

## CHAPTER 6

REPORT ON THE 1987 EXCAVATIONS  
INVESTIGATION OF THE SMALL ATEN TEMPLE

by

Michael Mallinson<sup>1</sup>**6.1 Introduction**

This season's study of the Small Aten Temple (the *Hwt-Ītn*) is the first serious investigation undertaken of the royal buildings in the Central City since the excavations of the 1930s by J.D.S. Pendlebury and R. Lavers. Pendlebury considered the temple to be the best site remaining at Amarna and devoted a month (November 25–December 26, 1931) to excavating it with the greater part of his workforce.<sup>2</sup> The expedition's present intentions are firstly to learn if anything significant had been missed by the original excavations, and secondly to determine how much of the building can be preserved for the future and displayed for public interest.

We had at first assumed from our preliminary survey and the published reports (Pendlebury 1932: 145–147; *COA* III: 92–100) that a minimum scheme to accomplish the first aim would comprise a measured survey at a relatively large scale which would show much more of the constructional detail than is provided by the existing outline plans but would not add much of substance to them. The principal labour envisaged was the removal of wind-blown sand that had accumulated since 1931 in order to expose the corners of walls and other features at the original ground level. But immediately the removal of the wind-blown sand began it became apparent that significant new detail remained to be discovered, and that a degree of investigative excavation would be necessary.

The area chosen for first examination was the main entrance to the temple situated at the western end of the enclosure between the towers of the First Pylon, which, like the Second and Third, were constructed of mud brick (Figure 6.1). It was here that a substantial area of gypsum foundation plaster had been discovered (*COA* III: 92–93, Fig. 17; Pendlebury 1932: 145–146). On removal of the sand it was discovered that this plaster floor was still intact, and the masons' marks noted then were still well preserved. This is a rare and fortunate survival from the exposures of the older excavations of the gypsum foundation layers beneath stone constructions that typify Akhenaten's buildings at Amarna (the system is explained in *COA* III: 6–7). Having been left open to the elements (and the passage of humans and animals) they have generally broken up and lost much of their original surfaces, but here the brick pylon towers trapped sand, and a protective covering had quickly formed. Lavers had made a separate and larger-scale plan of these foundations, published in *COA* III: 93, Fig. 17, but comparison with the original revealed that even this omitted much detail, enough to warrant re-planning. The decision to do this necessarily disposed of much of the time available, to the extent that further clearance was limited to the area immediately behind, i.e. to the east of the gateway, which exposed for detailed planning the foundations of the large brick altar in the temple forecourt, and to cutting a deeper exploratory trench from east to west across the area excavated, which brought to light a valuable and unsuspected stratigraphic sequence.

Architectural clues and the stratigraphy together reveal several stages of development around the pylons and encompass the altars within the first courtyard. The initial conclusions seem to show that this area of the temple developed in three phases, which may be reflected in the overall history of the temple, and that this development was followed by a single ancient phase of destruction.

<sup>1</sup> A number of comments citing comparative evidence have been added by B. Kemp. All original plans and sections by M. Mallinson.

<sup>2</sup> See the entries in the excavation diary, E.E.S. Amarna Archive, Document 1.1.

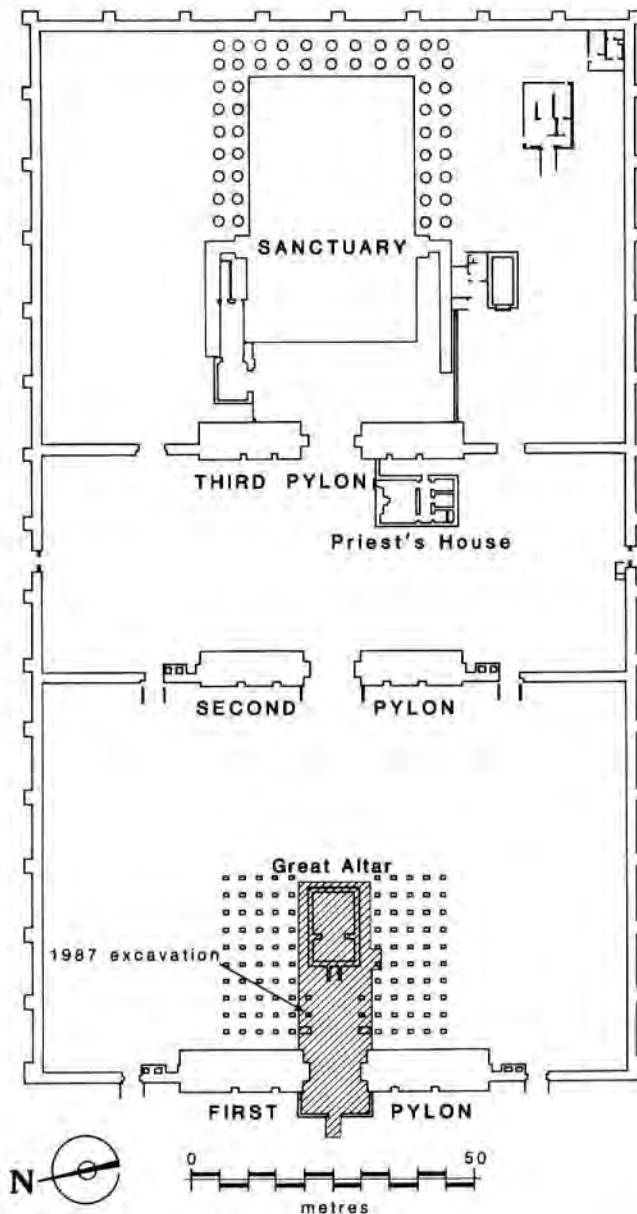


Figure 6.1. Outline plan of the Small Aten Temple, showing area excavated in 1987.

The discovery that the pavement had survived in a fair condition also brought a sense of urgency to ideas of architectural conservation in the Central City. A sample piece of the pavement was tested, and it was found that, although quite friable, a good casting could still be made of the marks. The possibility of a larger casting of part or all of the floor in a later season should now be considered, and to that end the masons' marks were treated with a 10% P.V.A. solution of Propenol, and on completion of the work the whole pavement was covered with sail cloth and a thin layer of sand for immediate protection.<sup>3</sup> An important step was also taken towards creating a protected zone around a key part of the Central City. A stout barbed-wire fence, with gate, was erected in front of and parallel to the entire temple façade. This should, on its own, provide a measure of protection from the vehicle road which now runs past, but it is intended to form part of a much larger enclosure within which some of the most significant of the

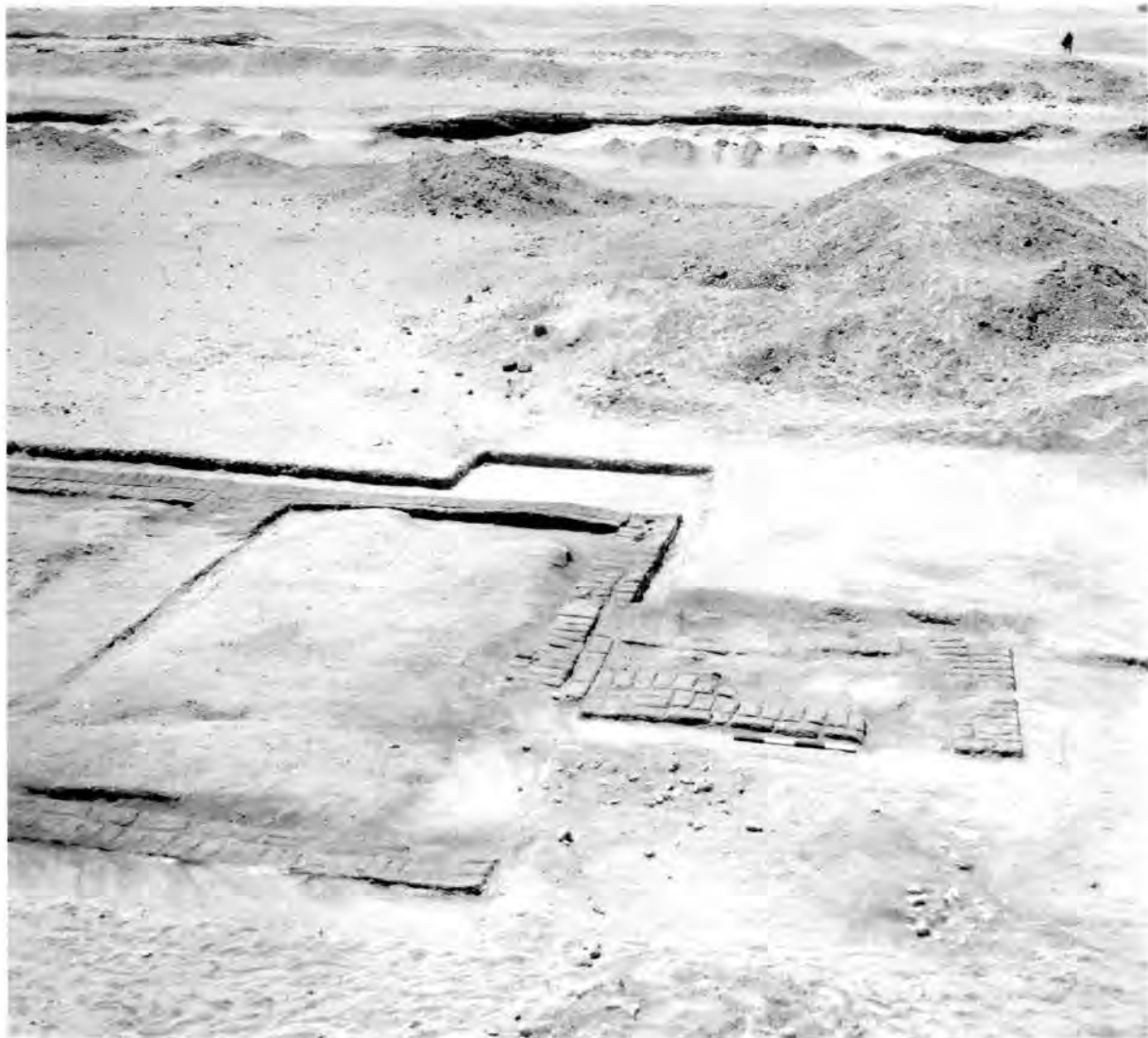
<sup>3</sup> In an excess of zeal one of the EAO ghaffirs responsible for the temple subsequently removed the sail cloth. The plaster is now protected only by a layer of sand.

central buildings can be examined, protected and made more intelligible to visitors.

For the basic description of the front part of the Small Aten Temple readers are referred to *COA III*: 92–94, with Plates XLVI and XLVII. The account of the current work will be chronological, based on the phases revealed in the stratigraphy of the site and the location of elements within a phase. In the course of writing use has been made of the Egypt Exploration Society's archives. For the Small Aten Temple Pendlebury's original notes survive (Amarna Archive, document 7.6, pp. 64–71), and a valuable set of photographic negatives. References to the latter are included in the ensuing text. Advantage has also been taken of the delay in producing *AR V* to incorporate certain observations from the 1988 season which relate to the structures described here.

