REPORT ON THE ARCHITECTURAL AND RELIEF REMAINS FROM THE NORTH AND SOUTH SHRINES AT KOM EL-NANA

BY

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In 1989, excavation commenced on a large spread of stone chippings in the area at Amarna known as Kom el-Nana. As the thousands of limestone, sandstone and plaster fragments were removed, parts of a level of plaster, used as a base for the stone foundation blocks, were exposed. Although the stones themselves had been removed, the impressions of the blocks were preserved in the plaster. From the distribution of these remains, it was established that these stone chippings were covering two separate buildings, tentatively named the North and South Shrines.[1] Where the plaster had not been damaged, it was also possible to reconstruct portions of the groundplan of these structures. Clearance has not yet been completed, but as excavation continues, it is possible that more of the plaster levels and groundplans will be revealed.

From the excavation, it was evident that these buildings had been systematically demolished, and the stone chippings covering the plaster level must relate to this destruction. As a result, it was hoped that it might be possible to correlate the distribution of these stone fragments to the preserved groundplan. Although the development of a system for the recording and study of thousands of stone architectural and relief fragments presented a number of difficulties, such problems are not new. In the past, excavators have approached the study and publication of this type of material in various ways. Most of the earlier excavators made only cursory reference to the fragments and published a selected number. Unfortunately, with such a subjective approach, it is inevitable that many fragments were overlooked. In an effort to produce more exhaustive records, Roeder (1969) published comprehensive photographs of the material from nearby Hermopolis, while Smith and Redford (1976) formed a computer database of the blocks from the temple of Akhenaten at Karnak.

As the number of major stone buildings remaining at Amarna is finite and undoubtedly dwindling, there is an obligation to record the surviving structures as fully as possible. With this in mind, the decision was taken to record the fragments on a computer database, and to

[1] Although a religious function for these buildings is likely, the possibility that they had some official function cannot be eliminated.

supplement this information with an extensive archive of photographs and drawings.[2] The formation of a computer database had several advantages. First, as a general register of each stone fragment, a database could expand as excavation continued and would provide easy access to each entry. Second, the database could be used to match similar fragments. Thus, it would be possible to focus on a particular architectural feature or relief scene and examine the elements stylistically. Third, by studying the distribution of the stone and plaster fragments, the remains could be correlated to the preserved groundplan. This could provide important information on the design and general appearance of the buildings. In addition, the database could be used to provide statistical information on the buildings, both individually and in comparison to each other. In this regard, it was particularly useful to have a database which incorporated the two different structures. Finally, the information on the database could expand to include museum material from previous excavations at Amarna. As a result, the overall architectural and decorative "repertoire" at Amarna could be examined.

Obviously, a complete reconstruction of the appearance of both the North and South Shrines would be the ideal, but certain difficulties do restrict the extent to which such a reconstruction is possible. Perhaps the greatest difficulty is the size of the preserved fragments. Although some complete blocks do survive, most of the fragments are only the size of a fist and are, therefore, much too small and too randomly dispersed to provide more than a glimpse of the original features. Like other buildings at Amarna, many of the blocks from the North and South Shrines were undoubtedly systematically removed for re-use at other sites, such as Hermopolis, in the years subsequent to the reign of Akhenaten. In addition, as only portions of the plaster foundation levels of the buildings have been revealed to date, the fragments can only be related to the groundplan to a limited degree.

Bearing in mind these inherent restrictions, a recording system was devised to pinpoint certain diagnostic features which could provide the best overall view of the buildings both individually and in relationship to each other. Although this is the immediate goal of the project, the database was also designed to be used subsequently for a much broader study. By studying both the published and unpublished excavation records, as well as fragments now in museum collections, it should be possible to integrate the data from the shrines to that of the other excavated buildings at Amarna.

THE METHODOLOGY

The system of recording which has evolved over the past three years is designed to begin to address these objectives. A large, general database was formed, as well as separate smaller databases, which specifically record the decorated and architectural features of the shrines. This was necessary in order to deal most efficiently with the large number of fragments and to accommodate the expected expansion in material as excavations continue. Registration of all architectural and relief fragments uncovered during the 1989 season has now been completed. In total, these pieces numbered just over four thousand.[3] The recorded fragments represent all

[2]I would like to thank the British Academy for their support of this project.

[3]Of course, many undecorated fragments were found as well, but registration was restricted to architectural or relief fragments. In addition, fragments which were undecorated, but which had mason's marks preserved in red ink

pieces with a curved or flat surface on which paint or incised decoration was preserved, and which were over roughly 3.0 cm in any direction on that decorated surface. Each of these fragments was given a unique registration number. The pieces which were below this 3.0 cm minimum and which had indistinguishable decoration (for example, a flat yellow-painted surface), were not registered separately, but were bagged together, with one bag for each unit number.[4] Although each bag was only given a single registration number, all tiny fragments were examined and notes taken to ensure that none of the pieces would significantly alter the overall impression of the unit based on the individually registered fragments. If the material in these bags had been registered separately, the total number of decorated fragments would have probably increased by about one third, with little to no added benefit. Occasionally, where tiny pieces could provide important information, such as small cartouche fragments, these were registered separately, as individual fragments.

For the over 4000 individually registered fragments, the type of stone, basic measurements of the fragment and the location of the piece in the five metre excavation square were noted. The preserved edges of the architectural blocks, even if just a rough, undecorated edge, were noted, as was the general block shape, if possible. This was done in order to help clarify the construction process of the features.

In addition to providing basic information, notes on the location and type of stone were also important variables which could allow the fragments to be grouped in a more useful fashion for certain detailed studies of distribution. Similarly, as no complete features (doorways, columns, etc) were preserved, the recording of the shape and decoration of the features was of particular importance since these characteristics provide the only other means of associating the fragments to related pieces. Particular attention was paid to certain diagnostic measurements which could help match fragments from the same or similar features.

For example, many fragments of cavetto cornice were found. Most of these pieces were decorated in the traditional fashion with a series of painted vertical bands of colour on a yellow background. If possible, a measurement of the width of the bands was taken in addition to the sequence of the colour bands. Where preserved, the size and decoration of adjoining mouldings beneath the panel were noted, as well as the width of the surmounting square ledge. By taking all of these variables into consideration, it was possible to get a rough idea of the distribution and number of cornices present. Although these fragments could have been part of doorways (including those with a "broken lintel"[5]), some may derive from other features as, for example, cornices were also used on low screen walls.[6]

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were also registered. There were approximately two dozen such pieces.

[4]For some units, a bag might contain one or two fragments, while for others, the bag may hold over a hundred tiny fragments.

[5]For an example of the "broken lintel" type of doorway, see Pendlebury (1951, pl. XXXI), where this style was used in a miniature chapel found in the house of Panehesy.

[6]Although badly damaged, the cornices on the screen wall in the tomb of Tutu at Amarna are still visible today. See Davies: 1908, pl. XII.

Similarly, many fragments from columns were found. For the database, columns were divided into capitals, shafts, and bases, with shape and decoration typologies for each. Measurements to provide a reconstruction of the diameter of each of these categories were also noted. This is an important variable for linking the columns to the preserved evidence of column emplacements in the gypsum groundplan. The diagnostic variables, therefore, could help to establish the distribution of certain columns within the structures.

However, reconstruction of the column shafts was problematic. This was due to the smallness of the majority of pieces, where only a single C-shaped fragment was preserved (either unpainted or of a solid colour). Without more distinguishable decoration, it was sometimes impossible to determine whether the piece belonged to a papyrus reed column shaft or was part a flat papyrus stalk frieze from a pilaster, for example. Alternatively, the fragment may have been simply a broken fragment of moulding of the type frequently used along doorways or corners. Where more elaborate decoration was preserved, it was sometimes clear that the fragment was, in fact part of a moulding. For these pieces, typologies for shape and decoration were established. Combined with measurements of the width and breadth of the moulding, it was hoped that this information would provide a clearer idea of the variety and frequency of use for the mouldings.

Several fragments from cobra friezes were also found. These could have been used for a number of architectural features, including columns, pilasters and cornices. As well as typologies for the style of the frieze, a number of measurements including the size of the sun disc and height and width of the cobra body provided diagnostic characteristics. Any evidence of curvature which would suggest employment on columns was also noted.

Initially, in addition to this recording procedure, a large number of the fragments (roughly one quarter) were drawn. As the typologies developed, however, the need for such detailed recording diminished. Drawing concentrated on the more enigmatic fragments which, as yet, have no parallels. Given the volume of material produced by one season of excavation, and the likelihood of a similar volume when excavation on the area resumes, it is impossible to draw each piece at this time. By increasing the number of diagnostic characteristics which were recorded, however, considerable information was made available.

THE SOUTH SHRINE ARCHITECTURAL FRAGMENTS

As a result of the computerised recording of these fragments, it was possible to begin study of the South Shrine in some detail and to try to integrate the fragments with the preserved groundplan (see fig. 1). However, it is important to bear in mind that the previous excavation of parts of the South Shrine by the Egyptian Antiquities Organization in the 1960's has slightly distorted the evidence, since areas cleared at that time (squares AA30, AB 30, AC 30 and Z30) now contain far fewer stone fragments.[7] In fact, part of the plaster level in square AC 30, which had also been disturbed by recent illicit digging, was already exposed when excavation began in 1989. Conversely, since the dumps from the EAO excavation were placed in the environs of

[7]Several dozen stone fragments from the EAO excavation are currently stored in magazines locally but have not been published as yet.

squares AA 28, AB 28, AC 28, and AB 27, these squares as a result contained a far higher percentage of stone, much of which must have originated in squares AB30 and AC30.

From the evidence available to date, it is clear that the systematic disassembly of the South Shrine was very thorough. As noted, the vast majority of pieces left behind are about the size of a fist, making reconstruction of specific elements extremely difficult or impossible. A large number of pieces consist of corners or other fragments which would have been susceptible to damage when the shrine was taken apart. However, the abundance of small, curved fragments perhaps belonging to column shafts suggests a more systematic attempt may have been made to "square" the curved architectural blocks in situ and make them more suitable for re-use. Petrie, in fact, noted a similar occurrence at the Great Palace, where the curved sculptured surfaces of the columns "were often struck off in flakes and left on the ground."[8] While such a practice may have made some architectural fragments suitable for re-use, the evidence from Hermopolis suggests that, at least in that location, such blocks were few in number (see below).

The South Shrine was constructed largely of limestone but varying amounts of sandstone and plaster were also found. As mentioned above, the data on the shrine is divided into architectural features and flat wall decoration (see fig. 2). Taking into account only the flat, decorated remains found in the shrine itself and also the similar fragments uncovered in the excavation of two squares just outside the building to the west (W29, W30), over 1,100 limestone fragments were found, while sandstone fragments numbered only about 200. About 400 pieces of plaster, mostly small complete chunks which had clearly been wedged into gaps between the blocks were also found. These had been, for the most part, subsequently painted and therefore must have been used primarily to ensure a smooth surface for the painted decoration. It should be noted, however, that undecorated plaster fragments were not kept, so the extent to which plaster was used for construction purposes is not known. However, the fact that a number of decorated plaster pieces are complete chunks clearly wedged in to form a flat outer surface suggests that the use of plaster, while fairly widespread, was not comprehensive. Although this relatively high proportion of small plaster fragments gives the impression that perhaps the shrine was not as carefully constructed as it might have been, it should be remembered that the plaster chunks would have been of low priority for removal when the shrine was taken apart, making the ratio of these materials somewhat artificial. However, in contrast, examples of plaster from the sandstone remains at the Smaller Aten Temple are negligible. Similarly, the proportions of the building materials used for the curved architectural pieces (doorways, columns, etc.) at the South Shrine show a noticeable decrease in the amounts of plaster (only about 80 pieces of the approximately 500 preserved), and sandstone was again very low (about 50 fragments in total).

The distribution of the building materials used in architectural features at the South Shrine reflects the history of the site. Areas which had been affected by the 1963 excavation by the Egyptian Antiquities Organization (squares AC 30, AB 30, AA 30, and Z30) have very few preserved fragments, while those which were uncovered initially by the 1989 excavation have yielded much higher numbers of stone (see fig. 2). In general, areas which showed a high concentration of column fragments had relatively few pieces of plaster, while areas higher in fragments of cornices contained more.

[8]Petrie: 1894, p. 11.

Of the columns present, the open papyrus-form capital is the most common (see fig. 3a). This shape of capital was constructed exclusively of limestone. Remains of these columns were found almost without exception in squares Y30 and W30 (see fig. 3b for the distribution of these and the other styles of column capitals). This concurs with the preserved groundplan of the building, which showed the remains of column support foundations in this area. Unfortunately, squares Z30, and AA 30, which had similar foundations, had few architectural stone fragments preserved due to past disturbance of these areas, making it impossible to establish a correlation.

A number of types of decoration are known for this shape. One style found at the South Shrine (see fig. 4) has a complex broad leaf pattern (Decoration type A) which is similar to a type, also in limestone, found by Petrie at the Great Palace in the area called the "North Harim"[9] (see fig. 5). By comparison to Petrie's illustration, it would seem that the examples of type A decoration from the South Shrine are more stylised. In the Great Palace example, the edges of the individual leaves are rounded, while on the South Shrine examples such detail is lacking and the outline is reduced to a broad sweeping curve. Two blocks of this style, again from Petrie's excavations were found in the Ashmolean Museum in Oxford.[10] One of these pieces is of the more detailed design (fig. 6),[11] but a second block, again from Petrie's excavations, but in the more cursive style, is also in the museum collection (fig. 7).[12]

Unfortunately, none of the fragments from the South Shrine give an entire profile of the capital. However, one type of fragment (Decoration type B - see fig. 3 for distribution), preserving the uppermost inner curve and also the surmounting exterior curve (see fig. 8) seems likely to match this type of capital, thereby providing the first indication of the total appearance of this form. Stevenson Smith[13] suggested that the Great Palace form was a palm capital, but the evidence from the South Shrine indicates that this style of capital was of the open papyrus form. Although no examples of the more detailed Great Palace form of the design have yet been uncovered from the South Shrine (slightly more formal styles have been found, however), there is evidence to support the idea that both styles were related.

Important corroborative evidence has come to light recently through the clearing of the earlier excavation dumps of Borchardt and Woolley just northeast of the current dig house. These dumps contained quantities of stone fragments, some offering close parallels to the material from the North and South Shrines. It appears that the fragments and blocks from the dumps

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[9]Petrie: 1894, pl. vii. Unfortunately, a more specific location within this complex was not given. The function of the building called the Great Palace has been the subject of some debate. See Uphill, *JNES*, 1970, pp. 151-166, Assmann, *JNES* 1972, pp. 143-155 and Kemp, *JEA*, 1976, p. 92. For this preliminary report, however, it is not necessary to consider the function of the building.

[10]I would like to thank Dr. Helen Whitehouse of the Department of Antiquities at the Ashmolean Museum in Oxford for graciously allowing access to this previously unpublished material.

[11]This block bears a striking resemblance to Petrie's illustration. It may be that the blocks are one and the same, with slight inaccuracies in drawing in the published example.

[12]Ashmolean fragment E.1893.1-41(6).

[13]Stevenson Smith: 1981, p. 326, fig. 311.

represent material which was brought back to the dig house for examination but subsequently rejected. Among the fragments from these dumps were the remains of the preserved top edges of both the more detailed Great Palace style and the more schematic South Shrine version (see fig. 9). Although the dump material probably derived from more than one area, a number of pieces were marked with the excavation year, thus limiting the number of possible sources. While it is known that houses were excavated in the early 1920's, such large architectural blocks probably came from more impressive buildings. It is known that during the years in question both Borchardt and Woolley worked at the River Temple and Maru-Aten[14]. Since work at Maru-Aten was more extensive, it seems more likely that at least a larger proportion of the material came from that site. This discovery indicates that although several examples of this column type were found in past excavation, none of the examples were published, and this type of column capital has remained unknown until now.

This capital seems to have been painted yellow although one fragment was found with slight traces of green paint. Similarly, the two fragments in the Ashmolean Museum both have traces of yellow paint. From the remains at the South Shrine, it appears that the crown of the capital was likewise painted yellow. Based on the slight variations in proportion and the quality of the decoration in the fragments from the South Shrine, however, it is possible to distinguish that at least two separate columns are reflected in the remains.

Another type of decoration found at the South Shrine is a reed design (Decoration type C - see fig. 3 for distribution) which is slightly unusual and has no immediate parallels with previously published material. Although again only the upper inner curvature of the capital or the very tip of the crown have been found, the decoration pattern on these capitals seems to be fairly regular. One very large fragment of this type, preserving about one-third of the top of the open papyrus-form capital, has a diameter of just under two metres (see fig. 10). Given the degree of preservation of this fragment, it seems likely that capitals of this type could have been carved from a single large block of stone. Such a practice would make the most sense in terms of weight distribution, and in fact, none of the open papyrus form capitals had plaster adhering.[15] The diameter of the fragment would suggest that columns of this type must have originated in the western colonnaded room on the plan where the preserved gypsum column platform was of similar size (Y30, Z30), and this is confirmed by the location of the large fragment in square Y30. These limestone capitals seem to have been painted with an undercoat of yellow paint, over which a layer of blue or green paint had been applied to the inner area. Like the example above, the crown of the capital was painted yellow.

