no title yet had the resources to prepare a small but reasonably dignified tomb and, with the owner of 1B, was able to draw attention to his tomb through a length of the rock-tomb road system which branched off from the road which served tombs 1 and 2 (Figure 3). Could he and his neighbour have been allowed the favour to use the stone-cutters who had been engaged for the larger tasks next door?



Figure 5: The interior of tomb 1A. The niche in the left side is likely to have been cut later.

Tombs 1A and 1B, as was the case with more or less all of the rock tombs of the northern group, were converted into dwellings and storerooms in the fifth and sixth centuries AD by a community of Christian ascetics who had also converted tomb no. 6 (Panehsy) into a church. Piles of rough stones outside the two tombs (the remains of walls) and a few features inside the tomb chambers derive from this re-use. Tomb 1B also shows that the Christians were not the first to find some use for the tomb. In

one corner of the chamber a pair of parallel shallow trenches has been cut, each with the outline of an anthropoid coffin (Figure 3). They represent a common form of burial in tombs made in a previous post-Eighteenth Dynasty period, perhaps from after the New Kingdom (for the post-Amarna Period occupation of Amarna see Kemp 2022a; Kemp 2022b).



Figure 6: The façade and doorway of tomb 1A. The loose stones in front are the remains of domestic buildings from a later occupation by Christian ascetics.

This leads to a consideration of how Rudu envisaged how his tomb would accommodate burials, his own and presumably those of members of his family. Unlike several (although not all) of the larger rock tombs there is no sign of a burial shaft. The answer comes from the pair of later coffin pits in tomb 1B. Unlike the Christians who made the tombs into houses, whoever buried their dead in the coffins did not live in the vicinity. They performed the ceremony and then departed for their homes which are likely to have been close to the Nile. The burials will have needed protection, and this could only have been provided by closing the doorway with stones (rough or in the form of blocks) mortared into place. Stone door-blockings must have been common also for the larger Amarna rock tombs for which no burial pit cut into the rock is visible (for the likelihood of wooden doors on some, see below, concerning the tomb of Any, no. 23). Tutankhamun's rock tomb in the Valley of Kings at western Thebes was closed in this way, complete with authenticating seal impressions.

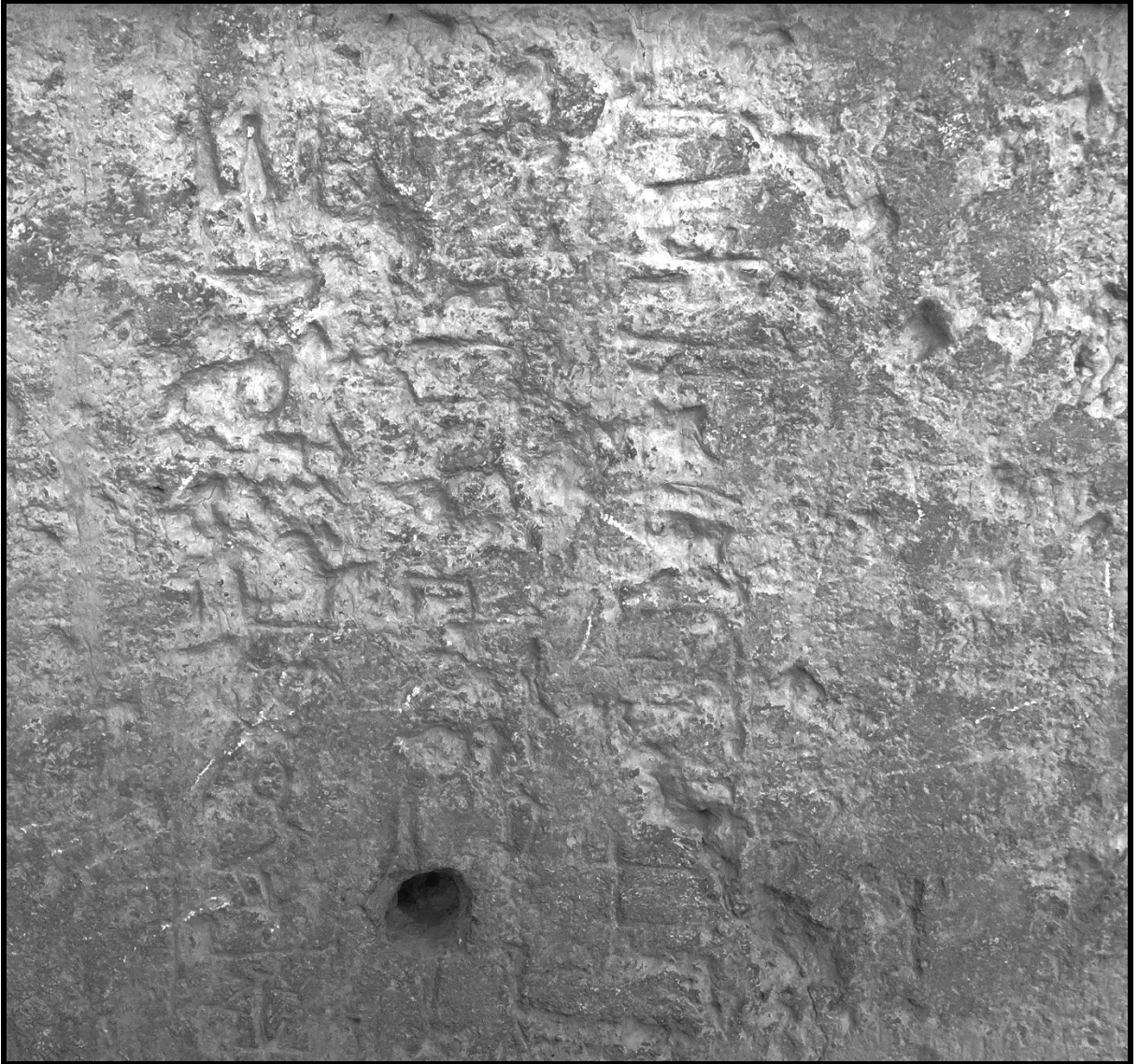


Figure 7: Photograph of Rudu's text above the doorway to his tomb. A hieroglyphic copy forms part of Figure 4.

Tombs 3A to 3F

Four numbered rock tombs complete the series for the northern group, running southwards from no. 3 (Ahmes) to no. 6 (Panehsy), via 4 (Meryra) and 5 (Penthu). A bold visitor who reaches the top of the climb to no. 3 (and gained agreement from the custodians) and then turns left, away from Ahmes's tomb, can follow a rough path along the cliff face. After a short distance the entrance to another rock tomb appears. It is the first of a row of six to which Davies gave subdivisions of the number 3, thus 3A to 3F (Figure 8). The contrast in the present appearance of the row compared to that of tombs 3 to 6 is marked (Figure 9). The reason is that the latter reflects the cleaning carried out at the end of the 19th century, during which the later stone walls of the Christian buildings were removed and public access was improved. The former

group remains largely unchanged since the Christians drifted away around the time of the Arab Conquest (641 AD) or not long before. In front of the line of tomb doorways run jumbles of partially collapsed stone walls which had been built in front of each tomb and would have largely masked them. Since the tomb chambers had not been decorated there was nothing to steal or damage in the days before Amarna was taken into the care of the Egyptian state. The appearance of this part is that of a genuine ruin, which can be evocative of lives once lived, of possibilities of discoveries yet to be made and which can exude melancholy even on a sunny day.

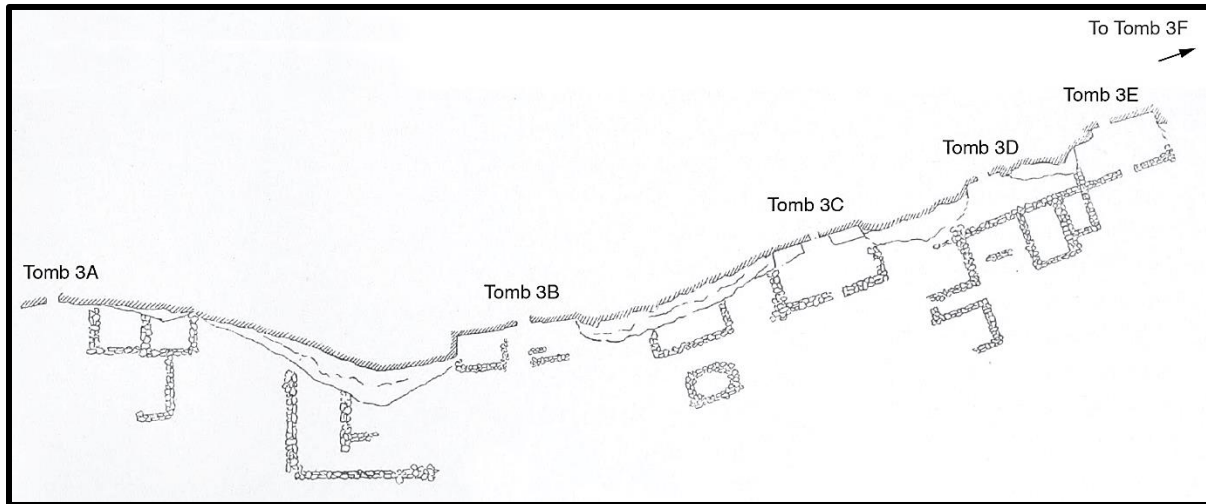


Figure 8: Plan of the locations of the doorways to tombs 3A to 3E. After Davies 1905: Pl. XLI.