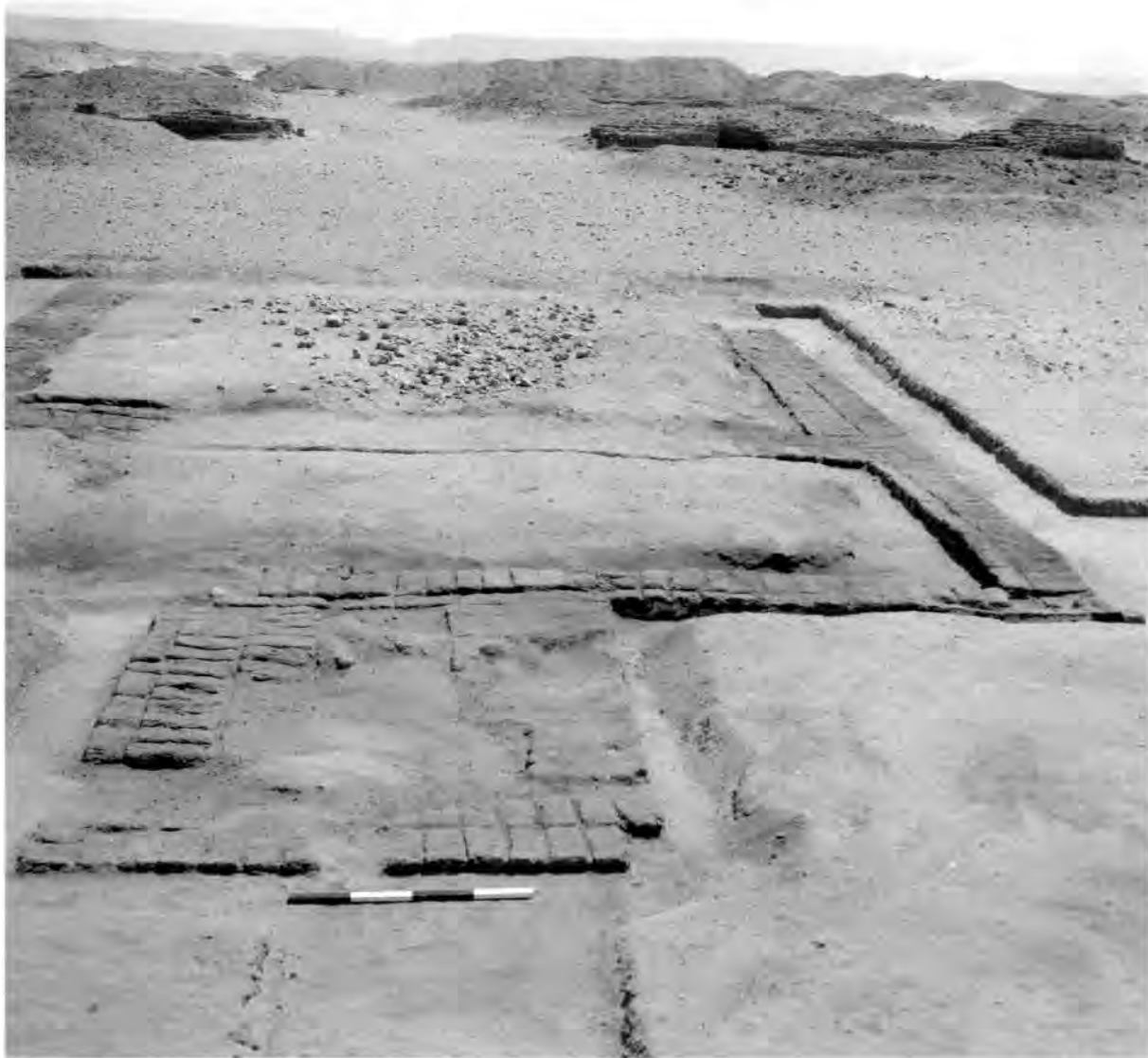
### 6.2 Phase Ia: The Great Altar

Archive photographs A202, A158, A213.



**Figure 6.2.** View of the Great Altar, towards the south, at the end of the 1987 excavation.

This would seem to be the first construction on this part of the site, for its foundations rest on clean gravel, as does the floor of whitewashed mud [3412] which lies adjacent to and abutting it and extends beneath the main gate, with its pylon towers and other features. Although only the



**Figure 6.3.** View of the Great Altar, towards the east, at the end of the 1987 excavation.

lowest one or two courses of brickwork survive (Figures 6.2 and 6.3), and these reduced through weathering to a soft and dusty consistency, the lines between bricks are often clearly visible, making a detailed plan possible (Figure 6.4). The mud bricks of the structure had been whitewashed externally, this whitewash [3769] extending over the surrounding floors.

The Altar is made up of three rectangular sections. Each was filled with rocks and gravel brought from outside the site. The first is a rectangular 9.35 x 9.8 m mud-brick foundation wall 900 mm thick [3768]. It is closed at the west end by a 1050 mm thick cross wall which may have only extended part of the way across, as the central area is hard to trace. These walls are a maximum of two courses high, the lower course being made up of bricks on their sides.

During the season of 1988 some further brushing of the foundations was carried out preparatory to protecting the structure by capping the courses with newly made mud bricks and filling the interior with alabaster chippings. This led to the discovery of a series of aligned bricks running north–south across the rear area of the altar, and a small exploratory excavation was therefore undertaken before laying the alabaster chippings. The brick fragments seemed to be all that was left of a wall [4593] perhaps two brick lengths wide, but now only a single line. It had been built across the centre of the altar, on a low-level mud floor [4590] and gravel surface similar to that of Phase I, and surrounded (in its robbed-out state) by a pink cement [4591]. This

in turn was overlaid with a mud rubble and yellow gravel layer [4589] which had the remains of a gypsum surface [4592] upon it, probably the Phase III floor, overlying the remains of the mud Phase IIa floor. The other section of the Great Altar was next excavated to check whether this was a localised feature, or whether a more general aspect had been missed in the previous season, but the stratigraphy revealed a different picture: an upper mud floor [4594] on top of a layer of large pebbles and gravel [4595], over a small gravel layer [4596] on top of a cleaner gravel [4597], probably *gebel*.

These two sections suggest that the new wall [4593] was built shortly after the construction of the Great Altar and perhaps was part of the lining of the rear part noted in 1987. This could have been to support a floor within the altar or to help level a gravel fill. Another possibility is that suggested by the image of the Great Altar in the Tomb of Meryrē at Amarna, which shows offerings within a cross-shaped structure painted or depicted on the side of the Altar (*RT I: Pl. XXV*). This could represent an arrangement within the altar, or perhaps the plan view. Certainly the presence of a floor, albeit a thin one, within the offering part of the altar and not in the other half, does suggest an internal structure of some kind. The absence of both walls and floors in the eastern end of the altar confirms that these features are part of the construction phase and do not precede it. The upper layers derive from the destruction of the altar, overlaid with the subsequent floors of the enlarged temple.

The second enclosure which made up the altar lay to the west and was also rectangular, 4.6 x 9.35 m with walls 600 mm thick [3770]. This may have been the foundations of an approach ramp, or a lower platform to the main altar platform. The outer return wall of this was not uncovered by Pendlebury. Finally at the western end lay the third section, a stepped ramp [3771] 2.6 x 3.7 m with mud-brick walls 950 mm thick, the lowest step still remaining intact abutting the floor in front of it.

As the ensuing paragraphs will demonstrate, the conspicuous front part of the temple was built only later, although at a time when probably the Great Altar was still standing. We have not yet been able to determine if the Great Altar was at first surrounded by an earlier enclosure, but on the evidence now available it would seem unlikely that it possessed a monumental approach but instead appeared as a conspicuous free-standing structure beside the Royal Road. This period, essentially that between Phases I and II, could have been quite brief. Furthermore, it probably did not stand through the full history of the temple but was demolished in Phase IIb (see below). We thus have a case for arguing that this was the first altar on the temple site and a major architectural statement from the earliest days of Akhenaten's presence. It occupied a prime location, matching the alignments of the Royal Road and the adjacent King's House, and lying astride a primary orientation which ran perpendicularly across the Royal Road, joining the river and the entrance to the Royal Valley in the distant cliffs to the east (although the altar is not aligned exactly to the entrance but to a point a little to the south). It should also be remembered that in our present view of the general setting of the Small Aten Temple the "Coronation Hall" of Smenkhkarē features large entirely filling the ground on the other side of the Royal Road. When the Great Altar was built, however, this hall did not yet exist. In his limited clearances within the Coronation Hall Pendlebury found beneath its floor "rubbish-pits and pits for trees" (*COA III: 60-61*), implying that the site had a very different and much more open appearance during Akhenaten's reign. An important opportunity exists for future investigation of this pre-Coronation Hall ground surface which seems to survive below the present level of the modern road and presumably still survives to some extent below the floor of the Coronation Hall itself. One would be looking in particular for elements in a processional route leading from the river to the Great Altar and then in slightly later terms to the entrance to the Small Aten Temple. Possibly there was a formal landing-place or quay on the river bank at this point.

### 6.3 Phase Ib: the field of small altars

The second part of Phase I involved the laying of a second mud floor [3773] over the area around the Great Altar and building a series of small mud-brick altars or offering-tables to north and south. Pendlebury records 106 in total covering an area 50 x 35 m. Unfortunately the 1931 dumps cover most of it, and what remains accessible has been extensively eroded. We were able to record only five altars ([3787] on the north; and [3775], [3772], [3776], and [3777] on the