Secure parallels to this type of open-papyrus capital are not yet known, but curiously, the upper area shows some similarities to the linear background decorating fragments of date capitals found by Petrie, again in the "North Harim" at the Great Palace.[16] Other examples of the date

[14]Peet and Woolley: 1923, pp. 109-134.

[15]Pendlebury noted the discovery of two unfinished capitals, both apparently carved from single stone blocks, in the south-east court at the southern end of the so-called State Apartments in the Great Palace (Pendlebury: 1951, p. 59, pl. XLIII.2).

[16]Petrie: 1894, pl. vii.

capital from Petrie's excavation are now in the Ashmolean Museum[17] (see fig. 11) and the Petrie Museum in London.[18] Another example, perhaps showing the parallel to the South Shrine reed design most closely, was again found in the recently discovered dumps, possibly from Maru-Aten. Such a reconstruction, however, differs from an earlier suggestion that the date decoration was again part of a palm column, and was in fact a precursor to much later examples of Ptolemaic palm columns.[19] It is possible, since so few fragments of this capital have yet been found at the South Shrine, that further excavations may clarify this point.

It seems, therefore, that at least two distinct types of open papyrus-form capitals were present at the South Shrine. Some evidence for a third type of capital has also been found. This capital is of a palm leaf type, known in its simplest form from the Old Kingdom, but found in a more elaborate design by Petrie[20] and Pendlebury in certain rooms of the Great Palace at Amarna[21] (fig. 12a and 12b). In Petrie's published example from the garden area of the North Harim,[22] the limestone capital was designed to have inlaid coloured glazed tiles arranged in a geometric palm pattern and set into a gilded background. Similarly, Pendlebury noted fragments of inlaid palm capitals without gilding in room F to the southeast of the garden,[23] in the colonnades to the north and south of court M,[24] in the central pavillion at the south end (Y) of the Broad Hall,[25] along the north and east walls of the East Court (Z), and, by parallel, along the north and west walls of the opposite West Court.[26]

In contrast, limestone fragments found by Peet and Woolley in the Entrance Hall at Maru-Aten[27] were said to have been inlaid with only a soft coloured paste, and the background painted yellow. In addition, Petrie noted that simpler examples, with only painted decoration

[17]Ashmolean registration number EA 1893. 1-41 (68).

[18]U.C. 072. I would like to thank Mrs Barbara Adams, Curator of the Petrie Museum, London for her permission to study this fragment.

[19]Petrie first noted the similarity to later Ptolemaic examples, but Stevenson Smith (1981, p. 326, fig. 311) tried to show a connection to elaborate styles at Philae.

[20]Petrie: 1894, pl. vi.

[21]Pendlebury (1951, p. 55; pl. LXIX, 6) noted that columns of this type flanked the north walls of the courts to the east and west of the Central Court (AA on plan, pl. XIV).

[22]Petrie (1894, p. 9) noted that fragments were found around the sunken garden court in this structure. Pendlebury (1951, p. 38, pl. XIV.), however, suggested that these capitals may have belonged to the colonnade immediately to the south of the garden. For a reconstruction, see Pendlebury (1951, pl. XV).

[23]Pendlebury: 1951, p. 41.

[24]Pendlebury: 1951, p. 44.

[25]Pendlebury: 1951, p. 77.

[26]Pendlebury: 1951, p. 55, pl. XIIIB, XIV.

[27]Peet and Woolley: 1923, p. 113; fig. 17.

were also found at the Great Palace.[28] Painted examples were also found among the blocks at Hermopolis.[29] Given the angle of the decoration to the edge of the block, it seems that at least one example originated from this type of capital.[30] The angle of decoration on a second example[31] is more difficult to determine since the block had been re-cut to produce a more flattened surface, but may derive from a palm capital.

None of the examples from the South Shrine appear to have had inlay but were simply carved and painted (figs. 13 and 14). Curiously, although the capitals seem to be largely constructed from sandstone, a small number of limestone fragments in this style were also discovered. The presence of both limestone and sandstone fragments in the South Shrine is difficult to explain, as it seems unlikely that they were both used on a single column. Possibly, there were a mixture of limestone and sandstone columns in the same room, but this again seems an unsatisfactory explanation.

One fragment, had plaster adhering to the base (fig. 13). Thus, this piece may represent the point where the capital and column shaft met, although there is no secure evidence for the types of shaft in use with these columns at this point.[32]

Petrie noted that the palm capitals from the North Harim of the Great Palace were decorated in a simple pattern of alternating red and blue hollows. On the South Shrine examples, the colour sequence was first, on the outer edge, a rounded red shape, then blue, followed by green, and then blue again, all against a yellow background with a central yellow midrib. The colours on Great Palace fragments of this style in the Ashmolean and Manchester Museums are insufficiently preserved to determine whether the Great Palace examples had green segments as well, which Petrie may not have noted (see figs. 15 and 16). From the examples at Kom el-Nana, it is apparent that, while traces of red paint usually remain visible today, blue is more susceptible to deterioration, and green is seldom preserved. Given the scant traces of paint on most of the museum fragments, it is possible that Petrie may have been influenced by the tendency for cornices with this decoration to have alternating red and blue inlays. According to Roeder[33], however, the Hermopolis examples had only red and blue paint, although poor preservation may again account for this.

From Petrie's example, it is evident that each leaf would have had this pattern radiating from a central midrib. To date, only one example, in limestone, of a partially preserved leaf with midrib

[28]Petrie: 1894, p. 10. The exact location of the painted capitals was not given.

[29]Roeder: 1969, pl. 136.

[30]Roeder: 1969, pl. 136, example #913.

[31]Roeder: 1969, pl. 136, example #963.

[32]Wooley attempted a reconstruction of the column with this capital found in the entrance hall of Maru-Aten (1923, pl. XL), but this was critised by Stevenson Smith (1981, p. 466, note 22) who stated that "it is unlikely that this palm column should be restored with papyrus sheathing at the base. No evidence is cited for this..."

[33]Roeder: 1969, p. 264, pl. 223.

has been preserved (fig. 14), although a small number of examples of the midrib alone, identifiable by its curvature, have been found both in sandstone (7 fragments) and limestone (2 fragments). Again, these fragments were almost exclusively located in square Y30.

So far, the pieces have been too small to allow for a secure diameter of the capital. Moreover, two different reconstructions for this type have been suggested. Petrie's example is simply octagonal in section, but Woolley's reconstruction of the Maru-Aten example has a square section with two palm leaves per side (figs. 17a and 17b).[34] The best preserved example of this type, from the Broad Hall of the Great Palace (fig. 18) is also a simple octagon.[35] Unfortunately, the South Shrine remains are in general too fragmentary to determine the section of the capital in each case. In the few examples where two joining palm leaves are preserved, however, the angle of the join is just under 135 degrees, suggesting that these capitals were also octagonal. If this is the case, then it would be possible to get a very rough idea of the diameter at the location of the fragment. Given the standardisation of the design, and using the preserved midrib examples with a diameter of about 5.0 cm., the total width of the leaf must be about 41.0 cm. Thus, the radius can be calculated to about 58.0 cm. and the diameter of the column at that point to about 116.0 cm. This is not, however, the total diameter of the column, as the fragment probably comes from just above the middle of the column. The one well-preserved limestone fragment, which has the midrib and half of the central area of one leaf preserved is of virtually identical width, and therefore of similar diameter, although again, this is not the total diameter of the capital. Very few fragments related to the top of the capital are preserved, and these are of insufficient size to allow reconstruction.

This estimated diameter makes the capital difficult to place. It would seem more likely that this type of column would have originated in the small room in square AA 30, but the foundations for the columns in this room are less than 1.5 metres in diameter. Judging by Petrie's example, the overhang at the top is considerable, and this would probably extend the diameter to over the required 1.5 metres. In addition, although most of the shrine seems to have been constructed of limestone, the excavators did note a heavy concentration of sandstone in square Z30, which may have been due to the demolition of this type of column. If this column did occur in the western room of the shrine, it is surprising that only about a dozen fragments have been found. As there is evidence of some migration of pieces from their suspected area of origin, it is possible that further excavation may provide more definite clues to the original location of columns with this type of capital.

Moreover, there is one fragment probably from a palm-leaf capital which is somewhat problematic. This is a limestone example from the very top of one of the usual palm leaves, but is unpainted and without the carved relief geometrical pattern. Although not discussed by Petrie,[36] examples from Pendlebury's excavation of the Great Palace are known.[37] Parallels for

[34]Peet and Woolley: 1923, p. 113, fig. 17. This reconstruction is actually quite confusing. Given the inner concave curve of the individual leaves, fig. 17b must be a downward view of the top of the capital, with two leaves per side. Since the example shown in fig. 17a is 45.0 cm. wide, it would seem that the width of one side of the square would have to be 90.0 cm., not 45.0 cm. as shown.

[35]Peet and Woolley: 1923, p. 134, pl.xlii,3; Rooms 36 and 38.

[36]Fragments probably from the Great Palace are in the Ashmolean Museum; EA 1893. 1-41 (3).

this plain type of palm leaf are also known from examples from Petrie's excavations, now in the Ashmolean Museum,[38] again possibly from the Great Palace. Another parallel was found at the River Temple (fig. 19).[39] Thus, it would seem that this plain palm capital fragment from the South Shrine represents yet another column type at the building but original location in the shrine can only be guessed at this point.

From the preserved remains, it is likely that both the open papyrus and palm shapes were widely used in the buildings of Amarna. Whether certain types of column were associated with particular building functions would be extremely difficult to determine. The material from earlier excavations is too randomly preserved, the exact function of the rooms too open to speculation, and, where columns are depicted, the tomb reliefs for the most part, lack any specific detail of the decoration. However, in some tomb scenes, notably those showing the Window of Appearance, there was some attempt to depict open palm capitals by outlining the individual palm leaves. In these instances, four undecorated palm capitals were shown in a position which suggests that the room immediately behind the window was a hall with these columns (fig. 20).[40] Over the years, it has proven difficult to locate the Window of Appearance with certainty. Kemp argued against Pendlebury's[41] proposed locations in the Great Palace and the adjoining bridge over the Royal Road, favouring a position in the King's House with a smaller, secondary window in the Smaller Aten Temple.[42] However, as yet, the reliability of tomb representations for the position of the Window of Appearance is not established and Kemp has cautioned against using the tomb reliefs for a literal interpretation of the structure which housed the window.[43] Further study would certainly be needed to establish possible links between architectural elements and function.

The shafts of all of the columns types found at the South Shrine are difficult to reconstruct securely. In Petrie's model for the inlaid palm capital, incised horizontal bands marked the transition from capital to shaft. Although no such pieces have been found at the South Shrine, such a style is known from other sites since its introduction, such as Medinet Habu, and better

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[37]Pendlebury: 1951, pl. xxxvii,5. Said to have come from the Pavilion of the Broad Hall (p. 54). Pendlebury (p. 77) suggested that this structure was never finished.

[38]Ashmolean Museum E.1893.1-41(3).

[39]Peet and Woolley: 1923, p. 134, pl.xlii,3; Rooms 36 and 38.

[40]See tombs of Parennefer (Davies: Vol. VI, 1908, pl. iv), Ay (Davies: ibid., pl. xxix) and Tutu (Davies: ibid., pl. xix and particularly xvii). In reliefs from the tombs of Huya (Davies: Vol. III, 1905, pl. xvii) and Panehesy (Davies: Vol. II, 1905, pl. x), a pair of columns in front of the window is also shown. These have a single zig-zag line towards the bottom of the capital for decoration. No capitals of this description have been found at the North or South Shrine. Kemp (1976, p. 88) drew attention to the parallel window at Medinet Habu, where a wooden kiosk probably supported by two wooden columns, was positioned.

[41]Pendlebury (1951, p. 43, 52, 78) suggested that windows were located in the doorway in the southeast corner of the Broad Hall of the palace and on the Bridge over the Royal Road.

[42]Kemp: 1976, pp. 81-91.

[43]Kemp: 1976, p. 90-91.

preserved examples from Petrie's excavations at Amarna confirm this reconstruction. One example, in sandstone, has the lower part of the palm leaves and one horizontal band preserved, while the second, in limestone, is a fragment broken just above the base of the palm leaves and below the fourth horizontal band (fig. 21).[44]

From Petrie's reconstruction and these better preserved examples of this type of column from other sites, it would seem that the remainder of the shaft was often a smooth, tapering cylinder, possibly with decorated or inscribed panels positioned along the shaft. So far, no recognisable examples of a shaft of this type have been found at the South Shrine. Notably, in fact, identifiable fragments of column shaft are scarce in comparison to the large numbers of capitals fragments found. A few pieces of a simple papyrus stalk type (see fig. 22) have been found, but the exact arrangement of the stalks is not yet known. The occurrence of comparable fragments in both limestone and sandstone may indicate that the shafts of both the open papyrus and palm columns were of similar type. A further complication is the fact that small single flutes which may have come from the top of the shaft are often identical in dimension to the preserved fragments of moulding, making it very difficult to distinguish between these two features. Since the column shafts seem to have been painted yellow, as was also very common for mouldings, there seems to be no clear cut method for distinguishing between these features. This confusion may also account for the higher than expected number of such pieces in squares to the southeast, where column capital fragments are largely absent. About a half dozen fragments were found which may represent the small triangular-shaped stalks often seen in between the rounded bundled style of papyrus stalks on the column shaft, but no fragments were found in association with larger rounded stalks to confirm this. Thus, the material found to date favours a simple stalk configuration. Similarly, no examples from the very bottom of the column shaft have yet been found to clarify the decoration. Actual examples at Amarna of palm capitals with papyrus stalk shafts are absent, although Woolley did suggest a column of this type at Maru-Aten.[45]

In addition to these fragments, there are a large number of fragments of similar size (roughly 5.0 cm. in width), usually painted yellow, which could actually belong to a number other features, but due to the smallness of size, it is difficult to determine their function precisely. One small group of fragments, either painted blue over yellow or in a combination of red and yellow, has an area of raised decoration and may actually be part of a more elaborate papyrus-stalk design, found most notably on pilasters in Maru-Aten (Building MII),[46] although no evidence of the lotus relief designs have been found at Kom el-Nana (see fig. 23 for the Maru-Aten examples). Close parallels to the South Shrine examples were found in the earlier excavation dumps this past season, and again, these may have come from Maru-Aten. Only two fragments of the blue-painted type have been found, both in square Y30, although a number of blue fragments which may be related to this type were also found almost exclusively in Y30. Red and yellow

[44]Ashmolean Museum 1893.1-41 (7) in sandstone with remains of plaster for inlay, and a plain palm fragment without geometric design, Ashmolean Museum 1893.1-41 (27) in limestone.

[45]Peet and Woolley: 1923, pl. XL. This reconstruction was critised by Stevenson Smith (1981, p. 466, note 22) who questioned the addition of the "papyrus sheathing" at the bottom of the shaft and rightly noted that no evidence was given for this reconstruction. No examples of this type of "sheathing" have been found at Kom el-Nana.

[46]Peet and Woolley: 1923, pl. xxx.

decorated fragments with raised decoration were, on the other hand, concentrated in squares to the south and east.

Of particular interest, however, are two limestone fragments, which, although found in different parts of the shrine, were virtually identical in style and dimension (see fig. 24).[47] Both have remains of yellow painted papyrus stalks surmounting a panel of blue hieroglyphs with a yellow background. Again, both the stalks and the inscribed areas are too fragmentary to determine curvature. The inscription on the fragment shown in fig. 23 is also interesting in itself. The name of the city, Akhet-aten, is clearly preserved. This name occurs frequently in titulary of the Aten, but the signs on the preceding column of inscription on the fragment do not conform to the usual titulary. It would, at first glance, seem more likely that these fragments were part of decorative panels on column shafts, but the potentially more complex inscription and lack of obvious curvature is at this time puzzling.

Although a number of features could be confused with mouldings, fragments which are clearly mouldings have been found. Traditionally decorated types, with red diagonal lines and/or a horizontal red line filled with crosses on a yellow background have been found, but not in large numbers. The size of these mouldings is difficult to determine due to their fragmentary condition. In general, they are comparatively small (about 5.0-7.0 cm. in width), although one larger example (about 11.0 cm. wide) was also found. A few pieces with blue diagonal stripes on a yellow or white background, also of a comparatively small size, were also found, but they are again too few in number to form an idea of distribution.

Fragments of a number of cavetto cornices have also been found. These seem to have been constructed mainly of limestone, although small amounts of plaster (about 10%), used mainly to fill in gaps, were also recorded. This, and a number of fragments with a rough undecorated adjoining surface, suggests that the cornices were not necessarily carved from a single block of stone. Two types of cornice have been found to date. A few limestone pieces (11 fragments so far) decorated in a geometric pattern similar to the octagonal palm leaf columns have been identified. These have parallels both to the Great Palace and Maru-Aten in the latter over doorways leading to the two buildings which flank the kiosk in building MII,[48] but examples from these sites are consistently more elaborate, with alternating red and blue faience inlays. A possible painted example was found at Hermopolis.[49] Although very similar in appearance to the examples of palm capitals from Hermopolis discussed above, the decoration on this example is aligned perpendicularly to the preserved edge, which is common to cornices.