Figure 9: View of rock tomb 3C with 3D beyond and later walls in front. View to the south-east.

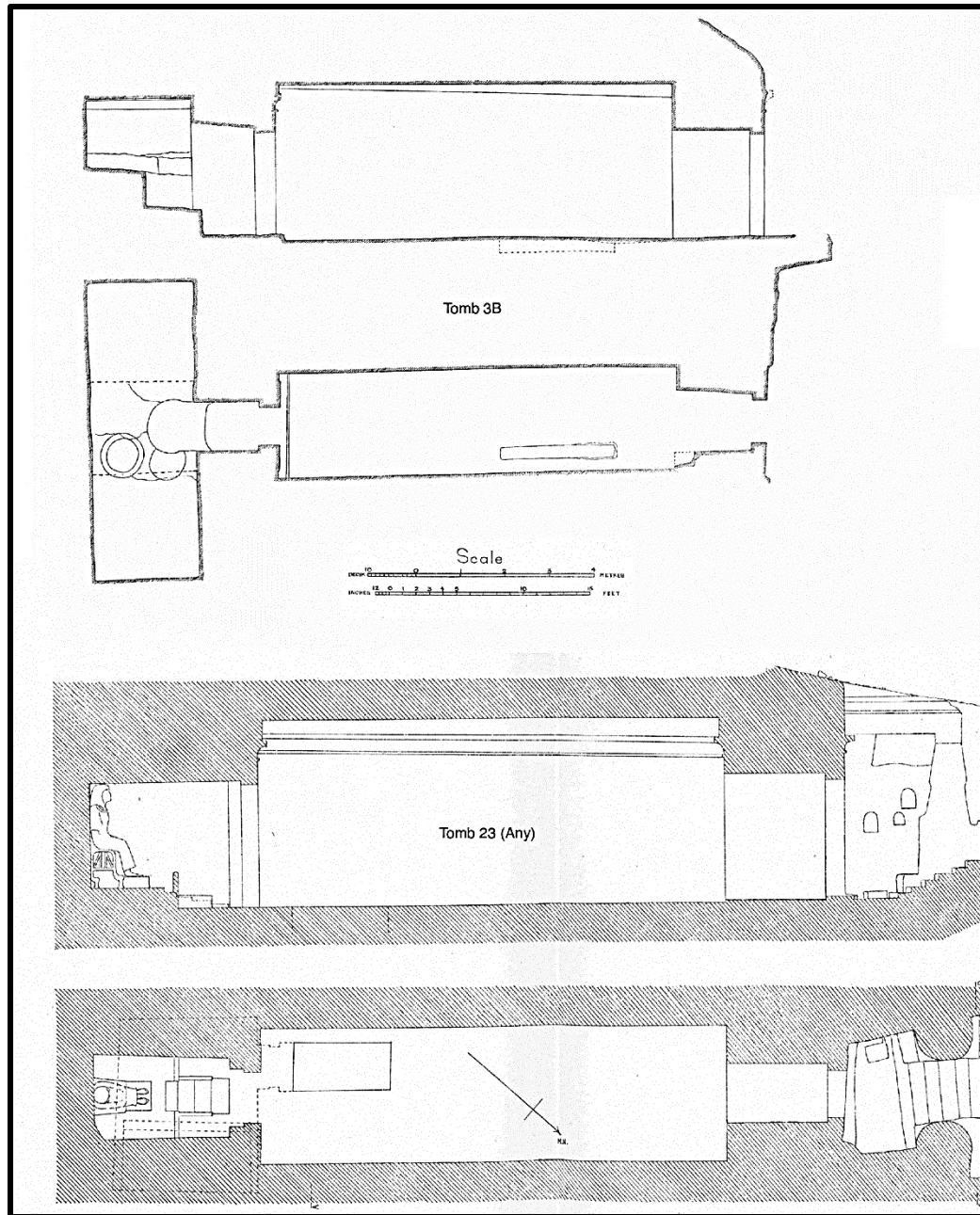


Figure 10: Plan of rock tombs 3B (top) and 23 (of the scribe Any, bottom) at the same scale. After Davies 1905: Pl. XLIII; Davies 1908: Pl. VIII.

Five of this group (3A to 3E) are set fairly close together in a low rock face; 3F is separated from 3E by about 80 m. The smallest is 3A, around half the size of 1A; the largest is 3B (Figures 10 and 11), almost as large as no. 23 in the southern group, of the scribe Any. The only recorded decoration is on the façade of 3F, where Davies (on a tiny scale) sketched vertical cartouches over the door and the remains of a short prayer on one of the jambs which had seen the loss of the owner's name (and any title). It might be misleading to call these tombs 'unfinished' because it implies that we know more than we actually do of the owners' intentions. What common theme of life

led to this row of tombs, all being of small-to-medium size and with no sign that the owners intended to have the interiors decorated? Was it the good sense of common security, was it that they lived in the same neighbourhood in the city and shared an interest in keeping watch over their tombs?



Figure 11: View, to the north-east, of rock tomb 3B. The stones in front are the remains of later domestic walls.

Tomb 23 (of Any) for comparison

The lack of intention to decorate is highlighted through contrast by the tomb of Any (no. 23 in the southern group; Figure 10). Two of his titles were those of 'scribe of the offering-table of the Lord of the Two Lands, scribe of the offering-table of the Aten (specifically) of the Aten in the House of the Aten in Akhetaten' (Murnane 1995: 123), a reference to the Great Aten Temple. He is the tomb-owner most likely to have died and been buried inside his creation at Amarna (on account of six small stelae mounted or left within the tiny vestibule and made by some of his household). The stelae are a useful comment on the kind of people who were close to an official of probable medium rank. They comprised an 'overseer of works Pakha', 'scribe Nebwawy', 'servant, Anymen', 'charioteer Thay', 'his brother Ptahmay' and 'servant lay' (Davies 1908: 9–11, Pls XXI–XXIII; Murnane 1995: 124–125). Any's tomb presents us with a unique moment frozen in time when a man's death overtook his ambitions.

Any had taken the decision to begin the probably complex process of full decoration. For this he might have received help in the form of an agreement from Akhenaten that some of the key specialists had to devote a fixed number of days to working on the tomb. One early priority was the carved decoration of the external surfaces of the tomb's entrance comprising prayers and Any's name and titles (Davies 1908: Pl. XI).

A second priority took the artists to the back of the tomb and the carving of a seated statue of Any in a shrine (Figure 12). It had received a coat of plaster and surface colouring. An outline draftsman had laid out scenes of offerings being presented to Any on the two side walls of the shrine (Figure 13) and had begun on the outlines of texts and pictures of Any kneeling on the surround to the doorway into the shrine (Figure 14). Of the offering-scenes Davies commented 'The sketch (which is mainly in red paint) is very rough, and has been much corrected by a more skillful hand in red line' (Davies 1908: 8). Were these various outlines a single day's work for a small group of skilled scribes (plus an apprentice)? The main task was yet to come. The two long side walls of the main chamber had been carefully prepared for decoration, the stone smoothed and coated with a layer of gypsum. At the top, under a cavetto cornice, a decorative frieze of groups of vertical coloured bars has been painted whilst the ceiling 'has been squared out in readiness to receive a pattern' (Davies 1908: 8; Butner 2019: 31, Figure 16).



Figure 12: View of the interior of Any's tomb, looking towards the shrine and its statue. Photo by Gwil Owen.



Figure 13: Any's shrine, showing the preliminary draft of one of the paintings on the side walls. Photo by Gwil Owen.

At this point Any likely died. In the interval before burial the artists did what they could to continue. The draftsmen returned and, in perhaps one or two days, laid out decoration of the walls of the deep entrance passage, in each case containing tall figures of Any in formal dress (Figures 15 and 16) standing behind an area of bold red

vertical lines which acted as guides to beautifully written hieroglyphic texts in black ink (now faded, Figure 17). As the available time came to an end, the artist began to scratch the shapes of some of the signs into the gypsum. That was as much as he could accomplish. There followed Any's funeral, utilising the shaft and chamber cut into the floor, and the closing of the tomb.



Figure 14: The doorway to Any's shrine, showing the remains of the texts and figures of Any put in place by an outline draftsman. Photo by Gwil Owen.

