

**QAL EH-I YAZDIGIRD: ITS ARCHITECTURAL  
DECORATIONS**

**BY**

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## THE STUCCOES AS DECORATIONS

### *Archaeological Setting*

The first archaeological expedition to Qal'eh-i Yazdigird, funded by the British Institute of Persian Studies, was mounted in June 1965. At that time, in the pages of *Iran V* (1967), the significance of the site was judged by this writer and excavator to be underlined by its monumental fortifications and decorative stuccoes, seemingly of Sasanian date. Subsequent work, in the second to fifth seasons (1975, 1976, 1977 and 1978-79), was sponsored by the Royal Ontario Museum, with additional supporting grants in 1976 and 1978-79 from the Canada Council (now the Social Sciences and Humanities Research Council of Canada). The fourth expedition (1977) was one of conservation only. On the basis of these seasons of work, and as demonstrated in *Iran XIV* (1976), *XV* (1977) and *XVII* (1979), the site is now judged to be one of late Parthian date, with monumental remains now evident for the Sasanian period (by way of a *chahar taq*). The site of a mediaeval village of around the twelfth and thirteenth centuries has been located through reconnaissance and the analysis of surface pottery.

While the hoped-for, long-term excavations of the site promise to permit us to develop a picture of the nature of the Parthian and Sasanian settlements, as well as the settlement pattern of the Zardeh basin-Rijab trough in general, so far attention to the monumental aspects of the site has tended to dominate the archaeological activity. One factor that has promoted the imbalance in approach is the fact that the existence of dense orchards and the habit of terracing the fields have destroyed all but the monumental features, except for the scatters of sherds left on the surface of the ground. The result is that architectural and artifactual evidence that have survived in firm contexts stem almost entirely from the top of the investment scale. We have virtually no indication from the time of the site's major period of occupation of anything other than building projects initiated by seemingly feudal sponsors. Except for the mediaeval Seljuq period, probes around the site have failed to come up with any extensive traces of menial and domestic activity which surely must have been at least associated with the Parthian occupation.

The stuccoes, then, remain one of the most important documents of the site, both from the point of view of an art historical study in its own right, and from the possible light they may shed on the nature of the building which they adorn and the social identity of its original sponsor. Since recent developments in Iran may preclude the immediate continuation of work on the stuccoes for a while, it may be appropriate to present here a type-corpus of Qal'eh-i Yazdigird stuccoes, in order that the full range of the material excavated so far may be known. It should be borne in mind that the dating of the stuccoes comes mostly from deductive reasoning, based on comparative stylistic studies of the stuccoes

\* This is the first of a series of articles to be prepared for *Iran*, with subsequent reports dealing with the architecture, pottery and small finds, and settlement pattern.

I would like to extend my thanks for the courteous way in which the expedition has always been received by the Iranian Centre for Archaeological Research, and in particular for the kindness extended by its Director, Dr. Firuz Bagherzadeh, and the Centre's representatives Mehdi Rahbar (1975, 1976) and Masumeh Hatemi (1978-79). Needless to say the work would not have been possible without the noble efforts of the staff over the course of the four R.O.M. seasons. In 1975, Claus Breede was the surveyor, Peggy Keall registrar, Kim Maurer field archaeologist, Peter Mitchell conservator, and Linda Ritchie artist. In 1976, Peggy Keall, Peter Mitchell and Linda Ritchie returned to their earlier roles, and Steve Lumsden acted as site supervisor, Michael Miloyevic architectural draughtsman, William Pratt photographer, and Krysia Spiridowicz conservator. Two Iranian students spent most of the season with us, namely Musameh Hatemi and Shahin 'Atafi. The 1977 season was manned solely by Peter Mitchell and Linda Ritchie, and they also supervised part of the house building project. In 1978-79, Peggy Keall and William Pratt returned, and Rosemary Aicher joined us as artist, Carol Bier field archaeologist, Ron Eastman cartographer, Christopher Evans field archaeologist, Mimi Leveque conservator, James Knudstad architect, St. John Smith field archaeologist, and Nancy Willson conservator. In Toronto, Linda Ritchie prepared the figure line drawings, Carole Richards the architectural plates, and Allan McColl the photographic plates.

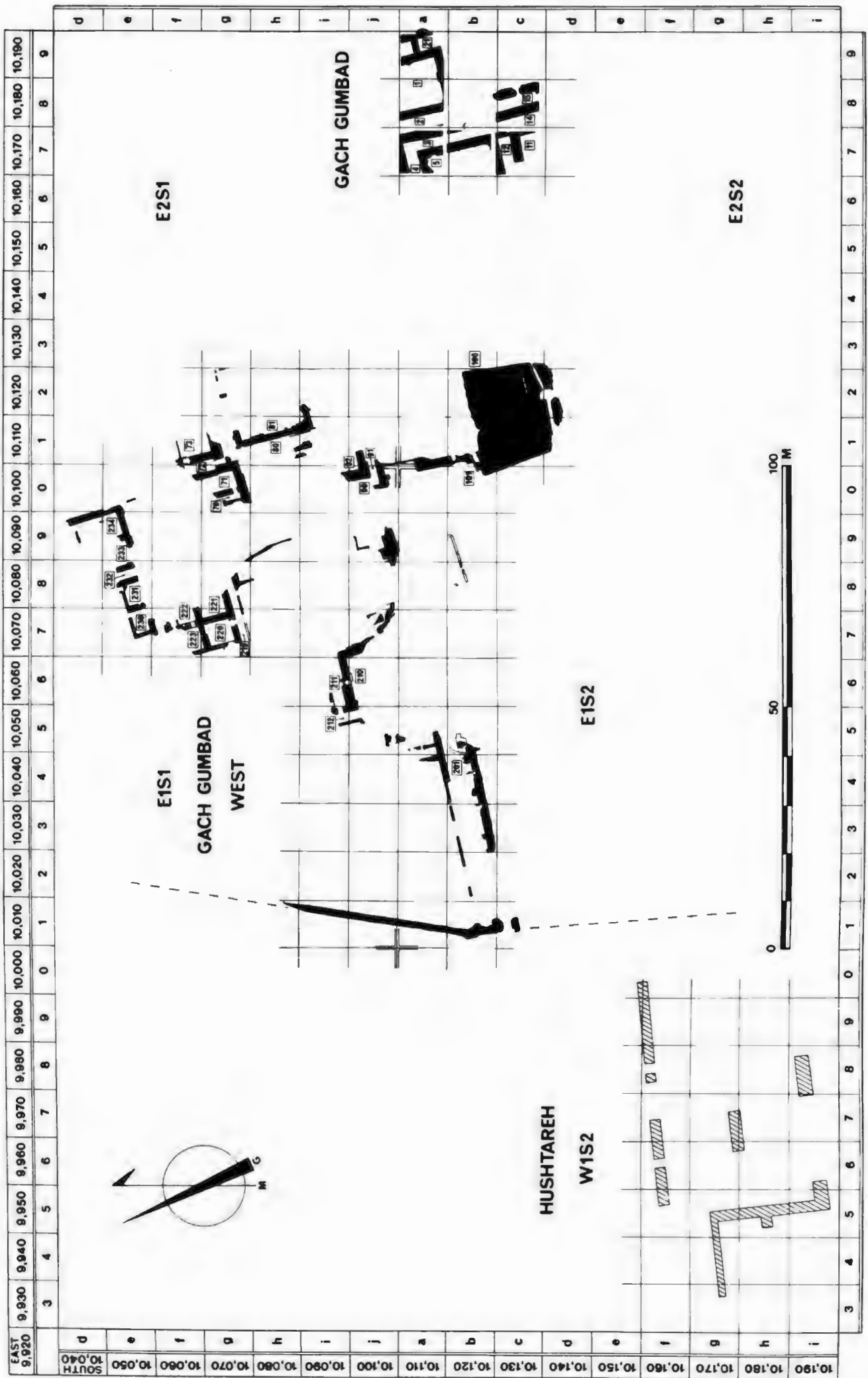


Fig. 1. Gach Gumbad site plan.

themselves, with additional "circumstantial evidence" from the minimally associated ceramic objects and small finds, and from the observations of masonry types. There are, however, as yet no significant independent dates established by the discovery of sealed deposits of coins or other diagnostic material.

Little attempt will be made here to present a comprehensive iconographical analysis, since this will take extensive library and archive research to complete. Such a study would, anyway, be premature, because future excavations are expected to furnish us with better preserved and more complete examples of the many motifs and compositions that have already been recovered in fragmentary state. Most of the decorative design is based on the principle of repeat patterns and repetitive figural compositions. So numerous are the fragments still in the ground that, in 1976 and 1978-79, trenches were back-filled at the end of the season, with stuccoes still deliberately left embedded in the unexcavated baulks because their excavation promised to go on indefinitely. In 1975 and 1978-79, a concerted effort was made in the plan of operations to avoid the known concentrations of decorative stuccoes, in order to prevent the build-up of an enormous backlog of conservation tasks. As it is, there are still numerous small fragments from the 1976 season alone in the Royal Ontario Museum expedition store-rooms awaiting proper conservation treatment. There is no doubt that the Qal'eh-i Yazdigird finds represent a hitherto unprecedented collection of Parthian stucco work, both in numbers of items and in variety of subject type.

In 1978-79 a new dimension was added to the Gach Gumbad sub-site, the area that is the major provenance for the stuccoes (Fig. 1). Previously, it was thought that the provenance of the stuccoes was limited mainly to three monumental rooms (Grid E2S2, areas 1, 5 and 11), located to the east of the Gach Gumbad "block" of masonry which has given its name to the whole sub-site. These three rooms appeared to provide the main focal point of the complex, with the "block" dismissed in the mind of

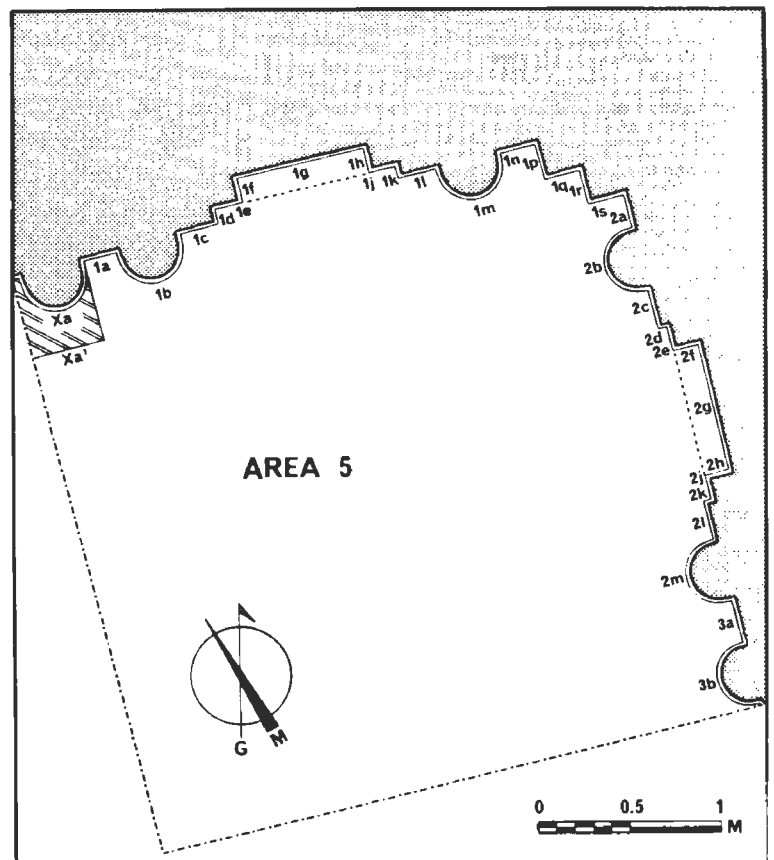
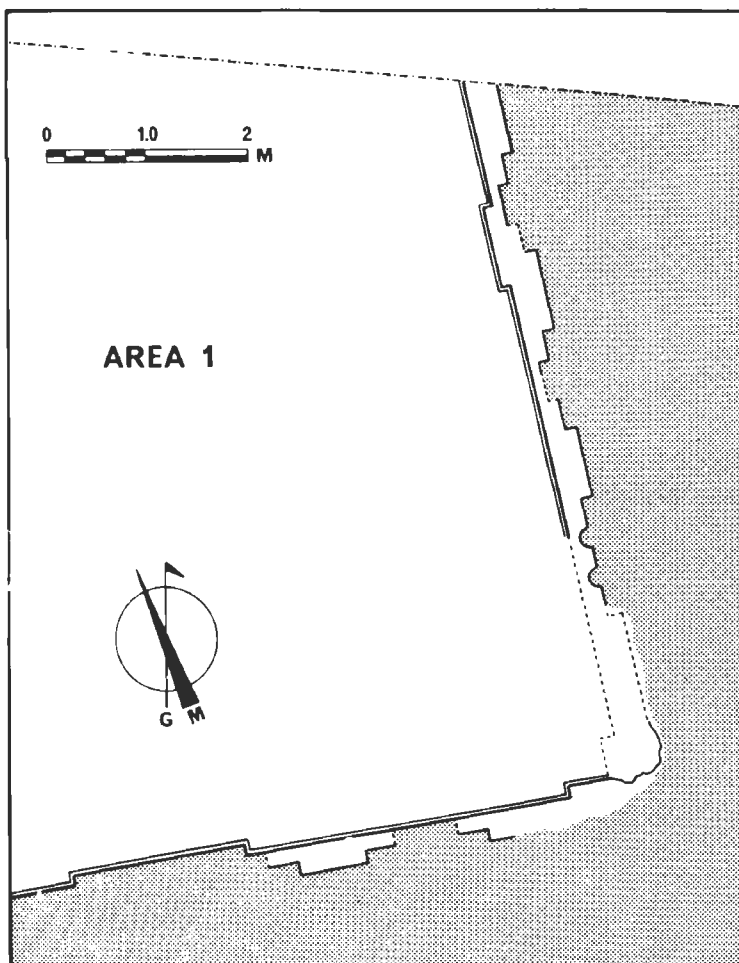


Fig. 2. 1. Area 1, plan; 2. Area 5, plan.

the excavator as a mass of masonry of undetermined shape, possibly a heavy foundation set down at the edge of the gully and intended to support an upper storey. It turns out, following an astute observation by the architect in the 1978–79 season, that the “block” is actually made up of two distinct parts. The original part (area 100) was less than two-thirds the size of the present “block”. It carried an articulated, blind facade along its western side which must have looked very much like the niched interior of room 5 (Fig. 2, no. 2). The facade of “block 100” was obliterated when a secondary addition (101) was set down on its western side, creating the now-existing “block 100–101”. A fissure was created between the two when the added masonry pulled away from the original mass. The fissure can be seen clearly on the north side of the “block” (Pl. IIc). In the process of separation, the original plaster face was partly pulled away too, after which it remained stuck to the back of the addition (but in reverse). The addition itself (“block 101”) was furnished with an articulated facade, at least as far as the fugitive traces on the north side indicate. But it has not yet been determined at this stage in the excavations whether this particular second-phase facade was anything more than an articulated exterior without other decorations.

In 1975 a secondary deposit of stuccoes was found in the context of an ancient dump of architectural debris, outside the long-walled Maydan enclosure (Pls. IIa and IIIa). Evidence of dumping activity was duplicated in 1978–79 by the discovery of stucco-filled debris which seems to have been deliberately poured down into a ruined cloister (Grid W1S2, area 201), on the west side of the Maydan gully (Pl. IIIb and c). This was done after the cloister had been blocked up by a solid wall in a drastic remodelling scheme. More modest in scale, but still indicative of repairs being made, is the buttress that was added as reinforcing in area 5 to the half-column of niche “xa” (Fig. 2, no. 2).

There is, then, mounting evidence to suggest that the Gach Gumbad sub-site was subjected to a fairly considerable face-lift at least once, possibly following severe accidental damage. Conservation work on the stuccoes has also revealed evidence that many of the pieces were subjected to face-lift repaintings and replasterings. Some of them have even been obliterated by the application of a complete “remodelling” overplaster (see Conservation Report, *infra*). But while these findings indicate that the stuccoes were treated to repairs and in some instances, perhaps, to schemes of complete remodelling, there is at the moment no evidence at all to suggest a second phase of baroque figural ornament. So far the only hypothetical alternative is that the three-dimensional stuccoes were replaced by flat mural paintings, but there is absolutely no evidence of this to date. There is, then, nothing to indicate that the present corpus of Qal’eh-i Yazdigird stuccoes represents anything but the application of decoration to the buildings from a single phase of operations.

The discovery of the articulated facade of the “block” has expanded considerably the baroque aspects of the Gach Gumbad building complex. In addition, this aspect has been further heightened by the tracing at surface level of the tops of the walls of area 81. This preliminary probe has revealed an outline and features in plan which bear a remarkable resemblance to the system of upper walls which has been proposed independently as a reconstruction of area 1 (Fig. 3, no. 1). The existence of this newly found, elaborate room demands that the notion be discarded that we are dealing with a modest, albeit lavishly decorated structure. While one should still eschew the term “palace” because of the particular nuances that that term implies, there is no doubt that we are dealing with a fairly elaborate complex. It is a baroque mansion at the very least.

It may be appropriate to discuss briefly the context in which the stuccoes are found. As already mentioned in *Iran* XV, p. 8, paint has been preserved to lesser and greater degrees on the fallen stuccoes and on the lower stubs of the walls, where debris has protected the paint from leaching out. Above the fallen debris, some of the wall stubs must have stood exposed for a considerable time, perhaps even with parts of the roof still intact. The plaster has not always survived above this point, and many of the walls show signs of considerable erosion. This can be best seen in stratum 3 of the section of area 12 (Fig. 5, no. 3). It was at this point that a squatter wall was built across the hallway, including in it some as-yet-unexcavated fragments of stucco. [Stratum 1 of the same section shows a portion of collapsed roofing or second-story flooring.]