The examples from the South Shrine were all painted, again with the sequence of red/blue/green/blue. The distribution of these fragments is too irregular and they are too few in number to attribute to a specific area or estimate the number of cornices they represent.

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[47]Fragment S-3303, shown in fig. 23, was found in square AA 30 and S-1298 was found further west in square Y30.

[48]See Peet and Woolley: 1923, p. 122, fig. 23; pl. xxx.

[49]Roeder: 1969, pl. 136, example #266.

The typical type of cornice, with a row of vertical bands in alternating colours against a yellow background, is more common. This form occurs primarily in squares to the south, in particular squares AB 29 and AC 29. The groundplan offers some support for this concentration of fragments. It was noted that the remains of two mudbrick "projections" running north-south on the south wall in square AA 29 may represent supports for part of a gateway. It is clear, however, that several cornices are represented by these fragments, as the width of the individual bands shows considerably variation in size, ranging from 1.80 - 5.10 cm. There are, moreover, some slight variations in the decoration of these elements. In some instances, the bands are outlined in black paint, and carefully painted, while others are much less detailed. In general, bands of blue, red and green are painted on a yellow background. In one or two cases, the lower moulding is still attached to the cornice, and these are painted yellow. Similarly, the overhanging ledge is preserved in some cases, and this is usually also painted yellow. As indicated in the introduction, cornices could be part of a number of architectural features, and are found not only above doorways but also pylons, altars, shrines,[50] etc.

Four fragments of cobra frieze have also been noted. Like the cornices, cobra friezes can be found on a number of architectural features, including cornices. The small number of fragments so far recovered, the great difference in size (the disc of the smallest is only 3.0 cm. in diameter, while the largest is 13.5 cm.), and varying provenances (two of differing sizes in square AA 29, one in AC 28 and one in AC 29) makes further assessment impossible at this time.

Work has also begun to try to establish any fragments which may indicate the presence of a roof. So far, however, none of the geometric designs commonly associated with roofing blocks have been identified. It is possible, however, that if the architraves or roof were simply painted yellow, these elements may never be distinguishable from the numerous solid yellow fragments found throughout. Certainly, the number of flat yellow fragments found at the South Shrine is unusually high, especially in comparison to the North Shrine where parallels are negligible. At this time, the only other evidence which might possibly be used to indicate the presence of a roof comes from the crowns of the column capitals. While some are worn or discoloured suggesting exposure to the elements, the colour on a number of examples is well-preserved. Further excavation, however, may clarify the point.

THE NORTH SHRINE ARCHITECTURAL FRAGMENTS

The remains from the North Shrine present a very different picture from the South Shrine in many respects. However, from the map (fig. 25), it is apparent that much less of the groundplan has been revealed to date. As a result, it is impossible, at this stage, to make any attempt to associate fragments with the archaeological remains. Nonetheless, the fragments which have been recovered demonstrate the degree to which two buildings in close proximity can vary. Although the number of architectural fragments found in both buildings varied slightly (compare fig. 2 with fig. 26), and although the percentage of limestone at the two remained remarkably constant, the ratio of sandstone to plaster differed somewhat, with more sandstone and fewer plaster fragments found at the North Shrine. Since the North Shrine is largely still

[50]Pendlebury: 1951, pl. xxxi.

covered by later Roman levels, the modern disturbance to this area is minimal compared to that at the South Shrine, making the prospect of future excavation more promising.

Like the South Shrine, the evidence suggests that at least a number of the rounded architectural blocks had been "squared" in situ. Although some of the fragments are larger and better preserved than the South Shrine, most still are very small.

One of the most striking differences between the North and South Shrines is the lack of column capital fragments at the North Shrine (fig. 27). Only eight have been found to date in comparison to the several dozen found at the South Shrine. Of the eight, six are of the open palm type but with the plain painted surface (usually blue with a blue crown) instead of the painted geometric decoration (fig. 28). The fragments are all in limestone, however, as opposed to the largely sandstone examples from the South Shrine. One fragment, again in limestone, was of the open papyrus style with decoration style D, while the final piece, of blue painted sandstone, cannot yet be securely identified, but is probably also from the plain palm type. The distribution of the palm capital fragments (3 from Y39, 2 from X36 and 1 from X39) is too diverse at this point to reflect any particular concentration with certainty. At first glance, these scant remains may not be surprising, since they could just reflect the fact that the areas excavated were not near columns, but in contrast, well over 100 column shaft fragments were uncovered.[51] Taking into consideration simple curved fragments which easily could have come from column shafts, (but are classed as mouldings by default since their identification is not secure), this number could actually be much higher. The ratio of column capitals to column shafts is almost reversed from the evidence of the South Shrine. This is undoubtedly due in part to the much better preservation of such fragments at the North Shrine, making it much easier to identify fragments as shaft pieces. For example, 48 limestone fragments still had the triangular segment between the rounded papyrus stalk preserved indicating that at least some of the column shafts were of the bundled papyrus style. Only eight sandstone column fragments were found, and so far none of these had triangular insets, although for the most part these pieces are too small to be certain of the style. Of the sandstone fragments, three were unpainted and three were yellow. One had been painted white, (but this is often used as an undercoat on sandstone fragments), and one, curiously, had been painted blue. Again, the distribution of these fragments is too random to provide much evidence.

There is also some evidence to support the idea that a broad leaf design was used at the base of the shaft. So far, 30 such fragments, all in limestone and for the most part with carved leaves outlined in red against a yellow background, have been found. If these are, in fact, all parts of column shafts then the percentage of column shafts in relation to the architectural fragments as a whole approaches 40%. It is possible, however, that some of the smaller fragments may belong to relief decoration, but this is less likely given the curvature of the pieces. Moreover, very close parallels to a number of these pieces are found at the Smaller Aten Temple, where the column shaft design seems very similar to that of the North Shrine (see fig. 29 for the Smaller Aten Temple design). Another interesting parallel to the Smaller Aten Temple is the small number of fragments from the North Shrine which appear to come from the upper portion of the column shaft. Unfortunately, the type of capital associated with this column shaft at the Smaller Aten

[51]Allowing for certain difficulties which will be discussed shortly, column shaft fragments therefore make up between 33-38% of the total number of architectural fragments.

Temple consists of a number of broad panels of slight curvature, which would be difficult to identify with certainty from the small fragments preserved from the North Shrine. Given these similarities between the two column shafts, it will be interesting, as excavation continues, to try to establish the style of the column capital associated with this shaft.

Seventy-five fragments from cornices have been discovered at the North Shrine so far. While at the South Shrine, cornices were almost exclusively of limestone, the proportion of sandstone fragments at the North Shrine is much higher (fig. 26). The decoration on both the sandstone and limestone types is consistently of the common alternating painted stripe pattern instead of the geometric design found on some pieces from the South Shrine. Two joining fragments, one of limestone and one of plaster, suggest that again at least some cornices were not made from single blocks of stone. Curiously, a high percentage of the sandstone fragments appear to be decorated with red stripes on a white background. It is possible that blue and green coloured stripes, which are generally more susceptible to damage, are not preserved, leaving only a white undercoat. Cornices from the Smaller Aten Temple are also frequently of sandstone, with similar red and white decoration. However, it was apparently common practice to paint a thin white undercoat beneath the decorated surfaces.

Another noticeable difference between the North and South Shrines is the occurrence of larger, broader moulding fragments at the North Shrine. Although smaller examples decorated in styles similar to the South Shrine do exist, three large sandstone fragments painted white with yellow stripes have been found, including a corner moulding fragment. These fragments were 13.0-16.0 cm. wide and came from square W38 (see fig. 30).

RELIEF WALL DECORATION

Although some larger pieces and complete blocks have been found, the relief fragments from both shrines are again mostly of a relatively small size. It is therefore impossible to attempt large-scale reconstruction of the type used for the Karnak talatat. Attention, therefore, has focused on the variety of decoration used, the types of stone used, and the information provided from the few preserved fragments of inscription. Again, any features, such as orientation, colour etc., which could be diagnostic were also noted. Like the Karnak project, the relief scenes were divided into categories where possible. These included depictions of the Aten (rays, disc, and hands), royal figures (Akhenaten, Nefertiti, princesses), private individuals, offering tables, buildings, water, plants, thrones, boats, pottery, etc. Identification of inscriptions and cartouches are also listed separately.

Due to the volume of material, little work has been done on the relief fragments so far. At this stage the most important information is undoubtedly provided by the cartouches found in the shrines. Akhenaten is frequently mentioned in both shrines, for example, and it is evident that there has been no attempt to deface his or any other cartouche.

Although many cartouches of the Aten are too poorly preserved to allow a distinction between the earlier and later forms of the name, a number of examples of the early form have been found at both shrines, indicating that both buildings were begun in the earlier part of Amarna

occupation, probably before year 9 (see figs. 31 and 32). One fragment from the North Shrine, however, was inscribed with the later form of the Aten name, the sole example of this form to date. Nonetheless, there is no evidence of any alteration of the earlier name to the later form, as occurred, for example, at Maru-Aten.[52] Nefertiti is mentioned numerous times in both shrines. In all of the better preserved fragments, the fuller writing of her name, Nefer-neferu-aten Nefertiti, was used. Although cartouches and titulary belonging to an unidentified princess have been found again in both, Meketaten is specifically mentioned on three occassions at the North Shrine (fig. 33). Interestingly, a fragment of red quartzite statue base, inscribed with the name of Meretaten, was found in square AB 30 at the South Shrine (see fig. 36, 9). From figs. 31 and 32, which list the size of the tall hieroglyphs in the cartouche and the width of the cartouche ring where possible, it would seem that a few of the cartouches were on a fairly large scale. Two examples of cartouches with the early name of the Aten had particularly large hieroglyphs (10.0 cm. and 17.0 cm.) and one cartouche of Nefertiti had a glyph size of 8.2 cm and a ring width of 5.9 cm. However, there is no evidence of usurpation of Nefertiti's inscriptions by Meretaten as also occurred at Maru-Aten.[53]

Unfortunately, well over half of the relief decoration was either too fragmentary or too poorly preserved to specifically identify. From the remaining fragments, however, it would appear that the scenes are of the typical Amarna type. Scenes of piled offering tables, or the royal family have been found, as well as parts of buildings and gardens. A selection of some of the relief fragments is shown in figs. 34-38 and the pieces are described here.

South Shrine Fragments

1) Fig. 34, 1. S-2737. AA30 [5132]. Limestone. Two carved design elements are present: on the left is the top right-hand edge of an architectural feature where a column capital meets the end of a roof or architrave; on the right is a pair of cartouches of the Aten beneath the design which signifies "sky." The cartouches contain the early form of the didactic name of the Aten. Some colour survives: the ground is yellow; the sky-glyph mid-blue; the cartouche background white; the column is yellow with a narrow red band and blue capital; the architrave is yellow on which red and mid-blue rectangles are painted. The arrangement of a "sky" sign in front of a free-standing column has no immediate parallel.

2) Fig. 34, 2. S-2738. AC29 [5132]. Limestone, with no trace of ground colour. At the top is the lowest part of a row of uraei, with traces of light blue paint in the intervening spaces. Below a wide dividing line runs a broad band originally painted with groups of three vertical lines now detectable only by differences in surface texture on the stone except for a tiny trace of light blue on one of them. Traces also survive of a narrow red line separating this band from the second wide dividing line beneath. Below this again runs a second broad band bearing traces of light and dark blue pigment possibly from a series of rectangles. The main decorative element is a row of bunches of grapes which had been painted dark blue but showing no sign of internal detail. These were shown suspended from a horizontal line painted red, as were the suspension

[52]Peet and Woolley: 1923, p. 149.

[53]Peet and Woolley: 1923, p. 150-56.

"clips."

3) Fig. 35, 3. S- 2565. W29 [5521]. Limestone. Fragment of a scene of a servant lifting or setting down what is probably a large pottery vessel. Yellow ground colour, and traces of yellow on body, also red on body and on the vessel.

4) Fig. 35, 4. S-2560. AC30 [5132]. Limestone, very carefully carved. Part of a scene showing a man standing, probably on a cargo boat, in front of the wooden lattice of the cargo area. No colour preserved.

5) Fig. 35, 5. S-2573. AB29 [5132]. Limestone. Fragment of a scene depicting the shoulder and outstretched forearm of a human figure (presumably Akhenaten's), with Aten rays descending behind. The cartouches of the Aten are crudely incised across the forearm, and are evidently of the early form, written from left to right. Traces of blue paint on the shoulder probably derive from a broad collar. Where the king's face should have been, however, the edge of a deeply cut, smooth-sided hollow occurs, which is hard to explain. Yellow ground colour, arm, cartouches, and Aten rays painted red; hieroglyphs on right painted blue, as also remains of the collar on the shoulder.

6) Fig. 35, 6. S-2558. AA29 [5132]. Limestone, well and deeply carved. A single human hand is shown, with the edge of possibly another above. They could belong to Aten rays, in which case the alignment of the fragment as shown would be correct, or they could belong to a human with hands raised, e.g. in adoration, although the wrist seems very slender. Possible traces of yellow ground colour; red paint on the hands.

7) Fig. 36, 7. S-2567. W30 [5595]. Limestone, without trace of ground colour. Depiction of a head of one of the princesses, bearing traces of red overall.

8) Fig. 36, 8. S-2789. Y30 [5594]. Limestone. Depiction of the head of Akhenaten wearing the Blue Crown with uraeus. In front of and behind him stream diagonal Aten rays. Those in front of him end in a series of shapes along the edge of the break which are hard to identify. Behind the king are two vertical columns of hieroglyphs which read: "Great royal wife, his beloved...Nefer-neferu-aten Nefertiti, may she live for ever." Traces of yellow colour occur in the hieroglyphs, which could be the remains of a ground colour, but the shape to the left which looks like the hieroglyph "t" was coloured red.

9) Fig. 36, 9. AB30 [5132]. Red quartzite/sandstone. Deeply cut, no trace of colouring. Part of a corner of a statue base (?) inscribed on both faces with hieroglyphs in horizontal rows. The lower register on the left contains the group "Royal daughter of his body, his beloved [Meret]a[ten]." Above it are the lower parts of the signs reading Meretaten's name. One the right side, Meritaten's name is written in large hieroglyphs.

North Shrine Fragments

10) Fig. 37, 10. S-2574. W38 [5654]. Nummulitic limestone bearing shallow carving which is covered with gypsum plaster in places. Traces of red paint indicated by stippling. To left and

right are decorative borders of two designs, one consisting of alternating groups of four horizontal lines, the other of chevrons. Red paint appears as a ground. The central column bears a cartouche and epithets of the Aten.

11) Fig. 37, 11. S-2561. X39 [5126]. Limestone, without trace of colour. The only design is a crudely cut sistrum and an element of uncertain meaning above it to the left.

12) Fig. 37, 12. S-2563. X37 [5130]. Limestone. Bottom of a cartouche of Nefertiti. Traces of blue pigment survive in the hieroglyphs and surrounding lines, as well as traces of a possible yellow background colour.

13) Fig. 37, 13. S-2564. X37 [5130]. Limestone, very well carved. Two human hands, possibly the ends of Aten rays, are shown over the outlines of objects the nature of which is uncertain. Consequently the alignment of the fragment is also open to interpretation, although within the limits created by the survival of one of the block's faces (marked as a broken line). No background colour, but traces of red paint survive on the hands.

14) Fig. 37, 14. S-2562. Y39 [5702]. Limestone, poorly carved. At the top is the lower part of a human face. The cross-hatching indicates gypsum filling in the carving. The lower part of the design is perhaps a streamer.

15) Fig. 37, 15. S-2559. X37 [5130]. Limestone, deeply cut, crudely executed. Part of the subject matter consists of flowers. The triangularly-shaped element could be the side of a bowl or basin on which the flowers lie. If this is so, then the fragment is immediately aligned as shown, otherwise the alignment is uncertain. Yellow paint occurs on all surfaces.

16) Fig. 37, 16. S-2568. X37 [5126]. Limestone. Fingers and thumb of human hand adjacent to a straight edge. No ground colour, some red paint preserved on fingers and thumb.

17) Fig. 38, 17. S-2572. Y39 [5702]. Limestone. Fragment from the bottom-right corner of a block. Down the centre of the fragment runs, in deeply incised relief, a part of a human leg decorated with the cartouches of the Aten (a crudely carved version of the earlier form, written from right to left). Behind it, to the left, the edge of the fragment coincides with the edge of an even more deeply incised element. The leg and cartouches are painted red, and traces of red also lie on the deeply cut surface to the left. No ground colour is present, but a thin red line runs parallel and close to the bottom edge of the block.

Although limestone was most commonly used for wall decoration at both the North and South Shrines, the overall percentage of sandstone at the North Shrine was much higher, with a corresponding drop in the amount of plaster (see fig. 39). At the South Shrine, the squares just outside the outer wall, W29 and W30, had a higher proportion of sandstone. Square Z30 also had a high percentage of sandstone but the overall number of fragments from this square is smaller due to earlier disturbance. At the North Shrine, squares X36, X38 and W38 had higher percentages of sandstone.