Then, for us, comes a question. It was central to Egyptian ideas of caring for the spirits of the dead to make offerings at the tomb, ideally before a statue of the deceased. This, Any had provided. Texts in some of the Amarna tombs promise provision for the dead at or through the House of the Aten, that is the Great Aten Temple. According to one of Any's titles he was in charge of these very offering-tables, and their huge number might have been intended to satisfy this expectation. Yet the question remains for the rock tombs: did they remain accessible to people who had been close to the deceased enabling them to enter the tomb chambers and make offerings, especially if a statue had been provided? This obviously would have threatened to compromise the security of the burial itself and any burial equipment. In a few of the rock tombs pivot-holes for pivoting wooden doors can be seen in the rock surround to doorways. They appear not to be present in Any's tomb but this does not eliminate the possibility of post-funeral access. For a person entering the tomb, just inside the stone door

frame on the left, and about halfway down, Davies remarks on 'the square hole fashioned on the left, to receive the door-bolt when shot, being also neatly outlined in red (Figure 17). The enclosed space on the right occupies only half the wall, 'so as to admit of the door being thrown back' (Davies 1908: 7; our Figure 15). That being so, it leads to another observation. None of the stone-cutters and artists who had worked in the tomb until the last moment later returned to continue their labours. Was it that the death of the owner automatically terminated any contract the artists had? Would it have seemed in bad taste or even sacrilegious to have workers disturbing the peace of the dead?

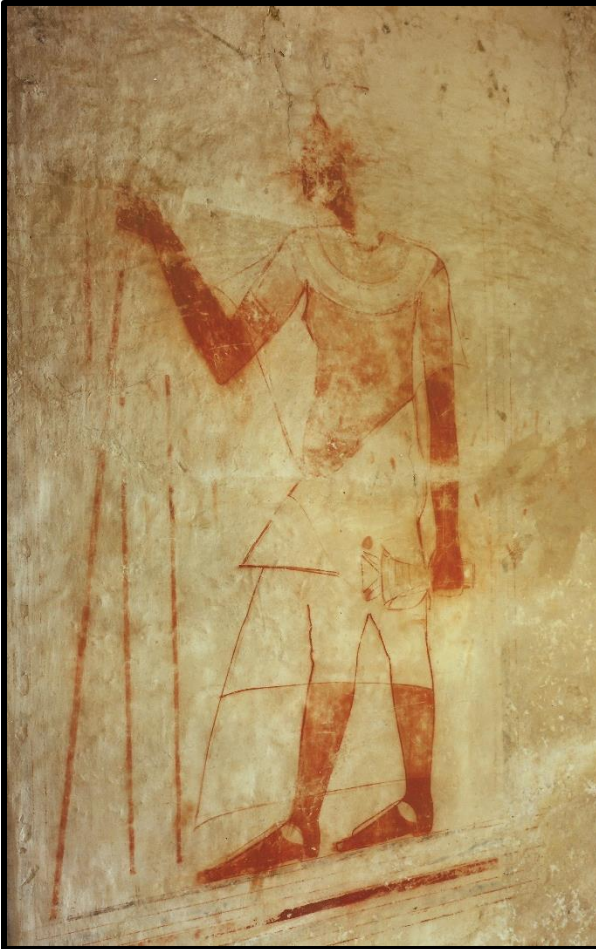


Figure 15: The entrance passage to Any's tomb, right side as one enters. Any is shown entering the tomb. Behind is a blank space (half obscured in this picture) probably left to avoid a pivoting wooden door covering the scene. Photo by Gwil Owen.

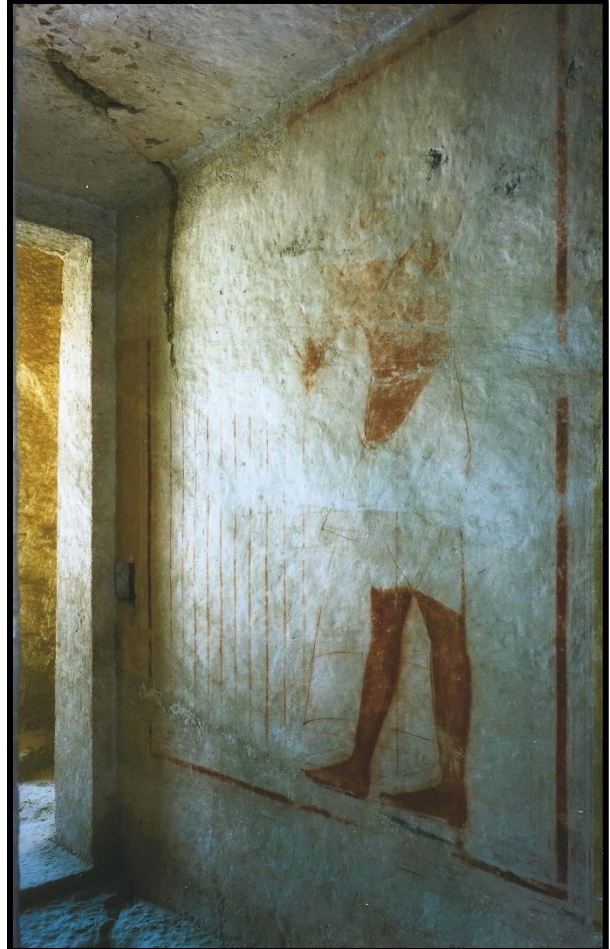


Figure 16: The left side of the entrance passage. The surface is painted with a figure of Any leaving the tomb and, in front of him, ten columns of hieroglyphs written in black pigment (now faint) and separated by red lines, containing a hymn to the Aten. Photo by Gwil Owen.

The conclusion also follows that it must have been common knowledge that, behind the doors of closed tombs (not just at Amarna but at cemeteries generally), few of them had a completed scheme of decoration. A person with the means to carry out a

full decorative programme would have made the decision to start aware that there was a strong chance that it would never be finished. He would hope that he would be an exception to common fate. Did a realistic view of life therefore prevail in the minds of some people so that 'unfinished' tombs are actually the result of a pragmatic choice not to accept the considerable commitment that would follow ordering work beyond the cutting of the chambers. The tomb group 3A to 3F might represent, perhaps coincidentally, the choices of a group of Amarna's heads of households to be satisfied with plain tomb chambers which would be sealed and not accessible to a permanent



Figure 17: Detail of the draftsman's layout of the text of the hymn to the Aten on the left side of the entrance passage to Any's tomb. The dark square at the bottom left corner of the picture is a neat cutting in the stone (outlined in red) intended to hold a means of fastening a wooden door. Photo by Gwil Owen.

offering-cult. It might also point to a lukewarm acceptance of Akhenaten's ideas. Egyptians often expressed the importance of leaving behind a record of one's name. Rudu (1A) succumbed to this urge, but 1B did not and the same was true for many of the tombs which lacked decoration, the most striking being tomb 16, particularly impressive in its internal architecture but devoid of a single hieroglyph let alone a name. Tomb 3B is another. The reticence that is implied needs to be recognised and could be said to be, using a modern phrase, a lifestyle choice.

Guarding the cemeteries

Desert cemeteries where people buried not only the dead but valuable objects needed guarding from robbers in perpetuity. This could be realistically achieved only by paying people to do it. One way, developed in the early dynasties, was to rely upon the ability and willingness of rich owners of tombs, in their lifetime, to establish a charitable foundation, endowed with land, the fruits of which would pay for mortuary priests to make offerings at the tomb and perhaps also in the local temple, and could support cemetery workers 'who are upon the mountain' and whose regular presence could have helped to safeguard the tombs (the classic example is the set of contracts of Hapdjefa, nomarch of Asyut of the early Twelfth Dynasty, Reisner 1918; Spalinger 1985). This system was part of the patriarchal authority which mayors of towns (and regional governors, 'nomarchs') exercised prior to the New Kingdom, very conspicuously in Middle Egypt. The system continued through the New Kingdom but now at its centre was not the nominal 'owner' of the tomb but a statue of the king in a temple, to which the king's subjects felt encouraged to make donations of part of their property, expecting material benefits in return.



Figure 18: The entrance to rock tomb FG1 (designated after Timme, with FG = Felsgraber; see Figure 2 for location).

This transactional system was so embedded in ancient Egyptian society that it is reasonable to think that, whilst Akhenaten might have altered some of the details, something like it would have underpinned the workings of the cult of the Aten and, in particular, those of the Great Aten Temple. That people saw the temple as having a

responsibility for their eternal well-being is expressed in texts in several of the decorated Amarna tombs (Kemp 2012: 114–117, including Figure 3.29, which records the king's order for a 'good funeral in Akhetaten' for the scribe Any, of tomb 23). Given the long history of institutional care for the dead in Egypt one should imagine that, in Amarna's short heyday, the whole desert plain between cliffs and city was covered with a network of invisible lines of administrative responsibility for its security, in addition to the visible lines of the desert patrol routes and the comings and goings of the city's desert police force whose chief, Mahu, was the owner of tomb 9 (Davies 1906: 12–18). We have to envisage whole papyrus archives of legal contracts, accounts and registers of beneficiaries for which examples have survived from the Old Kingdom onwards.



Figure 19: The entrance to rock tomb FG2.

How far did Amarna rock tombs extend?