In general the sections reveal little variation from this pattern of collapse. Because of the way pockets of debris gathered together, the arbitrary vertical cut of excavation sometimes gives the section

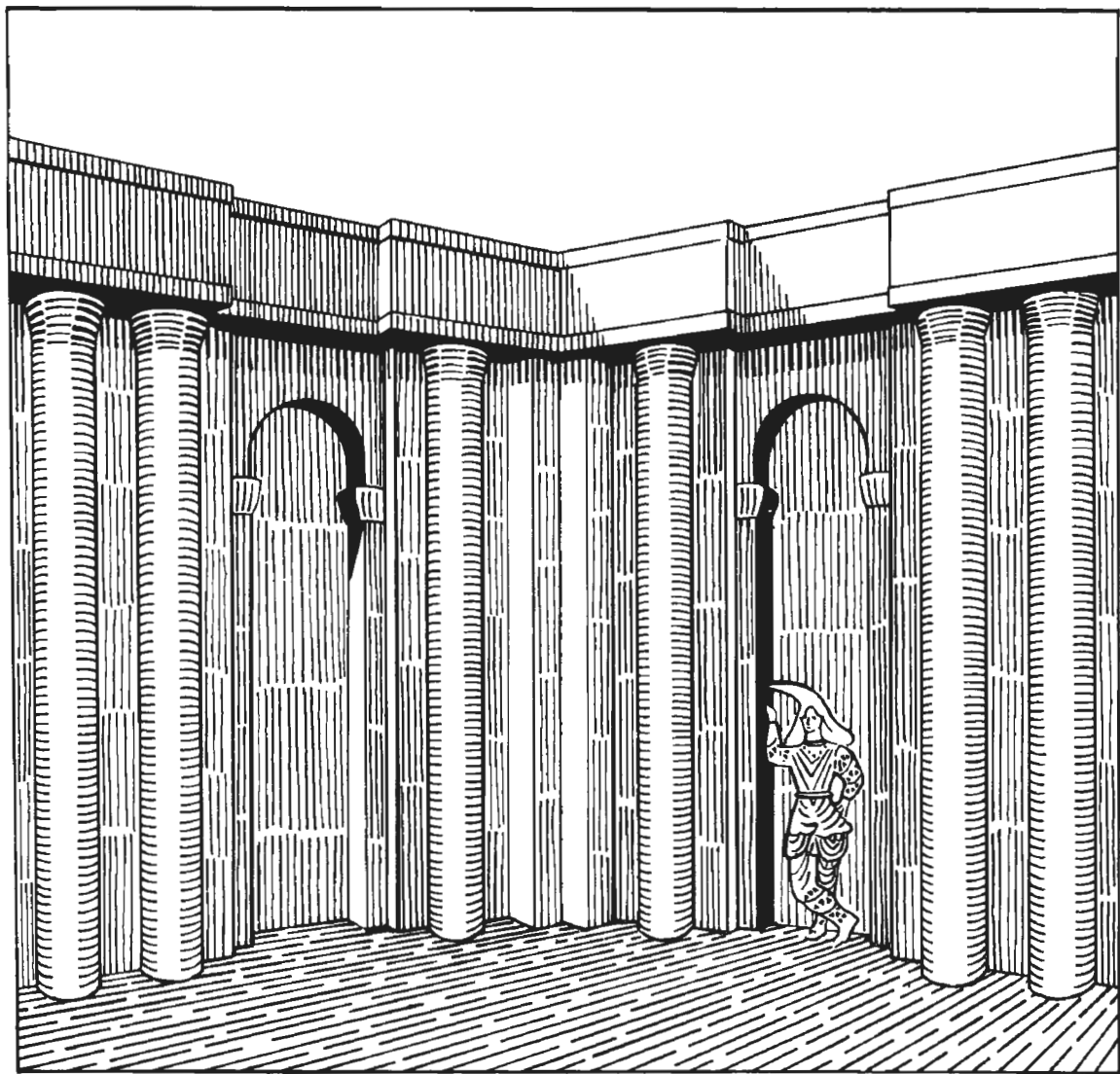
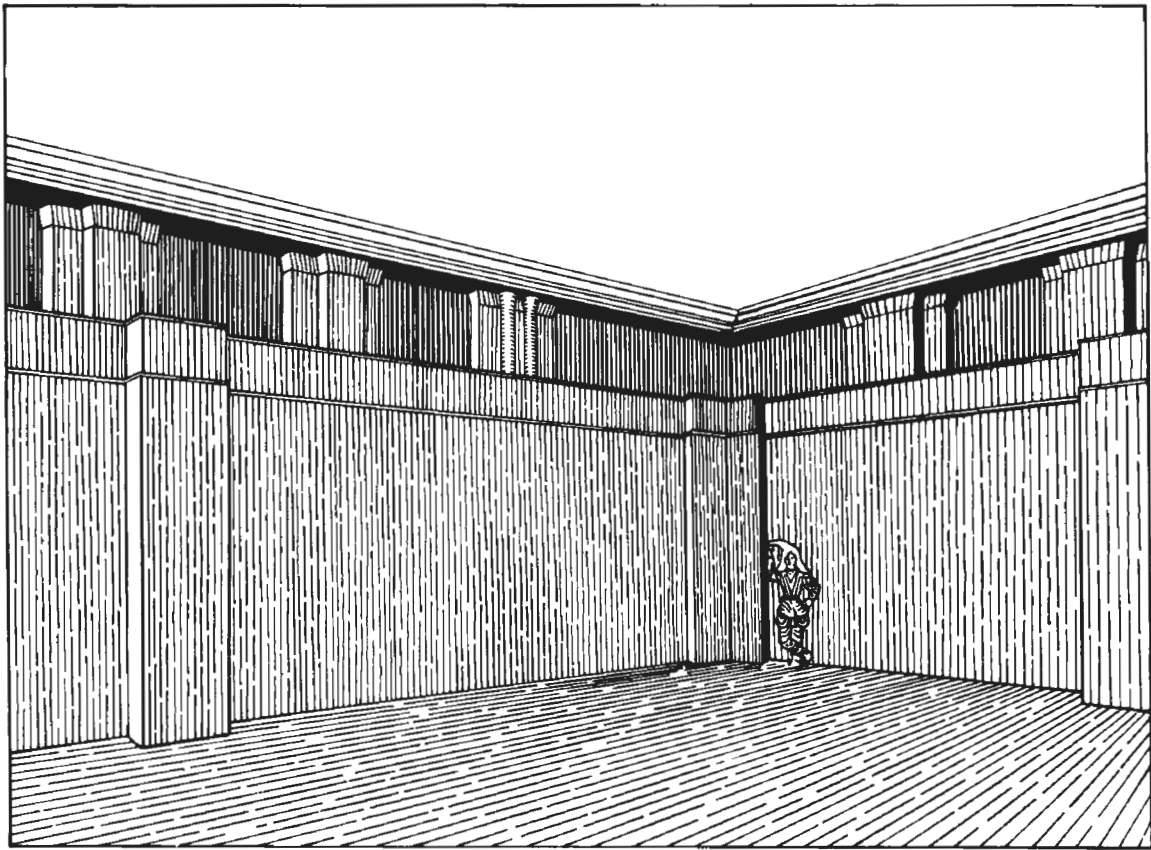


Fig. 3. 1. Area 1, conceptual reconstruction; 2. Area 5, conceptual reconstruction.

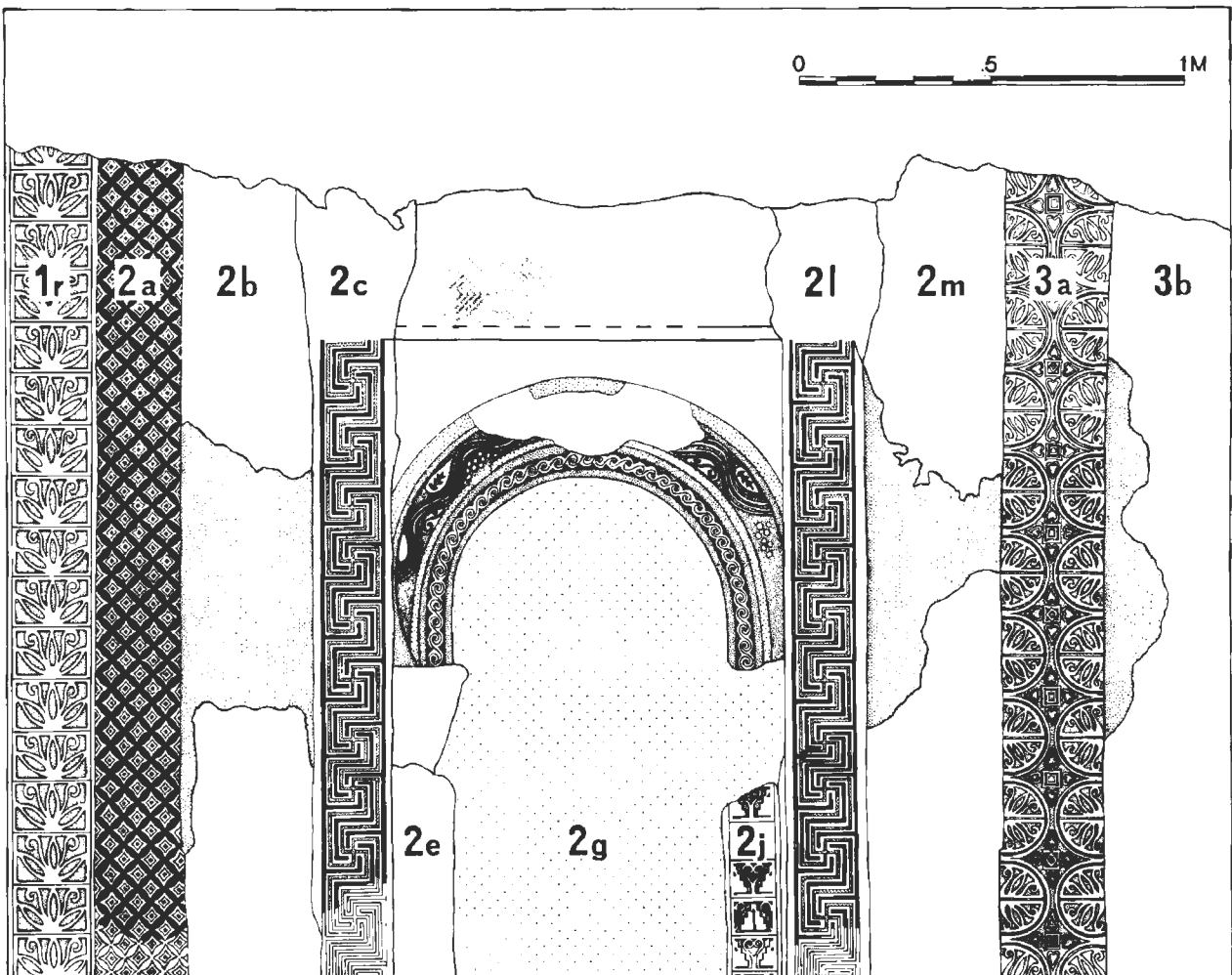
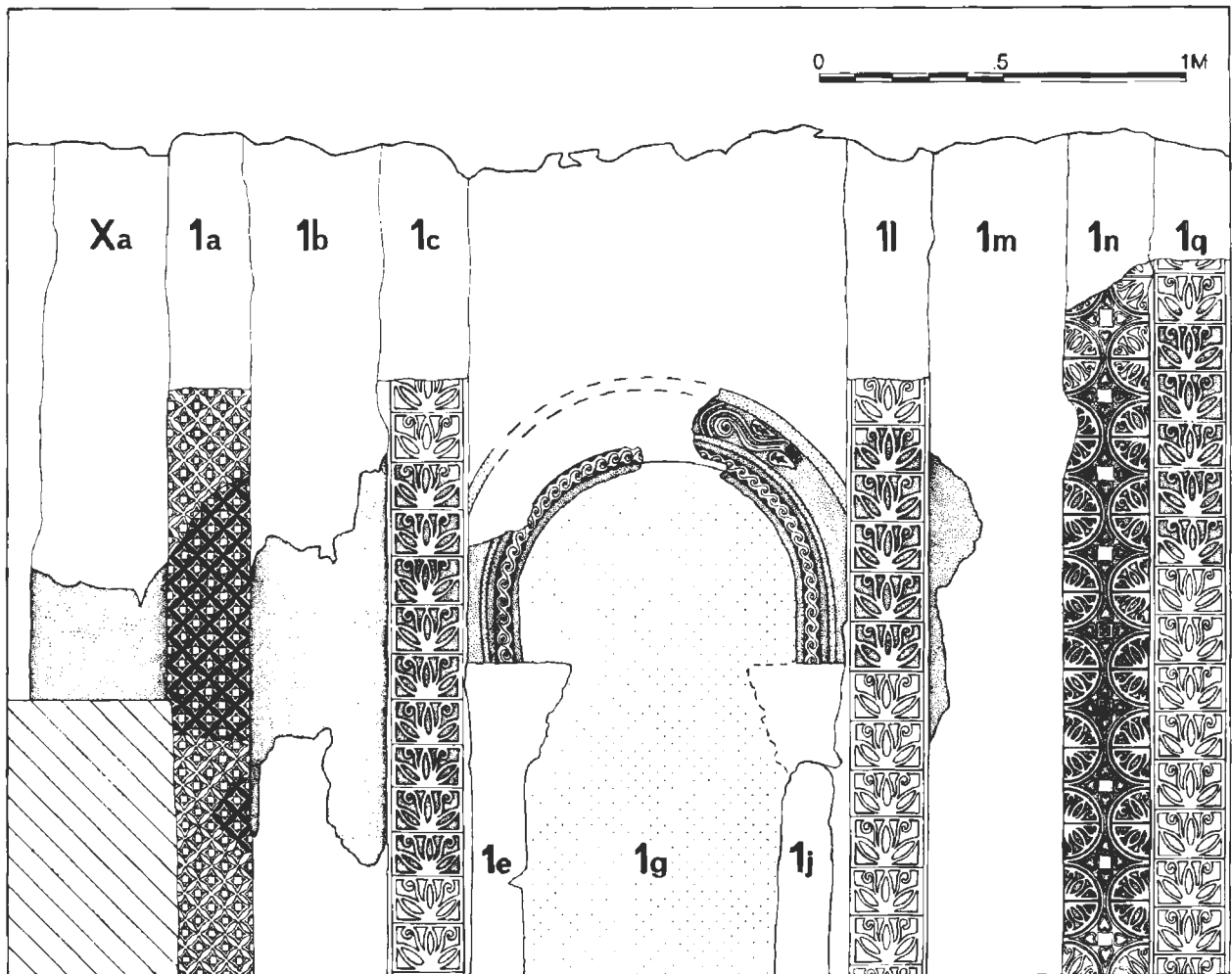
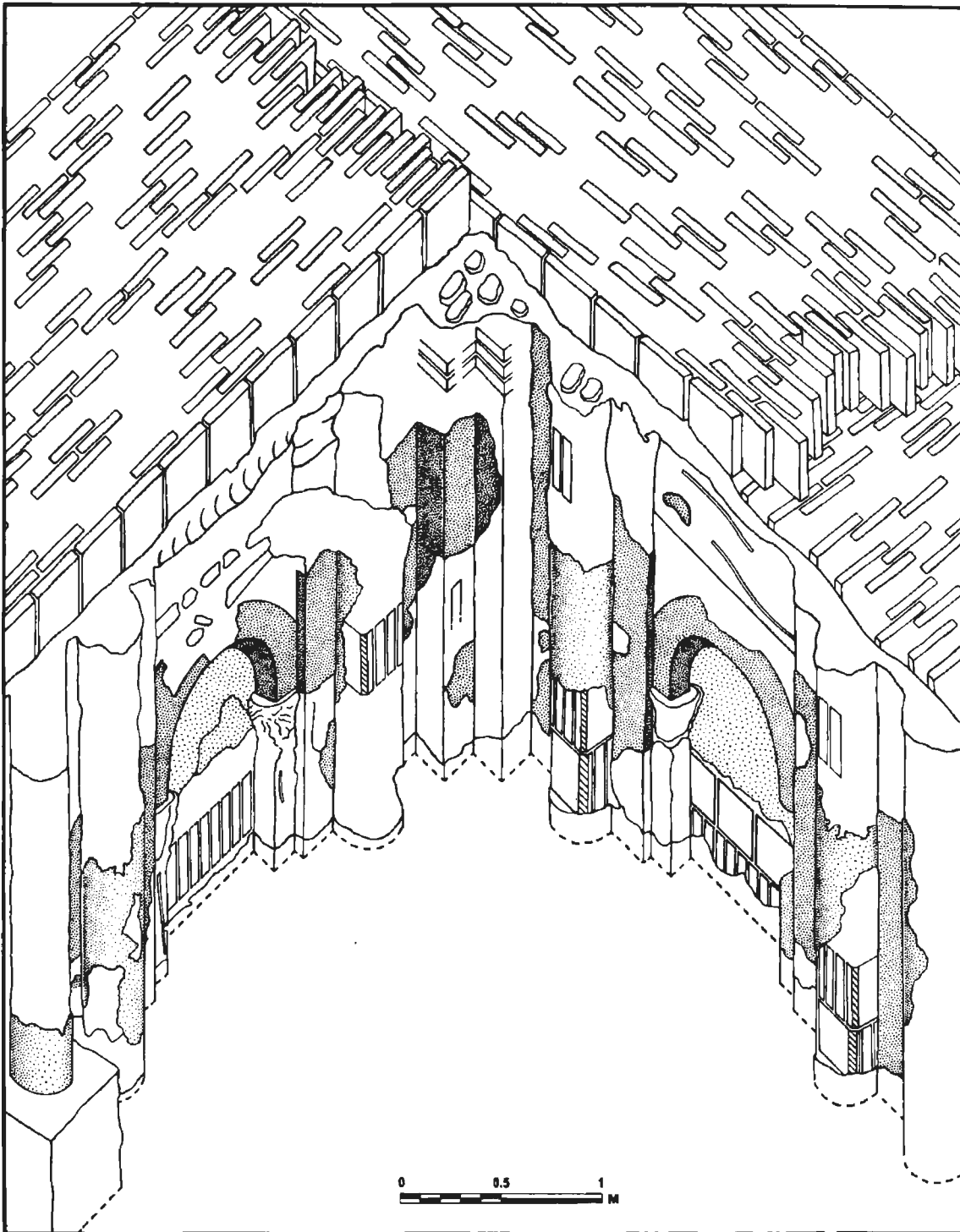


Fig. 4. 1. Area 5, niche 1 elevation; 2. Area 5, niche 2 elevation.

the appearance of containing a pit or significant lens of material (cf. area 2 section, Fig. 5, no. 2), but more often than not they have little stratigraphic significance. No floors other than those originally laid have been found. Irregular surfaces have been encountered on top of fallen debris, such as might have occurred on top of the thick band of fine fallen plaster in Pl. IIb. It is hoped that, eventually, the



*Fig. 4, 3. Area 5, projection of niches 1 and 2.*



careful recording of the position of the finds on a three-dimensional scale will foster attempts to prepare hypothetical reconstructions of the decorative scheme. It should be borne in mind that in area 5, at least, nearly all of the fallen stuccoes recovered so far have been in a context that postdates repairs made to the niched facade (buttress "xa").

Fig. 3, nos. 1 and 2 have been prepared to give some idea of the scale of the rooms of the structure. In the case of area 1, it has already been mentioned (*Iran XV*, p. 6) that there was an indented feature above the swastika and roundel frieze, which may be related to a gallery at the top of the wall below the springing of the vault (Pls. Ib, c and IVa, b). In the reconstruction drawing, the details of the frieze have been omitted, but the profile of the indentations above have been given, including the two fluted half-columns (see also Pl. XIVa and Fig. 24). No reconstruction of a vault has been offered.

For area 5 (Fig. 3, no. 2), the reconstruction has been proposed without knowing whether the niches ran full height from the floor or whether it will transpire that they are the upper tier of a double set of niches. The uppermost frieze of the reconstruction drawing is also an arbitrary way of presenting the entablature above the engaged half-columns. As can be seen from Pls. Va and VIa, very little of the entablature has survived *in situ*, but the presence of capitals (especially those from Fig. 14) close to the walls in the debris at this height suggests that the tops of the columns may have been approximately at this level.

The niches of area 5 reveal some interesting details about the nature of the application of the stuccoes to the walls. As can be seen in the Conservation Report (v. *infra*), both moulding and carving techniques are evident on the site. In the case of niche feature 2a (Fig. 4, no. 2), it was clear that the plasterer was executing the design *in situ*, for the interlocking circle motif has become distorted through the rapid execution of wet plaster (cf. also Pl. XVIc). By contrast, in the case of feature 11 (Pl. VIIc), where the plaster has broken away completely from the wall, it would appear that the panel has been applied from a pre-moulded piece. In the case of both niches (Pls. Va and VIIa), the capitals were applied as separate units, with the result that one of them (2j) has fallen out completely. Cut lines in the plaster reveal that the rough form of the niche was created, and then a bedding for the capital was chopped out and the moulded capital was set into place. In Pls. VIb, VIIa and c the finger marks are a reflection of the way in which the capital was formed: the impressions are the reverse image of marks left on the concave back of the capital while its face was being formed in a mould.

### *Stucco Style*

While this is not the place for a complete iconographical study, it may be useful at this stage to present certain observations that have been made as a result of familiarity with the material. On a cumulative basis, these observations tend to suggest that there is more of a "Yazdigird style" than first meets the eye when each and all of the various eclectic themes are viewed.