The high percentage of flat yellow painted fragments at the South Shrine has already been mentioned. While these may be attributed to plain yellow architraves, it is also apparent that the relief decoration at the South Shrine commonly had a yellow background. This practice is not unknown as Pendlebury, for example, noted that certain reliefs in the rooms in the North Harim of the Great Palace also had a yellow background.[54] At the South Shrine, 376 of the relief fragments had a yellow background, while at the North Shrine the number drops to 77. Thus, it would appear that reliefs with unpainted backgrounds were more common at the North Shrine (300 fragments as opposed to 141 at the South Shrine).

In addition to the relief scenes with the royal family or palace and temple activities, a number of fragments from both shrines had remains of the usual geometric border decorations. These were either linear borders with divided segments or a mixture of these linear bands with bands of chevrons (see fig. 37, 10 for an example). So far, the number of such fragments is higher at the South Shrine (65) than the North Shrine (9), but this may be due to chance preservation. These designs are found in limestone and sandstone alike. Although only painted designs have been found to date, a limestone example from Pendlebury's excavations of the Great Palace had faience inlay set into an elaborate net and linear design.[55] As yet, no flat relief blocks with hollows for inlay have been found at either shrine.

CONCLUSIONS

From the remains uncovered in one season of excavation, it is already apparent that, despite their proximity, the design of the North and South Shrines varied considerably. The raw statistical data provides clear evidence of this diversity. In many ways, it was particularly fortunate that these two buildings could be studied simultaneously, using a similar methodology. The value of re-examining the stone fragments from past excavations is also apparent, since the comparison of this material not only helps our understanding of the newly excavated remains from Kom el-Nana but also helps to fill in the gaps left by the scant remains from the past. By comparison to other Amarna buildings, such as the Great Palace and Maru-Aten, it would seem that, although there are many architectural features in common, the decoration at the Kom el-Nana shrines is on a less opulent scale. Hopefully, as excavation continues, more of the groundplans of these buildings will be revealed, and a clearer picture established.

[54]Pendlebury: 1951, p. 39-40.

[55]Cairo Museum, JE 66717. Unfortunately, a more precise location within this structure was not given.

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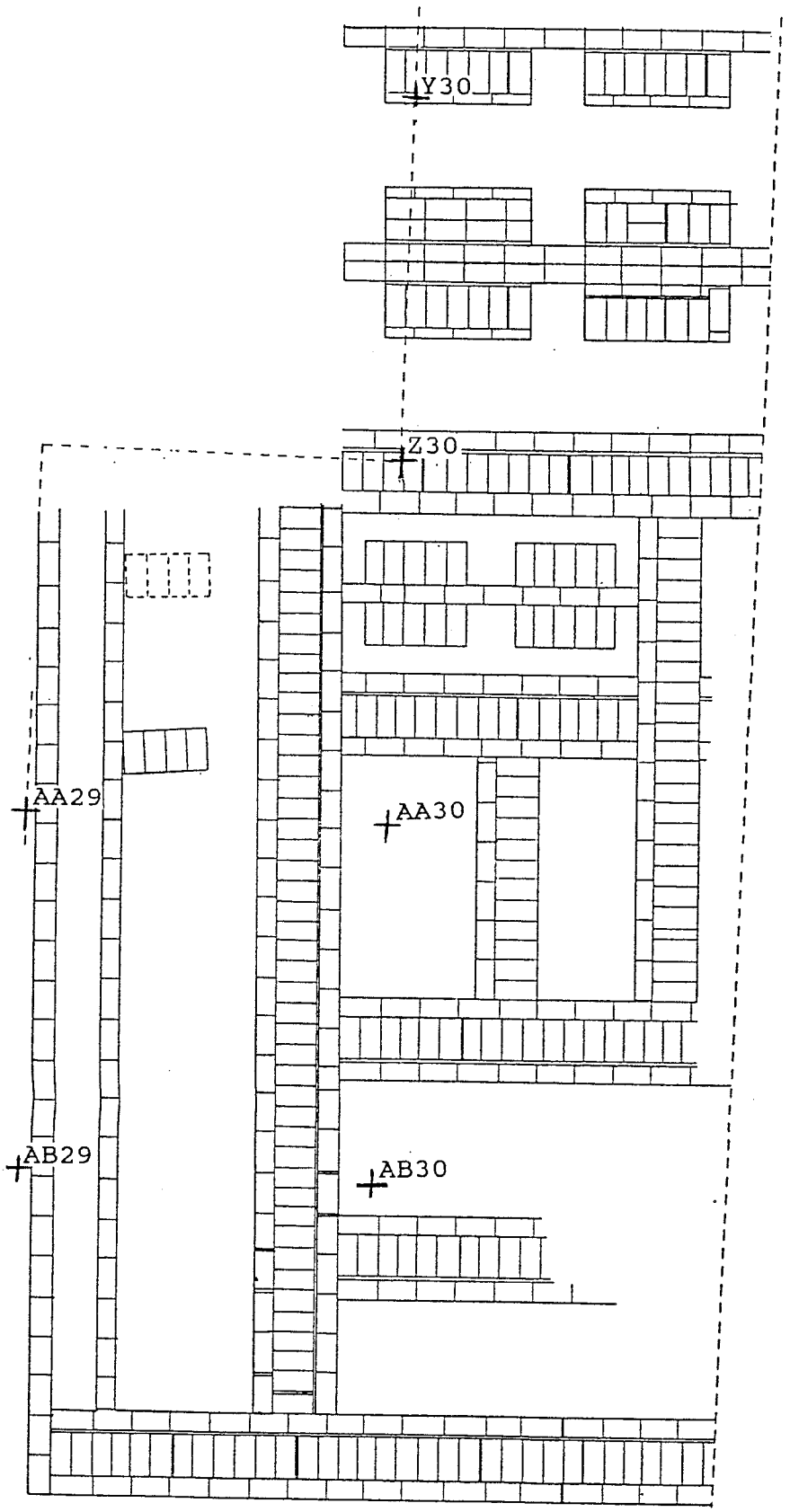


Fig. 1. Plan of the South Shrine at Kom el-Nana.

	RELIEF		ARCHITECTURAL		TOTALS	
SQ.	No. of frags.	(% L:S:P)	No. of frags.	(% L:S:P)	No. of frags.	(% L:S:P)
Y 30	292	(71:15:14)	141	(75:20:5)	433	(72:17:11)
Z 30	65	(41:48:11)	14	(71:7:22)	79	(47:43:10)
AA29	131	(66:5:29)	28	(82:7:11)	159	(68:6:26)
AB29	328	(71:25:4)	81	(78:6:16)	409	(73:4:23)
AC29	247	(62:3:35)	31	(87:0:13)	278	(64:3:33)
AA30	95	(67:4:29)	13	(100:0:0)	108	(71:4:25)
AB30	46	(54:9:37)	9	(100:0:0)	55	(62:7:31)
AC30	6	(66:17:17)	2	(100:0:0)	8	(74:13:13)
W 29	68	(48:43:9)	18	(78:22:0)	86	(55:38:7)
W 30	134	(63:23:14)	66	(86:2:12)	200	(70:16:14)
AB27*	85	(67:0;33)	2	(100:0:0)	87	(68:0:32)
AA28*	9	(100:0:0)	5	(100:0:0)	14	(100:0:0)
AB28*	78	(68:3:29)	15	(87:13:0)	93	(71:4:25)
AC28*	95	(74:10:16)	34	(76:3:21)	129	(74:9:17)
Totals:	1679	(66:11:23)	459	(81:10:9)	2138	(69:11:20)

*Part of dump from previous EAO excavation of South Shrine

N.B. Included in these figures are a number of fragments which had both a flat decorated surface and a curved architectural element. The distribution of these fragments is: Y 30=3; Z 30=2; AA29=2; AB29=5; AC29=2; AA30=1; AB30=2; W 29=2; AA28=1; AB28=2; and AC28=1.

Fig. 2. Distribution of South Shrine fragments by square and material (with percentages of limestone, sandstone and plaster, L:S:P).

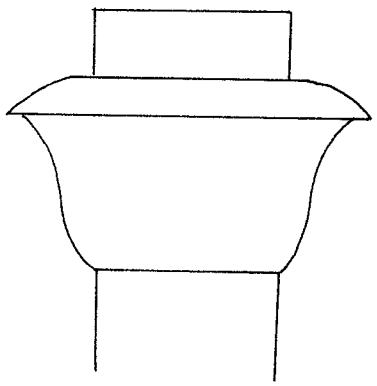


Fig. 3a. Outline of the open papyrus capital

Decoration type A

Square	Total
Y30	22
W30	11
W29	2
AC28	1
AB28	1
AA29	1
	38

Decoration type B

Square	Total
Y30	8
W30	13
AB29	2
AC28	1
AA30	1
AA29	1
	26

Decoration type C

Square	Total
Y30	4

Fig. 3b. Distribution of open papyrus column capitals at the South Shrine according to style of decoration.

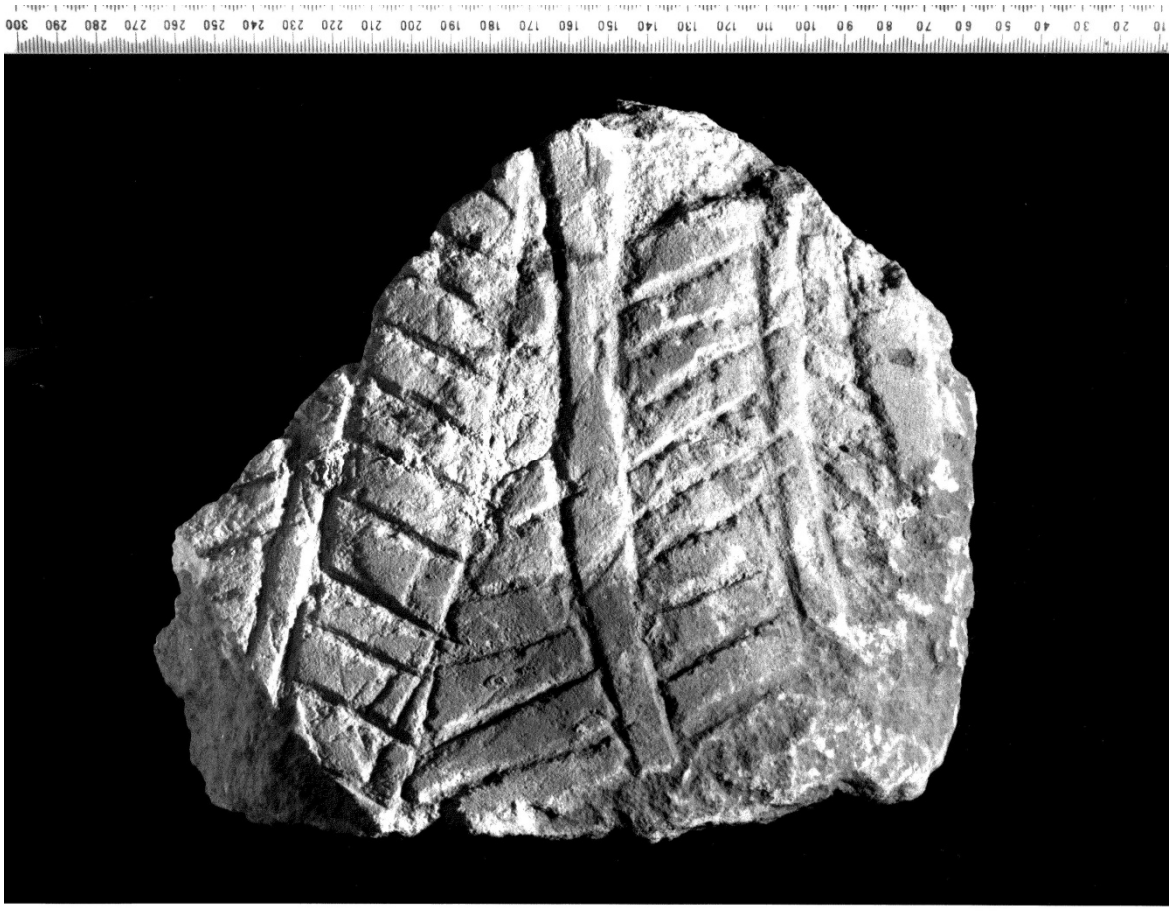


Fig. 4. Fragment (S- 3300) of open papyrus capital in decoration type A from the South Shrine. Photo by Gwil Owen.

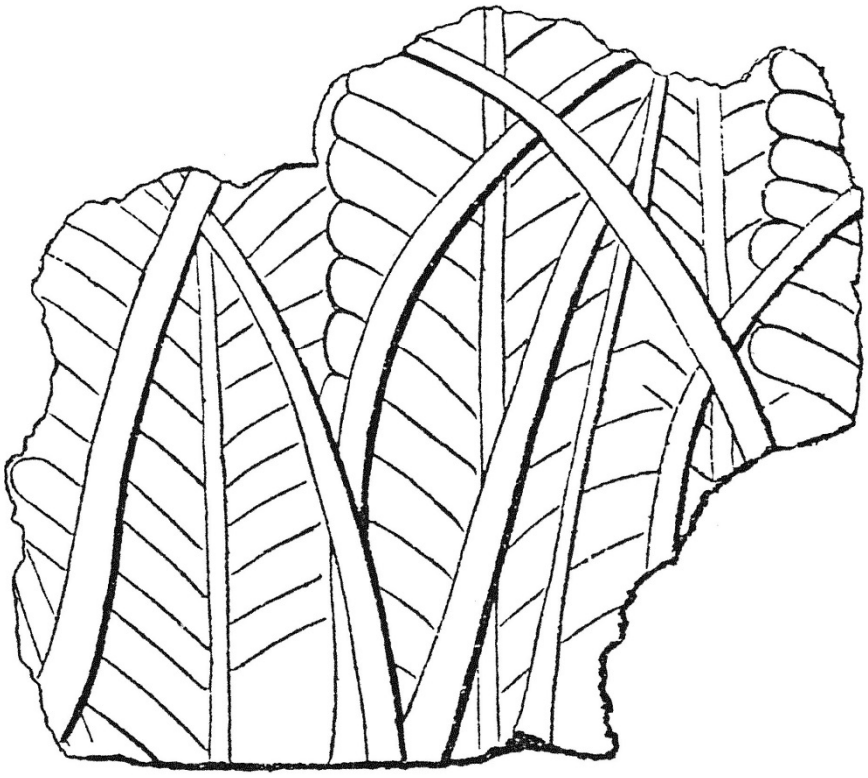


Fig. 5. Drawing of open papyrus capital in decoration type A from the Great Palace (Petrie: 1894, pl. VII).

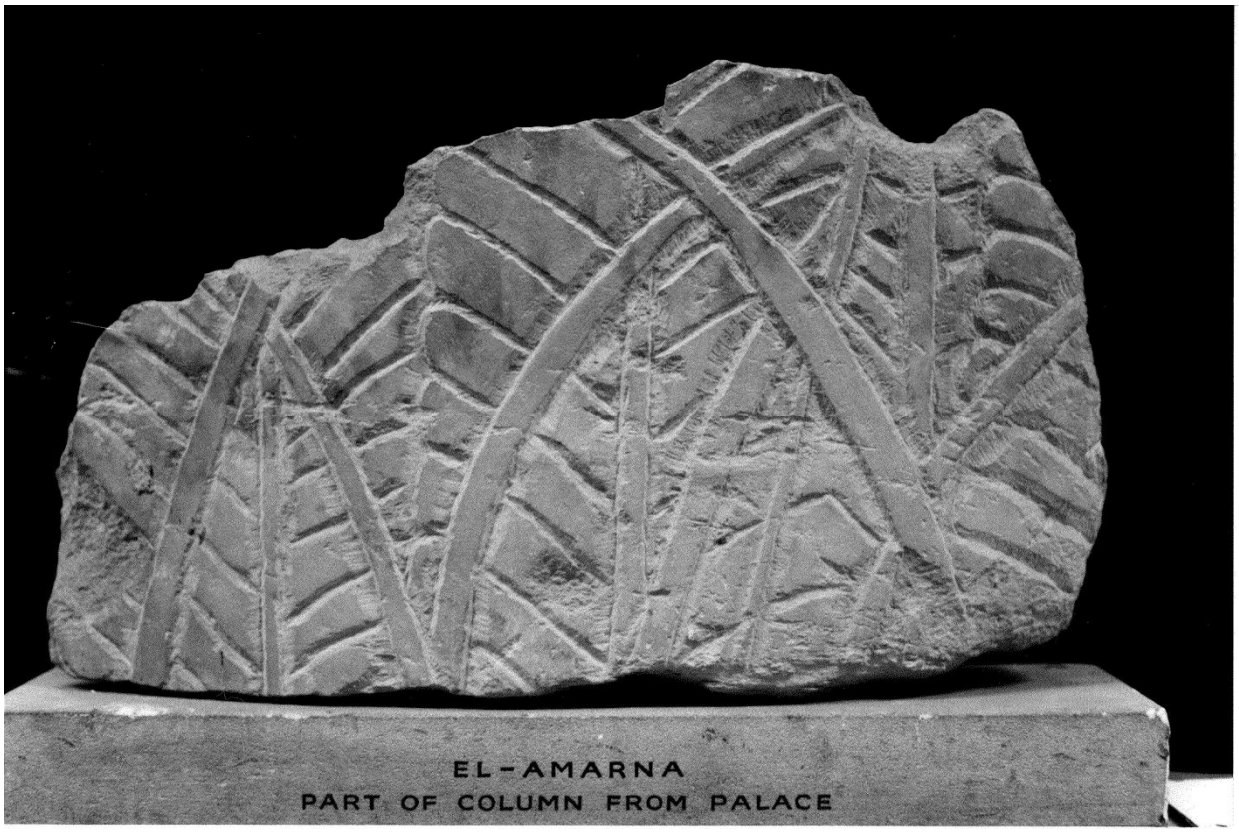


Fig. 6. Limestone fragment of open papyrus capital in decoration type A from Petrie's excavation of the Great Palace (Ashmolean Museum E.1893.1-41[42]). (Height 30.0 cm., Width 54.0 cm., Depth 11.0 cm.).