The two main groups of rock tombs, the northern and southern, are reasonably compact, each at the end of branching networks of roadways. They also stand behind the city, both occupying a zone centred on the north of the Amarna plain and thus only a portion of the area defined on the east by the Boundary Stelae. The same is true for the desert cemeteries of pit graves.



Figure 20: Painting of the site Sheikh Said South by Percy Buckman, c. 1901.

No one has claimed to have found rock tombs in the huge remaining area southwards beyond tombs 25 (Ay) and 25A (nameless). The same cannot be said, however, for the northern end of the Amarna plain. The conventional listing of rock tombs, both decorated and undecorated, ends with Rudu's, no. 1A. Both Petrie and Timme, however, mark a pair of tombs in the cliff face further along the cliff from tomb 1A (Petrie 1894: Pl. XXXV; Timme 1917: main map; 22, 23, Abb. 23). Timme designates them as 'FG', that is, 'Felsengrab' (rock tomb). For convenience on Figure 2 I have kept the designations, adding a number, thus FG1 and FG2, FG1 being the more southerly and almost 2.5 km distant from Rudu's tomb. With FG1 a rectangular area has been dressed flat at a point in the cliff face where the steep ascent meets the vertical face (Figure 18). A tall rectangular door has been cut in the middle. Behind the door, little further progress has been made in creating an internal space. Doorway

FG2 (seen by me only from afar) occupies a similar position in the rock face, c. 400 m from FG1, and enters it without a surrounding flat surface (Figure 19).

Further still to the north-west is a group of seven rectangular chambers in a row cut into a low rocky knoll that overlooks the Nile and not far above the riverbank (Harrell 2001: 36 suggests an Eighteenth Dynasty shrine). Until 2011, when an asphalt surface was laid, a narrow stony track ran immediately in front of them. On the top of the knoll are remains of a small building, now ruined, which appears in a painting by English water-colour artist Percy Buckman, labelled Sheikh Said (Figure 20). Although local people still drape flags and pieces of cloth over the ruins, Buckman's painting shows the tomb with its dome intact. On the map of the Napoleonic *Description de l'Egypte* (conveniently Kemp 2005: 38, Figure 1.17), the location, with the symbol for a Muslim tomb, is labelled 'Cheik Saïd' although archaeologists have used the name Sheikh Said for the ancient rock tombs some way further north. (This prompts one to use the terms Sheikh Said North and South to distinguish them.)



Figure 21: The site Sheikh Said South, with rock chambers below and the ruins of the sheikh's tomb on the hill above (2008).

The seven single chambers are in a closely-packed row, presumably because they are utilising a horizontal limestone stratum which is better suited to stone-cutting (Figure 21). The walls of the chambers are undecorated. The whole group seems to have had an original front wall to the chambers but this has been removed along a

single line. Was this done to make it easier to use the track beside the Nile? Before the bridge was built and the asphalt road laid the track linked Amarna with Deir el-Bersha. The seeming awkwardness of access to the tombs could be explained if they were cut when the riverbank was further to the east. Yet as far back as the earliest reliable map (that of the *Description de l'Égypte* from the end of the 19th century, Kemp 2005: 38, Figure 1.17) the river has flowed very close to the desert at this point. Another explanation is that they had been made by a family that lived across the river, in one of the settlements or towns that the second set of Boundary Stelae mention as being part of Akhetaten (Murnane 1995: 84).

There is nothing specific to date the doorways FG1 and FG2 and the Sheikh Said group. They seem isolated from the familiar groups of rock tombs and yet they still lie well upstream from the northernmost boundary stela 'X' and so are within the limits of Akhetaten. Also in the vicinity and a little further downstream are the remains of a large limestone quarry of several sections (Figure 2, quarry no. 5). On the ceiling of one part are red-painted lines which mark the quarrymen's progress, accompanied by Greek graffiti, probably from between the 1st century BC through the first four centuries AD (J. Tait, unpublished notes). They perhaps transfer this date to a line-drawing of a large building on the face of one of the limestone piers left to support the roof (Petrie 1894: 19–20, Pl. XXXVII; Davies 1917). The destination of the quarried stone is likely to have been the city of Hermopolis across the river, home to the officials who made the rock tombs of Sheikh Said North. This still leaves undecided the date of the rock tombs of Sheikh Said South.

The answer to the question, how many rock tombs are at Amarna, is as elusive as is the answer to the question 'how long is the coastline of Britain?' which started to attract attention in the 1960s (see end note). With coastlines it depends on your unit of measurement. In our case of rock tombs, it depends on our system of classification.

End note:

[https://en.wikipedia.org/wiki/Coastline_paradox#:~:text=If%20the%20coastline%20of%20Great,km%20\(370%20mi\)%20longer](https://en.wikipedia.org/wiki/Coastline_paradox#:~:text=If%20the%20coastline%20of%20Great,km%20(370%20mi)%20longer)

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Great Aten Temple update

Barry Kemp

I last reported on our work on the Long Temple (the main stone building within the Great Aten Temple enclosure or temenos) in the December 2021 issue of the *Akhetaten Sun* (vol. 27, no. 2, 52–57). In the meantime, archaeologist Fabien Balestra, a member of the Amarna team, has described two seasons of excavation at the very back of the enclosure where a gateway in the enclosure wall gave access to an open area where an earthy deposit had built up. This had left a remarkably well-preserved ancient surface into which people had dug pits to dispose of what could be the remains of offering-ceremonies (*Akhetaten Sun* vol. 27, no. 2, December 2021, 30–51 and vol. 28, no. 2, December 2022, 32–52).



Figure 1: A group of the builders laying a corner block at the south-east corner of the Long Temple. View to the north. Builder Shahata Fahmy is seated with his back to the camera.

Since my last report on work at the Long Temple we have managed to carry out two further seasons, in the spring and autumn of 2022. We began in February 2022 by bringing in the team of local builders and their supporting workmen (Figure 1). We had already decided that this was going to be a builders-only season, partly to match our limited funds and partly to allow several members of the team who work in the expedition house to catch up on recording the many fragments of carved stone from previous seasons. The sand, which we had used to protect the foundations we had laid the previous year, was brushed away. What then lay exposed were the lower foundations for lengths of wall and 59 rectangular offering-tables. Our builders are a family of three, a father (Shahata Fahmy) and two of his sons (Mohamed and Ahab).

The one with the eye for setting out the building lines with stretched cords and maintaining constant heights over long distances using a surveyor's level is Mohamed. Very soon we all had to watch our steps to avoid tripping over the network of strings at ankle level which he had set out as guides for the laying of stones. He then received with equanimity the instruction to complete the rebuilding of the 59 offering-tables by the last day of work and, sure enough, he and his team paced themselves so that this did happen precisely. The last day on site was 29 March.



Figure 2: A lorry delivers blocks of limestone from the Tura quarries to the rear of the temple. View to the north.



Figure 3: The southern half of the Fourth Court after cleaning in autumn 2022. As can be seen along the right edge of the picture, the gypsum-concrete foundation layer had become covered (and protected) since its exposure in 1932 by a modest layer of wind-blown sand. View to the south.

We returned to start work for an autumn season in mid-September 2022. This time we were able to combine cleaning sand from a further strip of the temple foundations (Juan Friedrichs adding to the detail plans) with employing our team of builders to continue with the rebuilding. This necessitated arranging regular deliveries of limestone blocks from the Tura quarries, each block cut to the standard Amarna size (Figure 2). By the beginning of November, the cleaning and recording had extended across half of the Fourth Court (Figure 3) and the builders were not too far behind with the stonework, a mixture of walls and offering-tables (Figures 4 and 5). What was newly exposed but not built over was given a protective covering of sand.



Figure 4: Mid-season, autumn 2022. The builders work over an area of the temple foundations previously cleaned and recorded. First come the new foundations built from small local limestone blocks. Then a final layer of Tura-limestone blocks. Finally the ground level is built up using sand spread between the walls. View to the south.



Figure 5: Nearing the end of the autumn 2022 season, view to the west. The walls of un-mortared small blocks between offering-tables are a temporary measure to hold back the sand fill that recreates the original floor level.

For a limited time in spring 2022 one of our regular archaeologists, Julia Vilaró, was able to join us. As in previous seasons, she worked with a small group of workmen as they removed an area of the 1932 spoil heaps beside the Long Temple. The Pendlebury expedition of that time, working very quickly, often threw into the spoil pieces of carved stone that nowadays we would keep and record. This season the area chosen for spoil-heap removal was a block of four 5 x 5 metre excavation squares close to the south-east corner of the temple, close to where the builders were working and outside the limit of the Long Temple. Little was found until towards the end, when the excavation was near the bottom of the dump. Two blocks of limestone then emerged from the sand which had originally been parts of one of the small rooms containing offering-tables which are a distinctive feature of the Fifth and Sixth Courts. The decoration on the blocks featured in an article I wrote for the last issue of the *Sun*, 'After the founder: the post-Amarna Period at Amarna', volume 28, no. 1 (June 2022), 1–32. They are illustrated and described on pages 4–6 and contribute significantly to our understanding of how the temple fared after Akhenaten's death.