First, on the subject of relief, it appears that in all instances the emphasis is on the part of the design which shows in relief. While the cut-away background and the shadow effect thus achieved is an important element of the design, there is no instance where the "negative image" becomes the dominant element. The decoration is in positive form, though relying heavily on cast shadow for effect. Thus the quatrefoil and the lozenge set in a circle (Fig. 21, nos. 4 and 5) become the dominant element, with the circle providing the background. For additional emphasis on the positive, compare the relief of the swastika of Fig. 22, no. 3, with that of Fig. 20, no. 4. It must be remembered, however, that the depth of relief varied considerably, from the deep cut-out of the stepped crenellation in Fig. 19, no. 2, to the more medium relief of the crenellation and vase in Fig. 19, no. 1, and the flat, shallow relief of the swastika and medallion pattern of Fig. 20, no. 4.

There seems to have been very little concern for a rigid colour scheme so long as the demand for brightness (to our eyes, gaudiness) was met. Virtually no consistency can be recognized except that very often the background is painted blue. Colours were often alternated in adjacent features, such as the pink and green crenellations of Fig. 19, no. 2. Sometimes the whole piece was painted a single colour,

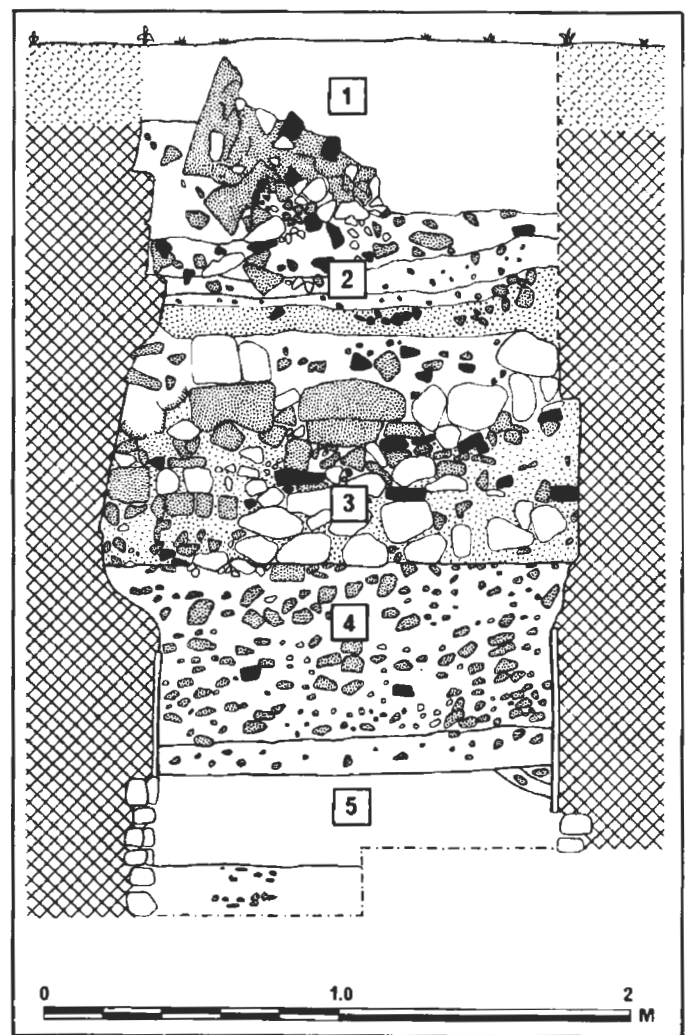
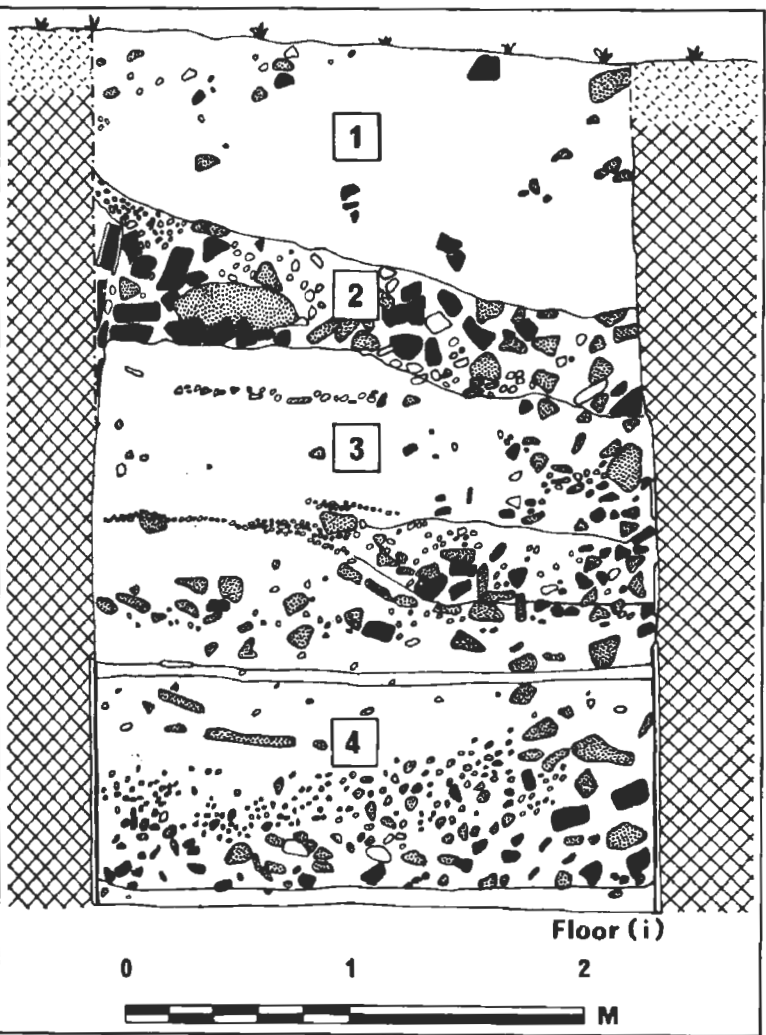
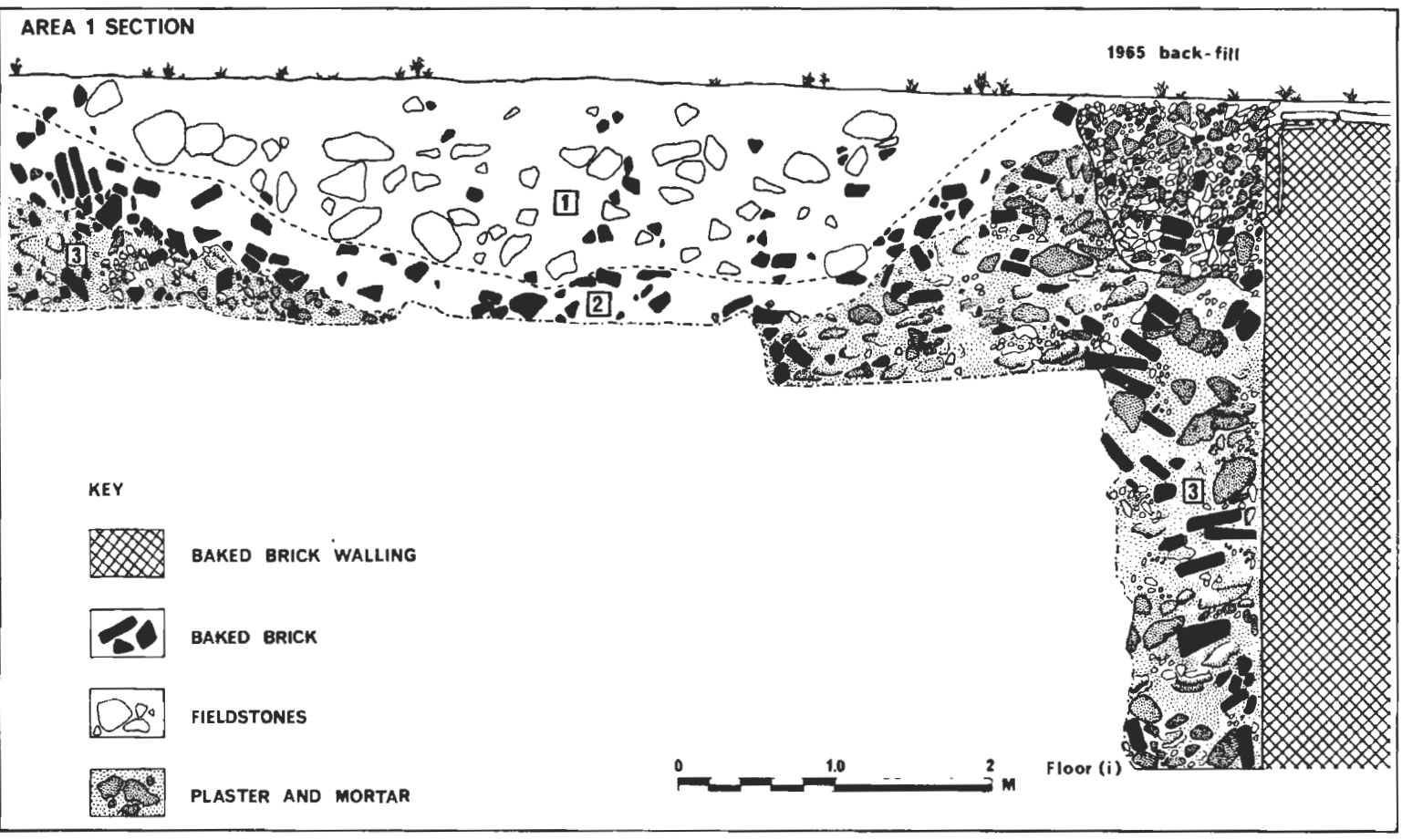


Fig. 5, 1. Area 1, section; 2. Area 2, section; 3. Area 12, section.

as on the "dolphin" capital (Fig. 13, no. 2); at other times, individual elements were highlighted, as with the "nude female and the beast" (Fig. 12, no. 4).

This random attitude applies to the use of motifs as well: on the engaged half-column of Fig. 18, no. 1, the stepped crenellation alternates with a quatrefoil. The attitude is perhaps reflected also in the way in which the "nude hero" of Fig. 12, no. 1, assumes a position alternately on either side of the column. In the case of the application of the swastika motif, it was used as a diagonal composition on a flat panel (Fig. 20, no. 4), as an isolated motif on a flat arch (Fig. 18, no. 4), and as a running device (Fig. 22, no. 1). Perhaps the most ubiquitous of motifs was the bud-and-tendrils device which can be found everywhere, ranging from bands on capitals (Fig. 13, no. 1, and Fig. 7, no. 5), to parts of a repetitive panel design (Fig. 20, no. 3), or a vertical register (Pl. VIIc, niche feature 11).

Other phenomena worthy of consideration include the question of scale. There is a great range in the relative dimensions, for instance, of cornice pieces, of which a large-scale example is shown in Fig. 23, no. 3. A variety of dimensions, too, can be seen in the stepped crenellation field, as exemplified by Fig. 19, nos. 1–3. One question that should at least be asked is whether a figure may have been larger if used higher up. The "nude dwarf" of Fig. 9, no. 2 is exceptionally large scaled. Related to this phenomenon of varying scale is the disregard for proportion, as in the "dolphin" capital where the human figure is quite small (Fig. 13, no. 2), or where the nude inhabiting the vine in Fig. 10, no. 6 is completely out of proportion to the grape clusters.

Perhaps related to this is the attitude towards the strictures of space. In the "hero-combat" column, the hero lunges at his quarry and his spear penetrates the mullion which marks the division between the separate panels. In the "Dionysiac" frieze, the head of one of the "cupids" penetrates beyond the background into the fillet which delineates the scene (Fig. 9, no. 1), as does the head of the "angel" in Fig. 10, no. 5. One remarkable extension of this disregard for space is the seemingly total lack of an axis in the "inhabited vine" scene of Pl. XVb and Fig. 10, no. 6.

Related, again, to this phenomenon is the question of stance. First, there is the classic, recognizably "Parthian" characteristic of frontality, as represented in the great portrait of Pl. Xb and Fig. 6, no. 1. Yet with the smaller version (Pl. XVc and Fig. 7, no. 3), where the portrait is part of a vine scroll, the head is tilted to one side, although the bust is portrayed frontally. The same combination can be found on the "theatrical" column, where the male is portrayed frontally, the female in profile (Fig. 11, no. 5). On a griffon-frieze (Fig. 15, no. 1), the head of the bull is in half-profile, while the body is in full profile. The same stance, unusual for Parthia, can be seen in the half-profile view from the rear of the "nude hero" in the "combat" column (Pl. Xc and Fig. 12, no. 1). This is matched by the fairly sophisticated rendering of the "angel" in half-profile, half-frontal stance in Fig. 10, no. 5, or the dancing couple of Fig. 10, no. 3. More typically Parthian, in the sense that it represents a somewhat unsuccessful, experimental stage in representational art, is the portrayal of the "sphinx" (Pl. XIVc, and Fig. 12, nos. 3 and 5), and in the "nude female and the beast" (Fig. 12, no. 4), where both frontal and profile views are used in the most awkward of combinations.

With regard to details of modelling, some interesting observations can be made. In the case of the human figure of the "dolphin" capital, there is little detailing for the hands and feet compared to the close attention that is paid to the scales and eyes of the dolphins (Fig. 13, no. 2). In Fig. 9, no. 1, the feet of the "cupids" seem to merge with the frame of the picture. By contrast, the mane of the *senmurv*-griffon (Pl. XX, and Fig. 17, no. 1), or the horn of the bull (Fig. 15, no. 3) are strongly stressed. It would appear that it was this identifying of the figure (whether human or animal) by its attributes and accoutrements which is a fundamental part of the concept of the Yazdigird stuccoes. In order to develop an idea of the "Yazdigird style", one could argue that the treatment of the musculature, as for example in the "nude hero" (Fig. 12, no. 1), was very characteristic, for the "nude hero" is represented in a style of modelling not unlike that of the "intertwined beasts" of the engaged capital (Fig. 13, no. 1). But there the usefulness of the comparison ends, for the treatment of the female heads in Pl. XVIII and Fig. 7, nos. 2 and 5, is quite different from the classic male portrait of Pl. Xb. Furthermore, the stylized vine pattern of Pl. VIc, Fig. 22, no. 1 and Fig. 6, no. 1, which could be identified as typically Parthian because of its simplicity, is found in the same general context as the convoluted vine scene of Fig. 10, nos. 6 and 7, which traditionally would be attributed to the Sasanians

because of its complexity. Clearly, neither anatomical rendering nor "simple versus complicated" are adequate criteria to permit us to identify a style. It is the figures' attributes which mark the style—not the consistency of their application or their place of origin—but simply the fact that man and beast are identified by certain characteristics which become more important than the form of the figure itself.

Edward J. Keall

## CONSERVATION REPORT

### *Stucco Composition*

Since the inception of the R.O.M. project in 1975, three hundred and eighty stucco fragments have been cleaned and examined. The stuccoes are all covered to a greater or lesser degree with an encrustation of salts, which must be removed before the nature and condition of the underlying decoration can be appraised. Often little of the original surface remains below the salt crust, due to the leaching of the plaster fabric by ground water. Nevertheless, the volume of stuccoes which has passed through conservators' hands during four seasons has resulted in an accumulation of observations from which some basic statements can be made about the mechanics of the plaster decoration on the site.

The analysis of the stuccoes in the field<sup>1</sup> began with an examination of the varieties of plaster which were encountered in the course of conservation treatment. The plaster generally occurred in layers, at times distinguishable only by changes in their relative coarseness and colour, although in other instances, a division was made more evident by the presence of hairline "seams" of slightly darker colour, forming distinct separation lines between layers (Pl. VIIId). Two basic types of plasters were observed: a coarse, coloured plaster containing a high proportion of inclusions (Pl. VIIId), and a fine white plaster. Their physical characteristics, and the manner in which they have been used, enable us to make some comments about their apparent functions.

*Coarse (Base) Plasters:* These plasters are of variable hardness and consistency. All contain a greater or lesser proportion of inclusions, ranging from fine granules of quartz, brick and charcoal, to larger inclusions of coloured clays, pebbles and discrete plaster lumps. Occasionally, the concentration of these aggregates is further increased by the addition of brickbats toward the back surface of the plaster fabric. Depending on the number and size of the aggregates, the coarse plasters vary from a near-white body with a relatively fine dense consistency, to darker grey and buff varieties which, with larger and more numerous inclusions, are usually also coarser and more porous. In some cases, these darker plasters can be so crude as to be almost indistinguishable from the mortaring material discovered on the site, which contains an extremely high ratio of sizeable particles.

Coarse plasters invariably constitute the main bulk of the decorative stuccoes, and as such form by far the largest proportion of the plaster materials used. There are instances of more than one coarse plaster occurring in a single fragment, with a layer of grey plaster backing a roughly equal thickness of near-white plaster, in which the design was cast or carved. Usually, coarse plasters are covered by a layer of fine finishing plaster, although in some examples the base plaster itself appears to have supplied the final surface.

*Fine (Finishing) Plasters:* These are highly refined white plasters of uniform consistency, with no visible inclusions, and always appear above a coarser base plaster. So far, they have been observed to serve three major functions: as a finish coat for a decorative unit; as a filler for gaps in the base plaster; and as replastering, laid on at some time subsequent to the completion of the original design.

When used as a finish coat, the fine plaster always appears as a thin and, in most cases, very smooth layer which conforms evenly with the contours of the undersurface (Pl. XXa). It appears to have been used primarily to mask irregularities such as scratches, holes and tool marks in the base plaster, and to cover the joins between individually moulded units. In some fragments, the finish coat covers only a part of the surface, usually where separately moulded units are joined; in others, it

overlies the entire decorative surface. There are still too few examples of this layer in an intact and continuous state to deduce the reason for such an inconsistency. At the moment, it can be said only that there appears to be no correlation between the presence of an overall finish coat and the colour or texture of the underlying base plaster; nor does the fine plaster appear to have served specifically as a prepared surface for painting. In most instances, the partial nature of the layer, or the nature of the decorative contours themselves when a complete layer is present, suggests that the finish coat is generally a plaster wash applied by hand to an assembled unit, rather than the result of preliminary slip coating in a mould.

Larger quantities of fine plaster were needed to fill wide cracks and gaps, and to join separately moulded units in the more complex reliefs. This gap-filling plaster is apparently identical to that used as a finish coat. No seam lines or other precise demarcations are visible where they occur together, indicating that they are the result of a single application. Additional fine plaster was found on the sides and back of stuccoes, again functioning as a gap-filler in order to achieve tighter adhesion between a pre-formed piece and its adjoining structural or decorative elements.

Repairs and changes were obviously carried out while the stuccoes were in use. The clearest evidence for this lies in the presence of one or more sequences of replastering over the designs. In most of the fragments, no attempt was made to retain the details of the figures below, and the contours of the replastering present at best a rough approximation of the original design. Apart from a few isolated examples, the fresh white plaster seems to have been left unpainted; where exceptions occur, they generally appear to be cases of simple repair, small patches of replastering upon which paint was crudely applied, often with no attempt to retain the original colour scheme.

*Complete (Remodelling) Overplaster:* In contrast to the frequent occurrence of replastering on the stuccoes, there are a few examples of what is in fact a complete remodelling of the decorated surface. This distinctive function, while it does not employ a different type of plaster, requires separate mention. In such fragments, the design is entirely obliterated by thick plaster, which has been built up to create a fresh flat surface. None of the examples so far discovered show any sign of subsequent decoration on the new surface.