Fig. 7. Limestone fragment of open papyrus capital in decoration type A from Petrie's excavations at the Great Palace (Ashmolean Museum E.1893. 1-41 [6]).

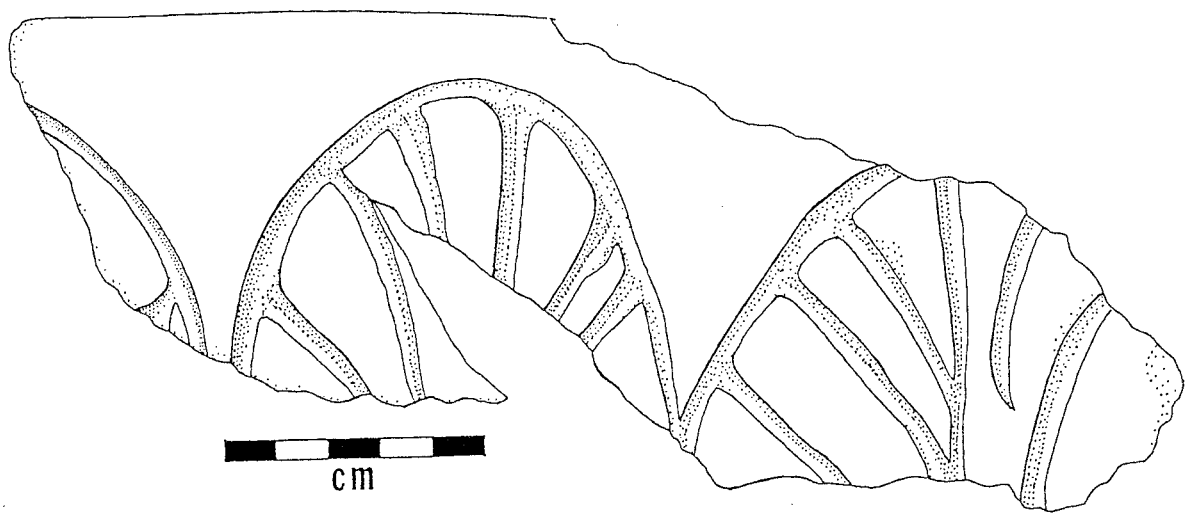


Fig. 8. Two joining limestone fragments (S-2184 and S-2195) from an open papyrus capital of decoration type B. Both fragments from square W30 at the South Shrine.

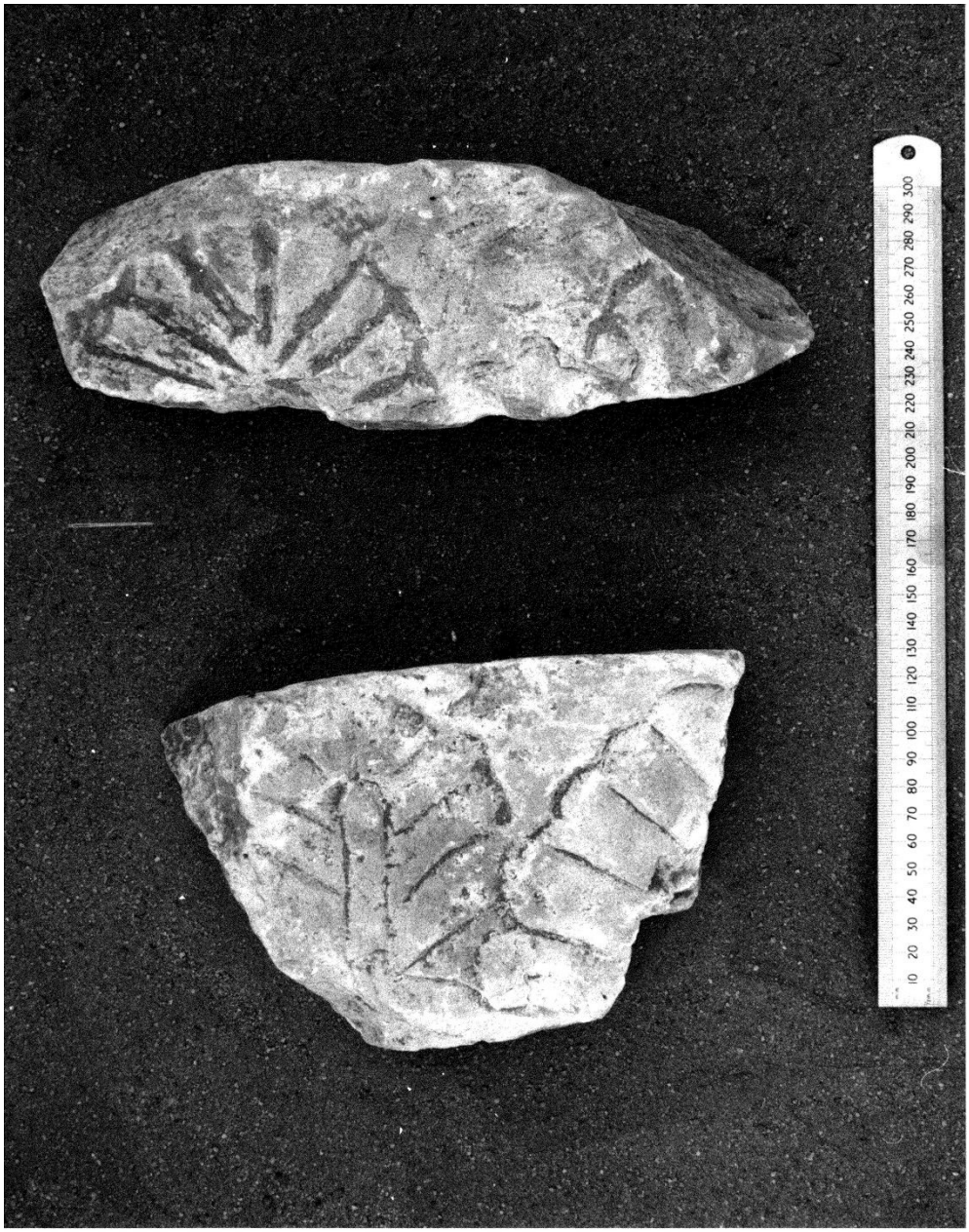


Fig. 9. Limestone fragments of open papyrus capitals in Decoration type B from dumps behind the dig house. Possibly from Maru-Aten. Photo by Gwil Owen.

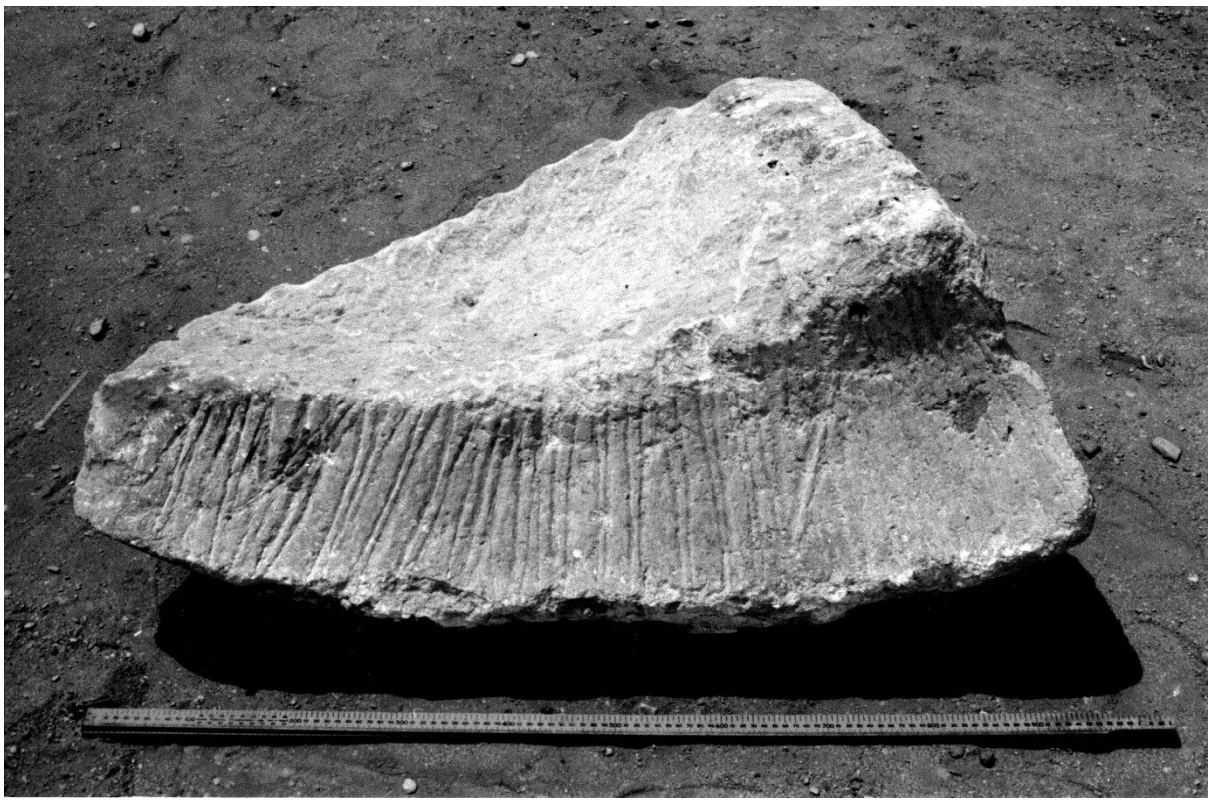


Fig. 10. Large limestone capital fragment in Decoration style C from square Y30 at the South Shrine. Photo by Gwil Owen.

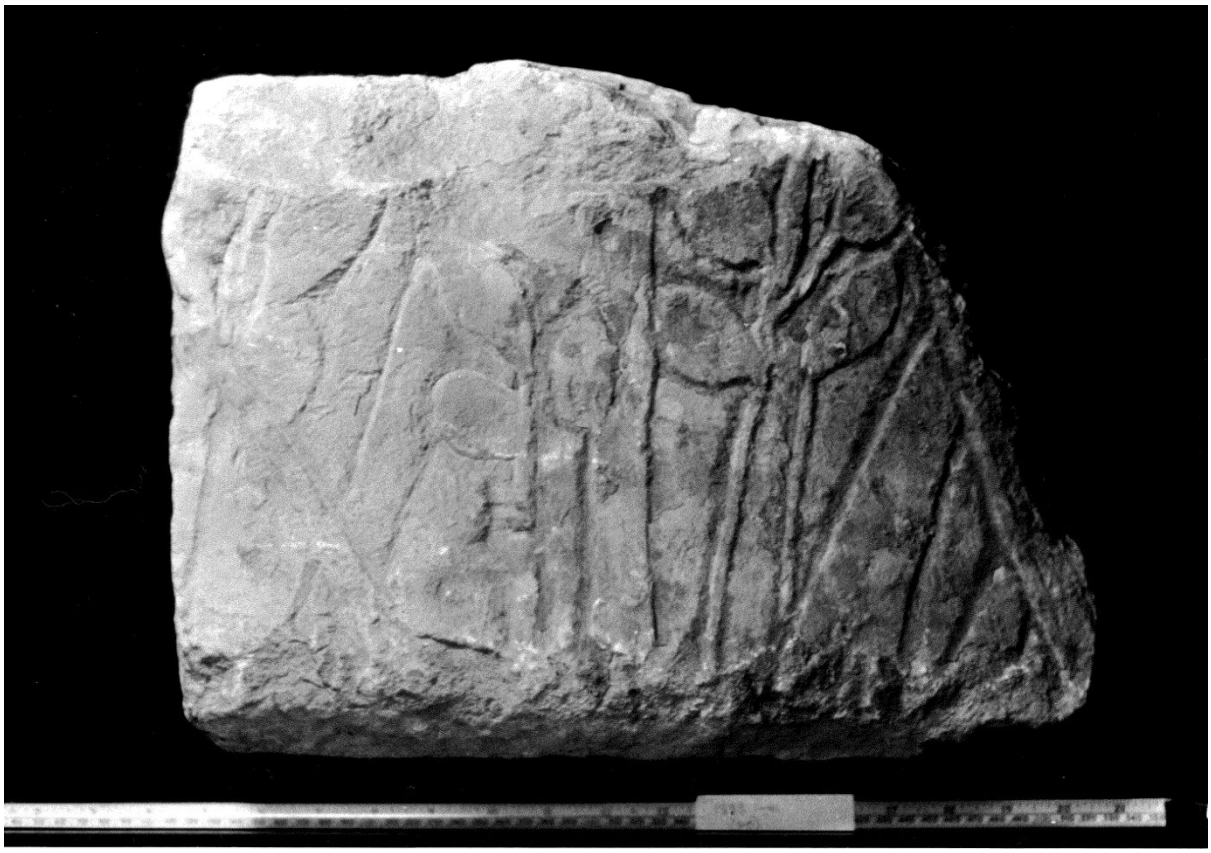


Fig. 11. Limestone fragment of a date palm capital found by Petrie at the Great Palace. Ashmolean Museum E.1893.1-41[70]. Height 26.0 cm., Width 40.0 cm. Probably drawn in Petrie: 1894, pl. VII.

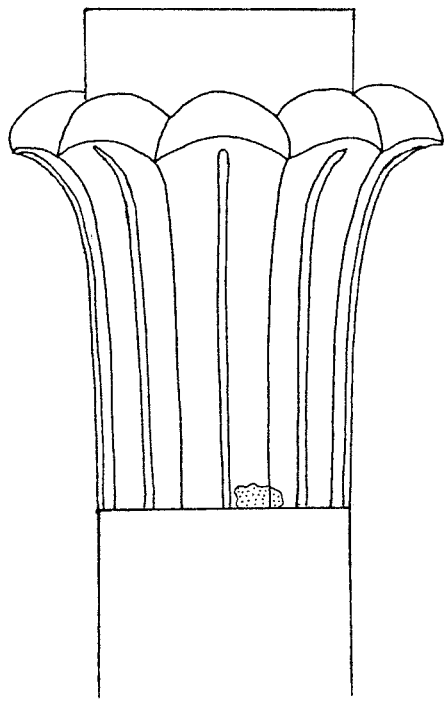


Fig. 12a. Outline of open palm capital. Dotted area shows probable location of fragment shown in fig. 13.

Square	Total
Y30	5
W30	3
Z30	1
AA29	2
AB28	1
	12

Fig. 12b. Distribution of decorated open palm capital fragments from the South Shrine.

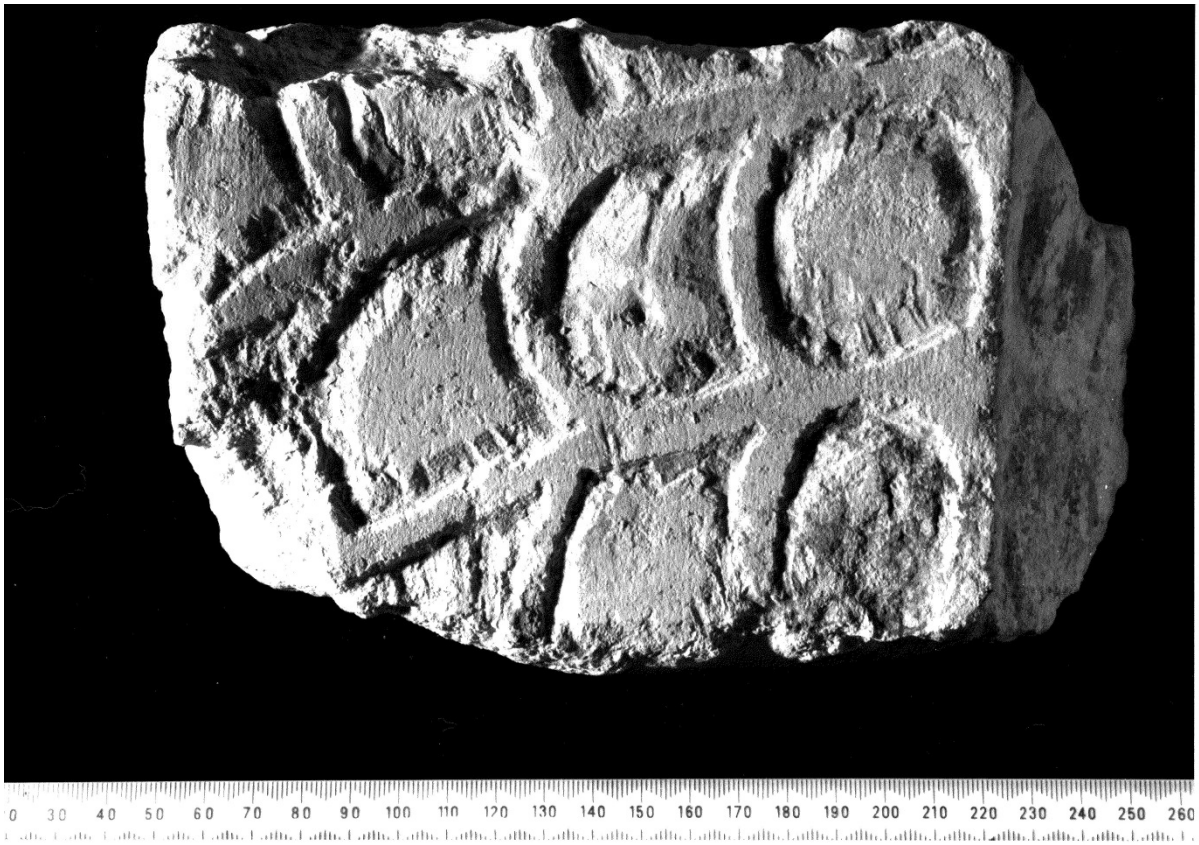


Fig. 13. Limestone corner fragment (S-3318) of an open palm capital with carved geometric design from square Y30 at the South Shrine. Photo by Gwil Owen.