Figure 6: A portion of the final, digitised plan of the rear of the temple (Fifth and Sixth Courts). Reconstruction lines in blue have been added for clarity. The original plans, in pencil on drawing-film by Juan Friedrichs, have been digitised by Kemp.

Through drawings and photographs we have built up an extensive record of the remains of the temple. The individual temple plans (at a scale of 1:25) have been 'stitched together' digitally to form a continuous 'sheet' which can only be viewed satisfactorily (with all of the details and lettering visible) on a computer screen (Figure 6 is a hugely reduced version). Photography includes multiple images which can also be 'stitched together' by computer program to form a mosaic (Figure 7). For the source photographs we rely on simple mechanics (Figure 8) which avoid the permissions process and not inconsiderable expenses of hiring a drone. The following discussions are based on these records, which now cover the whole of the Fifth and Sixth Courts, the secluded 'Holy of Holies' portion of the temple.



Figure 7; A seeming aerial view of a portion of the foundations cleaned in 2022. The picture is a mosaic of many individual photographs taken by a camera attached to a long, hand-held pole (Figure 8). North is to the left.



Figure 8: Capturing the temple foundations photographically using a camera attached to a lightweight telescopic pole. Miriam Bertram holds the pole, Paul Docherty steadies the ladder and operates the remotely-controlled camera. View to the north-west.

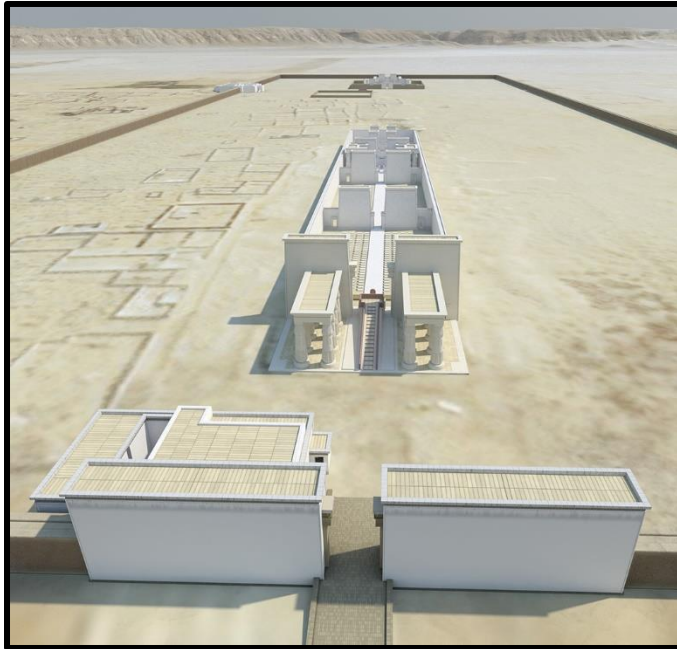


Figure 9: A reconstruction of the Long Temple viewed eastwards along its axis. The possibility that the offering-tables in the first three courts were accessible from the outside by means of side entrances should be borne in mind. The texture of the outside ground is derived from aerial photographs of its modern appearance. Visualisation by Paul Docherty.

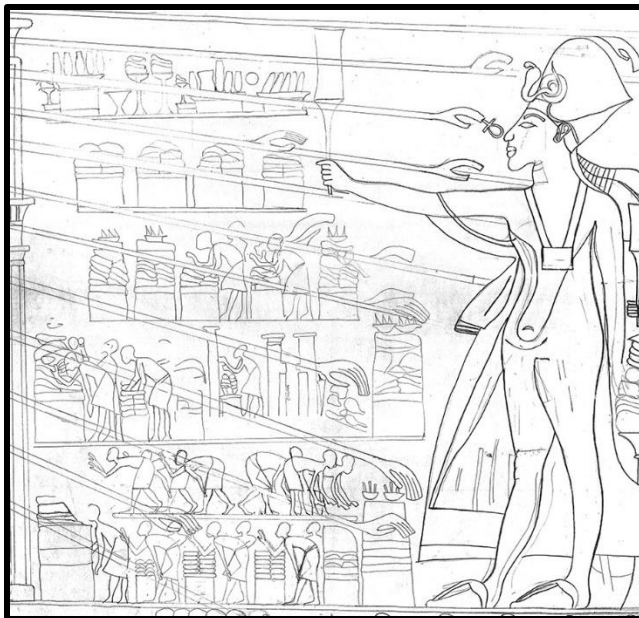


Figure 10: Part of a scene in the Royal Tomb at Amarna in which Akhenaten and his family parade through the temple. It is the only scene in the rock tombs which shows the 'House of the Aten' busy with attendants stocking the offering-tables. This is part of an unfinished reconstruction drawing (by Kemp) in pencil based on the published copy in Martin 1989, Pl. 34.

What we learn from the foundations: what lay at the end of the avenue?

We have the temple plan and pictures of the temple in use. We have good reason, therefore, to think that we can reliably imagine a time when Akhenaten and his family paid a ceremonial visit (Figure 9; also *Akhetaten Sun*, vol. 24, no. 2, Dec 2018, 7–16). At the front they climbed the long stairway to the viewing platform in order to greet the sunrise; then descended to make their way along the sides of the platform to begin a procession along the temple axis. Instead of an avenue of sphinxes, however, they passed along an avenue lined with offering-tables. The scene in the Royal Tomb shows, as the royal family passed, the tables being supplied with offerings by an army of attendants (Figure 10). Did they also distribute the offerings to members of the public who crowded the wide spaces that separated the tables from the temple walls? Further along the avenue the offering-tables increased in number at the expense of empty space, perhaps a sign that, from now on, the public were excluded. Past the pylon between the Fourth and Fifth Courts the architecture closed in. King and family now entered an area of seclusion (the Fifth and Sixth Courts), created by the limiting of space by the multiplication of small rooms, most containing single offering-tables, and by the winding access system which closed off views of the avenue behind them. Within these secret spaces what did they find? What was the climax to their journey?

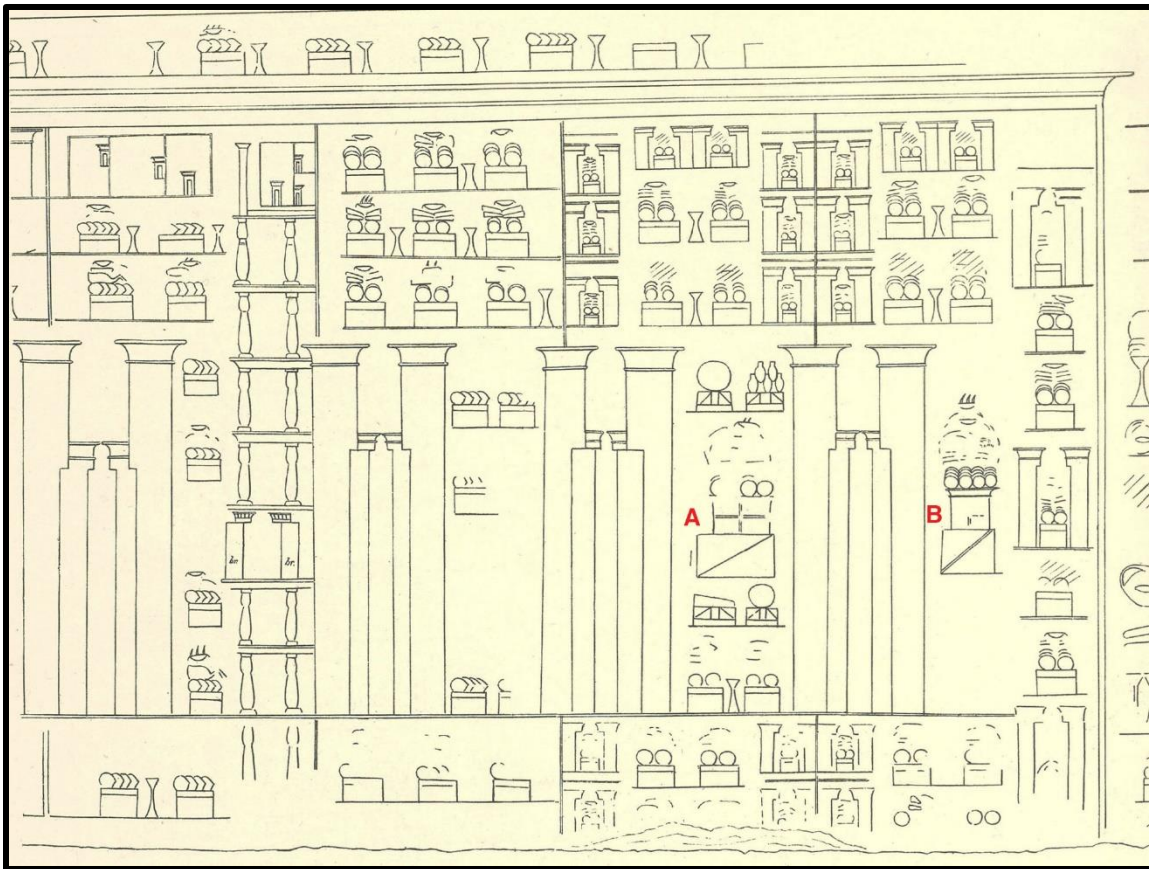


Figure 11: The rear part of the temple as shown in the tomb of Panehsy (Davies 1905, Pl. XIX). The red letters A and B identify the two main offering-tables which here appear to stand on solid bases.