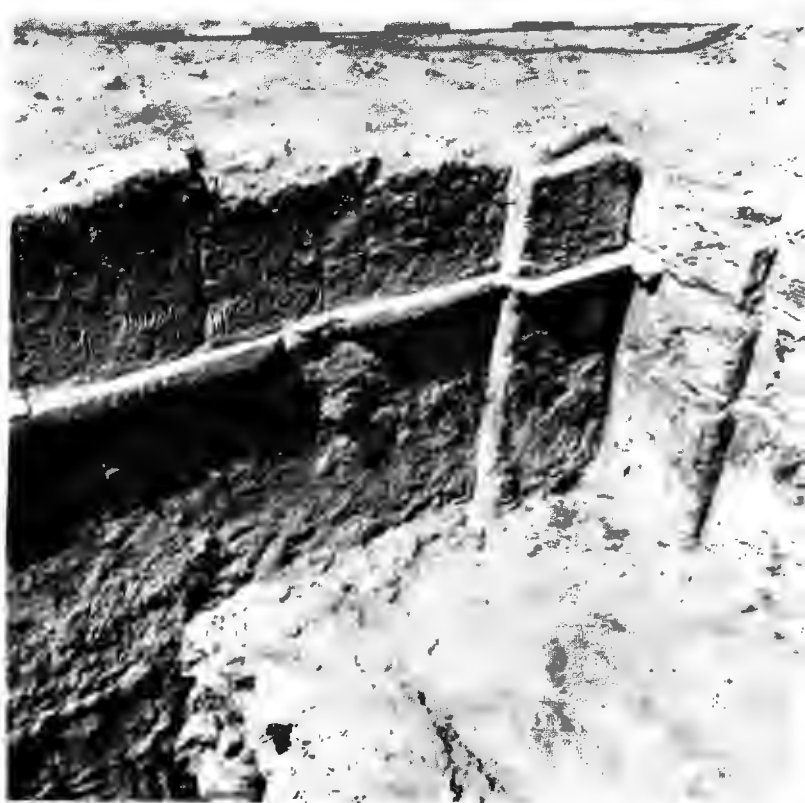
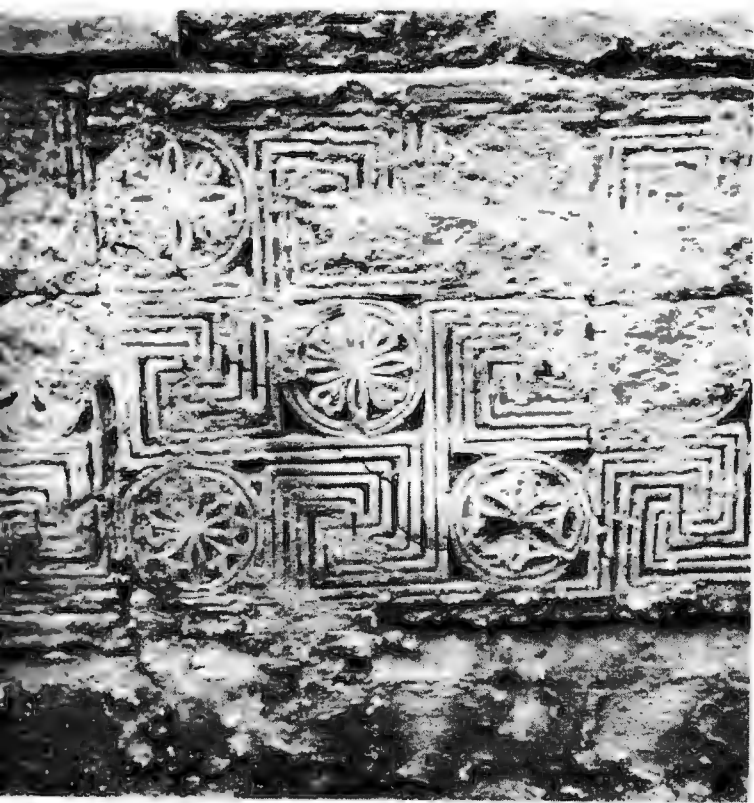
Both basic types of plaster were used for the purpose, although coarse plaster was found in only two instances. These were examples of the female portrait bust in a roundel (Fig. 6, no. 3); both are painted fragments, of which one had been deliberately defaced. On these pieces, the design was obscured by four successive plasterings, the lowest being a poorly mixed, porous, near-white layer, over which lay three coats of hard grey plaster; all layers contain inclusions which give them a coarseness approaching that of base plaster.

The more frequent plaster was fine and very white, but upon removal it proved to be far denser and harder than other fine plasters. The cleaning of this fine overplaster from one fragment, a quatrefoil, revealed a decorated surface which was quite pristine, without any evidence of wear, and which still bore the crisp marks of carving tools (Pl. XIVb). This fragment never received its presumably once-intended coat of fine finish plaster, nor was there any sign of paint. The design seems to have been obliterated before it ever saw the light of day as part of the whole decorative scheme.

### *Techniques of Manufacture*

Two fundamental techniques, those of moulding and hand carving, are generally recognized for decorative plasterworking in relief.<sup>2</sup> The project has uncovered clear evidence for the use of both these methods at the site.

*Moulding:* The use of moulds is obvious from the exact reproduction of patterns to be seen on numerous pieces. Some of the relatively planar designs apparently were produced in simple single-unit moulds. However, a multiple-unit moulding technique was employed in the manufacture of more



*Pl. I. Gach Gumbad, E2S2 Area 1, as excavated 1965.*



*Pl. IIa. Hushkareh, W 152 8f-9f section. Ancient dump of architectural debris.*



*Pl. IIc. Gach Gumbad "block" (areas 100-101). North face as seen from bed of gully.*



*Pl. IIIa. Hushtarrah, W 152, general view.*



*Pl. IIIc. Detail of Pl. IIIb.*



*Pl. IIIb. Gach Gumbad West, E 152 Area 201. Architectural debris poured in on top of fallen vault in blocked-up cloister.*





*Pl. IVa. Gach Gumbad, E2S2 Area 1. Part of indented gallery above frieze of east wall.*



*Pl. IVb. As IIIc, with miniature half-columns in situ and fallen cornice piece.*



*Pl. Va. Gach Gumbad, E2S2 Area 5. Niche 2 showing eroded edge of soffit.*



*Pl. Vb. Area 5, niche 2 before excavation.*



*Pl. VIa. Flat panel, possibly from entablature above niche 2. QY76.A173 (Area 5, stratum 4).*



*Pl. VIb. Detail of Pl. VIIa.*



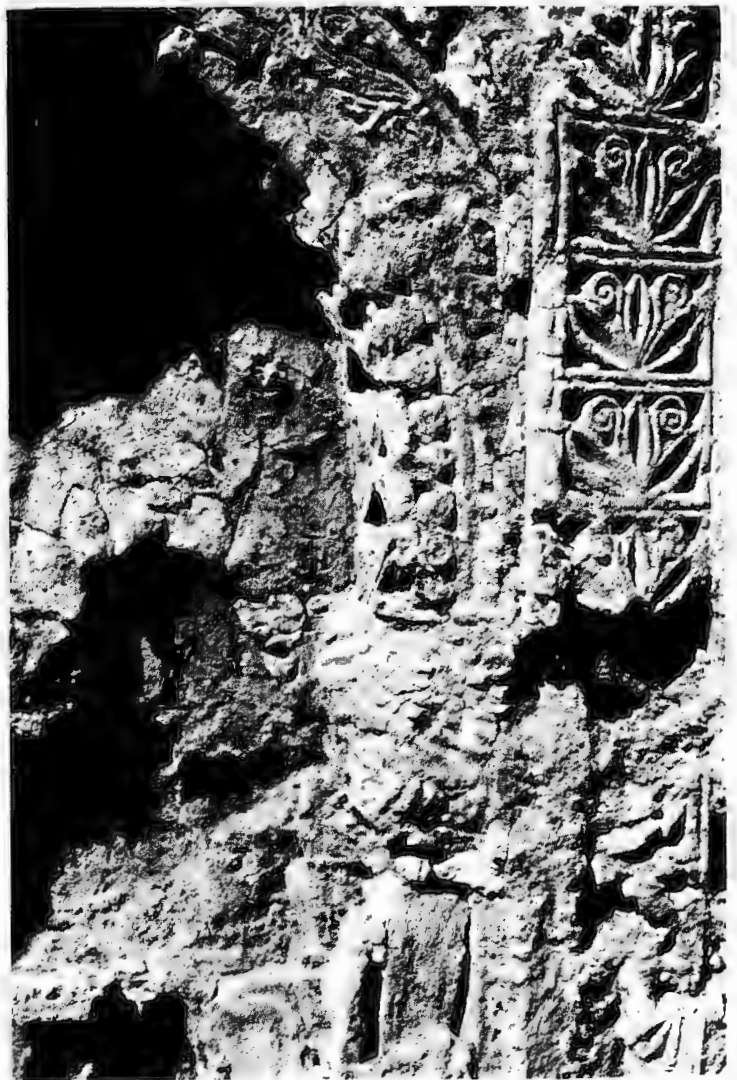
*Pl. VIc. Frieze fragment. QY75.19 (WIS2 8f).*



Pl. VIIa. Gach Gumbad, E2S2 Area 5. Niche 1 showing core of moulded capital (right) with reverse image of plasterer's finger marks.



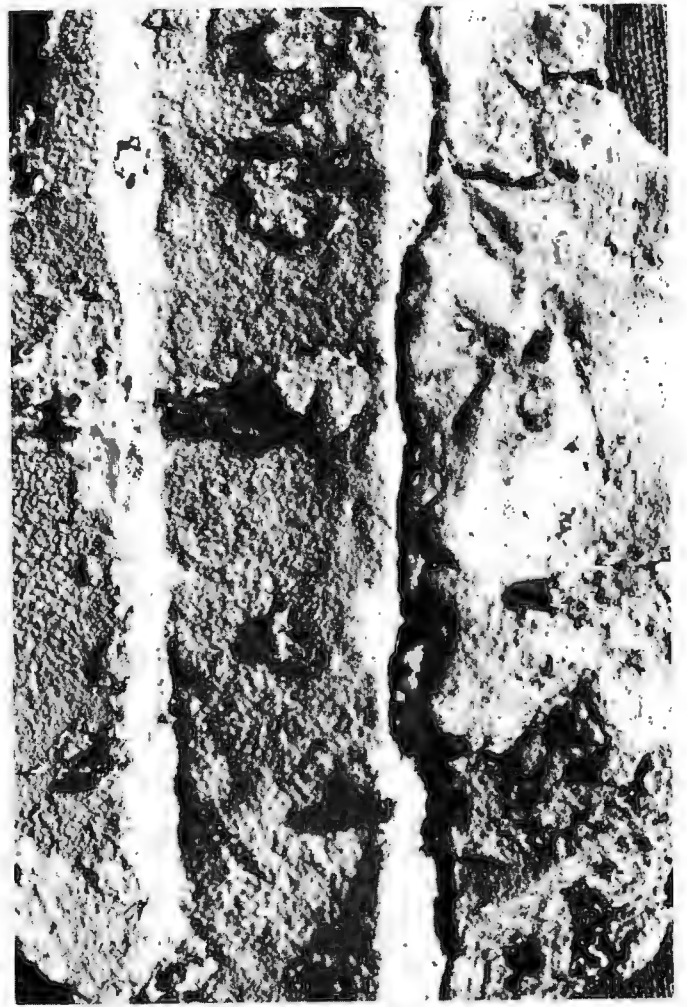
Pl. VIIb. Niche 1 showing reed impression in base plaster of feature 1e. Capital still has vague form of human head in situ.



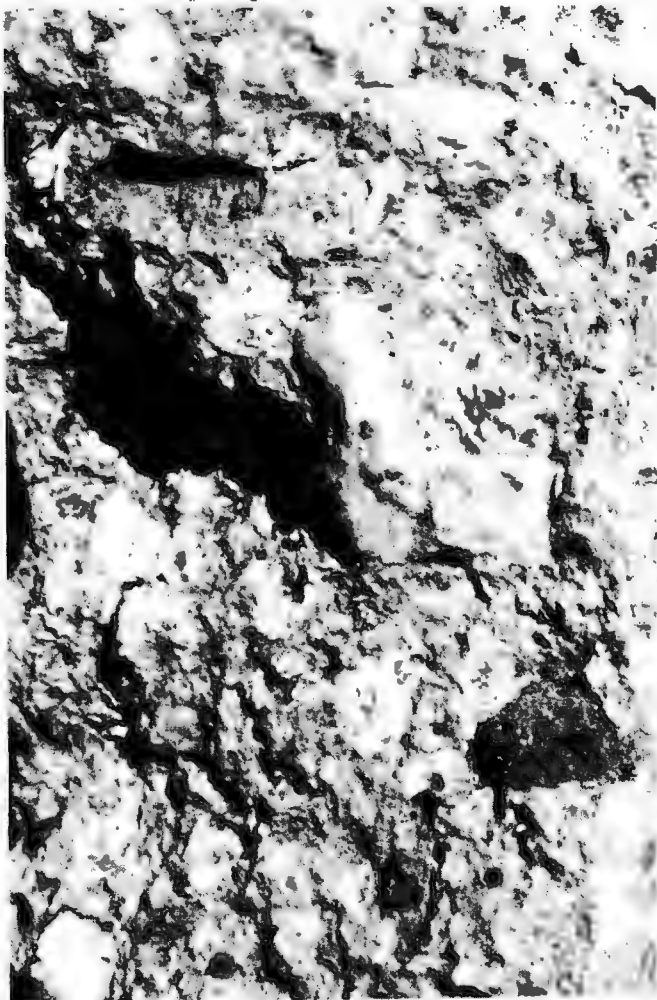
Pl. VIIc. Niche 1 showing moulded panel broken away from feature 1l.



*Pl. VIIIa. Removal of thick overplaster using tack hammer and fine chisel. Object QY78.A51 (Area 201, stratum 3).*



*Pl. VIIIb. Separation of two plaster layers.*



*Pl. VIIIc. Aggregate from a coarse base plaster.*



*Pl. VIIId. Division between two layers of coarse plaster.*



*Pl. IXa. Reed impressions along separation line.*



*Pl. IXb. Reed hole impressions.*



*Pl. IXc. Positive and negative images of plasterer's finger marks.*



*Pl. IXd. Ancient chisel marks on QY76.A37 (Area 11, stratum 2).*



*Pl. Xa. QY76.A292 (Area 1, stratum 3).*



*Pl. Xb. QY76.A95 (Area 1, stratum 3).*



*Pl. Xc. QY76.A117 (Area 5, stratum 4).*

*Pl. X. Stuccoes with medium to low relief.*



*Pl. XIa. QY76.A48 and QY 76.A93 (Area 1, stratum 3).*



*Pl. XIb. QY76.A49 (Area 1, stratum 3).*



*Pl. XIc. QY76.A118 (Area 11, stratum 2).*

*Pl. XI. Stuccoes with medium to high relief.*





*Pl. XIIb. QY76.A148 (Area 5, stratum 2).*



*Pl. XIIc. QY76.A291 (Area 1, stratum 3).*

*Pl. XII. Stuccoes with strong definition.*



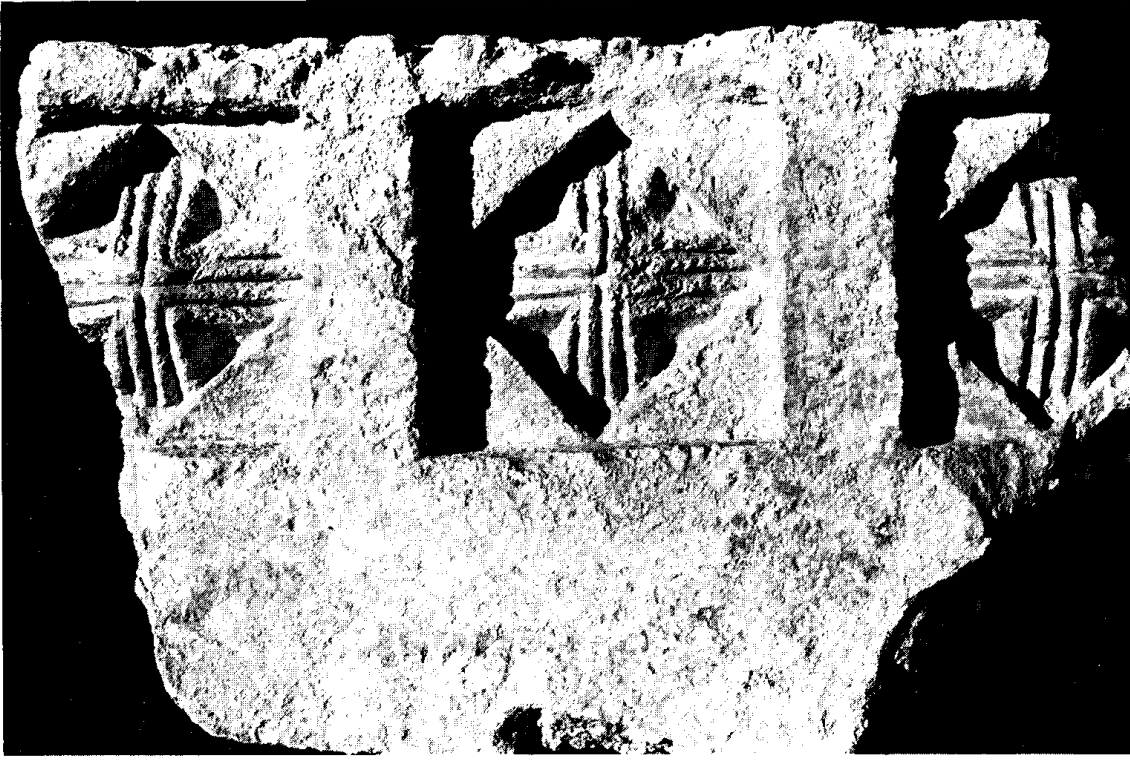
*Pl. XIIa. QY75.22 (WIS2.5b).*



*Pl. XIIIb. QY76.A56 (Area 1, stratum 3).*



*Pl. XIIIc. QY76.A56 (detail of Pl. XIIIb).*



*Pl. XIIIa. QY78.A28 (Area 201, stratum 3).*

*Pl. XIII. Stuccoes with strong definition.*



Pl. XIVa. QY76.A142 (Area 1, stratum 3).



Pl. XIVb. QY76. A279 (E2S2 dump).



Pl. XIVc. QY76.A243 (Area 1, stratum 3).