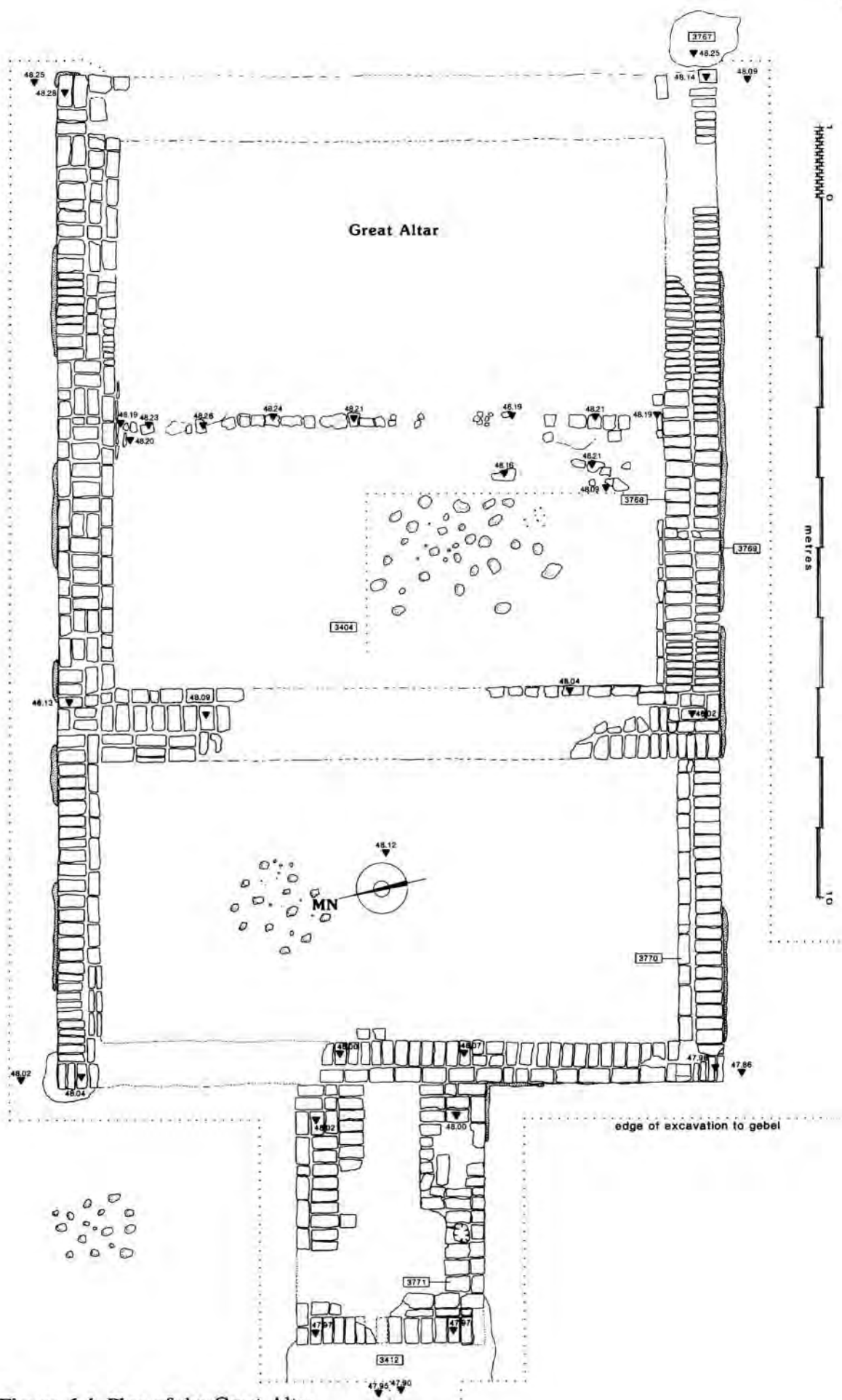


Figure 6.4. Plan of the Great Altar.

# Small Aten Temple

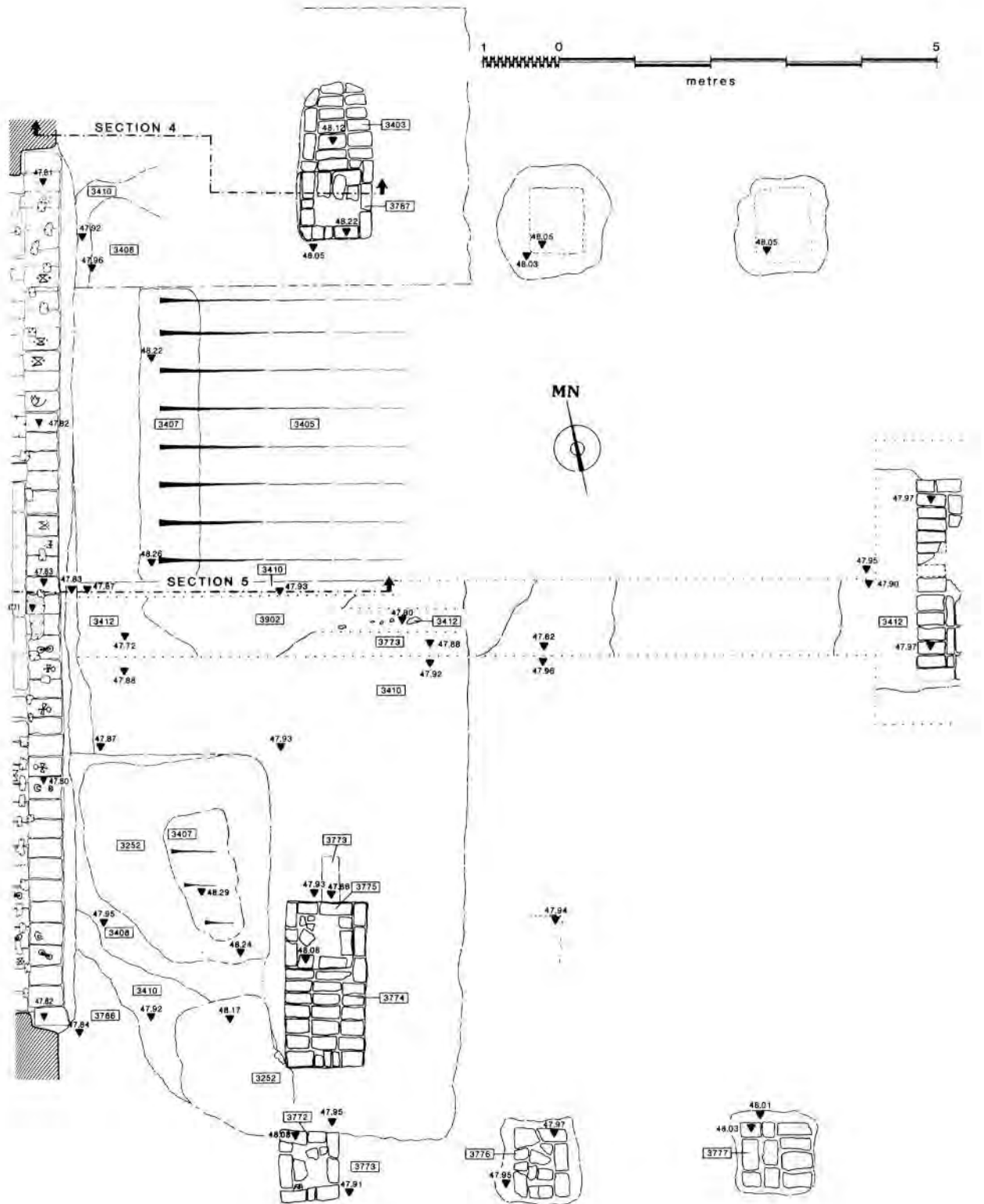


Figure 6.5. Plan of the small altars uncovered in 1987. This plan overlaps with the plans of the Great Altar (Figure 6.4) and the First Pylon gateway (Figures 6.12 and 6.13).



Figure 6.6. One of the pair of small altars rebuilt in Phase IIb flanking the inside of the gateway in the First Pylon.

south; Figure 6.5), and confirm from photographs (A125, A202, A233, A201, A175, A158, A159, A160, A213) that a further four definitely had been destroyed within our area of study. The altars are rectangular, measuring 90 cm wide by 80 cm deep, and are constructed of whitewashed plastered mud over a mud-brick fill. They were placed 2.1 m apart on the north–south axes, and 2.3 m on the west–east axes. These dimensions varied 5–10 cm. Those surviving stand one course high, but the photographs suggest that three or four courses existed in 1931.

#### 6.4 Phase IIa: The First Pylon

The second major phase of construction saw the erection of a pair of mud-brick pylon towers across the entrance from the Royal Road and the building of a gateway. This might also indicate that the rest of the mud-brick temple visible today, which is of similar construction to these pylons, also dates from this time. Two sections cut into the base of the pylon towers beside the gateway (Figures 6.9 and 6.10) reveal this clearly. Figure 6.9, no. 4, against the inside of the north pylon, shows the foundation trench [3920] of the north tower [3906] cutting through the Phase Ib mud floor [3773] and resting on the Phase Ia floor [3412]. The trench received the foundation courses of the pylon tower [3906] and the space between them and the foundation trench edge was then filled with yellow sand [3920]. A similar story is told by Figure 6.9, no. 2, against the outside face of the south tower: foundation trench [3766] cutting Phase Ib mud floor [3912], here a significantly thicker deposit and resting on sand [3913] on *gebel* [3902]; brickwork





**Figure 6.7.** The southern rebuilt small altar [3774, 3775], as excavated in 1931, viewed to the south-west. Archive photograph 31/32.A160.

of the pylon [3915] standing in the trench, the remaining space filled with sand [3766]. The floor level externally was raised by 140 mm and was coated with a mud floor [3764] that stands out conspicuously when exposed by excavation. This was carried over the foundation trench fill, so sealing it. The interior pylon face shows that the temple forecourt floor was not generally raised, except to level it where it was uneven around the entrance way near the small altars, but that, nevertheless, a new mud floor [3410] was laid which similarly covers the foundation trench fill on the inside and seals it.

The entranceway of this phase between the pylon towers was extensively damaged by Phase III rebuilding, but two features remain: firstly the bases of two mud-brick piers or nibs (called “brick offsets” by Pendlebury) remain against the middle of the large pylons, measuring 3 m x 1.20 m wide and standing from this phase two courses high ([3904] on the north side, Figures 6.11, 6.15, and 6.17); secondly in the centre of the gate is a mud-brick platform [3907], much destroyed, measuring 6.8 x 2.5 m, which also remains in places to two courses in height (Figure 6.13, and visible in the photograph Figure 6.8).

During the interval between the end of the 1987 and the beginning of the 1988 season the northern of the brick piers or nibs was extensively vandalized, to the extent that it needed to be totally dismantled before repair could be effected. This revealed that under the mud-brick rubble [4184] was a gypsum layer of Phase III [4188=3904] coated with mud mortar [4187], which in turn overlaid the brick floor [4182=3905] which was identified as belonging to the Phase IIa gate.



**Figure 6.8.** The gateway between the First Pylon towers, as excavated in 1987, viewed to the south-east. In the foreground is a trench cut down to natural desert, and passing between the walls of the little forecourt [3909]. In the background is the gypsum pavement, and the remains of the Phase IIa brick pavement [3907].

This floor was cut with a series of pits, in one of which traces of a metallic substance were found [4295], suggesting perhaps the remains of a metal socket for a wooden post. The pits were not regular in dimensions, and the larger one [4297] seemed to be without purpose, for it cut through the gypsum layer and so was possibly made during the construction of the brick nib.

These discoveries support the sequence of events suggested last year, of the building of the Phase III gate on top of the Phase IIa gateway. After robbing out the brick floor to lay the stone blocks, the nib inside the pylon was built as a fill to a thin gypsum lining on top of the laid-stone floors.

The form of these remains can be interpreted to show either that the earlier gate resembled the later one (see below) in having more than one level, or that in making the later gate the builders carved up a continuous and evenly laid mud-brick paving of the earlier one so that they now have a similar form. As the main east-west section (Figure 6.10) shows, this platform lay only slightly above the mud floor [3773] of Phase Ib, but its relationship to the overall layout of the First Pylon shows that it should be placed in Phase II.