The temple plan and the tomb pictures agree in placing a large offering-table at the centre of each of the two courts (Figure 11). I have touched on them in a previous issue of the *Sun* (vol. 27, no. 1, June 2021, 18–21). Each table supports heaped offerings. The sides of the tables are patterned to suggest table-legs and a horizontal support bar with a cavetto cornice running around the top. I have, in the past, wondered if the tables were made of wood, probably covered with gold leaf. Close to where the western of the two tables should have stood there has remained since Pendlebury's excavations in 1932 a large, rounded lump of granite with a rough surface [19512] (Figure 12). It looks like a natural boulder but cannot be, there being no natural outcrops of granite until the region of Aswan. Kristin Thompson has wondered if it is a remnant of a large piece of granite sculpture that could have been one of the actual offering-tables, which had not been made of wood, after all. Fragments of worked granite from the area, however, come from something more elaborate than a table. One, illustrated in the June 2021 issue of the *Sun*, preserves a pair of small human feet from a figure that had stood on a base and also against a vertical face, reminiscent of Akhenaten's daughters at some of the Boundary Stelae.



Figure 12: View westwards from near the back of the Long Temple. In the foreground is the mass of rough granite [19512] left in its position at the end of the 1932 excavation.

More recently Juan Friedrichs has identified another fragment (S-16770 from BA27) which depicts a figure which is probably Nefertiti lying face down on the ground as if about to kiss it (Figure 13). One parallel is to be found on the quartzite stela from Heliopolis in the Egyptian Museum, Cairo, which depicts the royal family adoring the Aten (Figure 14). Our piece could have come from an outside surface of a shrine. At all events, the collection of granite pieces we have from the area (and see again *Sun*, vol. 27, no. 1, June 2021, 19–20, Figures 12, 13) suggests a large granite object more elaborate than a table and, in having a significant height, not a table at all. The congested plan of the Fifth and Sixth Courts limits the options. Where else other than the spaces which are central to the courts could large pieces of sculpture stand?

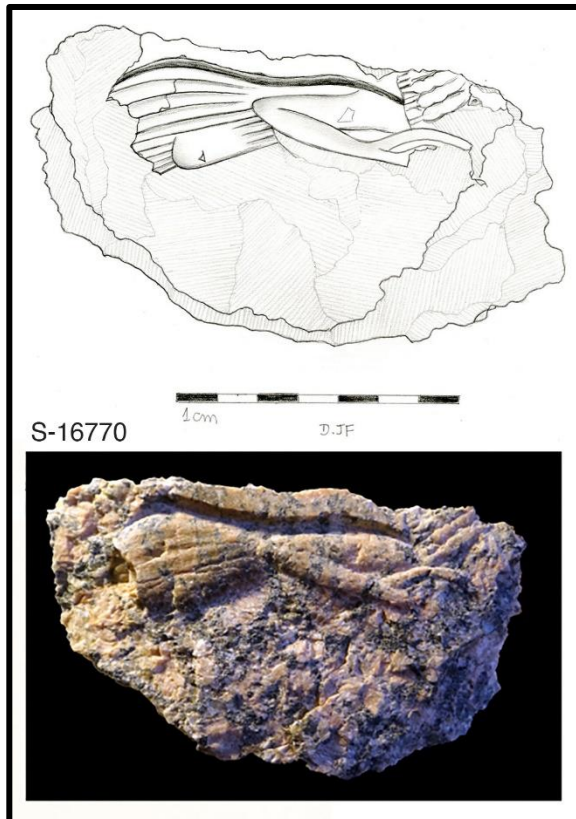


Figure 13: Granite fragment S-16770 from a Pendlebury spoil heap south of the Fifth and Sixth Courts. Drawing by Juan Friedrichs; photograph by Andreas Mesli.

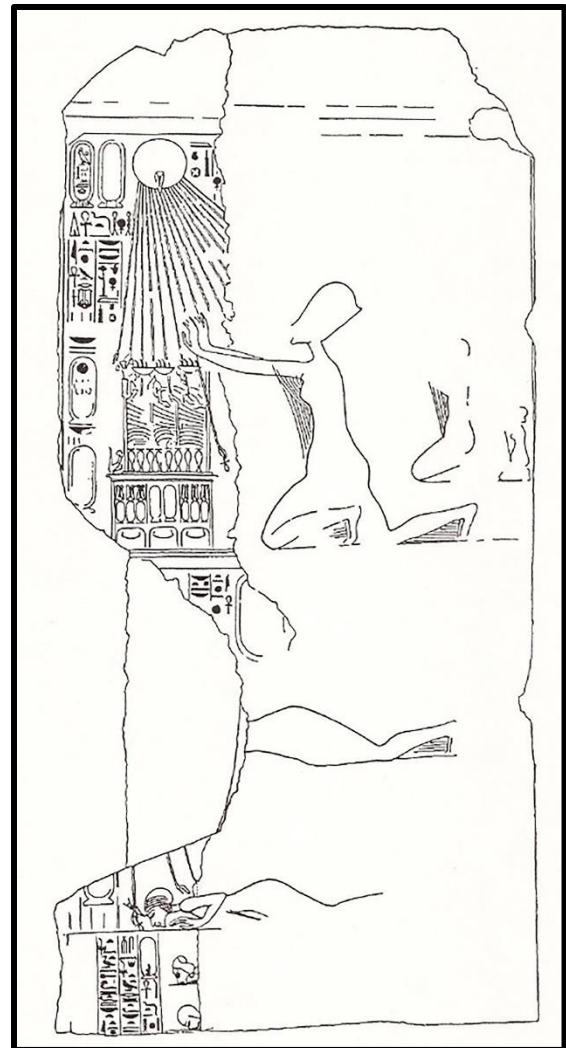


Figure 14: One side of the quartzite stela from Heliopolis in the Egyptian Museum, Cairo. In the upper part Akhenaten and members of his family kneel before a large offering-table beneath the rays of the Aten. In the lower part Akhenaten, Nefertiti and two daughters prostrate themselves probably before the same offering-table. The height is 2.50 m. After Habachi 1971: 42, Fig. 20.

For this interpretation we have to account for the difference between ideas of granite monuments and the tables depicted in the tomb pictures. Egyptian artists hovered between depicting what they saw and its essence as if it were a hieroglyph, a compromise between eye and mind. Were the 'tables' actual tables of granite with a flat top but with sides deeply carved with statues and other motifs? Or were they more monumental, the artists preferring to subordinate their real appearances to a more familiar shape? Another question is, why are there two near-identical courts each with a central monument? The Aten itself does not suggest a duality. Kingship does, however: the king as 'Lord of the Two Lands' being its main manifestation and given material form at least as far back as the Step Pyramid. But then, one would expect the two monuments to stand side by side and to be of equal size. Was Nefertiti in contexts such as these the other half of a royal-family duality? This makes better sense since the two monuments were of different sizes.



Figure 15: The site of the eastern large offering-table and the lowest course of new stones being laid. Beneath the target symbol in the top left (north-east) corner of the new foundations lies a patch of the ancient foundations where traces of gypsum mortar mark the original corner of the offering-table. View to the south-east.

Whatever the explanation, how should we represent these offering-tables in the scheme of recreating the temple outline in fresh stonework. Their locations are clear, not only from the tomb pictures but also from marks on the gypsum-concrete foundation plan. For the Sixth Court almost all of the area was destroyed after the end of the Amarna Period except for a tiny patch at the north-east corner (Figure 15). This preserves finger-smears in the gypsum mortar that ran around the edge of the blocks which must have formed a platform which was probably quite low (probably the same as the original stone pavement) and on which the granite stood. I say 'must have' formed a platform at floor level because the corner leaves a space of only 40 cm between the blocks and the adjacent wall, which probably contained an entrance to the chamber behind. From this corner one can reconstruct with some confidence the area of the platform (5.63 x 4.10 m). Built from a combination of local limestone blocks and Tura *talatat*-blocks, it should rise as high as the ancient stone floor level (now represented by the top of the sand filling which we are putting into place), with the top of the adjacent door threshold about 10 cm above (Figure 16). By making the top of the resulting limestone platform the same as the floor level the access problem at the back of the construction is solved. Akhenaten and Nefertiti no longer have to squeeze themselves through an uncomfortably narrow space.