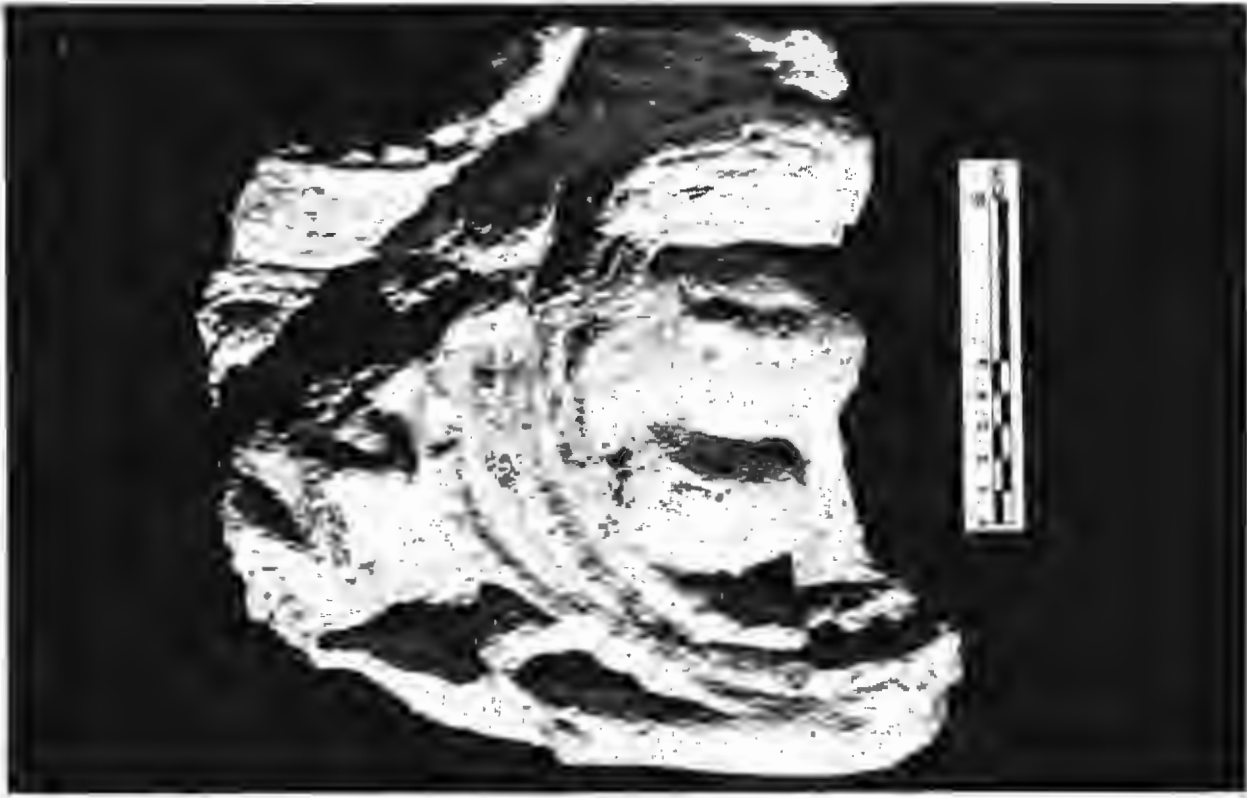
Pl. XIVd. QY76.16 (WIS2. 8f).

Pl. XIV. Stuccoes with medium to low relief, a and d: medium to high relief, c: and with strong definition, b.



Pl. XVb. QY76.A139 (Area I, stratum 3).

Pl. XV. Stuccoes with strong definition, a: medium to low relief, b: and with medium to high relief, c.



Pl. XVc. QY78.A49 (Area 201, stratum 3).



*Pl. XVIa. QY78.A15 (Area 92, stratum 1).*



*Pl. XVIb. QY76.A256 (Area 11, stratum 2).*



*Pl. XVIc. QY76.A163 (Area 5, stratum 2).*

*Pl. XVI. Stuccoes with low relief, b and c: enigmatic double image, a and Pl. XVIIa.*



*Pl. XVIIa. QY78.A16 (Area 92, stratum 1).*



*Pl. XVIIb. QY76.A137 (Area 1, stratum 3).*



*Pl. XVIIc. QY76.A138 (Area 11, stratum 2).*

*Pl. XVII. Stuccoes with medium to low relief, b and c: enigmatic double image, a and Pl. XVIa.*



*Pl. XVIIIa. QY78.A50 (Area 201, stratum 3).*



*Pl. XVIIIb. QY78.A40 (Area 201, stratum 2).*



*Pl. XVIIIc. QY76.A79 (Area 5, stratum 2).*

*Pl. XVIII. Stuccoes with medium to high relief.*



*Pl. XIXa. QY76.A45 (Area 5, stratum 2).*



*Pl. XIXb. QY76.A75 (Area 5, stratum 2).*



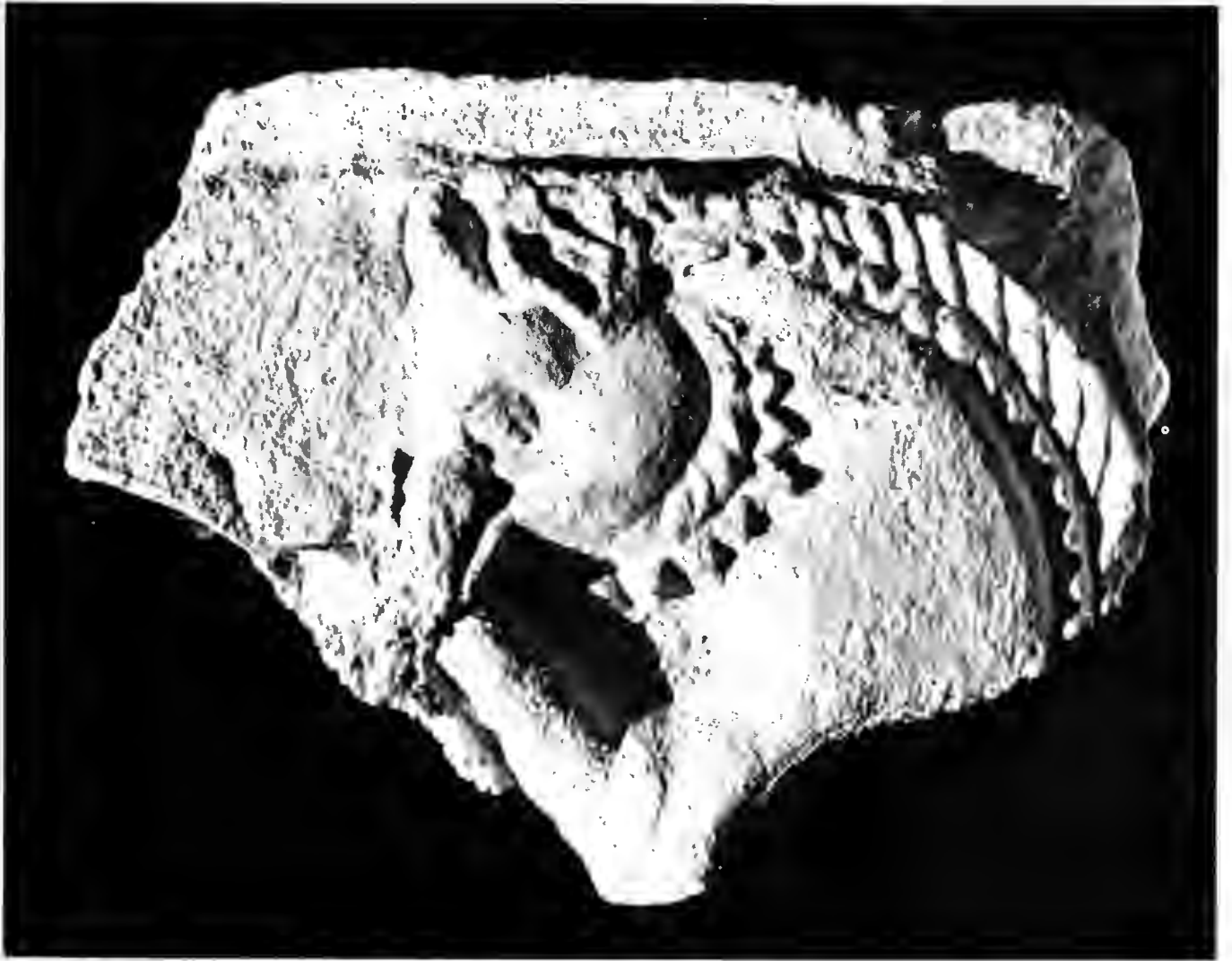
*Pl. XIXc. Detail of 15b.*



*Pl. XIXd. QY76.A93 (Area 1, stratum 3).*

*Pl. XIX. Examples of salt encrustations.*





*Pl. XXa. Senmuru-griffon showing areas of fine finishing plaster. QY78.A22 (Area 201, stratum 3)*



*Pl. XXb. Senmuru-griffon, showing typical condition before removal of salts. QY76.A76 (Area 1, stratum 3).*

complex reliefs, such as the "cupids", the figural columns and the "intertwined beasts". Abundant evidence for the use of multiple moulds came to light during the cleaning of these reliefs, as seams, gaps, and other marks of separation between units were freed of their salt encrustations.

In many instances, the number of mould units needed to realize the design was small. For example, the body of the "cupid" (Pl. XIa and Fig. 8, no. 1) was cast in two parts: upon examination, deep cracks along the sides of the crossed upper (proper left) leg proved to be a separation line between this leg and the unit of the lower leg and body. A rough attempt to fill the cracks had been made by the uneven application of fine plaster, which was then extended up the side of the leg. In this instance, the use of multiple moulds enabled the plasterworker not only to exaggerate the relief but to achieve the effect of undercutting on the forward leg.

In other fragments, multiple moulds were used in order to combine disparate decorative elements. In the "intertwined beasts" capital (Fig. 13, no. 1), the capital unit was cast with the central area left as a flat, recessed "blank", into which a design unit could be placed. There are indications that the figures of the beasts themselves were moulded in several pieces. After they had been affixed to the capital, an uneven coat of fine plaster was laid over the remaining areas of the blank in order to obscure the joins and insure adhesion. The details of the lateral foliate decoration were presumably carved after the piece had been assembled. Further examples of separately moulded capital units are suspected in the as-yet-unstudied "inhabited acanthus" capitals (Fig. 14).

Perhaps the most intricate use of multiple moulding occurs in the three-faceted engaged columns, on which the facets are divided by decorative bands of guilloche pattern into a sequence of panels containing various dancing figures in high relief. Eleven column fragments, featuring two of the four repeating figures—a composite man/goat or "Pan" and a winged, draped female—were chosen for detailed study.

Examination of the fragments showed that the columns were constructed of separately moulded units. The whole array of the vertical mould divisions is visible in the series of darkened separation lines exposed on the top of QY76.A300 (Fig. 25, no. 2). The same sequence of construction was found in all the other column fragments examined, and revealed an unexpected aspect of their manufacture: it was discovered that the figure panels were not moulded as discrete units, but rather that two moulds were necessary to form any one panel. Thus each casting would produce a piece with parts of two figures, separated by a vertical decorative band. This necessitates the figures always being joined in the same sequence (e.g. "Pan"-draped female-"Pan").

The evidence for horizontal divisions in these fragments is less clear, as few have survived with portions of both upper and lower panels intact. However, in three fragments which still retain portions of the lower panel, separation lines could be detected just below the decorative band. Since no other horizontal seams were to be found in any of the column fragments, it can be postulated that the mould for every panel unit ended below the lower decorative band. Thus, while the horizontal series of figure panels must be consistent, the constraints of the technique do not necessarily require that the vertical arrangement be rigidly fixed.

The moulded units do not seem to have been complete in every detail; many small and even some major features of the patterns were subsequently worked by carving. This is evident not only from the presence of numerous tool marks, but from many irregularities in detail, such as the differing shape of the proper left arm from shoulder to elbow on each of the "Pan" figures (cf. Fig. 11).

*Handworking:* There is convincing evidence for carving and handworking on a considerable proportion of the stuccoes, in the form of tool marks as well as irregularities between similar design elements. The marks usually survive only when the original surface is intact and fairly strong, and it is possible, but for the inroads of surface-destroying salts, that many more tool marks would have come to light during cleaning. From the nature of the existing marks, we have concluded tentatively that handworking was done on both wet and dry plaster. This concurs with H. Wulff's description of Iranian plasterworkers' techniques in this century.<sup>3</sup>

One extremely efficient method for dealing with the reproduction in quantity of large objects such as fluted columns is the use of the template. We have noted parallel lengthwise striations on the

flutes of columnar fragments, such as could have been caused by grit dragged by a template on wet plaster. These columns give the only evidence to date for the use of such a wet-forming tool as the template.

Marks of other shaping tools used to prepare large surfaces are infrequent. However, in the instances where they have occurred, they are quite clear. Very distinct imprints of chisel-like tools have survived on the backs and sides of several fragments (Pl. IXd), and numerous pointed depressions, such as might have been made by a trowel, were found on the base of another. While it is not yet certain whether these marks indicate working in wet or dry plaster, the appearance of the edges in some sets of chisel marks are sufficiently crisp to suggest an impact into dry plaster. The more indistinct edges of the other examples might then suggest wet-working.

Finer tools were used for work on the decorated surfaces. On many of the figural pieces (e.g. senmurv-griffon fragments, portrait heads and "Pan"-draped female panels), the background plaster surrounding the relief is etched with thin irregular incisions, as though made with a pointed tool. Generally, these were surface scorings only, although in a few instances the marks were more deeply gouged. These lines appear to have resulted from the final dressing of the plaster; it is clear that they have no decorative function. However, there are two isolated instances of decorative elements scratched into the background plaster: in the case of QY76.A41 (Fig. 11, no. 5), the motif is a spoked star-like design above the proper left shoulder of the dancing figure, while in another dancing figure, QY76.A199, the scratches appear to indicate cloak folds.

With the exception of the totally carved fragments discussed below, tool marks have rarely been found upon the reliefs themselves. In one instance, the torso of a "cupid" was faintly scored with many overlapping striations, as though made by a fine-toothed tool. The most likely explanation for these lines is that they served to roughen the plaster surface to receive another layer of plaster, probably a finish coat; however, we cannot yet rule out their presence being the result of a dressing tool. In a second example, that of one of the female heads (Pl. XVIIIc), the marks seem to be the result of accidental damage during manufacture: here, several holes have been made with a variety of tools which had rectangular or circular shafts; the holes had been filled by fine plaster which extended over the whole head, masking the damage. Another of the female heads was deeply grooved above the hairline (Pl. XVIIIb and Fig. 7, no. 5). Here, although the marks are clear, the evidence is more difficult to read. The grooves had the appearance of greatly exaggerated hair design; however, they may have been intended to serve as keying for additional plaster in which the top curls were to be carved, as seen in Pl. XVIIIa and Fig. 7, no. 2, or they may merely have been the result of overzealous retouching of the hairstyle. It is equally possible that they represent damage to the object as it was removed from the mould, or even later in the course of destruction of the decorations. A final example must be mentioned here, this time one of obviously deliberate tool damage or reworking: on the female portrait in a roundel (Fig. 6, no. 3; cf. the item being conserved in Pl. VIIa), the entire face has been severed cleanly and precisely by blows from a broad-bladed chisel. The mutilated portrait was then covered over thickly with successive layers of plaster to create the flat surface previously described (see under *Complete (Remodelling) Overplaster*).

For the rest of the figural pieces, the evidence of carving is clear simply from the variation in detail among like designs. The most striking example is provided by the series of three female heads, in which the treatment of the side curls varies considerably (Pl. XVIII). On one (Pl. XVIIIa), the curls are tightly rounded, whereas on another (Pl. XVIIIb), they are more freely handled. While extensive damage has occurred to the third head (Pl. XVIIIc), it is clear that the curls were fuller than in the other two pieces.

Some fragments appear to have been entirely carved. As carving so often occurs on previously moulded pieces, we have been cautious in identifying designs as wholly carved. However, in several fragments the evidence is unmistakable. All of these are geometric designs (e.g. running spiral, meander and quatrefoils), which show considerable irregularities in the shape and dimensions of the pattern elements. Some also exhibit a stiffness or crudeness of execution not typical of the other stuccoes. One fragment, that of the completely overplastered quatrefoil, merits special comment here: thanks to the presence of the overplaster, the preservation of the pristine, sharply cut edges of the

quatrefoil, in addition to the marked angularity of the form and the presence of tool marks in the design and surrounding plaster, provides an excellent illustration of a carved stucco still in a state of partial completion (Pl. XIVb).

*Other Manufacturing Traits:* Two other indications of the ancient plasterworker's technique survive on many fragments, the first being the presence in the core of the plaster body of long thin holes which exhibit the contour and striated impression of reeds (Pls. VIIb, IXa and b). Some larger fragments contain three or four such holes, suggesting that reeds were used for reinforcing, and possibly for extra rigidity in setting plaster. Whether intentionally or not, the reed holes would also serve to allow a certain degree of contraction and expansion within the plaster body once installed. Often the reeds were laid between layers of base plaster, usually between a relatively finer and a coarser plaster, presumably with the idea of strengthening the bond. In one instance, a set of reed holes was located forward of the separation line between coarse plasters; either the reed was displaced forward into the finer plaster when the coarser layer was poured, or the intention was to strengthen the face plaster rather than the bond.

The plasterworkers have also left clear sets of finger impressions, where the parted fingers were drawn through wet plaster to create a series of shallow troughs in the surface (Pl. IXc, and cf. Pl. VIb). It seems evident that these finger impressions generally were intended to assist in keying one plaster surface to another. An example which made this particularly clear was found between a decorated plaster fragment and its structural backing of coarse plaster: when the plasters were separated, the interfaces revealed positive and negative impressions of the finger marks on the respective sides. In the moulding of the engaged figural columns, it appears that the back of the plaster form was made concave as a way of encouraging a better bond when the finished piece was set into its intended position. The concave back of the mould was left deliberately rough, and here again the finger strokes of the workmen have been preserved.

The conclusions we have been able to draw so far about the manufacture of the stuccoes are, of course, balanced by many unresolved questions. As a final note to the discussion, we may mention a pair of fragments which posed an enigma to archaeologists and conservators in the 1978–79 season. The inner face of each fragment bears an identical pattern of divided semicircles, creating a running quatrefoil motif (Pls. XVIa and XVIIa). Unlike all the other stuccoes, these fragments do not have the usual characteristics of a relief; rather the design is composed of thin, slightly raised lines on a flat surface. Although they fit tightly together, the two faces are not a true positive and negative. Instead, the lines on the "negative" are also raised, and run in a double rank, creating shallow channels into which the single lines of the "positive" fit exactly. The method of manufacture or formation could not be deduced from any evidence on the fragments themselves. Because salts can look deceptively like plaster at times, it is possible that one of the sides merely bears the impression in salts and leached plaster of the other side, but this is by no means obvious from even the closest examination, and the possibility remains that both fragments are the product of manufacture. The subsequent function of one or both fragments is also a riddle: are these patterns which have been blocked out in the plaster prior to the carving of a stucco, or to the painting of a mural decoration? No identical designs have so far been unearthed in either stuccoes or mural paintings, and confirmation of this idea must await the findings of future seasons.

*Painted Decoration:* Painting was the final step in the preparation of many, and perhaps all, of the stucco reliefs. The paints are often bright and fresh on first exposure, showing vivid colours: yellow ochre, intense greens, deep blues and reds, a medium violet and a colour which is perhaps best described as "shocking pink". The softer pastel hues of these colours, which are also common, may be original or may have resulted from fading during their initial period of exposure to air.

It may never be possible to resolve the question of whether all the stuccoes were originally painted. There is some evidence that a fine brown powder occurring over the original plaster surface of several pieces may be the remains of decayed (probably red) paint. However, many plasters show absolutely no signs of paint. While these pieces may never have been painted, it is possible that the

absence of colour is due to severe weathering or to the action of ground water. At the moment, it cannot be assumed even that identical patterns were consistently painted, since one of the pair of "cupids" shows remnants of paint while the other bears none.

#### *Conservation Treatment*

With few exceptions (notably, the newly discovered facade embedded in the Gach Gumbad block), the stucco fragments are subsurface finds. While some deterioration may have been caused by weathering after the structure was abandoned, the greatest observable damage has resulted from the formation of dense, solidly adhering surface accretions of salts, which occurred after the fragments were trapped in their matrix of soil and debris (Pl. XIX).

The salts can vary from a series of layers, to a single hard sheath which often mirrors the conformations of the underlying plaster distinctly: in such cases, fine details which have been destroyed in the plaster during the salt-forming process are occasionally to be seen preserved in a somewhat coarsened image in the salt layer itself (Pl. XIIb). The wide variations in form, thickness and layering of the salts are the result of many factors, including the amount of rainfall and groundwater present, the dissolved species in that water, and the annual climatic variations. Crystal formation can be slow or rapid, depending on the severity of the wet-dry cycle, and the conditions of slow evaporation which would exist in the closely packed layers of plaster and debris on the site would particularly favour the development of well-formed crystals which exhibit characteristics of the minerals of which they are composed. As yet, no quantitative analysis has been performed on the salts, although preliminary testing revealed the presence of calcium sulphates and calcium carbonates.