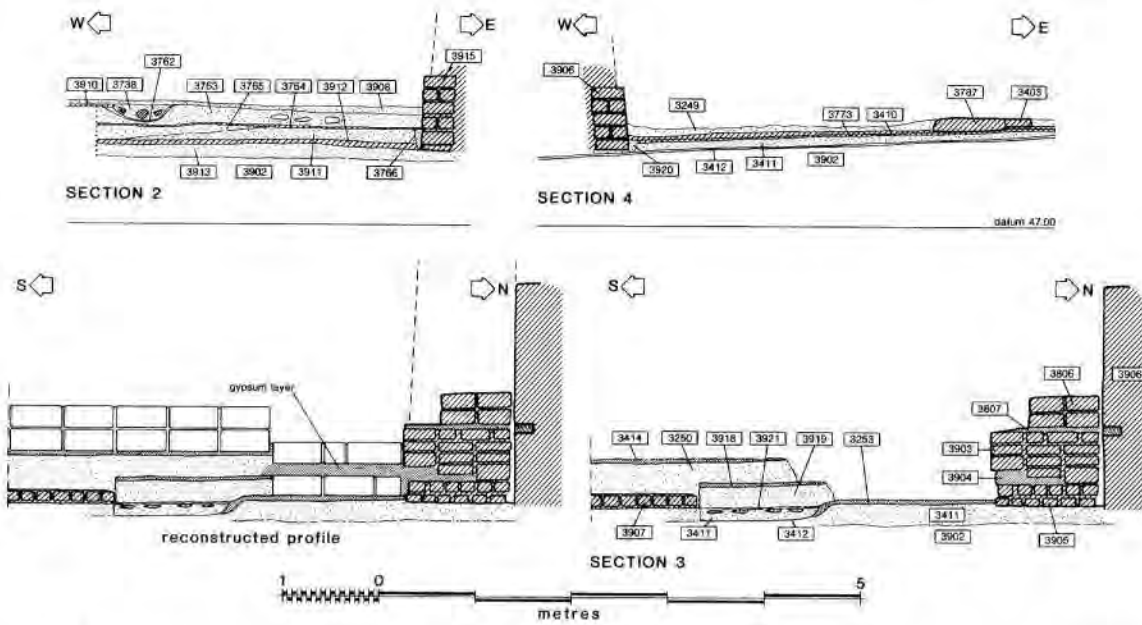


Figure 6.9. Sections 2, 3, and 4 (see Figure 6.12 for locations). In the left-hand version of section 3 the limestone blocks of pavements and ramp have been restored. The ring bezel of Ankh-kheperu-rē (no. 8524) was found in unit [3250] of section 3.

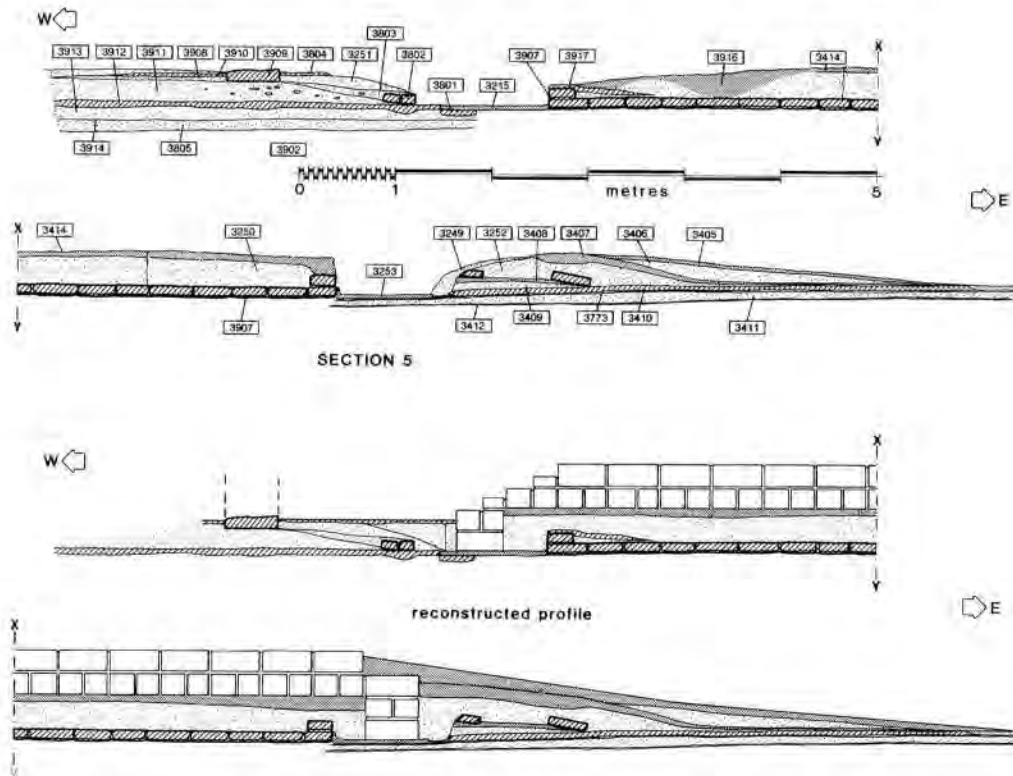


Figure 6.10. Section 5, the main east–west section on the temple axis, both as found and with the original limestone blocks restored. Unit [3250] contained the ring bezel of Ankh-kheperu-rē.

Traces of a mud-brick floor [3907] remain in places at the western edge directly under the later gate floor and so suggest either that the mud platform was only two courses high, or that this is the height of the lowest step if it were stepped. But as this corresponds to the Phase IIa external floor level, and all the bricks in both nibs and central platform are laid with their long axis in the same east–west alignment and are also not laid on their sides as would be expected if they were the foundations of a tall structure, they are probably both part of a mud-brick floor lining. On the other hand the width of the opening between the large pylons might suggest the need for subdivisions if reasonably sized doors are to be envisaged closing the temple. Finally if we move across to the inside of the doorway, within the temple forecourt, a whitewashed floor of mud [3408] seems to lead up to the level of the bricks in the platform, although the direct connection was broken when the Phase III stone pavement was inserted.

### 6.5 Phase IIb: destruction of the Great Altar

Some time after the construction of the pylons the Great Altar seems to have been systematically destroyed to ground level and a mud floor laid over it. It is evident from present appearances and from early maps that, prior to modern excavation, it formed no mound above the surrounding ground.<sup>4</sup> Since most of its mass consisted of stones and gravel fill this cannot be explained as the result of erosion, especially in view of its relatively protected location. It speaks much more of deliberate demolition to clear it away from the forecourt altogether, leaving only a foundation course invisible beneath a new and slightly raised floor level. Bricks from this demolition seem to have been incorporated into the enlargement of the two small altars on either side of the entrance way of the main gate, when the original brickwork [3775, 3787] became the cores for brick extensions [3774, 3403] which made them much longer (Figures 6.5, 6.6, and 6.14). Evidence for this can be seen in the whitewash that still clung to the faces of the bricks of the extensions when turned inwards and thus remaining invisible and protected within the masonry of the altars. Pieces of small stone are also interspaced with these bricks, and they, too, may have come from the Great Altar. These enlarged altars, which could perhaps have also been bases for wooden statues (as tentatively reconstructed in Figure 6.19), were whitewashed and measure 2.1 x 1.0 m, as shown in the 1931 photographs (A213, A160, A175, A201, A233, A125; see Figures 6.7 and 6.14).

### 6.6 Phase III: the stone platform between the pylon towers

The final phase of construction has the most extensive remains and was well recorded by Pendlebury and Lavers. By good fortune the two datable small finds from this season's work also come from this phase, a ring bezel of Ankh-kheperu-rē, one of the forenames of Smenkhkarē (illustrated in Chapter 8, Figure 8.6) and an amphora sherd with a wine docket dating from year 13 written upon it.<sup>5</sup> The bezel (object no. 8524) was found in the sand layer [3250] beneath the upper gypsum layer of the central platform (Figures 6.9 and 6.10). Both objects provide a *terminus ante quem* for this phase, the sherd evidently being a few years old by the time it came to be buried. It must be remembered that at this time — the “reign” of Smenkhkarē — the ground in front of the temple saw the building of the “Coronation Hall”, the date of which is based on bricks likewise bearing the name Ankh-kheperu-rē (COA III: 60, 150, 194). The eastern wall of this hall along the stretch opposite the entrance to the temple is still sufficiently well preserved to show that it contained no entrance of its own at this point (nor, indeed, anywhere along its external perimeter according to the plan, *ibid.*, Pl. XIIC). The hall and the new temple gateway were not, therefore, elements in a new architectural unity; the Hall, in fact, blocked the view of the temple from the open ground in front. But they do represent an important surge of activity during this evidently brief “reign”.

The method of construction employed in the rebuilding of the gateway in this phase is similar to that used elsewhere at Amarna and recorded in COA I–III, at localities such as the Maru-Aten

<sup>4</sup> It is omitted, for example, from Erbkam's map, LD I, Bl. 64; Text II, 124.

<sup>5</sup> Details on the wine docket kindly supplied on site by Dr M.A. Leahy.



**Figure 6.11.** The gypsum floor inside the main gateway, southern half, viewed to the west.

Island Pavilion, the Great Aten Temple and the North Palace, together with the building at Kom el-Nana (Kemp 1978: 26–34). As already noted, the Phase IIa floor was much damaged and cut about in preparation for the new entranceway and its bricks incorporated into the approach ramp from the interior to the new level. The prepared floor was then covered in a 50 mm-thick layer of gypsum plaster [3253] (Figures 6.11 to 6.13, 6.21). On to this plaster was laid the lowest level of stone blocks, the first layer of gypsum receiving a thin bonding layer of gypsum shortly before the blocks were placed. This may have been on the blocks themselves, which might explain the high quality of some of the marks left when this level of stone blocks was removed. Fingermarks of the masons can still be seen where they spread the gypsum to give a good area of cohesion shortly before laying the blocks (Figure 6.22).

Between the block-impressions left behind is a series of deep post-hole like pits set in the gypsum (Figures 6.11, 6.21, and 6.22). Similar marks on a gypsum foundation pavement can be discerned on Newton's plan of one of the buildings at Maru-Aten (*COA I*: Pl. XXX, the southern building of Group II, mainly around the northern edge). They must have been made while the plaster was still wet. One explanation which could be considered is that the blocks were laid from a trestle which was moved backwards as the stones were laid and so the holes were left by the trestle legs. However, in that case one would expect regularity in the placing of the holes, which