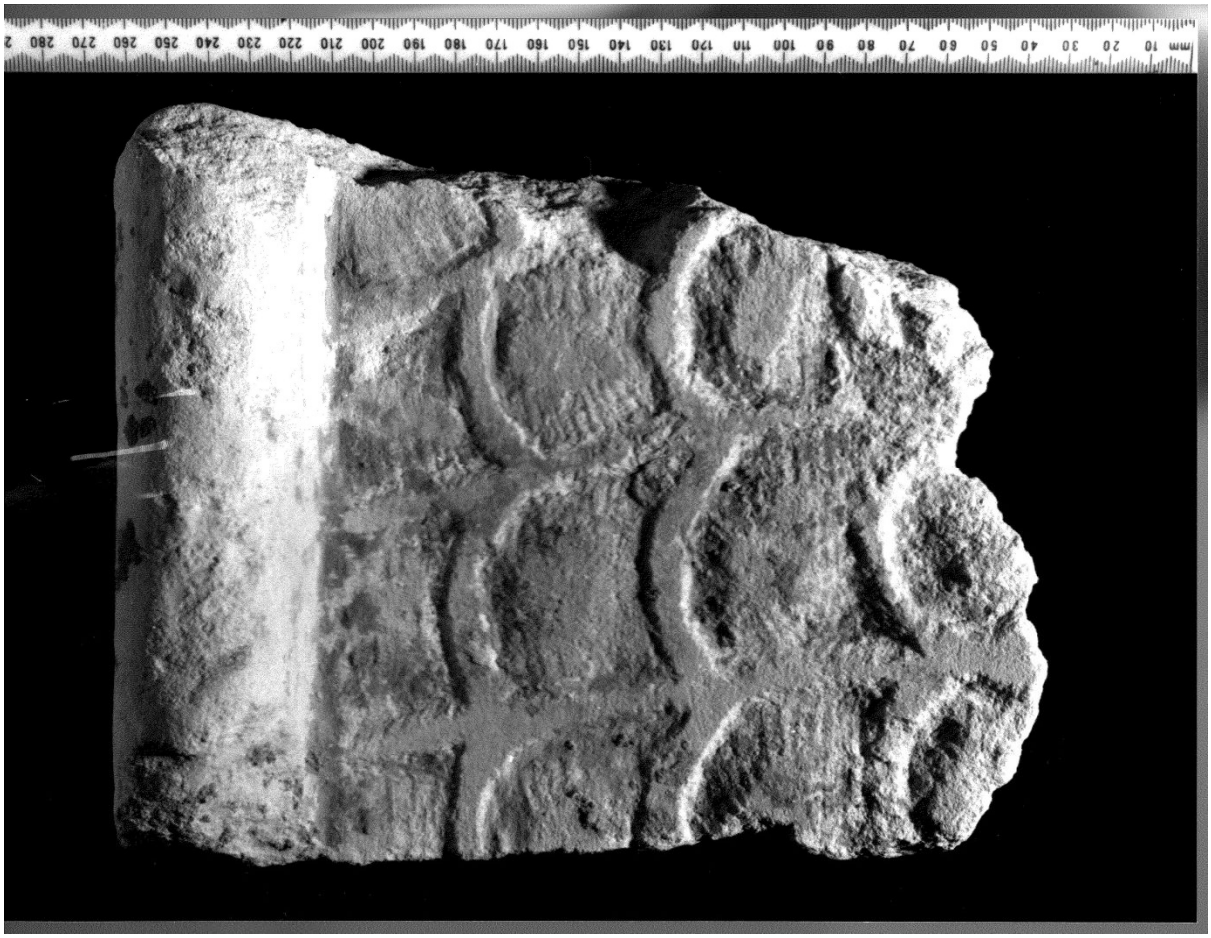
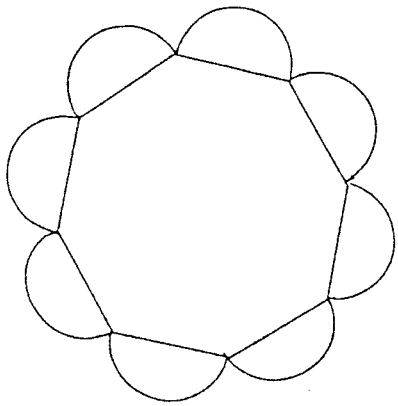


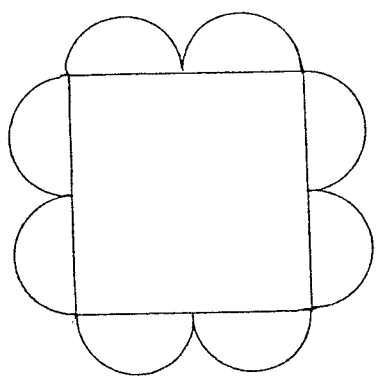
Fig. 14. Limestone fragment (S-3315) of an open palm capital with central midrib and carved geometric design. From square Y30 at the South Shrine. Photo by Gwil Owen.

Fig. 15. Limestone fragment of an open palm capital. From Petrie's excavations at the Great Palace. Ashmolean Museum E.1893.1-41 [10]. Height 20.0 cm., Width 25.0 cm.

Fig. 16. Limestone corner fragment of an open palm capital with carved geometric decoration. The adjoining central midrib is preserved on one face. Ashmolean Museum E.1893.1-41 [5].



a) Section of open palm capital based on Petrie's examples from the Great Palace.



b) Section of open palm capital at Maru-Aten as suggested by Peet and Woolley: 1923, p. 113, fig. 17b.

Fig 17. Possible cross-sections of open palm capitals.

Fig. 18. Photograph of overturned open palm capital in the Broad Hall of the Great Palace. From the E.E.S. photo archive of the 1935-1936 season at Amarna (Photo A.58). Previously published in Pendlebury: 1951, pl. XXXVII, 5.Photo courtesy of the E.E.S.

Fig. 19. Photograph of the overturned palm capital found at the River Temple at Amarna. From the E.E.S. photo archive (Photo 1922.138). Previously published in Peet and Woolley: 1923, pl. XLII, 3. Photo courtesy of the E.E.S.

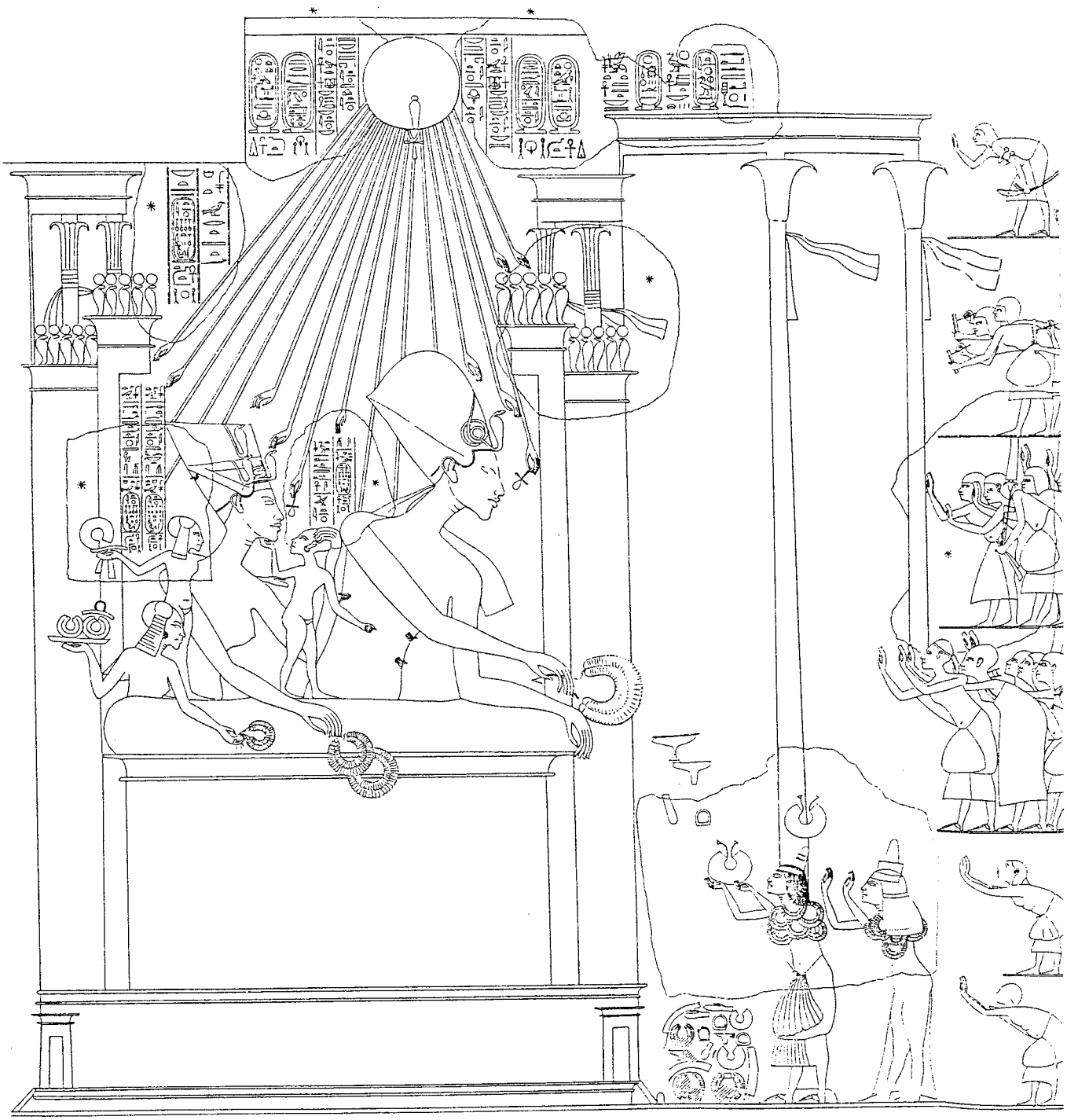


Fig. 20. Relief of the Window of Appearance from the tomb of Ay. Davies: 1908, pl. XXIX.

Fig. 21. Limestone fragment of an open palm capital with adjoining horizontal bands. From Petrie's excavations at the Great Palace. Ashmolean Museum E. 1893.1-41 [27]. Height 35.5 cm., Width 29.0 cm.

Fig. 22. Limestone papyrus stalk fragment (S-3296) from square Y30 at the South Shrine. Photo by Gwil Owen.

Fig. 23. Fragments of limestone pilasters from the excavations at Maru-Aten. Photograph from the E.E.S. photo archive (1922.105). Photo courtesy of the E.E.S.

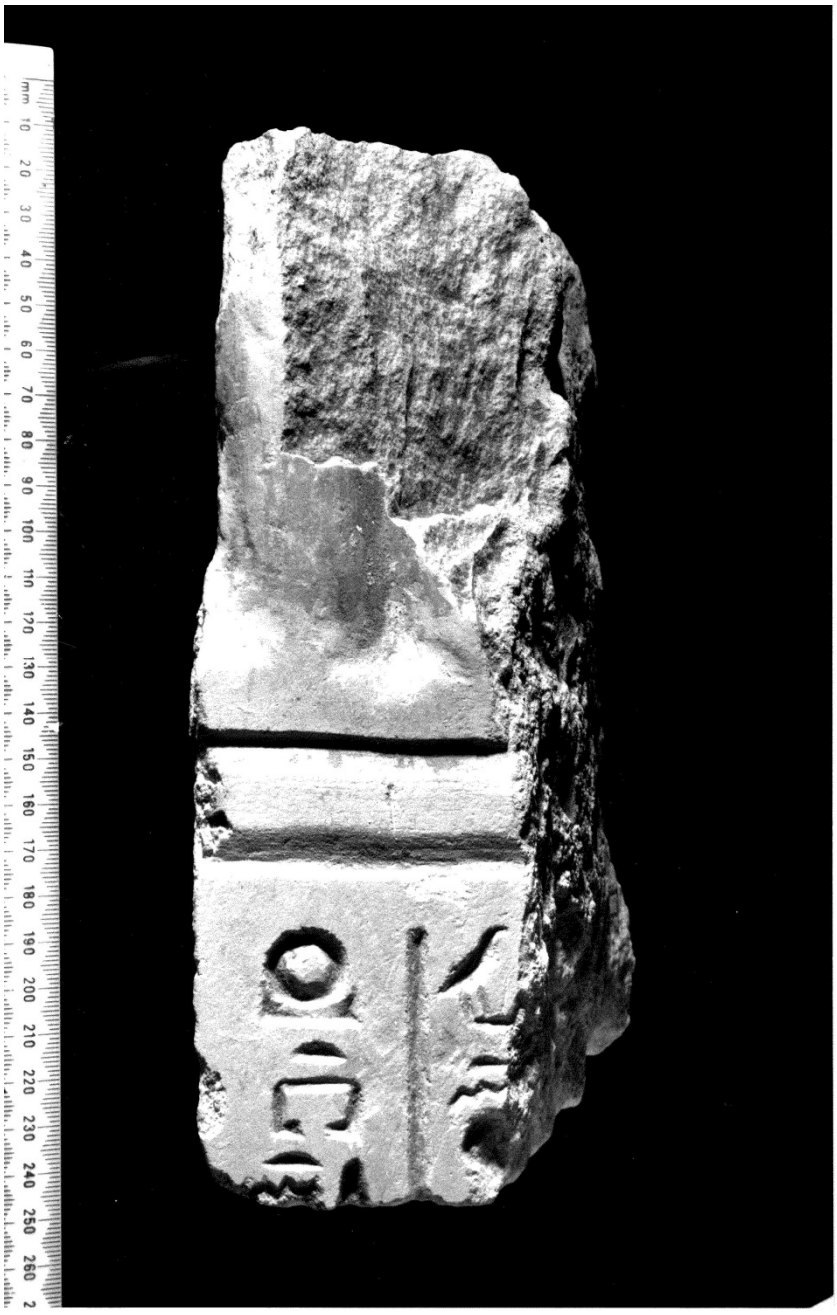


Fig. 24. Limestone papyrus stalk fragment with adjoining inscription (S-3303). From square AA30 at the South Shrine. Photo by Gwil Owen.