Conservation of the stuccoes in the field laboratory consists primarily of the careful removal of these salts and of any overburden of plaster, with the object of identifying and preserving as much of the original surface as may have survived. As a rule, the removal of salts is less arduous when the fragments are fresh from the ground. The encrustations harden noticeably within a few days of their first exposure to air, and appear to become more solidly bonded to the plaster. Despite great variations in the consistency of the deposits, these "matured" salts are generally the most resistant to removal, and present the greatest difficulties in recovering an original plaster surface intact.

Acryloid B72 (10% solution in toluene) is used when required to prevent the loss of unstable pigments and flaking paint layers. If a paint layer is present and in strong condition, it will often afford a cleaner separation of the salt layers than is normal when the deposits lie directly on a plaster surface. Again, this must be said with qualifications, for there were a number of instances where the paint surface had been partially or wholly lifted from the plaster, to be deposited on the undersurface of the salt layer, or even, in a few cases, encased within the salts. Where paint has lifted, it is impossible to clean away the salts only to the point of paint entrapment. The conservator's choice is limited either to leaving the salt layer intact or, if it is considered more important to determine the surface configurations beneath, to recording details on the entrapped paint as cleaning is carried out.

In the field laboratory, cleaning is done with small hand tools: scalpels, dissecting needle, straight-bladed dental tools (pinpoint, trowel-head and spatulate types), small cold chisels, and Griphold micro-chisels used either with a pin vise or tack hammer. Since there is no electricity as yet, conservators have no access to the use of a Vibrotool; however, given the variable nature of the salt formations and the fragility of the plaster surface beneath, the increase in precision and control afforded by non-mechanized hand tools suggests that the Vibrotool may not, in any case, be the tool of preference for such work.

Conservation of the *in situ* stucco decoration has necessarily been more limited. The standing wall surfaces have been preserved to differing degrees, and while some decorations bear the same salt encrustations as the fallen pieces, others have been worn smooth by water action or dampness. The action of more or less continuous moisture is most evident on the undersurface of the arches in the wall niches. These show a surface which, although free of salts, has been worn completely smooth of decorative relief, and in which the fabric of the plaster has been eaten away to a porous, sponge-like texture. Although it will slowly harden, such a surface when first exposed is extremely soft and easily

damaged. Cleaning of the *in situ* stuccoes has been limited, so far, to the removal of loose soil and debris from the interstices while digging is in progress, and to back-filling of the trenches upon completion of each season, a procedure seen as only a short-term solution.

Margaret A. Leveque and Nancy Willson

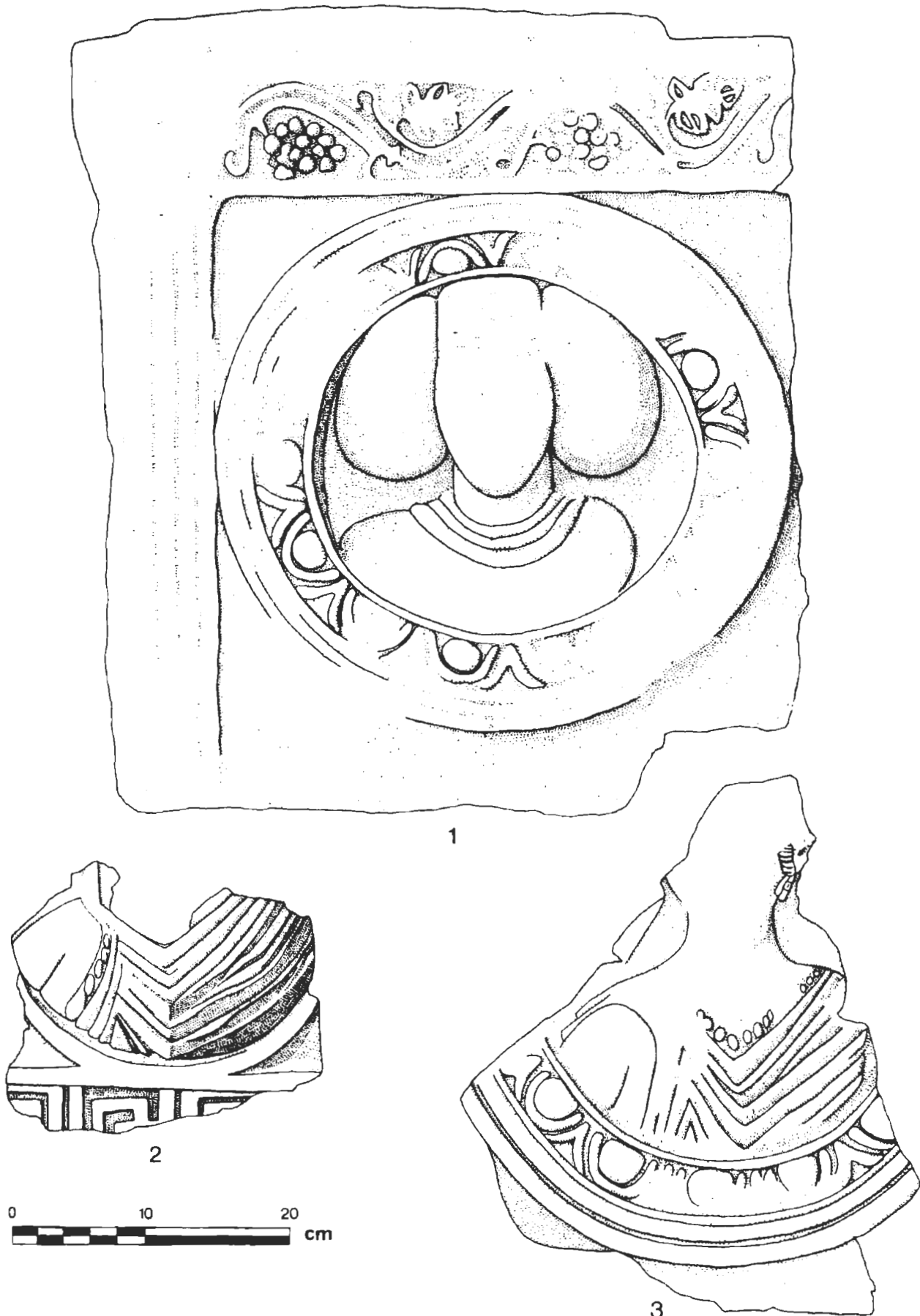


Fig. 6. Human portrait busts in medallions.

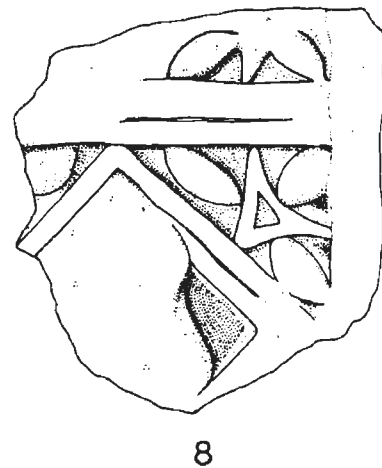
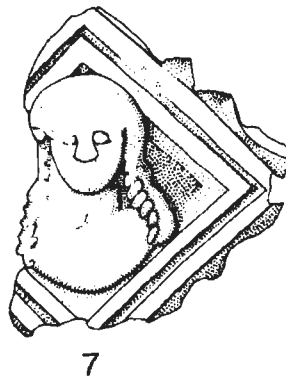
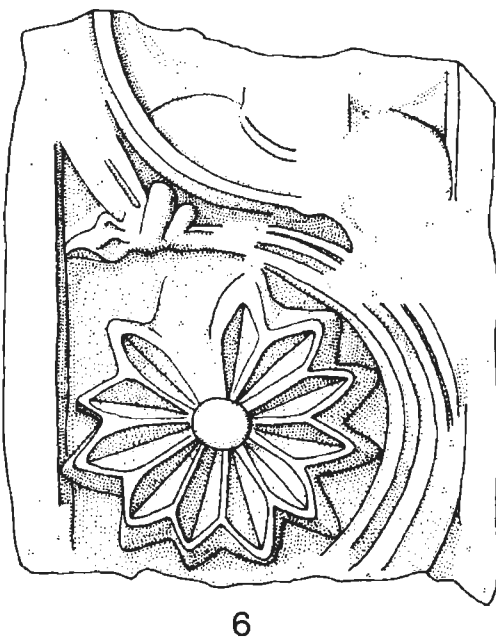
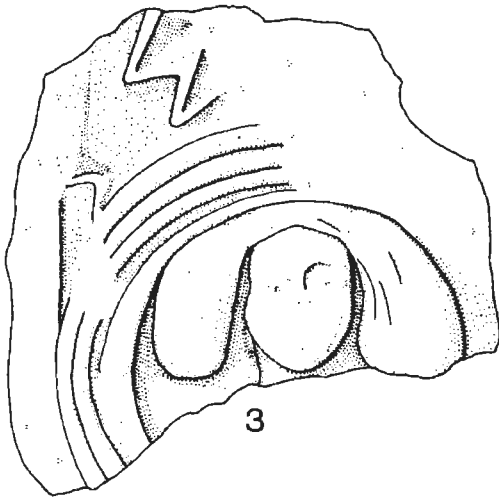
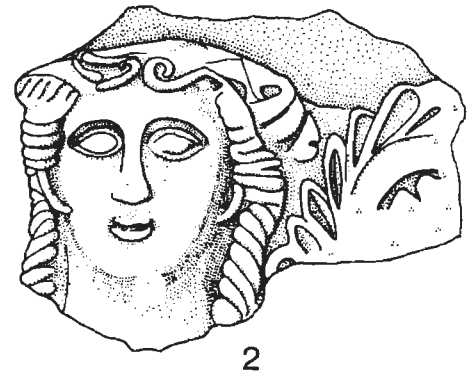
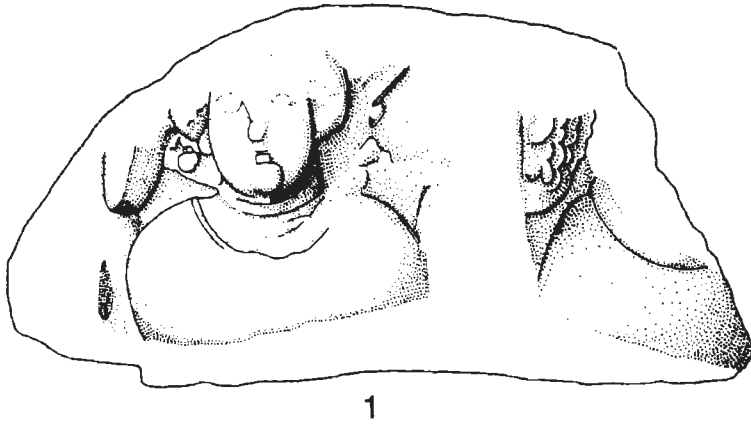


Fig. 7. Panels and capitals with human busts.

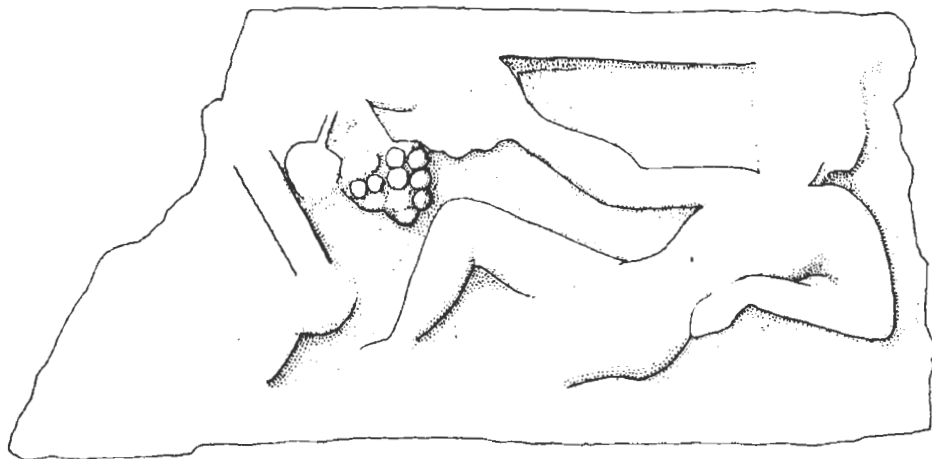
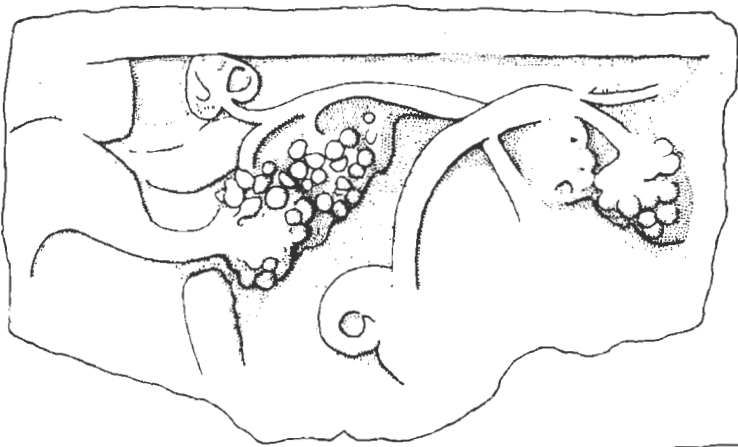
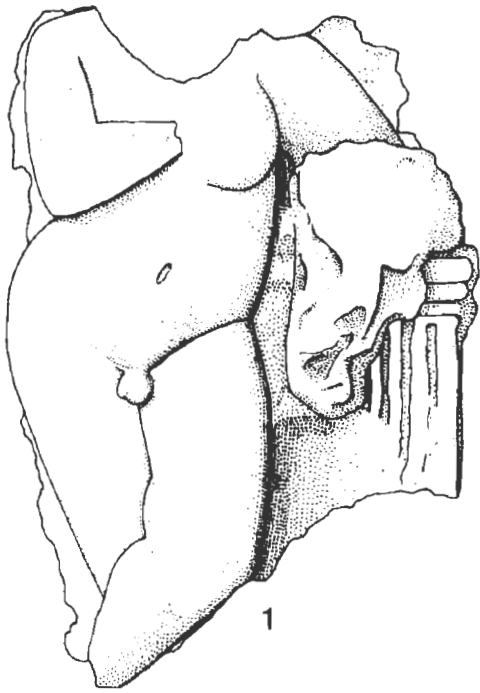
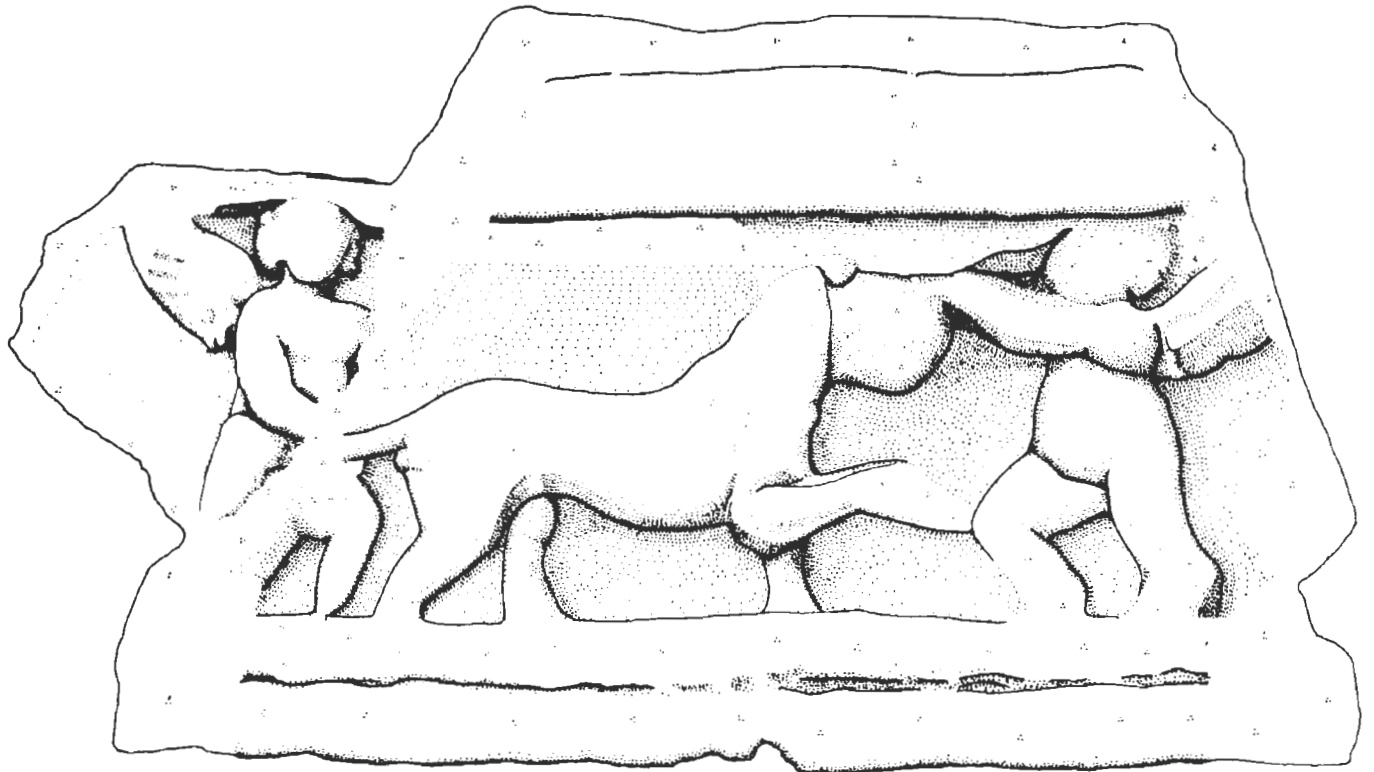
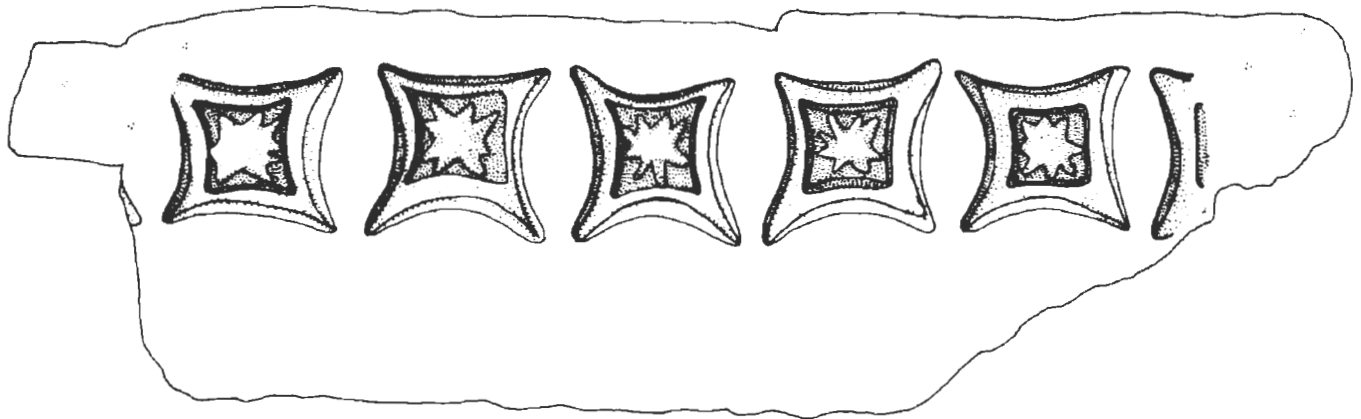


Fig. 8. Mythological figure friezes.