1987 excavation

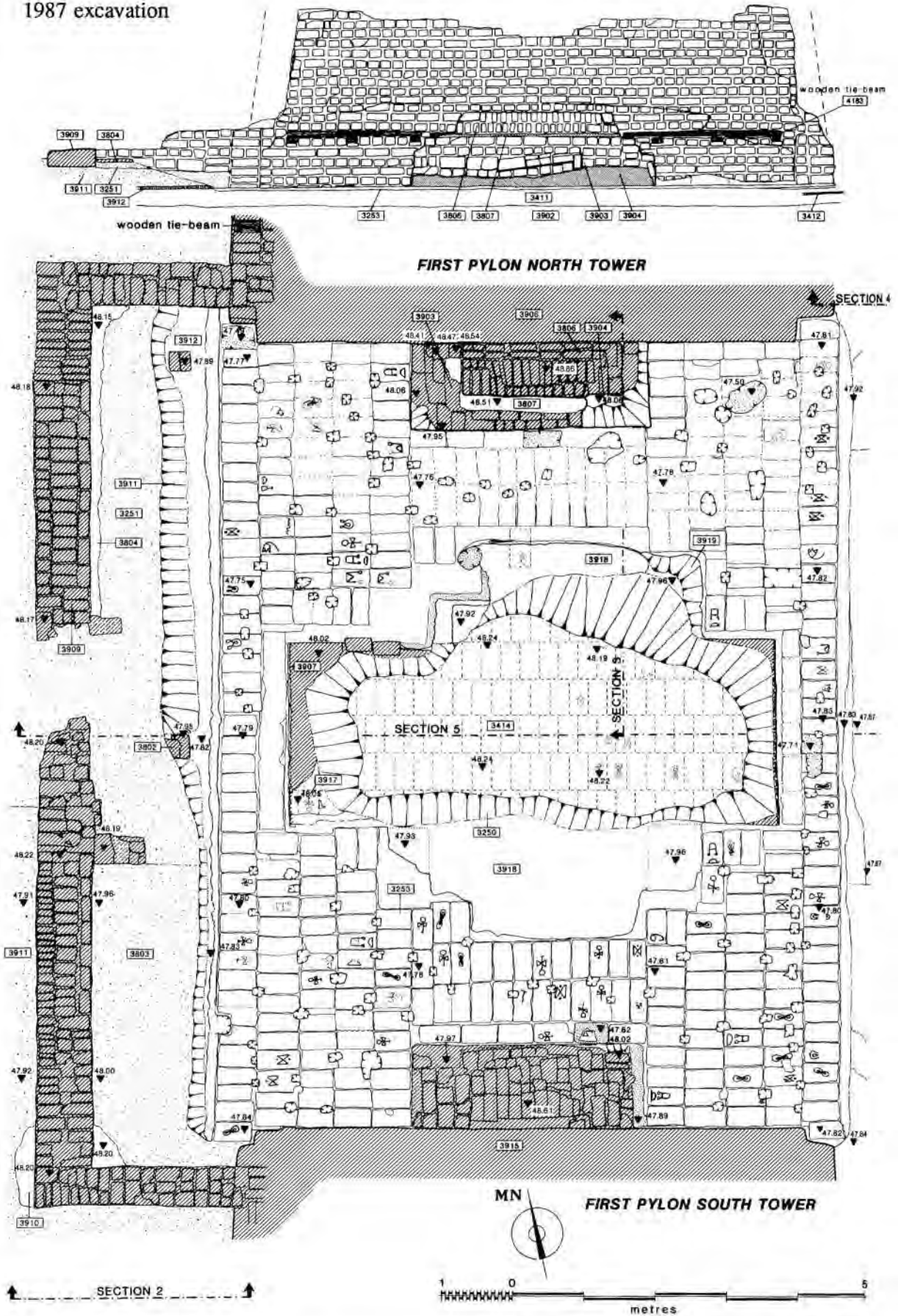
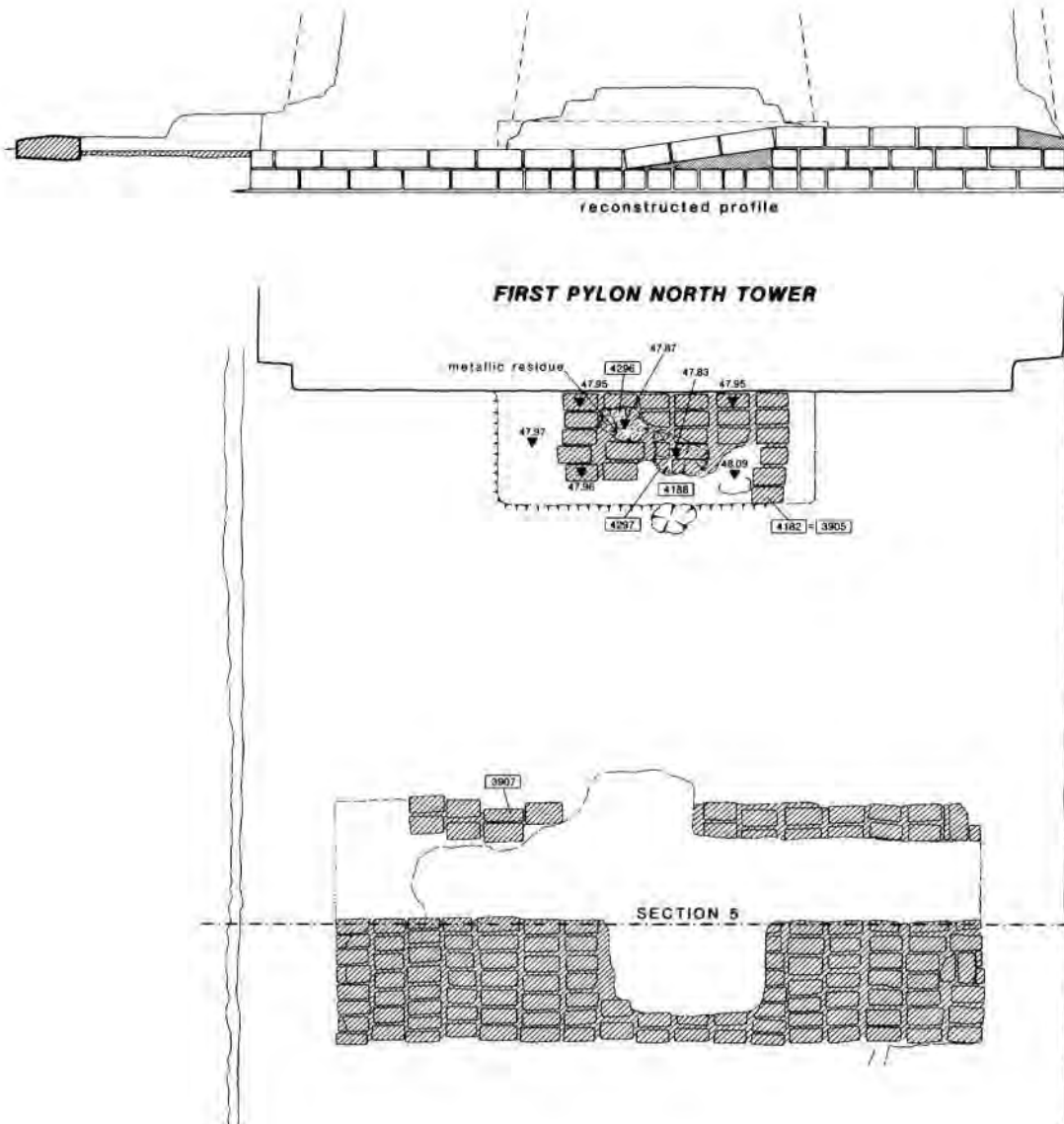


Figure 6.12. Plan of the main gateway in the First Pylon at the level of the gypsum platform.



**Figure 6.13.** Plan of Phase II brickwork in the gateway, underlying the plan of Figure 6.12, and elevation of the south face of the north pylon, with restored section of the stonework which would have lain in front.



**Figure 6.14.** The gateway at the end of excavation in 1931, viewed to the south–west, showing the gypsum-covered ramp in the foreground. Archive photograph 31/32.A125.

is manifestly not present. The pits generally are angled and are thus suitable as impressions left by an angled lever having been inserted under the blocks. Again, however, if this had been a regular part of the process of block laying (as illustrated for much heavier blocks at Karnak in Lacau and Chevrier 1977: 9, Fig. 1\*) a more regular pattern would have been left behind. The most likely explanation reflects two basic elements, the wetness of the gypsum mortar bed and the small size of the blocks, which made them suitable for manual handling. If the wet gypsum bed was too thick beneath a block, moving it from side to side would quickly disperse some of the gypsum, and the block would bed down. But if the bed were too thin, and the block, when laid, was a little lower than the others, either overall or at one end or corner, it would have been necessary to lift it slightly so that extra gypsum could be forced underneath. A short wooden lever used to prize up one end or side of a block would leave the kind of impression that we find, and the need to use it only when this circumstance arose would explain the haphazard distribution of the impressions. If one then looks closely at the direction of the angling present in the impressions, it becomes apparent that the laying of the blocks commenced along the western side; also that towards the end of the task in the south–east corner the gypsum was more regularly laid thinly, a practice resulting in a linear concentration of holes. It can also be deduced that the spreading of the gypsum went ahead more or less simultaneously with the block laying, since it bears not a single footprint.



It would seem likely that up to two further layers of stone were laid on this lowest course. Thus, once the lowest layer was in place, the surface was again covered with gypsum and the second layer placed on top. This second layer of gypsum seems to have also covered part of the central area not previously covered with stone but apparently filled with clean sand [3250, 3919] in anticipation of a higher level on which stone would be laid for the central ramp. The area of the intended mud-brick nibs was also, for the most part, not covered with stone at the lowest level, but the second layer of gypsum (here [3904]) seems to have spilt over it, i.e. over the bricks of the Phase II pavement [3905]. A clearer picture of the relationships here was obtained during the 1988 season, when the brickwork of the northern nib was entirely removed, exposing the Phase II brickwork and the Phase III gypsum abutting and spread thinly over it.



**Figure 6.15.** The south face of the north pylon tower, viewed to the north, showing the brick nib with the outline of a ramp preserved as an angled course of brickwork towards the bottom. In the foreground is the gypsum surface [3414] of the central platform.

When the second layer was put down the part between the nibs and the central ramp seems to have been formed as a sloping ramp on each side. This is shown by the second layer of mud brick [3903] in the nibs which is laid on a slope on what must have been the fill [3904] that was the footing for the second sloping layer of stone (Figures 6.13 and 6.15). On the stone being removed in ancient times, this fill also disappeared with the stone beneath it, but the mud brick remained, recording in negative its presence. The second layer of stone was also coated in

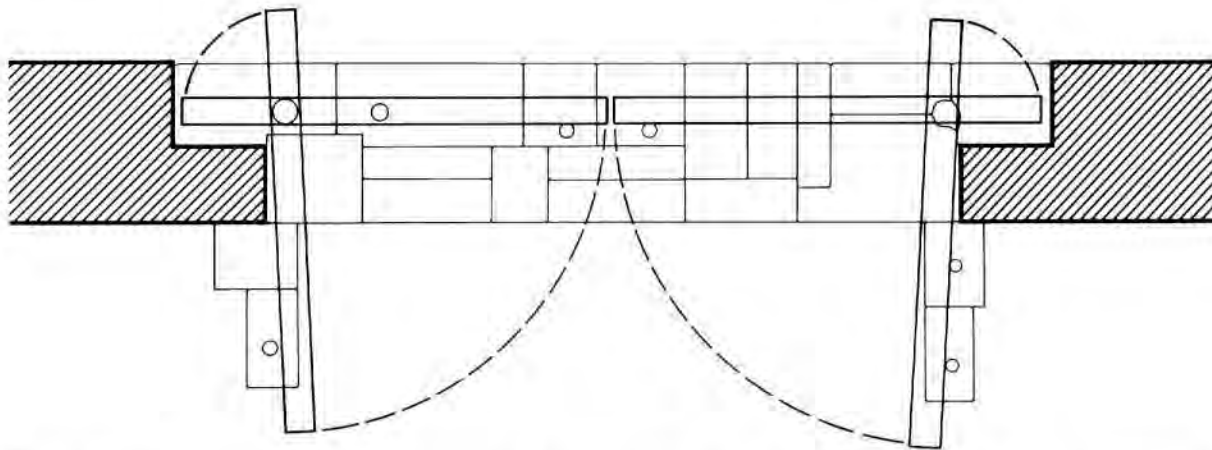


**Figure 6.16.** The gateway of the First Pylon during excavation in 1931, viewed to the north. Note the limestone blocks remaining from the platform, scarcely any of them, it would seem, *in situ*. Archive photograph 31/32.A127.

gypsum [3414] and the central area again raised with a layer of sand [3250] (Figures 6.9, 6.10, 6.21). The third layer, it is conjectured, was then placed over the inner side of the gateway and the central ramp. All this stone was then finished in a flooring coat of gypsum (Figure 6.21). The impressions of part of this third layer were recorded by Lavers (and copied on to our plan, Figure 6.12) but have since been eroded away.