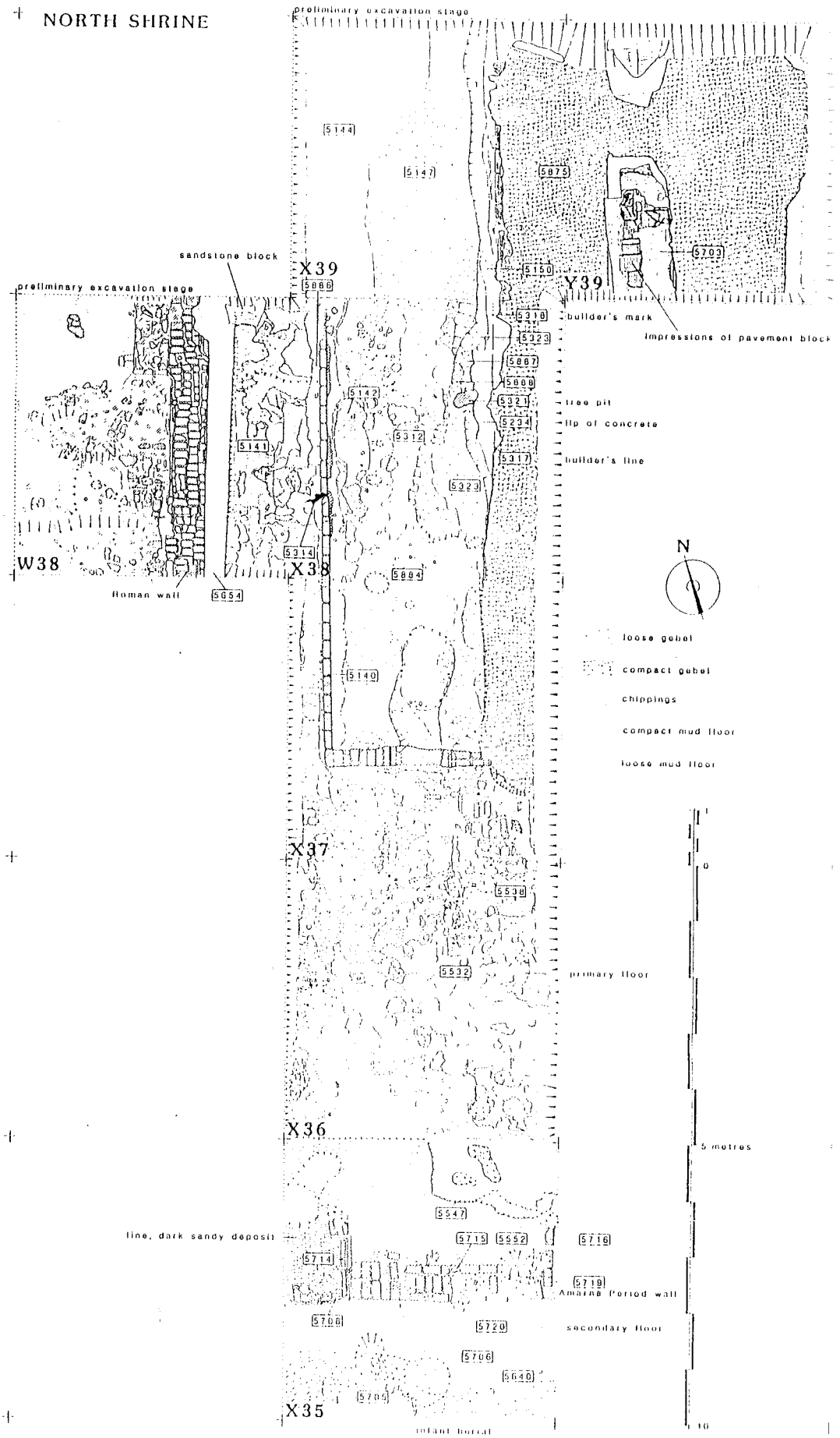


Fig. 25. Plan of the North Shrine at Kom el-Nana.

SQ.	RELIEF No. of frags.	(% L:S:P)	ARCHITECTURAL No. of frags.	(% L:S:P)	TOTALS No. of frags.	(% L:S:P)
X36	224	(39:55:6)	73	(77:15:8)	297	(49:45:6)
X37	280	(72:17:11)	79	(96:2:2)	359	(77:14:9)
X38	310	(61:32:7)	64	(79:14:7)	374	(64:29:7)
X39	298	(76:15:9)	59	(68:29:3)	357	(75:17:8)
W38	137	(36:59:5)	32	(66:31:3)	169	(41:54:5)
Y39	185	(75:14:11)	78	(75:22:3)	263	(76:16:8)
Total:	1434	(63:29:8)	386	(78:17:5)	1820	(66:27:7)

N.B. Included in these figures are a number of fragments which had both a flat decorated surface and a curved architectural element. The distribution of these fragments is: X37=2; X38=2; X39=2; W38=3; Y39=1.

Fig. 26. Distribution of North Shrine fragments by square and material (with percentages of limestone, sandstone and plaster, L:S:P)

SOUTH SHRINE ARCHITECTURAL ELEMENTS
(according to material)

	Limestone	Sandstone	Plaster	Total
COLUMN CAPITALS (all types of decoration)	104	7	-	111
COLUMN SHAFTS (all types)	4	1	-	5
CORNICES (all types of decoration)	49	2	5	55
MOULDINGS (only secure identifications; not single colour)	6	-	-	6

NORTH SHRINE ARCHITECTURAL ELEMENTS
(according to material)

	Limestone	Sandstone	Plaster	Total
COLUMN CAPITALS (all types of decoration)	7	1	-	8
COLUMN SHAFTS (all types)	131	8	7	146
CORNICES (all types of decoration)	41	31	3	75
MOULDINGS (only secure identifications; not single colour)	22	9	-	31

Fig. 27. Distribution of Architectural elements at both the North and South Shrines.

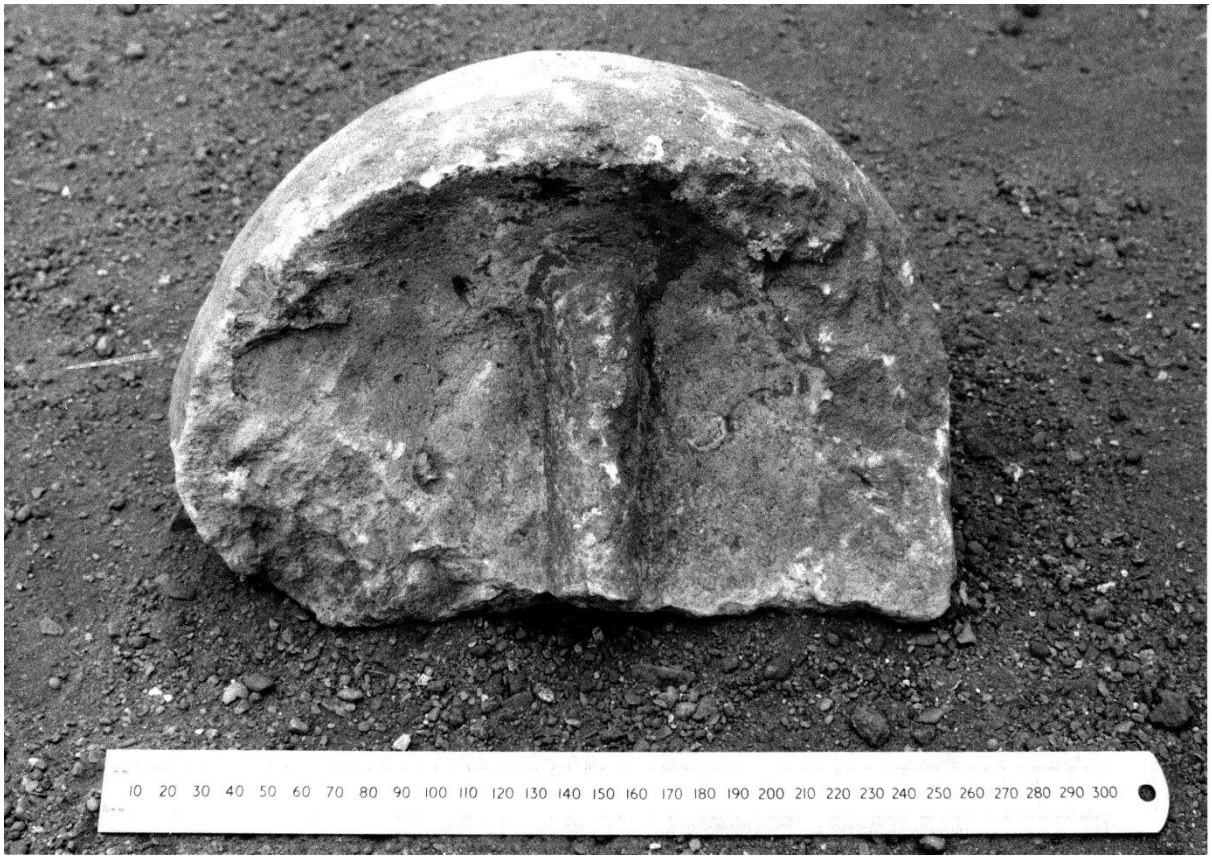


Fig. 28. Fragment of a limestone open palm capital (S-3955) from square X39 at the North Shrine. Photo by Gwil Owen.

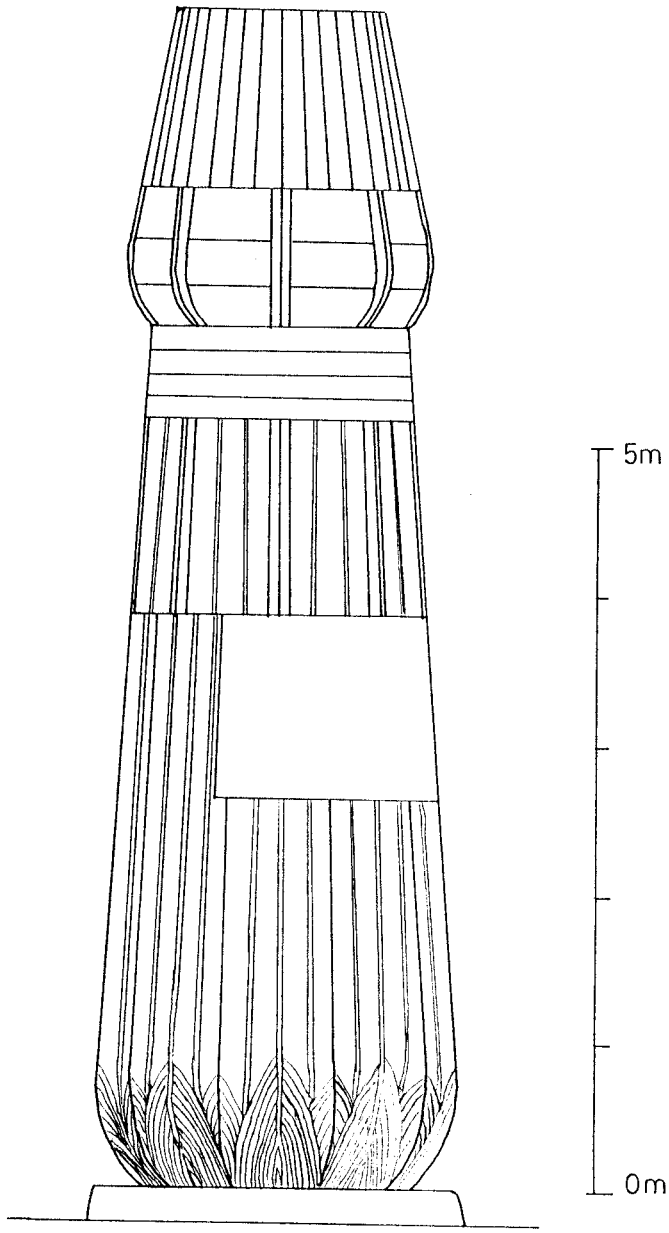


Fig. 29. Reconstruction of the papyrus bud column found at the Smaller Aten Temple. Based on a drawing supplied by Michael Mallinson.

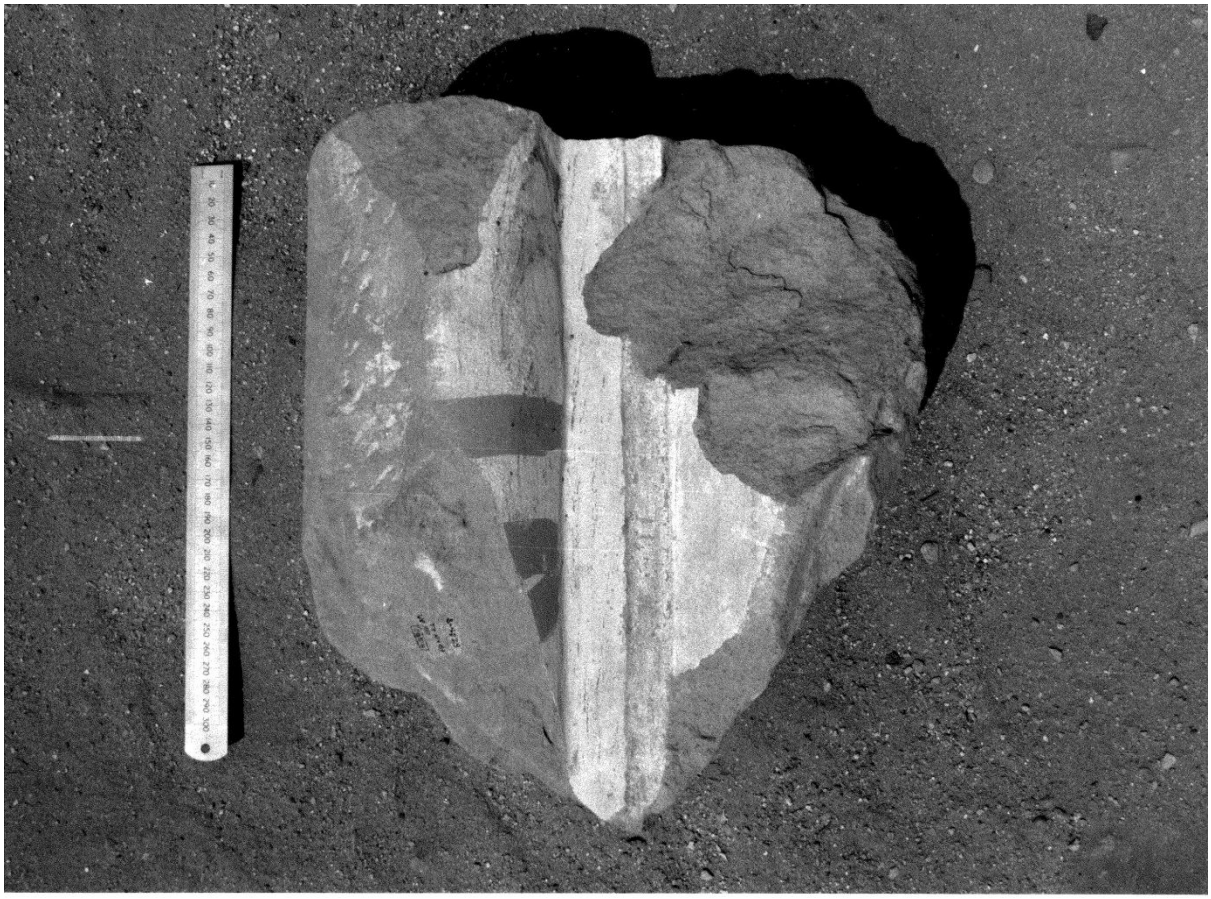


Fig. 30. Fragment of a sandstone moulding with yellow painted design on a white background (S-4029). From square W38 at the North Shrine. Photo by Gwil Owen.

EARLY NAMES OF THE ATEN

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	2573	C	AB 29	0.40	0.10
2)	2229	C	AC 29	-	-
3)	2750	C	AC 29	10.00 (approx.)	-
4)	2610	C	AA 30	0.50	0.10
5)	2737	C	AA 30	1.70	0.50
6)	2657	C	Y 30	8.00 (approx.)	3.10
7)	2783	C	Y 30	2.80	0.80
8)	1928	C	W 30	0.30	0.10
9)	2737	C	AA 30	1.70	-

NAME OF NEFERTITI

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	1471	T	AB 27	-	-
2)	812	T	AC 28	-	-
3)	900	T	AB 28	1.10	-
4)	2782	C	AB 29	8.20	5.90
5)	471	C	AC 29	3.60	1.70
6)	492	C	AC 29	2.50	1.90
7)	2575	T	AA 30	4.10	-
8)	2789	C,T	Y 30	1.80	0.20
9)	2781	T	Y 30	5.30	-
10)	646	C	W 30	2.51	-

NAME OF PRINCESS (unidentified)

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	2745	T	AA 29	-	-
2)	1043	T	AB 29	-	-
3)	1364	T	Y 30	2.70	-
4)	2781	T	Y 30	5.30	-

Fig. 31. Distribution of cartouches/titulary of the Aten, Nefertiti and princesses at the South Shrine.

EARLY NAMES OF THE ATEN

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	1790	C	W 38	0.40	0.10
2)	2661	C	W 38	17.00 (approx.)	-
3)	364	C	X 36	-	0.70
4)	2460	C	X 39	-	-
5)	1414	C	Y 39	3.60	1.30
6)	1659	C	Y 39	0.40	0.10
7)	1701	C	Y 39	3.51	-
8)	2572	C	Y 39	0.80 (approx.)	0.10

NAME OF NEFERTITI

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	2719	C	X 36	3.00 (approx.)	1.90
2)	363	C	X 36	2.50 (approx.)	1.50
3)	984	T	X 36	-	-
4)	2121	C	X 37	3.30	2.00
5)	2137	C	X 37	2.50 (approx.)	1.50
6)	2441	C	X 37	3.50	-
7)	2563	C	X 37	2.30 (approx.)	1.50
8)	235	C	X 37	-	-
9)	334	C	X 38	4.00 (approx.)	0.60
10)	695	C	X 38	-	-
11)	1201	T	X 38	2.51	-
12)	1235	T	X 38	-	-
13)	587	C	X 39	4.00 (approx.)	-
14)	194	T	X 39	4.30 (approx.)	-
15)	2292?	T	X 39	-	-
16)	2762	T	X 39	3.90	-

Fig. 32. Distribution of the cartouches/titulary of the Aten and Nefertiti at the North Shrine.