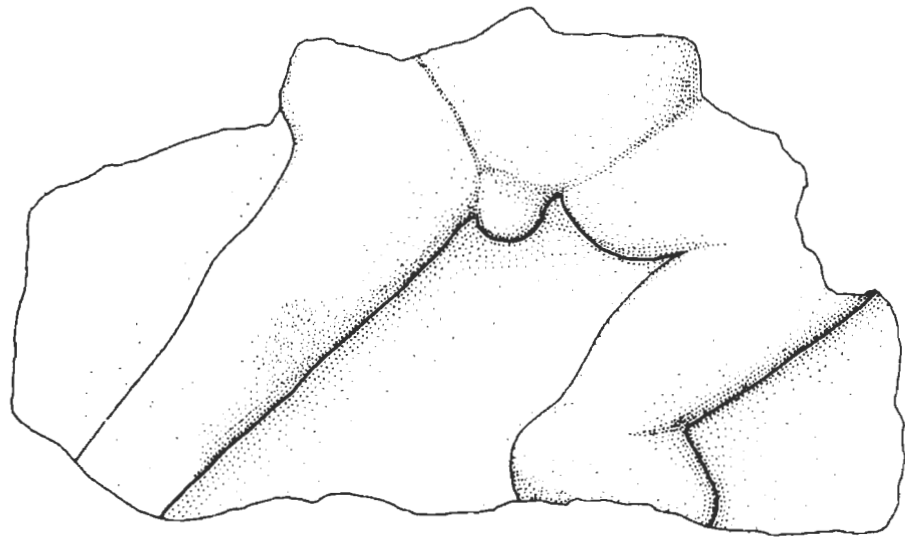




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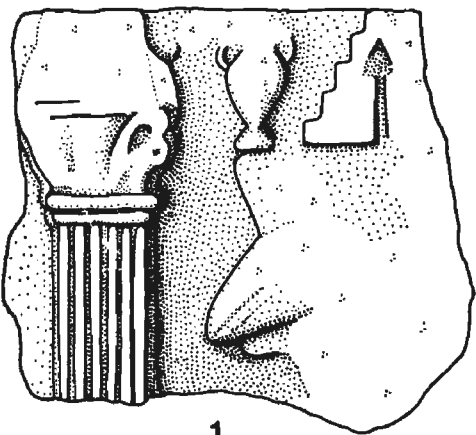
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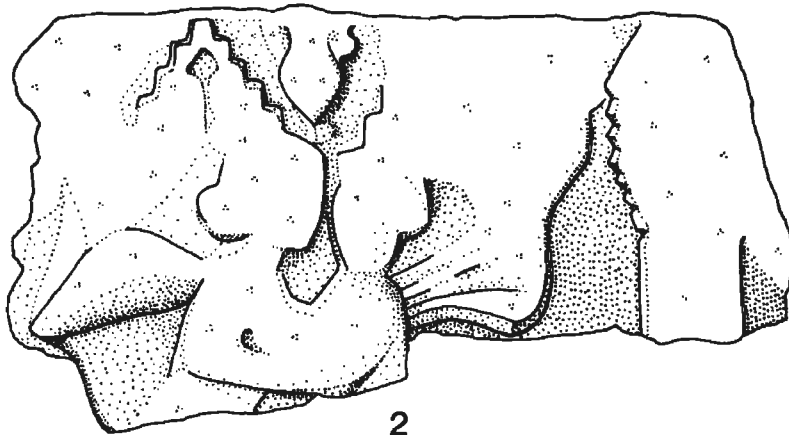
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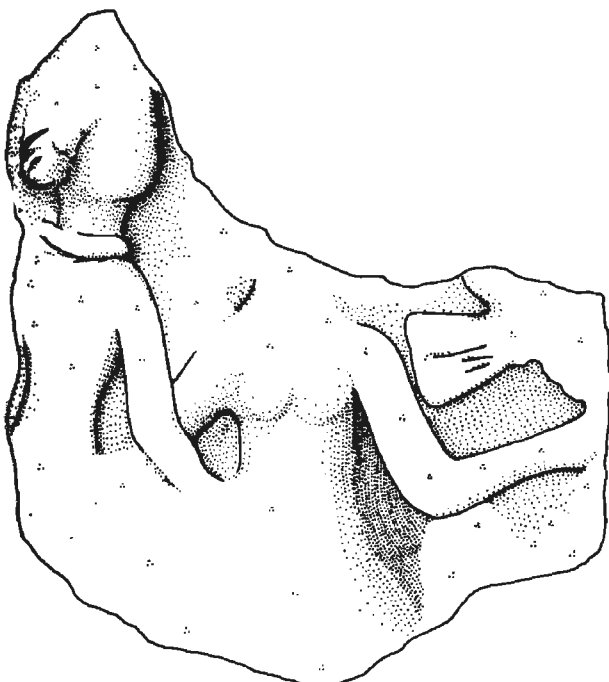
Fig. 9. Mythological figure friezes.



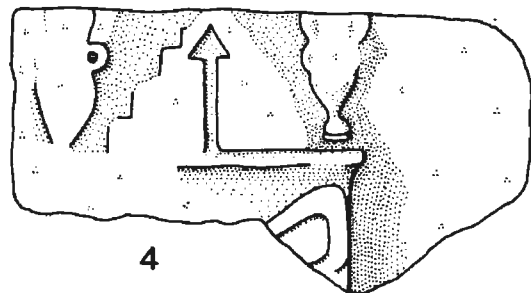
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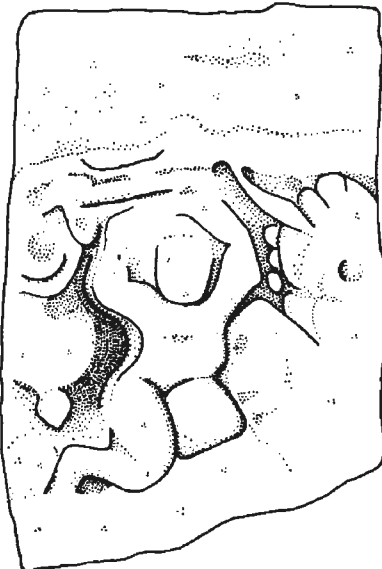
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7



Fig. 10. Narrative scenes in panels.

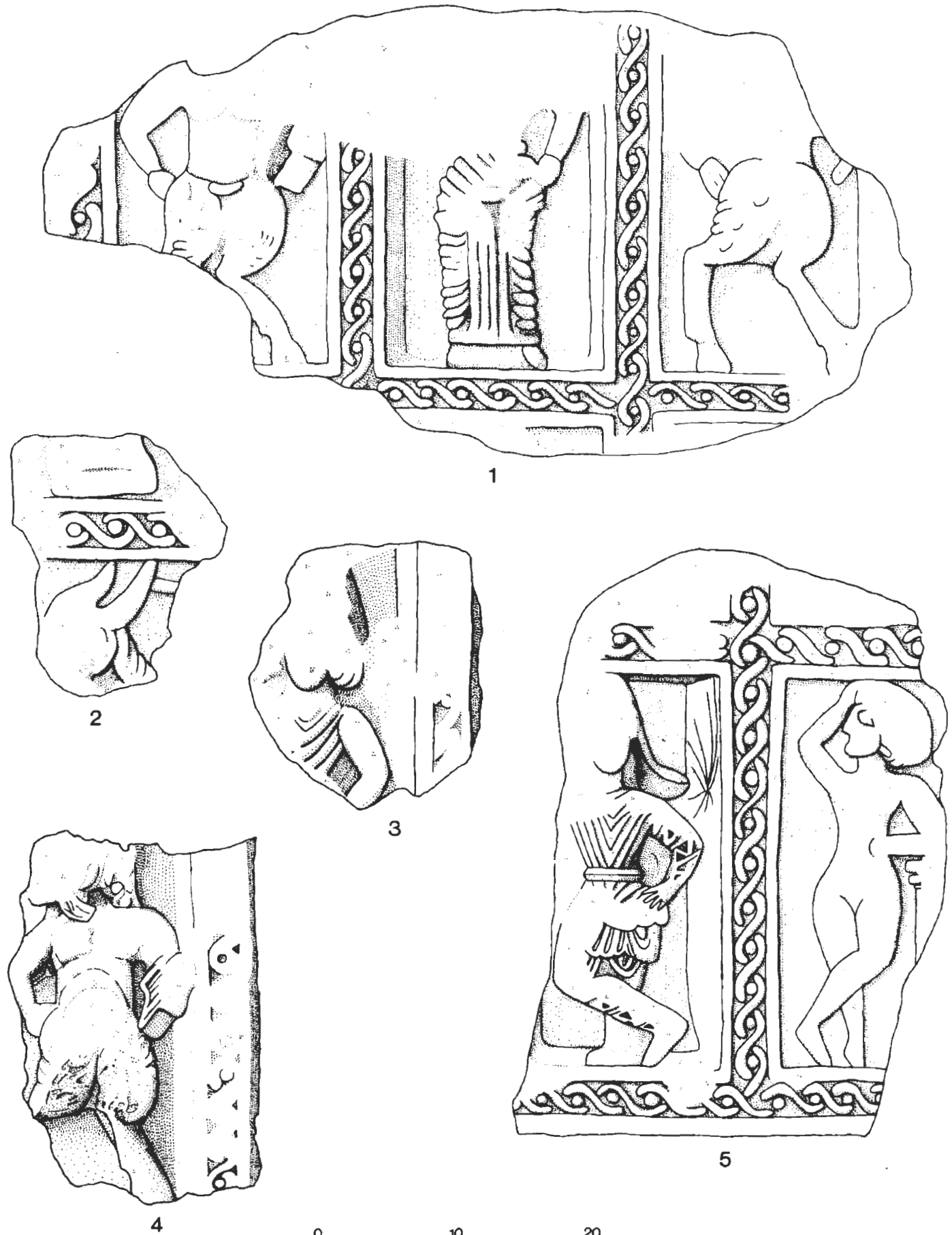


Fig. 11. Theatrical engaged-column.

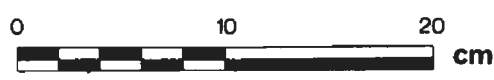
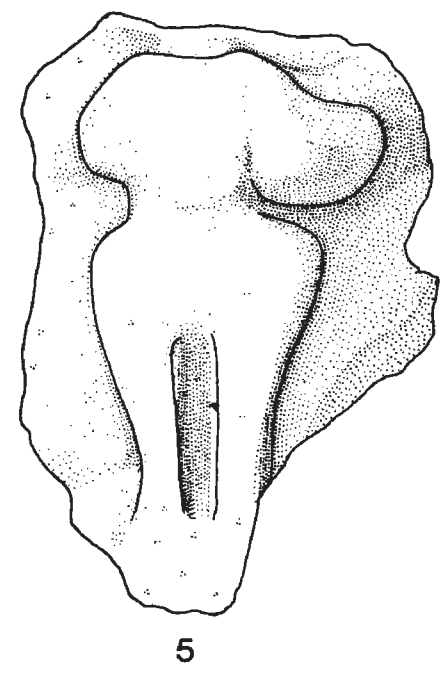
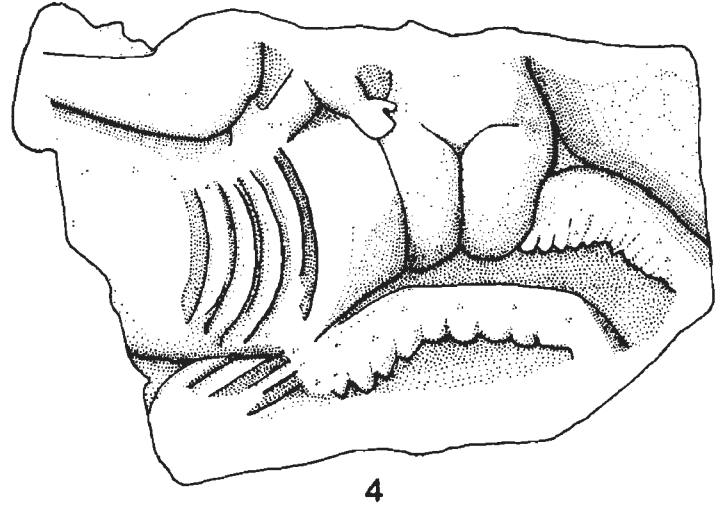
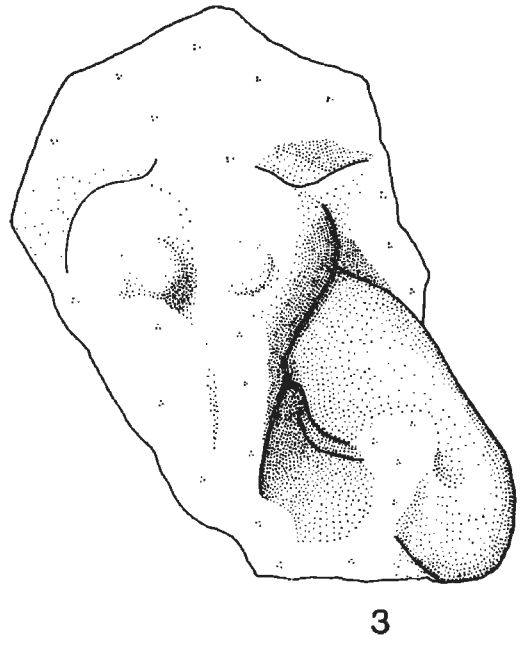
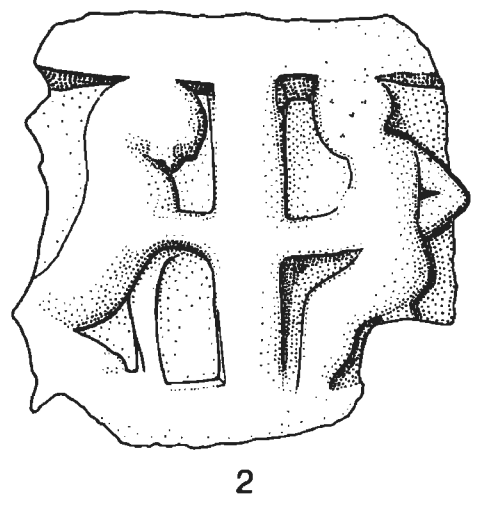
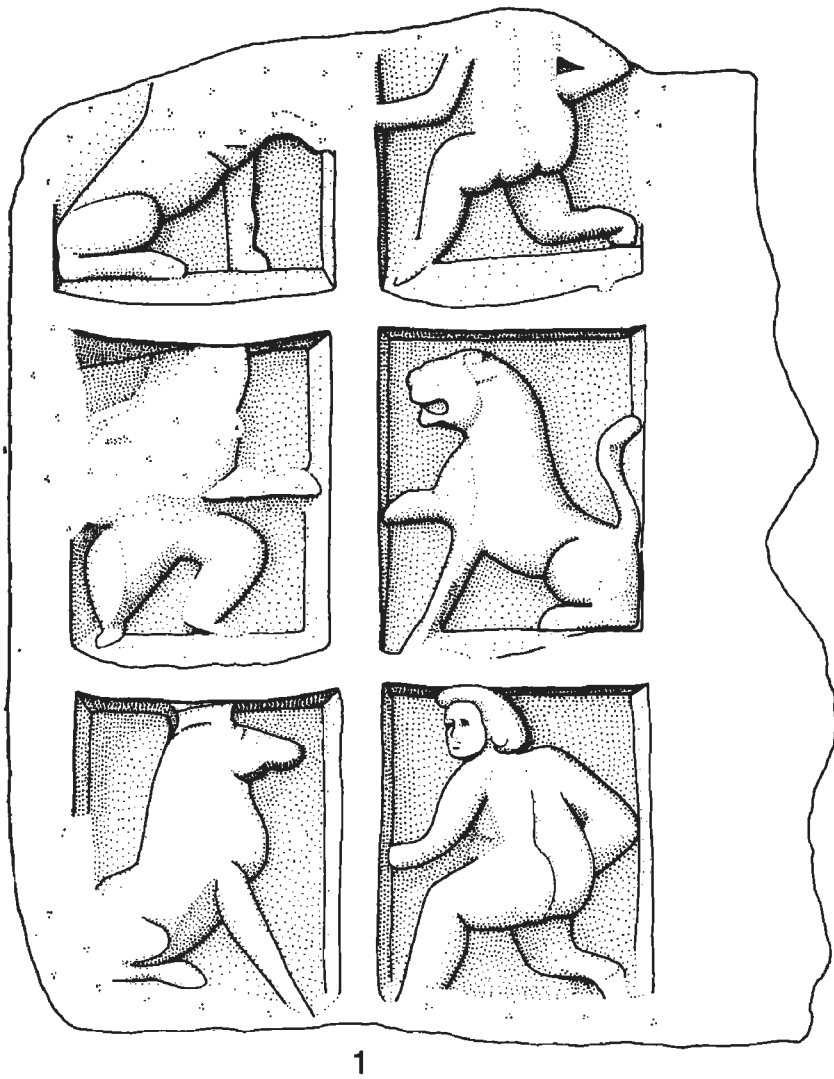
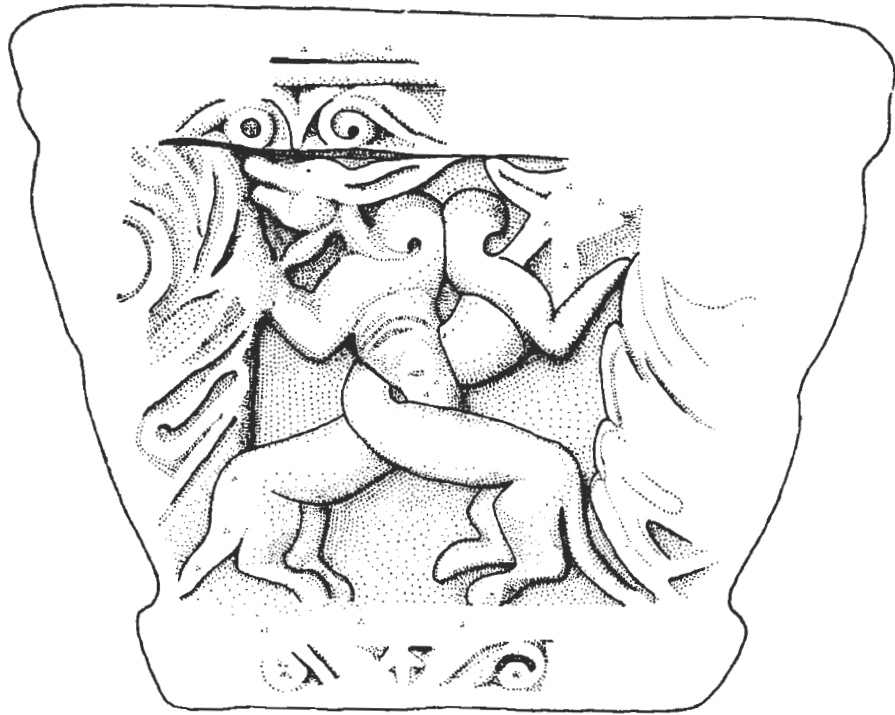
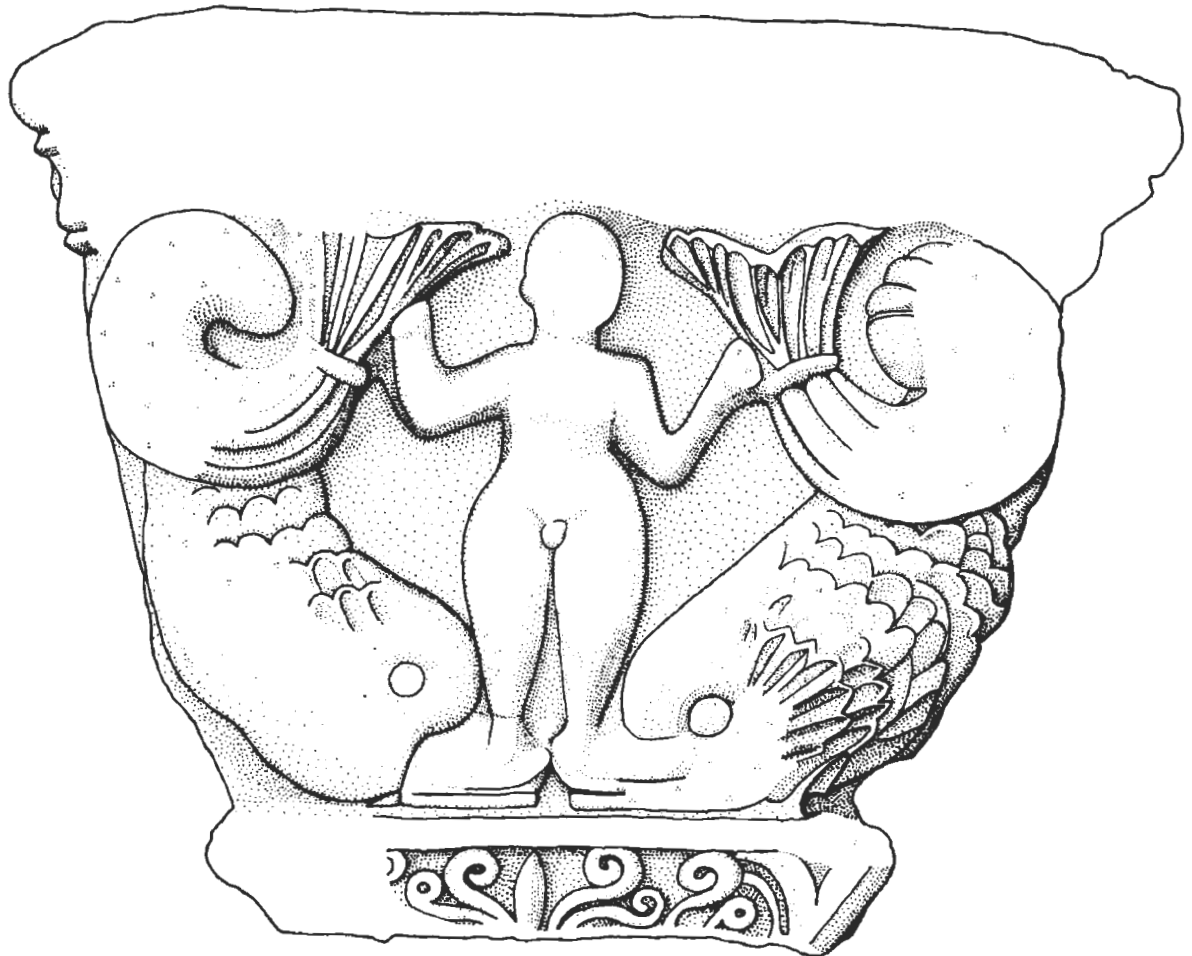