The footings of the brick nibs against the inside surfaces of the pylon towers seem to have been built up again, over a further thin layer of gypsum, clearly present in the north nib [3807]. Two courses of the superimposed brickwork [3806] survive, and these were laid on their sides, which is the normal manner by which ancient Egyptian bricklayers started foundations, similar to that of the large pylons against which they rest. It is really too high to consider that it marks the edge of a gypsum layer filling the whole gateway and representing a further heightening of the platforms, and no explanation is at present forthcoming. It does suggest, however, that the brickwork of the nibs, despite the absence of bonding with the body of the pylon, was to be carried some way up the inner face of the pylon.

On top of the central ramp it is possible that a fourth layer of stone was laid. The approaches to the ramp may have been stepped from the outside and ramped from the inside. The interior ramp (noted by Pendlebury, *ibid.*: 93, and visible in Figures 6.14, and 6.7 behind the altar in the foreground) remains and is made up of two stages of construction: a steep construction-phase

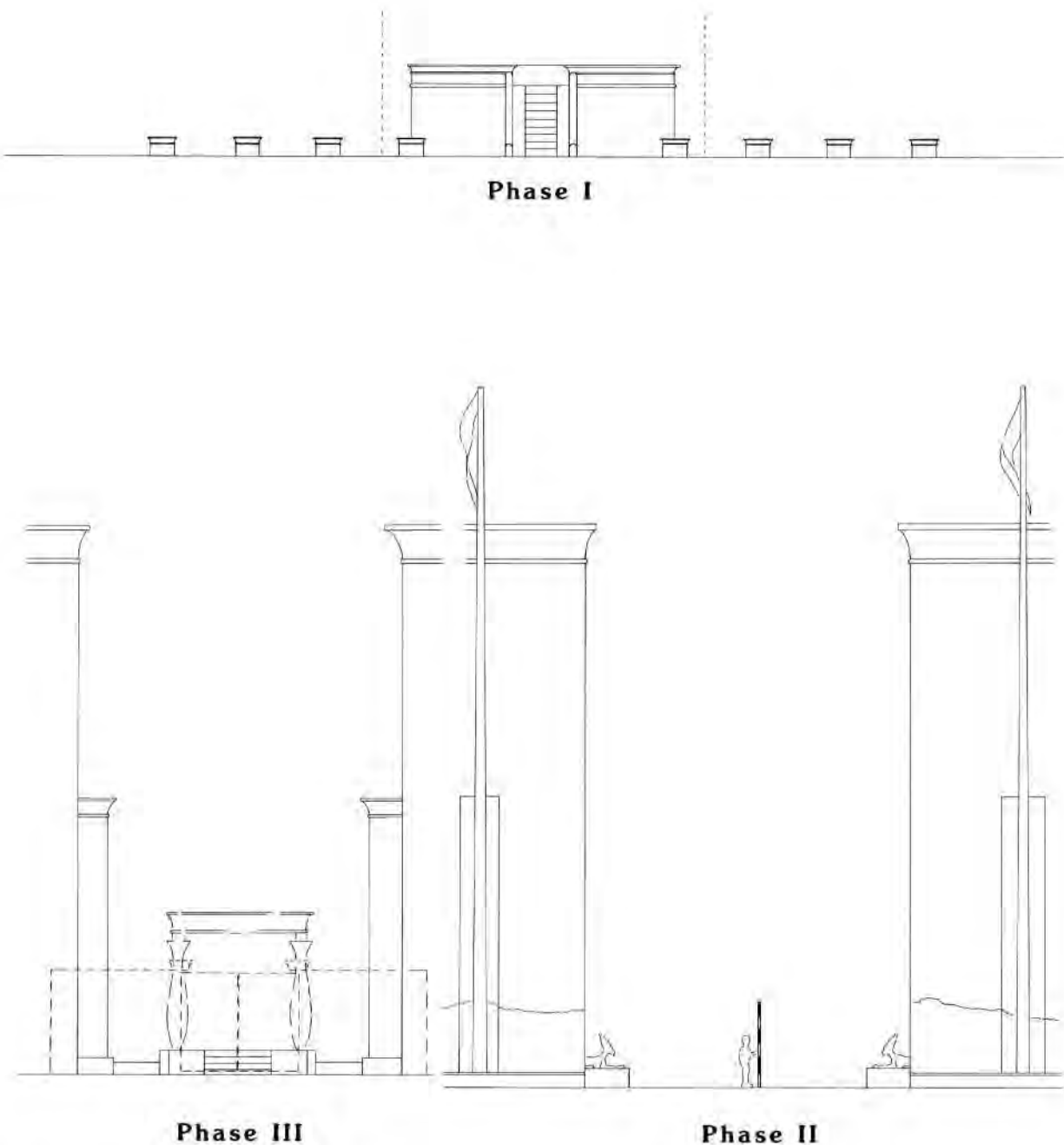


**Figure 6.17.** Plan of the outer gateway (after Lavers), with outlines of possible door arrangement superimposed. The edges of the stone blocks have been adjusted from the 1931 photograph (Figure 6.20).

ramp for the building of the upper layers of stone [3407] and then a shallower ramp laid over it to provide access on a daily basis [3405]. The third layer shown in the section [3408] is probably, as suggested earlier, the access ramp to the mud-brick platform of the previous phase. This is justified by the observation that brick, possibly from this platform, was laid over it to create the construction ramp.

The front access to the temple was also changed at this time. The floor level was raised again with pebbly sand [3911], and a mud-brick wall [3909] with a central entrance was built across the exterior opening. When originally excavated in 1931, the threshold, composed of many small limestone blocks, was still in place in good condition, and was planned in detail by Lavers (*ibid.*: 93, Fig. 17) and photographed (Figure 6.20, also Figures 6.14 and 6.21). Since that date every one of the limestone blocks has been removed. This has, however, revealed that the foundations beneath the stone were of mud brick, which appear in the plan, Figure 6.13. The accompanying brick wall, which Pendlebury found with patches of gypsum plaster still adhering, has also suffered loss of part of its substance. This entrance had a mud floor inside [3804] and outside [3910] which abuts the second layer of blocks and seems to have been whitewashed. Outside the door was discovered a dump of gypsum and broken pottery [3738], possibly from the construction phase of the floor in stone. Underneath the mud floor [3910] outside the gate was found the dated wine docket mentioned above and a broken altar stand. These could also have been removed while renovating the building.

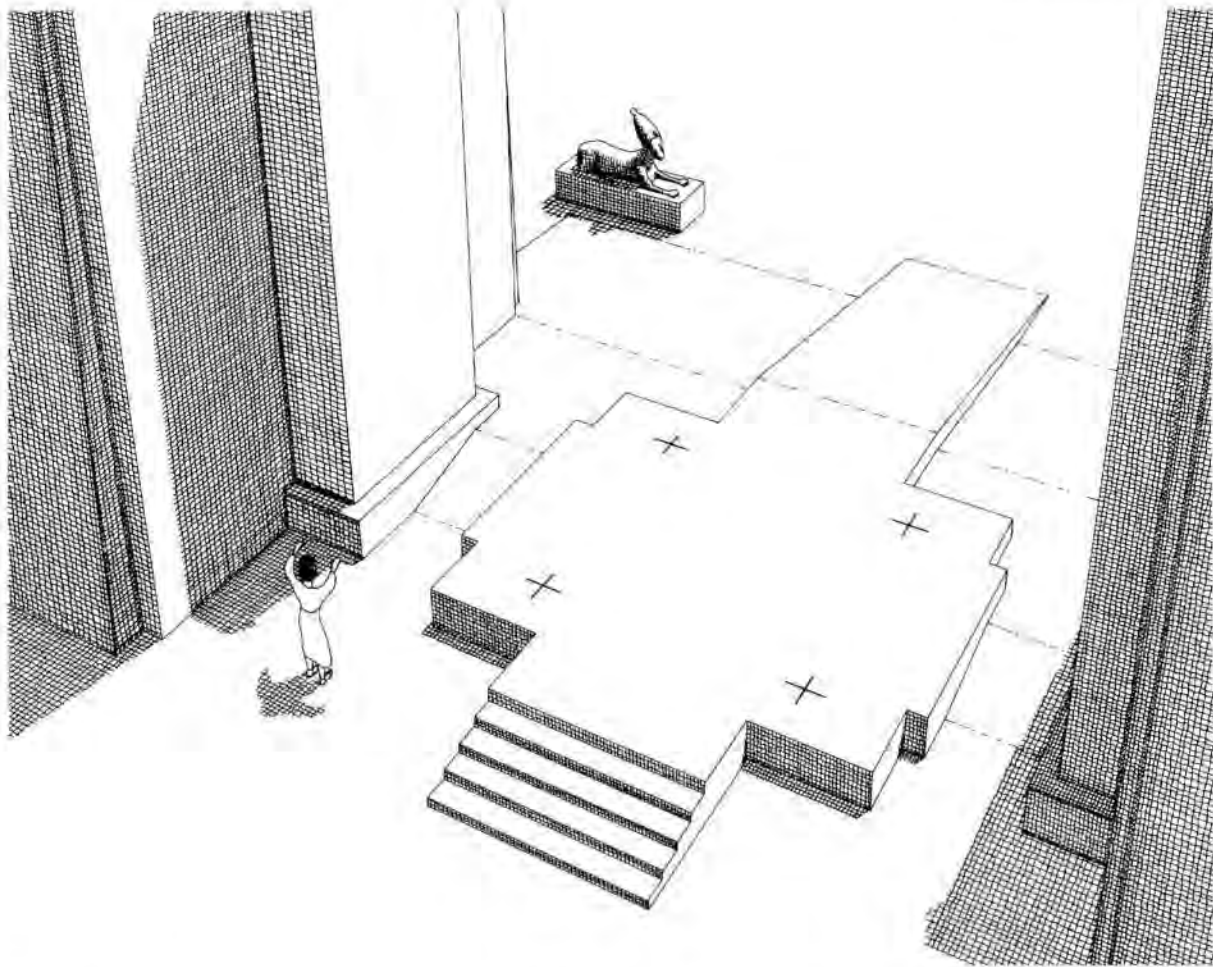
The remains of the outer entrance create an interesting problem of interpretation. To Pendlebury the pattern of holes on the threshold blocks showed that the doorway had been closed with a pair of wooden doors, and the blocks which projected inwards became sockets "provided to bolt back the doors" (*ibid.*: 92). The doors would thus have opened inwards, but, if the design had been of the normal ancient Egyptian type, the projecting brick nibs would have been on the wrong side. Doors were normally designed so that the outer edge and pivots were screened from outside view behind the nibs, whereas here the pivot holes (if such they are) are placed for doors opening outwards (Koenigsberger 1936; Hölscher 1951: 29–30, 34–37). If there had been a wooden frame set in front of the holes, one would have expected some trace of its anchorage on the stones in the form of a rectangular hole for a tenon, or at least a patch of gypsum, but there is none. The difficulty is overcome if we assume that the architect, working in an architectural environment which was less tied to tradition than was normal, provided a form of door which was an improvement on the old design, in that the pivots were moved a short distance towards the centre of the door leaf, so distributing the weight of the door more evenly. The outline of a pair of such doors is superimposed in Figure 6.17 on to Lavers' plan of the stone blocks. The width of each leaf would have been 2.10 m. The outlines of the stone blocks have been adjusted



**Figure 6.18.** Restored elevations showing the suggested development of the gateway in the First Pylon.

slightly from an examination of the 1931 photograph (Figure 6.20).