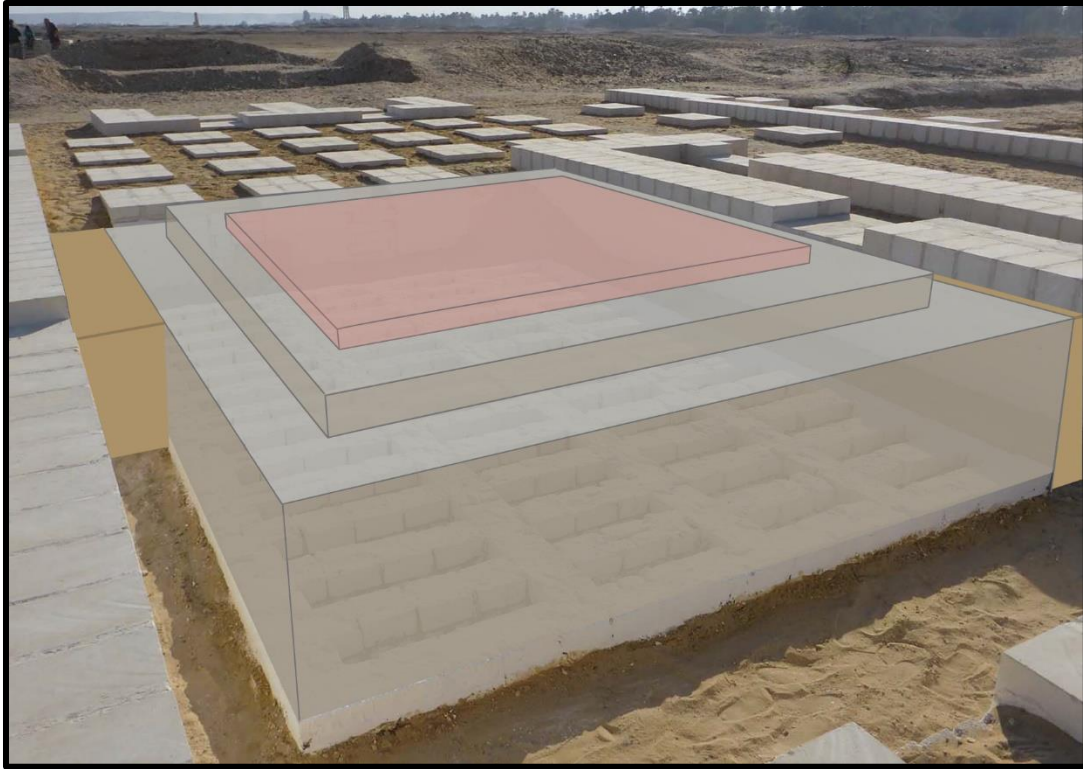


Figure 16: Diagram of how the eastern large offering-table will be reconstructed. The pink rectangle represents a layer of granite tiles. Beneath comes a plinth of Tura limestone slabs. These stand on a foundation of local limestone blocks capped with a layer of Tura limestone. View to the south-west. The top of the sand infill is at the height of the original stone floor.

The granite mass is to be represented by a plain rectangular area filled with granite tiles, each measuring 52 x 28 cm and 10 cm thick. Earlier in the summer these were purchased (100 of them, sufficient for both large offering-tables) and delivered to Amarna, to be stored in the garage of the expedition house until we are ready to use them. From time to time at Amarna we have to move pieces of granite and are reminded just how heavy it is compared to common limestone. A *talatat*-size block of Tura limestone weighs about 70 kilos (measured on bathroom scales). The same in granite weighs 95 kilos (measured by calculation). Because granite is so dense and heavy it makes sense to build a foundation for the granite sculpture ('offering-table') that is larger so as to spread the weight more. This is the platform the top surface of which also served as part of the flooring of the surrounding space. We can be sure that this platform was constructed from limestone blocks from the base upwards because where the other large offering-table stood, to the west in the Fifth Court, two-thirds of the foundation concrete survives and it preserves the impressions of several *talatat*-blocks. It also seems natural to place the granite piece on a plinth of limestone blocks that is larger than the granite itself but smaller than the platform.

The resulting size of the granite block has been set at 3.78 x 2.40 m. Let us suppose that it was 1.5 m high, the block then having a volume of 13.608 cubic m. A standard formula of calculation for the weight of volumes of solid granite (footnote 1) converts

this figure into a weight of 36.62 metric tons (40.37 US tons). If we raise the height to 2.5 m (the height of the quartzite Akhenaten stela from Heliopolis, Habachi 1971, 41), the volume would be 22.68 cubic m, which yields a weight for granite of 61.03 metric tons (62.27 US tons). I remind myself that at the heart of the main Aten temple one should expect something impressive.



Figure 17: Aerial mosaic view of the Long Temple on the last day of excavation, 2 November 2022. Superimposed on it are the proposed outlines of the two restored large offering-tables. The central pink rectangles mark where the granite tiles will be laid. The west table will also support the large, rounded granite mass. Location 1 is where it stood after the 1932 excavations. Location 2 is a temporary location selected by the builders. Location 3 is its final resting-place in the middle of the granite tiles.

The situation in the Fifth Court is a little different. Much more survives of the concrete foundations. They bear some of the builders' outlines for stone blocks and, as just noted, impressions of some actual blocks. Lavers, Pendlebury's architect, drew the lines as a nested series of rectangles as if they were the edges of steps on the four sides. The outlines do not resolve themselves quite as Lavers interpreted them or easily into a scheme that accounts for all of them. One help as to where blocks had been laid are the small cup-shaped holes in the concrete which had been made to allow levers to be used to prise up blocks which were adhering too strongly when the temple was demolished. The holes are located where the edges of blocks had been. Then there are lines marked on the concrete both by black pigment and by grooves made by a chisel. The reconstructed size is similar but not quite identical to the reconstructed eastern table. It also occupied a less-cramped space because there is no separate chamber on the east side. The surviving traces also suggest one or two steps for the platform on the west side (Figure 17).

Our proposed solution for reconstruction is to repeat the scheme for the Sixth Court but with a significant addition. This is to incorporate into the design the large granite lump, unit [19512], which stands not far from the position of the large offering-table (Figure 12). Its formal dimensions are about 1.00 x 0.85 x 0.70 m. If we imagine it with flat surfaces the volume would be 0.595 cubic m. This converts to 1.6 metric tons (1.76 US tons) but, in view of its irregular rounded shape, we should reduce this to, say, 1.2 metric tons. This will need to be hoisted into the centre and bedded on some extra granite slabs to spread the weight. For this we will have to bring from the garage at the expedition house a tall tripod of iron poles which is used with a chain block for lifting. In this way an original remnant of the temple will be preserved in its original position. Having said this, in the course of their work our obliging builders, as a routine task, moved the boulder to a new position to avoid interruption to their work of rebuilding the offering-tables (Figure 17).

What we learn from the foundations: puzzling postholes

How might Akhenaten's workforce have raised heavy granite blocks even though the lift was not high? From the beginning of the current work at the temple we have made any number of measurements for the height (as metres above sea level) of the main gypsum-concrete foundation layer. This acts as the floor of the excavations but was not the ancient floor, which had consisted of limestone slabs on their own bed of concrete which rested on a layer of sand laid over the main foundation layer. It was only in the most recent season (autumn 2022) that a piece of original stone floor was found which, after minor adjustment to its original position (Figure 18), gave us a precise height measurement for the original floor. This turned out to be 68 cm (let us call it 70 cm) above the underlying foundation level. If we allow for the two large granite blocks on the offering-tables having a plinth that was 20 cm high, then the granite blocks needed a lift of 90 cm to get them into position. This assumes that the foundations for the two large offering-tables were built as soon as the main concrete layer had been finished and dried sufficiently to bear weight and before many of the

other stone features (walls and small offering-tables) were started which would quickly have become obstacles to the movement of large masses of granite.



Figure 18: Juan Friedrichs holds a limestone paving slab, the only one found so far in its original position. It provides us with an exact measurement for the temple floor, 68 cm above the main foundation concrete. The top surface has been smoothed.

The normal ancient Egyptian means of moving and raising heavy stones was to prepare a causeway, flat or gently sloping over which the stones (on wooden sledges) would be dragged often across transverse timbers. The remains of one such causeway, with thick retaining walls of mud brick braced with timbers, were found in the early seasons and must have been used to raise the large stone column drums for the colonnade at the front of the temple (*Akhetaten Sun*, vol. 20, no. 1 (June 2014), 12–19).

The obvious line of such a causeway would be along the temple axis. So far, our work has uncovered no evidence for such. Dry sand, however, is a most versatile material on building sites and a relatively thin layer, into which transverse timbers had been laid, would probably act as a cushion and protect an underlying solid surface. Once the task was completed and the causeway removed, no trace might remain.

There is, however, another kind of evidence. Our close examination of the surface of the huge gypsum-concrete foundation layer has revealed many places where, after the layer had been spread and allowed to dry, holes had been hacked into it and subsequently filled and plastered over with more gypsum (Figure 19). It would be too destructive for us to break open the covers and clean the holes. A few of them, however, lie along edges where the main concrete layer was broken and removed in antiquity. Cleaning down in such places exposes a section which can be recorded.