NAME OF MEKETATEN

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	56	C,T	X 37	4.40	-
2)	2472	C	X 39	1.70	-

NAME OF PRINCESS (unidentified)

	REG. NO.	CART./ TITLES	SQUARE	SIZE OF GLYPH (cms.)	CART. RING WIDTH (cm.)
1)	104	T	X 37	1.90	-
2)	1196	T	X 38	3.50 (approx.)	-
3)	1233	T	X 38	-	-
4)	2206	T?	X 38	3.50 (approx.)	-

Fig. 33. Distribution of cartouches/titulary with the names of princesses at the North Shrine

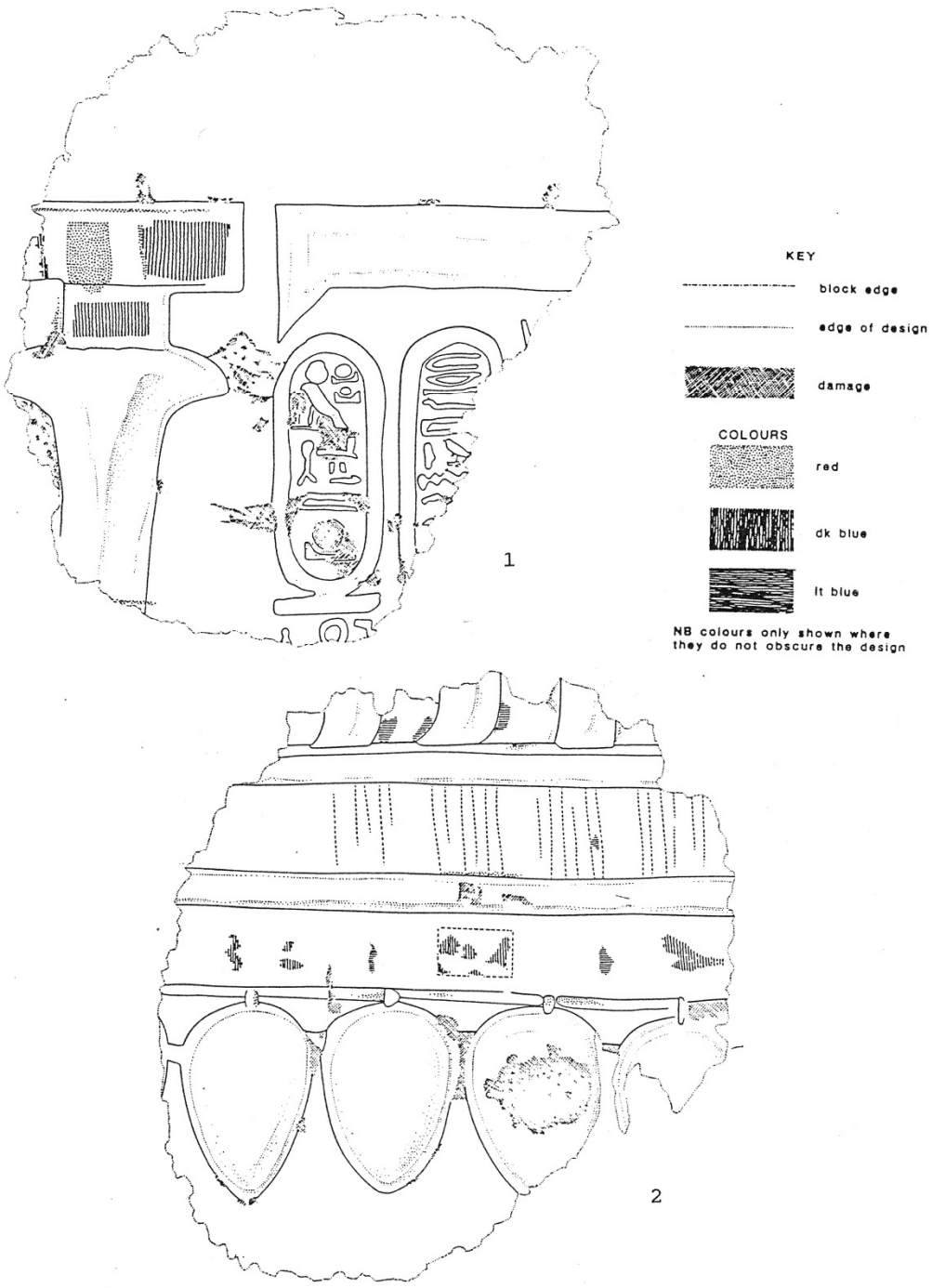
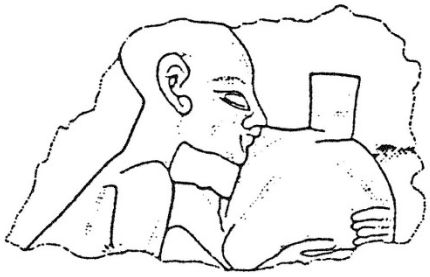


Fig. 34. Relief fragments from the South Shrine. Drawings by A. Boyce.



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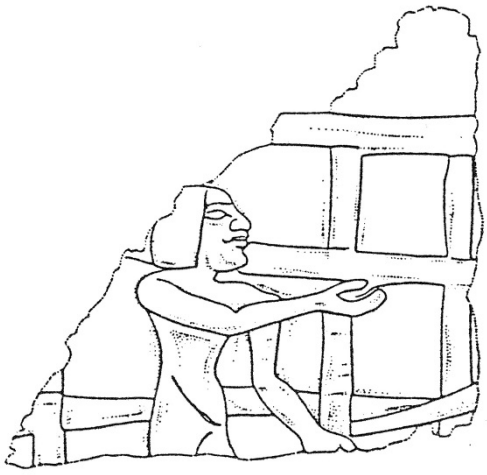

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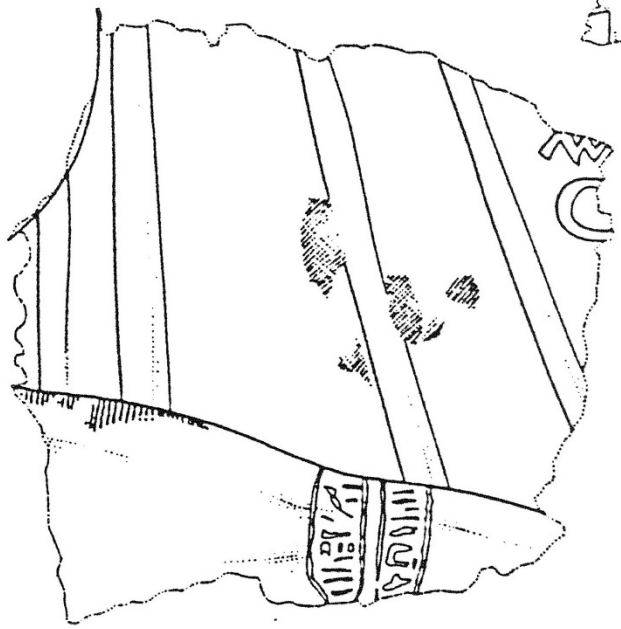

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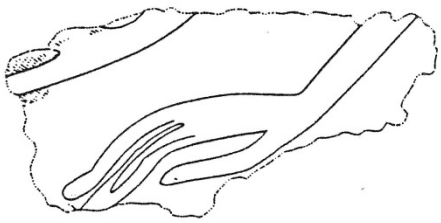

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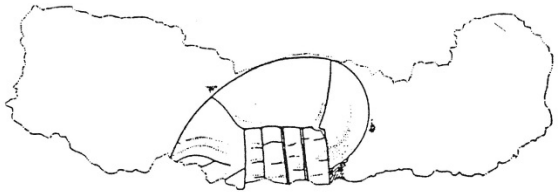
Fig. 35. Relief fragments from the South Shrine. Drawings by A. Boyce.



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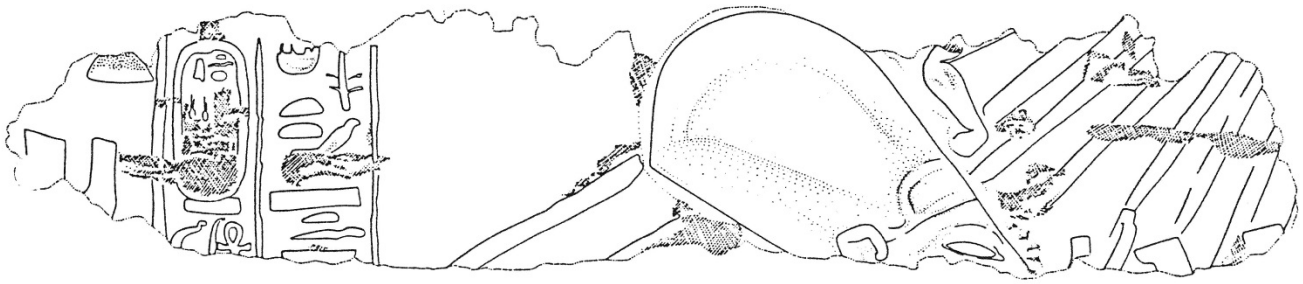

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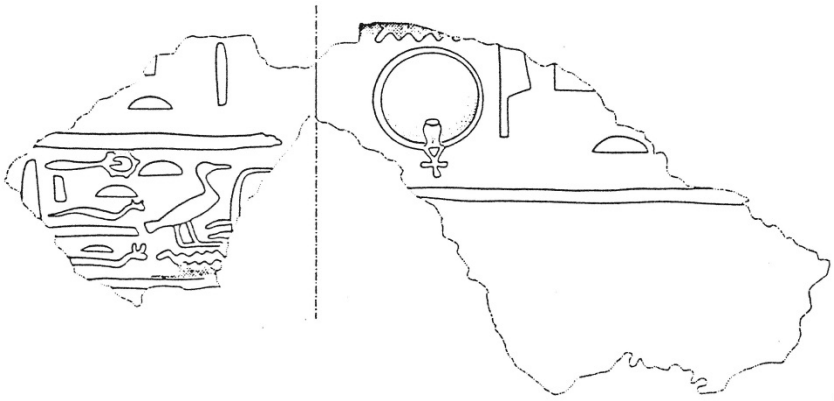

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Fig. 36. Relief fragments from the South Shrine. Drawings by A. Boyce.

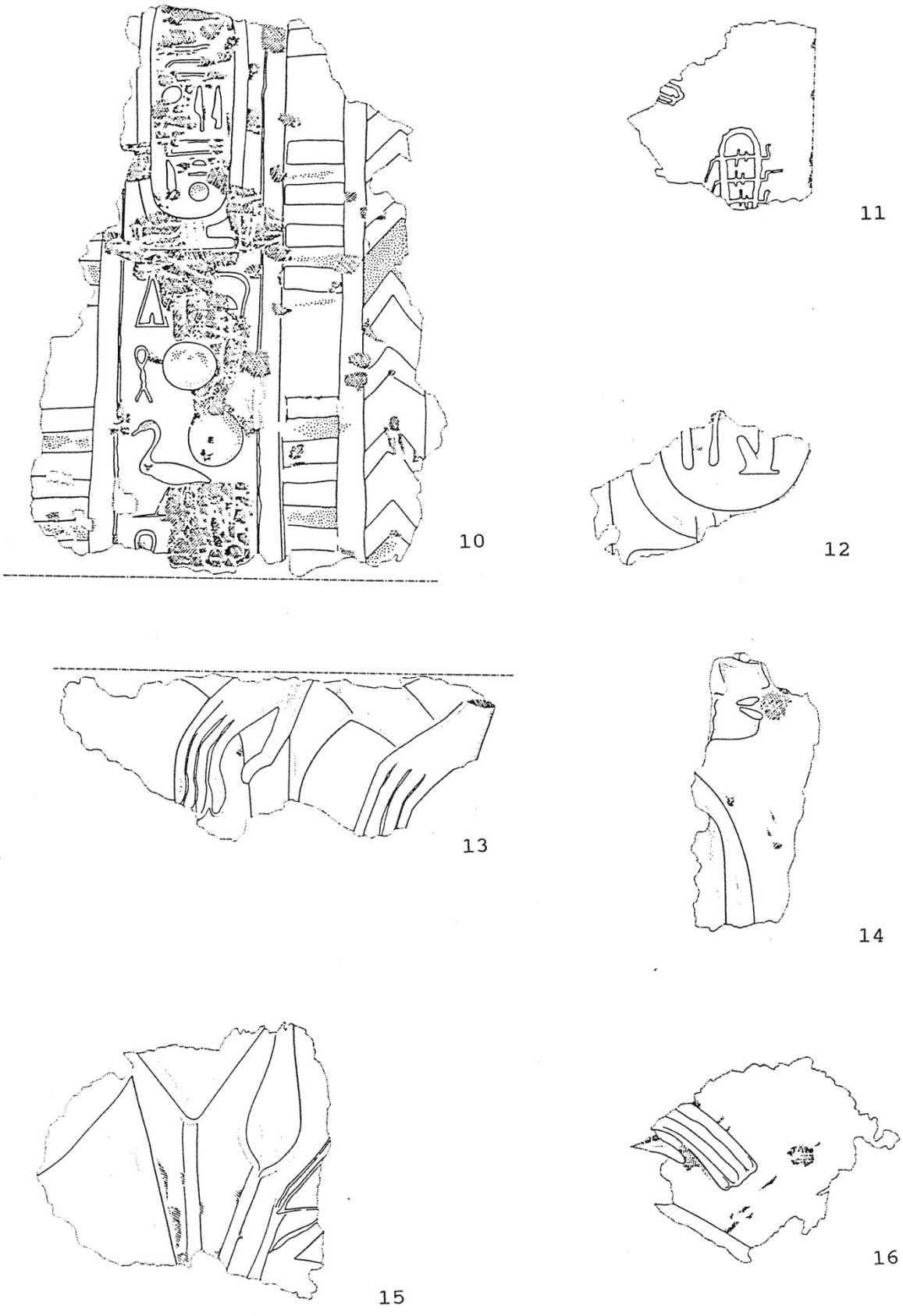

Fig. 37. Relief fragments from the North Shrine. Drawings by A. Boyce.

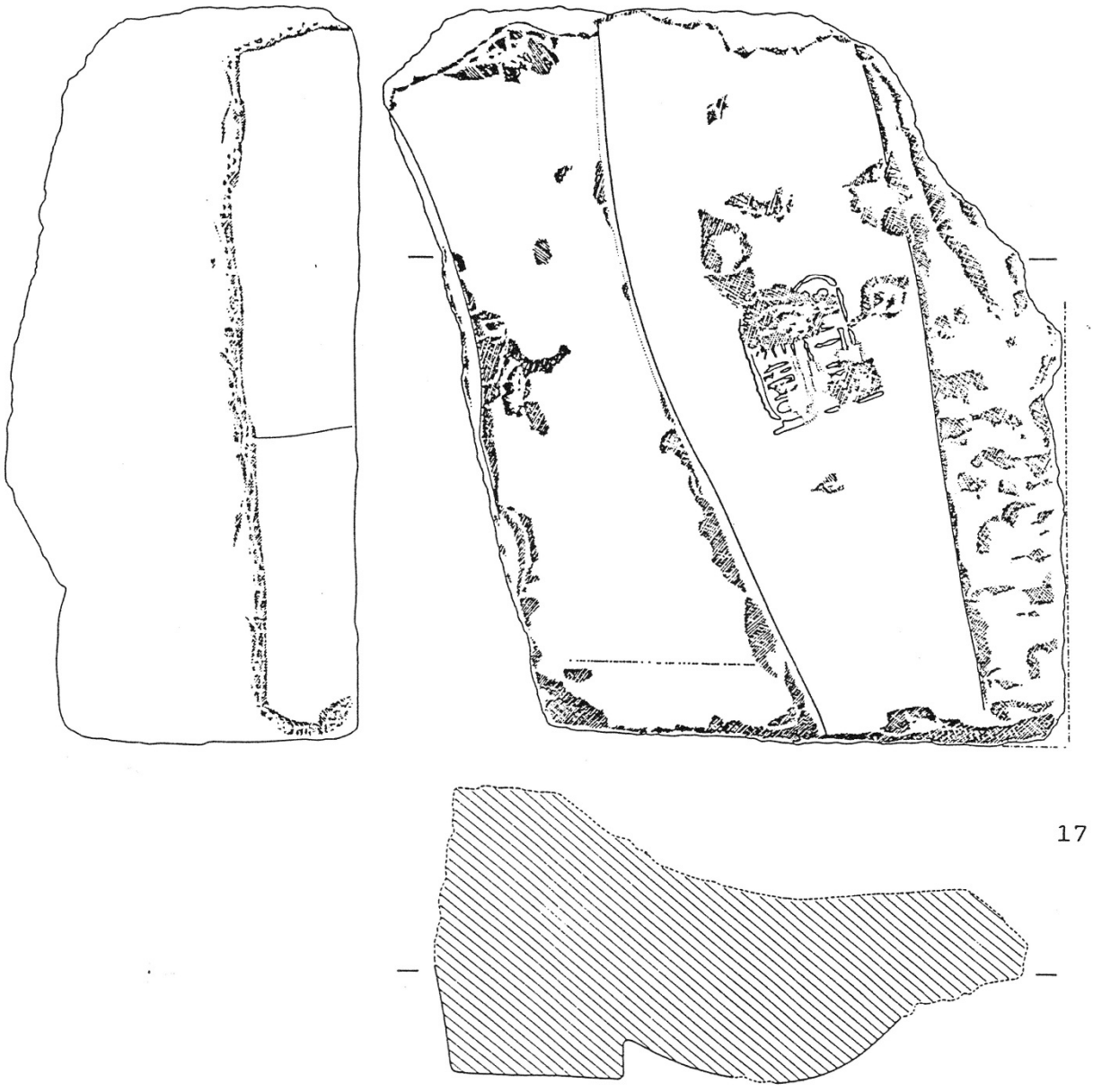

Fig. 38. Relief fragment from the North Shrine. Drawing by A. Boyce.