There remain the other, smaller holes in the stones that make up the threshold. Pendlebury merely states: "Stone sockets are provided to bolt back the doors." It is tempting to introduce a modern method of door bolting to explain the pattern, one in which vertical metal bolts are fixed to the bottom insides of the door leaves, and which would have dropped into place into the small holes. The distance between the pivot holes and "bolt holes" on the threshold is, however, markedly different from the distance between the former and the holes in the inwards-projecting blocks (the differences amounting to 20 and 27 cms) and effectively excludes this explanation.



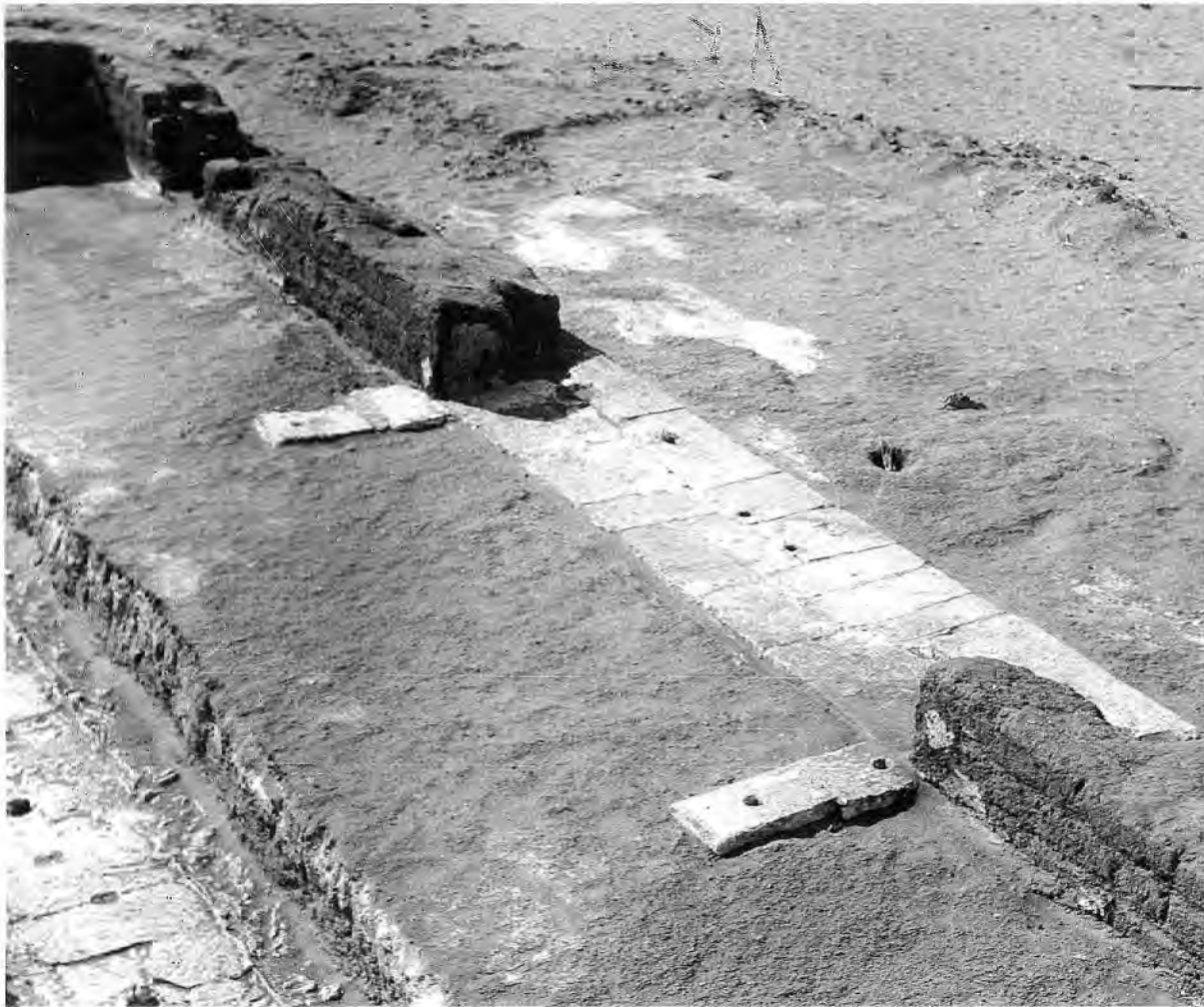
**Figure 6.19.** Restored perspective view of the gateway in Phase III. The crosses at the corners of the platform mark the positions of hypothetical columns to support a canopy.

The problem is solved if we assume that the holes were to contain pegs of wood or metal, permanently fixed to prevent the doors from opening too far in the case of those in the inwards-projecting blocks, removable and intended to strengthen the normal method of securing doors by means of horizontal bolts in the case of the pair in the centre of the threshold.

In summary, the overall form of the temple gateway in Phase III (assuming that it followed its floor plan) would seem to have been a central square limestone platform approached from inside by a ramp (Figure 6.14) and outside possibly by steps, with two side ramps bypassing between it and two projecting brick nibs attached to the side faces of the pylon towers (Figures 6.18 and 6.19). This platform carried perhaps a canopy or wooden doors, on the assumption that the irregular extensions to north and south indicate the footings of some kind of frame (see reconstruction, Figure 6.19). The platform would have been protected from the outside by the projecting wall [3909] with its wide gateway closed by a pair of pivoting doors. The platform would have afforded the double use of both a ceremonial entrance and also a place of presentation to the Royal Road outside.

The form that this entrance takes is unusual in its width and complexity of internal construction, which must have precluded closure by narrow doors in the manner usual between pylons. One further example can be cited from Amarna, even larger in size.<sup>6</sup> It occurs at the

<sup>6</sup> This paragraph has been contributed by B. Kemp.



**Figure 6.20.** The outer gateway in front of the First Pylon, as excavated in 1931. Archive photograph 31/32.A155.

North Palace, in the centre of the massive mud-brick divider which separates the inner from the outer court, and which, to judge from its thickness, was also of pylon construction. H.B. Clark made a detailed (and still unpublished) plan of the gypsum foundations of this entrance. At 15 m wide it was considerably larger than the entranceway to the Small Aten Temple. The drawn section shows that the gypsum pavement was on two levels. At first sight this could be taken to imply a step at the front, but a close scrutiny of one of the photographs taken at the time (1924–5/147) suggests a different interpretation. It shows the lower gypsum pavement with stone block impressions running beneath the upper one, the space between them filled with stone chippings and gypsum, but with no sign of the lower layer of stone paving blocks. This is evidence for two building periods, in the second of which the original paving blocks were prized up, the level of the floor raised by means of a layer of chippings and gypsum, and then the blocks re-laid on the top. The broad pavement also passed between inner thickenings of the pylon sides in mud brick. The photograph shows that this was also built on top of the thickening of chippings, and thus belonged to the second phase of construction. A new feature of the second phase, not present at the Small Aten Temple, is the row of impressions of blocks forming square groupings, which probably denote the presence of columns, from a row which must have run across the width of the entrance.



**Figure 6.21.** The gypsum foundations for the upper layers of stone of the platform in the centre of the gateway, viewed to the south-west at the end of the 1931 excavations. The outlines of stone blocks are visible. Archive photograph 31/32.A199.

#### **6.7 Phase IV: destruction**

The destruction phase seems to have commenced shortly after Phase III as no very thick mud floor or other surface related to it had time to accumulate. The blocks of stone appear to have been largely removed except for those badly broken. What it was reused for is difficult to ascertain, for it was not good quality stone, and perhaps was removed just for the sake of destruction. The mud-brick nibs also seem to have been destroyed. Perhaps the framework that stood on the platforms was attached to them in some way which necessitated their removal, or alternatively, being smaller than the large pylons, they have just weathered more severely. The bonding between these two elements was only slight.

#### **6.8 Concluding remarks**

Pendlebury's excavation of the Great Aten Temple lying to the north revealed that it had a history of building phases. Our own work of 1987 has now achieved the same for the Small Aten Temple as well. The published plan in *COA III* is thus a composite of more than one phase, and not all of its elements were present and in use simultaneously. As yet this architectural history is

confined to the neighbourhood of the front entrance, but it would be surprising if, as the work is extended, it was not encountered further into the interior of the temple also. Two general elements can be detected: aggrandizement and replacement of brick by stone. Akhenaten must have been faced at Amarna with two conflicting wishes: grandeur and speed of completion. At both temples we can perhaps detect a compromise: rapid completion of a working place of worship, with the intention of subsequent gradual and piecemeal replacement in stone. The Great Altar, in mud brick, rapidly provided Akhenaten with a focus for Aten worship on a key site, allowing time for the stone sanctuary to be erected further back as part of a more grandiose scheme for a complete temple. This seems to have satisfied royal ambitions until the appearance of Smenkhkarē, at which time a further element in brick was replaced in stone. Had the Amarna Period continued for much longer than it did, we might well have seen this process extended to the pylons and perhaps even the enclosure wall as well. It may be noted that the Smenkhkarē ramp seems to have replaced in its function part of the role of earlier edifices, viz. the Great Altar and the Window of Appearance.

### 6.9 A note on the masons' marks

The presence of masons' marks impressed within the gypsum plaster of the main gateway was established by Pendlebury and Lavers, who included some on the detail plan of this part of the temple (*COA* III: 93, Fig. 17). They also illustrated two of the original limestone paving blocks bearing such marks incised on their surface (*ibid.*: Pl. XLVII.3 = photograph no. A258, reproduced here as Figure 6.24). The new plan published here (Figure 6.12), however, considerably increases the number of impressions. There were 220 impressions of blocks legible in the lower level out of a possible 370 blocks laid. About 60%, therefore, were visible, and of these about 33% (88) clearly bore masons' marks. On the presumption that the way up or down of the blocks is not significant these figures suggest that most blocks were incised with masons' marks. This must tell us that the use of blocks of a small size for the sake of efficiency was combined with the tradition of marking almost every block. The quality of carving present in the masons' marks suggests some degree of skill from the mason, and perhaps that their skill was greater than the quality of the stone or the demands of the work merited. Most of the surviving pieces of stone blocks also preserve fragments of masons' marks. The most complete was inscribed *nt*, and measured 52 x 26 cm and stood 20 cm high. This conforms to the majority of blocks on which the impressions were made, and it should not escape notice that 52 cm is suggested to have been that of the Royal Cubit.