With the few where we have done this the hole, cut into sand, is roughly conical, around 50 cm deep and also reveals no ancient artefacts, such as objects from a foundation deposit (Figure 20). The holes occur as two series (Figure 21). One is located along the outer edge of the outside wall of the temple. The holes are spaced at irregular intervals. An explanation which readily comes to mind is that they were made to support scaffolding poles to assist the builders as they raised the building blocks and again as they dressed the surface of the blocks to leave a smooth finish. But then, there are very few corresponding holes along the inside of the same walls. The building and dressing of the stone would create a deposit of gypsum and limestone dust which would itself harden. Yet the holes have been neatly plastered over (Figure 19), without traces of a hardened deposit having been removed from around the plastering.

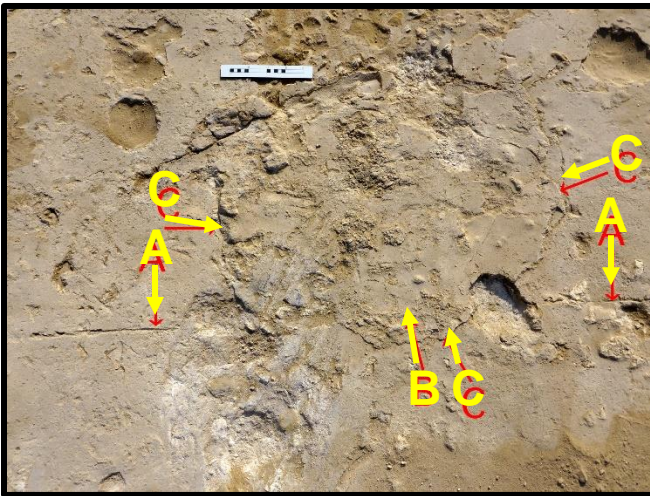


Figure 19: Detail of the gypsum-concrete foundation layer. A roughly circular area of secondary gypsum occupies the centre of the picture. It is the fill (19790) of a hole that has been cut through the original concrete. A: builder's guideline groove cut into the foundations before the hole was made. B: ridge of gypsum mortar from where a limestone block has been placed along line A. C: edge of secondary gypsum-concrete 'plug' which has been used to fill the hole.



Figure 20: Section through the fill (19648) of a posthole in the gypsum-concrete foundation layer.

The other series of filled holes, some of them larger than the first set, occur mostly in the middle of the Fifth Court, thus around the site of the large offering-table. (The foundations around the offering-table in the Sixth Court have been largely lost to ancient destruction.) When I briefly wrote about the postholes in a previous annual report (footnote 2, esp. p. 14, and Figures 9 and 10), I remarked: "If we accept that the offering-table itself was a large block of granite then we perhaps have an explanation for the holes. They were for thick, wooden posts (often c. 30 cm in diameter) around which ropes were passed to help in manoeuvring the granite block into position, and presumably in raising it to stand on a low platform" (footnote 2, p. 14).



Figure 21: The rear part of the temple. Two sets of postholes are coloured red. One runs mainly along the outside of the perimeter wall. The other concentrates along the temple axis in the Fifth and Sixth Courts. The map is a preliminary version which needs closer verification. The plan also shows how the lines of walls and pylons had been cut away, leaving intact the places where offering-tables had stood.

Now I wonder about this. One reason is that in a few cases it can be seen that the posts had been removed and the holes plastered over before any stones had been laid in the vicinity. Two significant cases occur at the north-west corner of the western large offering-table (Figure 19 represents one of them). Yet the postholes obviously cluster around this offering-table. Another reason is that, in other parts of the Great Aten Temple temenos, wooden posts (some of them quite large) have been set up either to create or to complement separate buildings. They seemingly represent a kind of ghost architecture which, for a moment, paid homage to the wooden-post

architecture which the Egyptians (correctly, it has turned out) understood to have come down to them from a deep past and which they could still see (rendered into stone) at the Step Pyramid (Kemp 2018: 90–107, 145–158).

This topic, something of an enigma, needs more space to consider. I will offer something to David for a future issue of the *Sun*. In the meantime, you might like to look at the *Akhetaten Sun*, vol. 18, no. 2 (December 2012), 11–22 for large postholes at the Stela Site, and *Akhetaten Sun*, 24, no. 1 (June 2018), 25–35 for the wooden-post palace.

What we learn from the foundations: Pac-Man at work

The destruction of the temple after the end of the Amarna Period (probably begun in the reign of Horemheb) is a story in itself. The demolition of buildings is generally not a very interesting subject, but the way it was carried out at the Long Temple is odd and suggests thoughts on the part of those responsible that reflected the circumstances of the time. With no stone roofing-slabs to bring down (except over the colonnade at the front) the demolition must have started with the taking down, course by course, of the limestone *talatat*-blocks which formed the bulk of the building. This must have been a fairly straightforward operation, given the regular and relatively small size of the blocks although some resistance must have been created by the use of gypsum mortar between the blocks. Greater resistance was evidently faced when removing the bottom courses, where they were bedded on a layer of mortar laid over the concrete. Very often circular holes had to be cut into the base of one accessible side, the hole also simultaneously cut into the concrete. This provided purchase for a lever or crowbar to prise the block free. The result can still be seen on the concrete layer: irregular lines of circular cup-like holes which correspond to the divisions between courses of blocks. How the breaking of the concrete was done is revealed by numerous tool marks. The tool generally in use was a metal (which means bronze) blade mounted at right angles in a handle to create an adze, together with chisels.

Where the walls stood close together and there were fields of offering-tables it would have been inevitable that the upper concrete floor of the pavement would have been extensively broken up to reach the stones that lay beneath the floor. The appearance of the site once the stonework had gone would have been that of a wasteland of sand, gypsum dust, broken gypsum and pieces of stone. This, however, did not satisfy whoever was in charge of the destruction. They wanted the underlying foundation concrete to go as well. From a modern perspective (in Egypt) this could be achieved by lining up a gang of workmen across the width of the temple and having them proceed along this front, digging out the loose debris, filling baskets and having other workers throw it behind. This would have exposed, strip by strip, the foundation concrete which could have then been completely broken up, allowing the line of workmen to advance a pace or two. This is, more or less, how excavation was done by Flinders Petrie in the early days of archaeology in Egypt (although without breaking floors). The ancient scheme was different. The aim was selective destruction concentrating on the lines of the walls.



Figure 22: The picture shows the surface of the gypsum-concrete foundation layer at the entrance system before the western large offering-table. It illustrates how the ancient demolition process worked. The *talatat*-blocks have been removed along the length of the wall (the red arrows point to impressions in the original mortar from the edges of the wall). The next stage was to cut away the foundation concrete from where the wall had been. This had been done by cutting narrow parallel trenches from side to side. A pair of unfinished trenches is at the right edge of the picture. North is towards the left.

Was there a fear that a counter-revolution would see an attempt to rebuild the temple? We should accept that we have no idea as to how far society was divided in its views before, during and after Akhenaten's reign. What was done was to locate and follow the lines of walls and pylons and to hack them up, leaving largely untouched the wide areas of foundation concrete where the hundreds of offering-tables stood. These, representing the First to Fourth Courts (but not including the Rear Colonnade), amounted to around three-quarters of the temple's area. The areas where the outlines of offering-tables were marked still survive showing little damage (Figure 3). Across the Fifth and Sixth Courts, however, the density of the labyrinthine walls led the

destruction gangs to a more careful appraisal of what they were doing (Figure 22). They cut along the lines of walls, carefully skirting places where offering-tables had stood, leaving them on islands of concrete. The exceptions were the locations of the two very large offering-tables in the middle of each of the two courts. The intention was to hack out the entire area of each one. It was achieved in the easternmost but only begun in the westernmost, along the south edge. This corresponds to the general pattern of destruction, which had clearly begun on the south side but was abandoned after the work gangs had passed the halfway line, heading northwards.

What would have led them to spare the offering-table locations? It is possible that the small offering-tables had not been decorated and so had presented no offence even though only the shapes on the concrete foundation layer remained behind. We know, however, from the two blocks recovered from Pendlebury's dumps in spring 2022 (see above) that parts or all of the temple had continued in use into the time of Akhenaten's successors but with figures of the royal family scraped off and plastered over. I cannot, I have to admit, think of an explanation that makes sense, although I am reminded of the Pac-Man video game and can almost see the voracious jaws munching their way along the lines of the walls (Figure 21).

Acknowledgement

As ever, I see the work at the temple making good progress through the commitment, patience and skills of many people: workmen, builders and house staff from the villages, officials from departments of the government and archaeologists from several countries. To these enablers I must add those who fund the expedition, prominent amongst them the members and board of the Amarna Research Foundation. Thank you, on behalf of the many who benefit.

In writing this piece for the *Sun* I have also benefited from material and advice from Marsha Hill.

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Footnote 1: <https://www.aqua-calc.com/calculate/volume-to-weight>

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