This gateway is not the only part of a building at Amarna where masons' marks have been recorded.<sup>7</sup> Two further examples can be cited. The architect H.B. Clark recorded a single example on a detail plan of the gypsum foundations of one of the group of three altars in the Altar Court at the North Palace (unpublished plan, E.E.S. archives). Its design is different from those present at the Small Aten Temple. It should be noted that it is the sole example recorded by Clark not only on the altar foundations, but also on the foundations of two substantial gateways also in the North Palace. The second example is again a solitary one, this time on the foundations of one of the stone buildings at Maru-Aten, as recorded by F.G. Newton. It can be seen on the easternmost course of the southern building of Group II (*COA* I: Pl. XXX) and seems to have the form of a six-pointed star. The solitary nature of these two examples makes the concentration at the Small Aten Temple entrance even more striking and suggests that their absence at other Amarna stone buildings is not to be explained through lack of observation in the past.

Masons' marks — to be distinguished from quarry and constructional marks — have generally been only rarely noted on ancient Egyptian stone buildings. One well-documented exception, although far earlier in time, is the sun temple of King Userkaf of the Fifth Dynasty at Abusir (Haeny 1969: 45–47, Abb. 6).<sup>8</sup> A total of thirty-eight is recorded, several being examples of the same sign. After discussing various possible explanations, Haeny concludes: "Thus the most probable assumption remains that we are dealing with masons' marks, by which individual

<sup>7</sup> The following two paragraphs were contributed by B. Kemp.

<sup>8</sup> Haeny notes, *ibid.* 47, n. 73, that Borchardt had found similar incised marks at the pyramid temple of Sahurē.



Name/symbol	Lowest course No. found 1987	Higher course No. recorded 1931	Meaning of symbols
<i>nh</i> 	21	1	symbol for life
<i>Nb-hd</i> 	2	2	Master of White Stone (=limestone) ?
<i>Nb-k3(t)</i> 	8	0	Master of Works
<i>K3(t)</i> 	4	0	Works
<i>W3s</i> 	1?	0	Dominion/Power
<i>Nt</i> 	1 + 2 Blocks	0	Water
<i>Ssn</i> 	4	2	Lotus flower
<i>Snt ?</i> 	14	2	Plan ?
<i>Snt</i> 	4	2	Plan
Star ? 	14	2	4-point star
<i>Sb3?</i> 	0	1	5-point star?
? 	1	0	?
? illegible squiggle	0	2	?
Total	74	14	

Total masons' marks found/recorded: 88

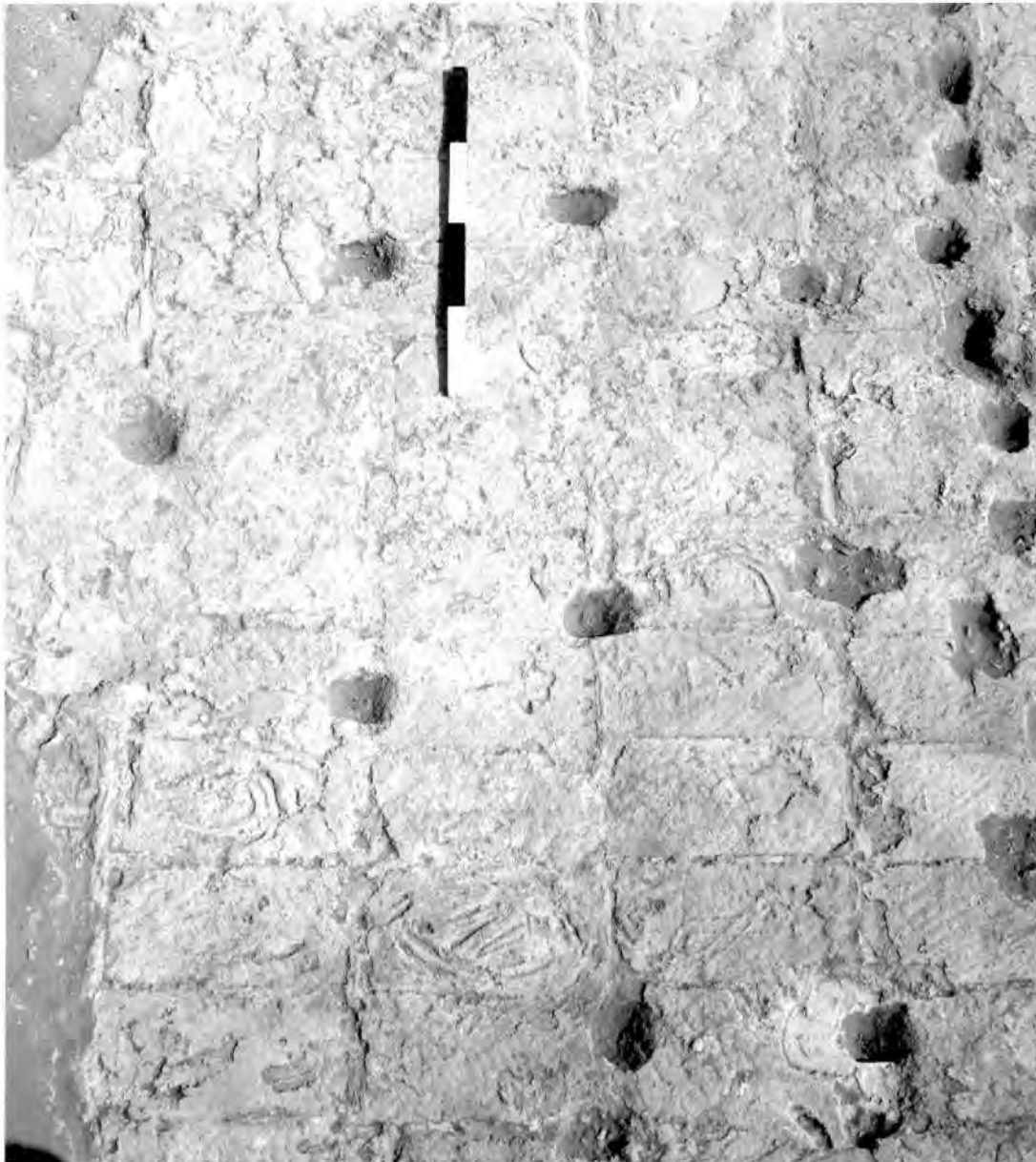
Total no. of marked blocks: 220

Total block spaces visible: 593

Reconstruction total no. of blocks: 1248 or 1025?

**Table 6.1.** Masons' marks from limestone blocks in the entrance to the Small Aten Temple.

masters certified their work on a block, although to my knowledge such a custom has not hitherto been definitely established at an Egyptian building." Apart from these Amarna examples we, too, have been unable to add further cases, although it would be very surprising if there were not more.



**Figure 6.22.** The south-eastern portion of the gypsum floor of the First Pylon, viewed to the north.

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#### **6.10 Note on laying out and dimensions**

The stonework of the entranceway seems to have been a standard 52 x 26 x 20 cm high. These dimensions correspond to the Royal Cubit and thus ensure that the dimensions of the gateway are in whole cubits: 16 x 20 cubits for the gate, the Central Platform being about 8 x 8 cubits. The Ramp is 14.5 cubits long by 5 cubits wide. These proportions are not elaborate but approximate to 4 x 5, 1 x 1 and 1 x 3 quite well. On the Great Altar there is no obvious use of the golden proportions, rather the Double Square prevails. The whole construction is a double square, the smaller of the larger sections (2 in Figure 6.25) is a double square, and the large section 1 is square. These proportions show that a simple proportional system was used, one easily executed using rope and pegs and possibly worked out on the ground as the builders went along.



**Figure 6.23.** A portion of the gypsum floor, photographed in 1931, showing masons' marks. Archive photograph 31/32.A194.

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The processional aspect of the entrance building reflected in Phase III of development would seem to reflect a simple strong pragmatic form of building but innovative in its use of materials and clearly developing the design in each of the stages in a distinctive way.

1987 excavation



Figure 6.24. Two limestone blocks with masons' marks found and photographed in 1931. Archive photograph 31/32.A256.

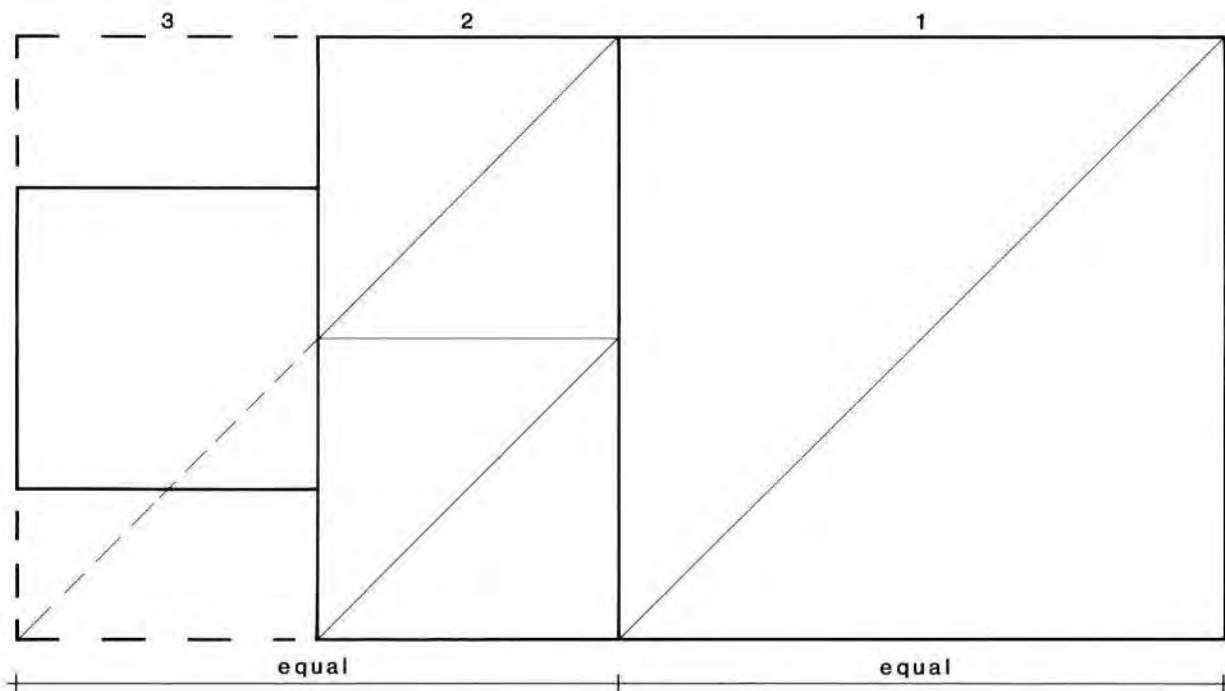


Figure 6.25. The Great Altar: proportions.