Fig. 12. Circus column and mythological animals.



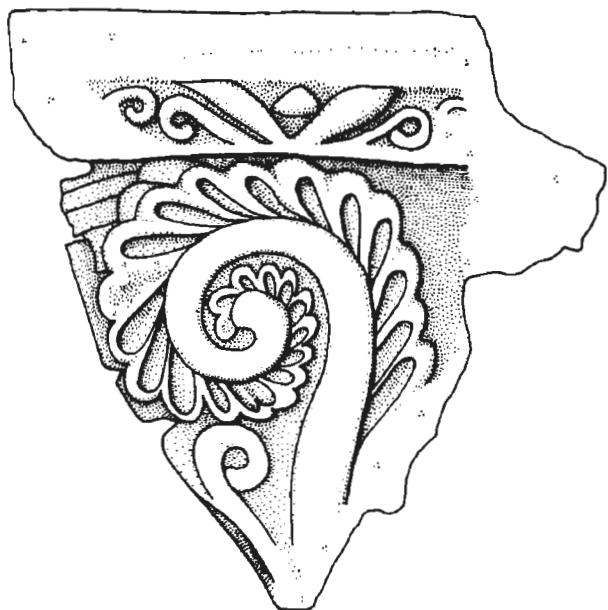
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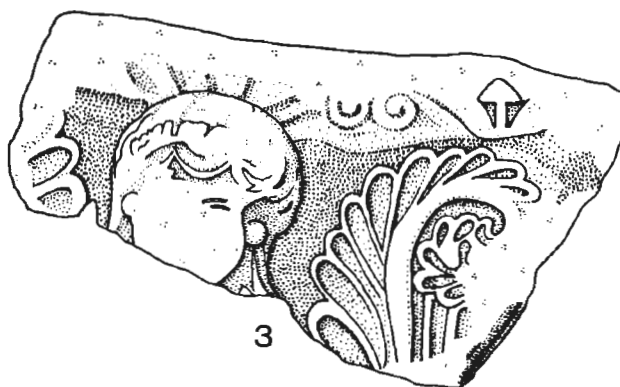
Fig. 13. Engaged column capitals.



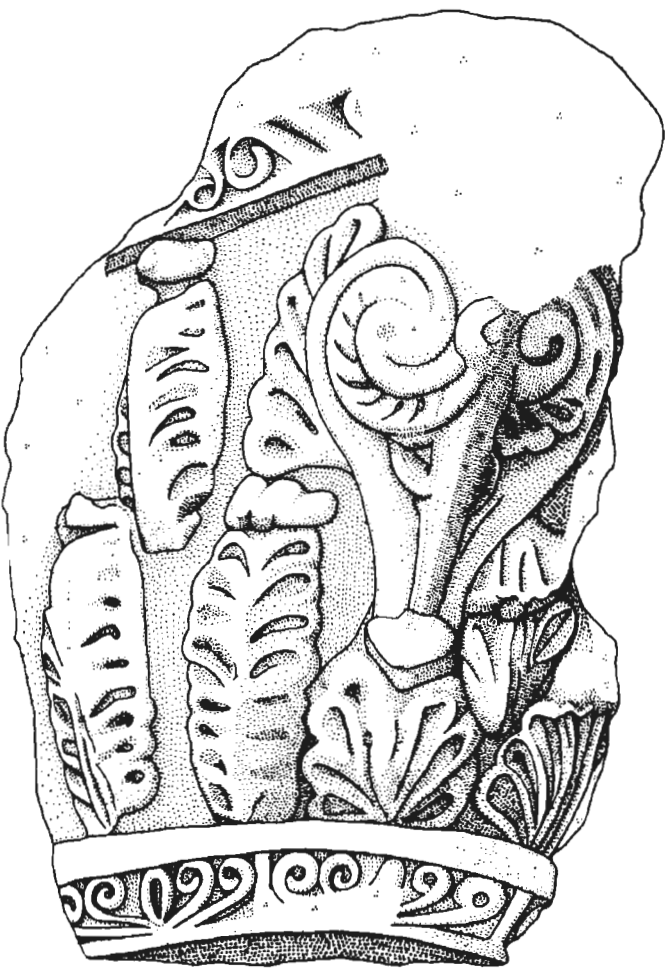
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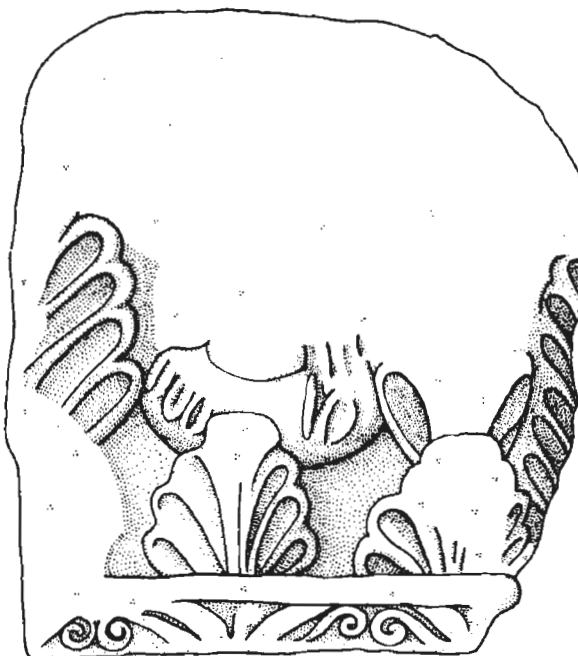
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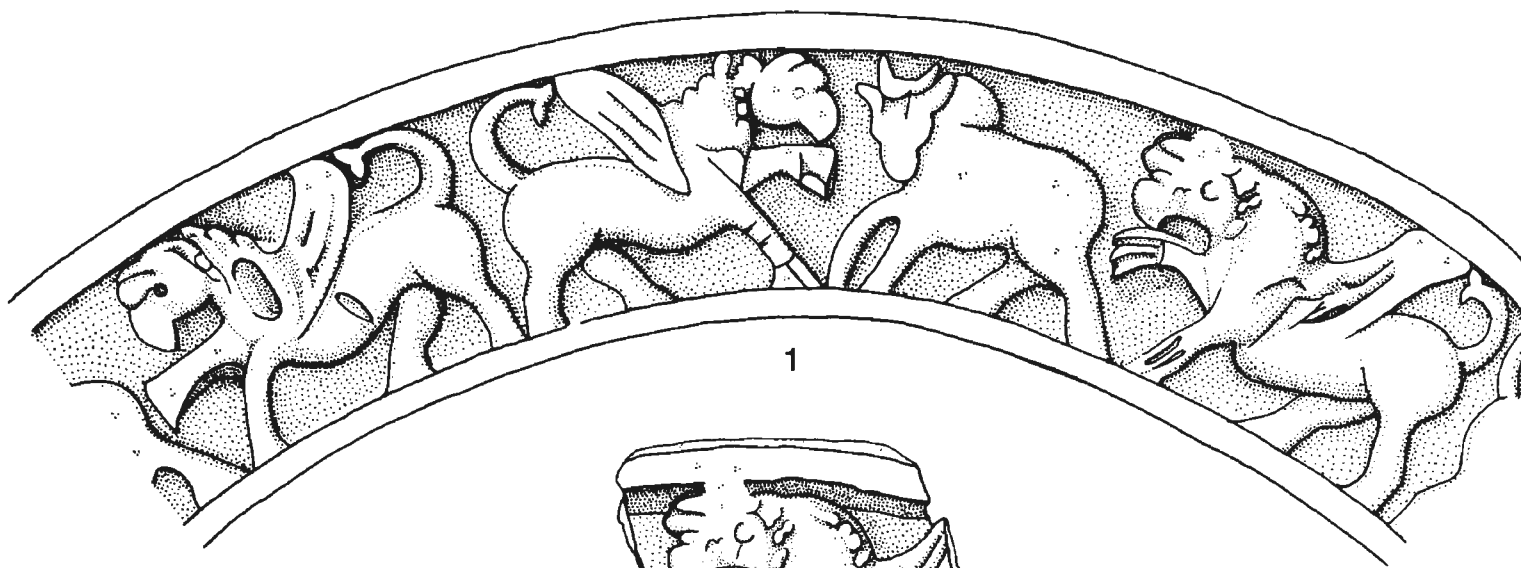
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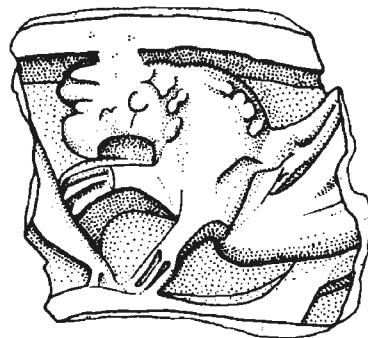
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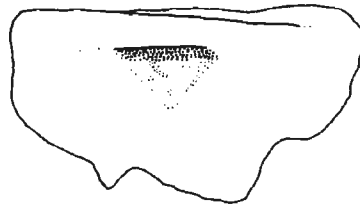
Fig. 14. Inhabited acanthus capitals.



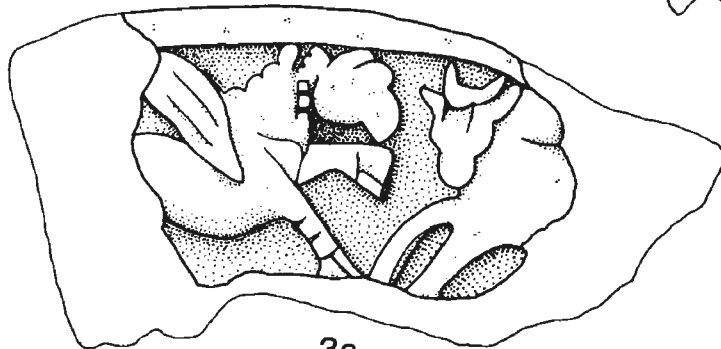
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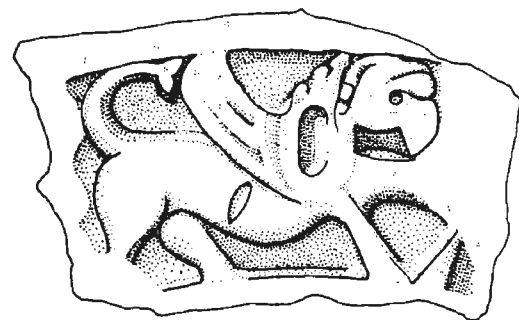
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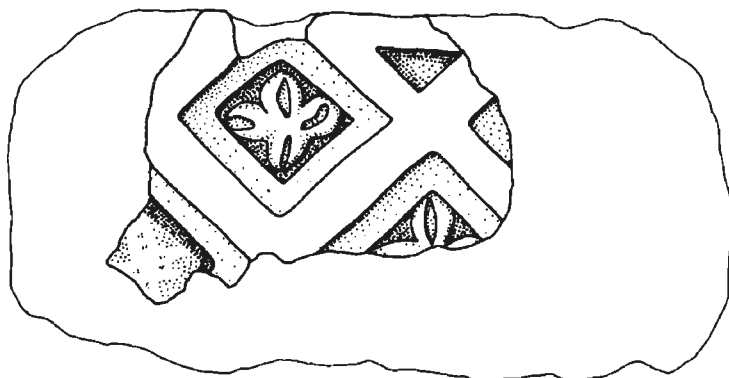
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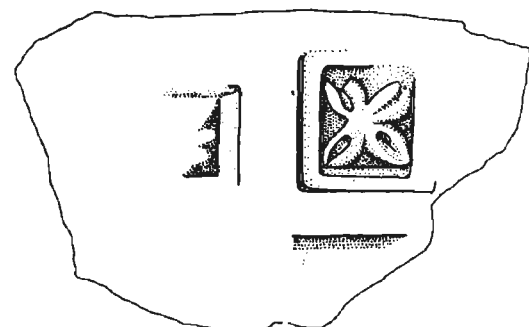
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4a



3b



4b

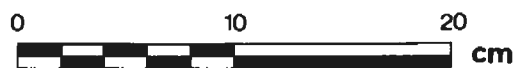
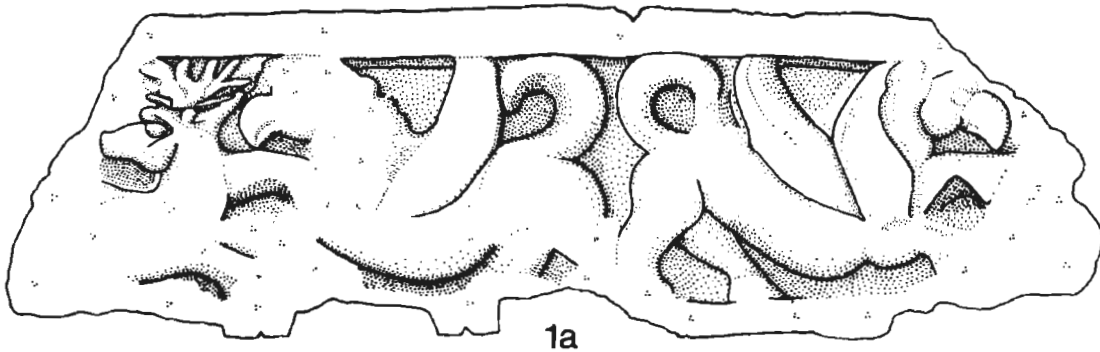
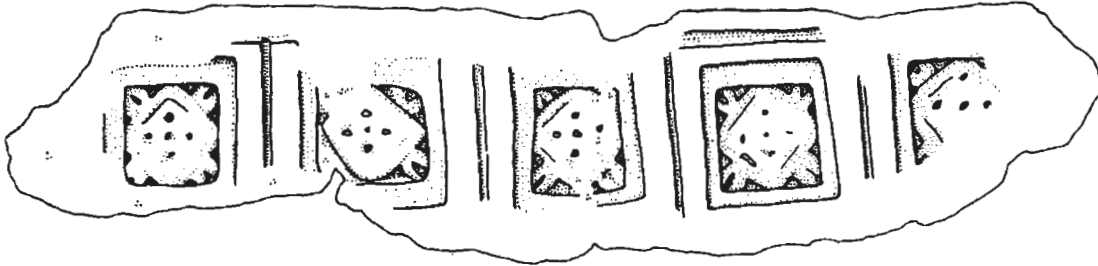


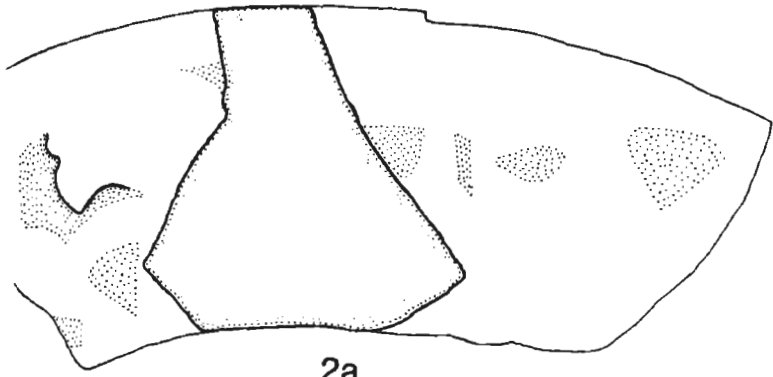
Fig. 15. Rounded griffon arches.



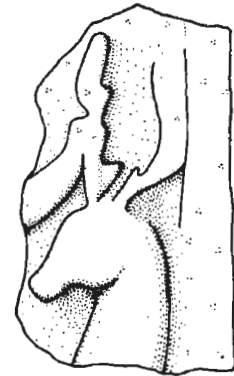
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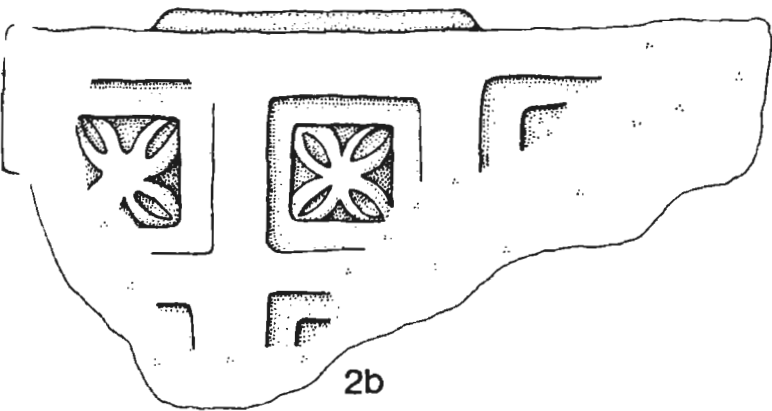
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2a



3



2b



4

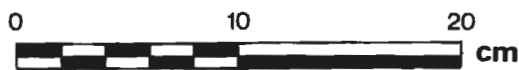
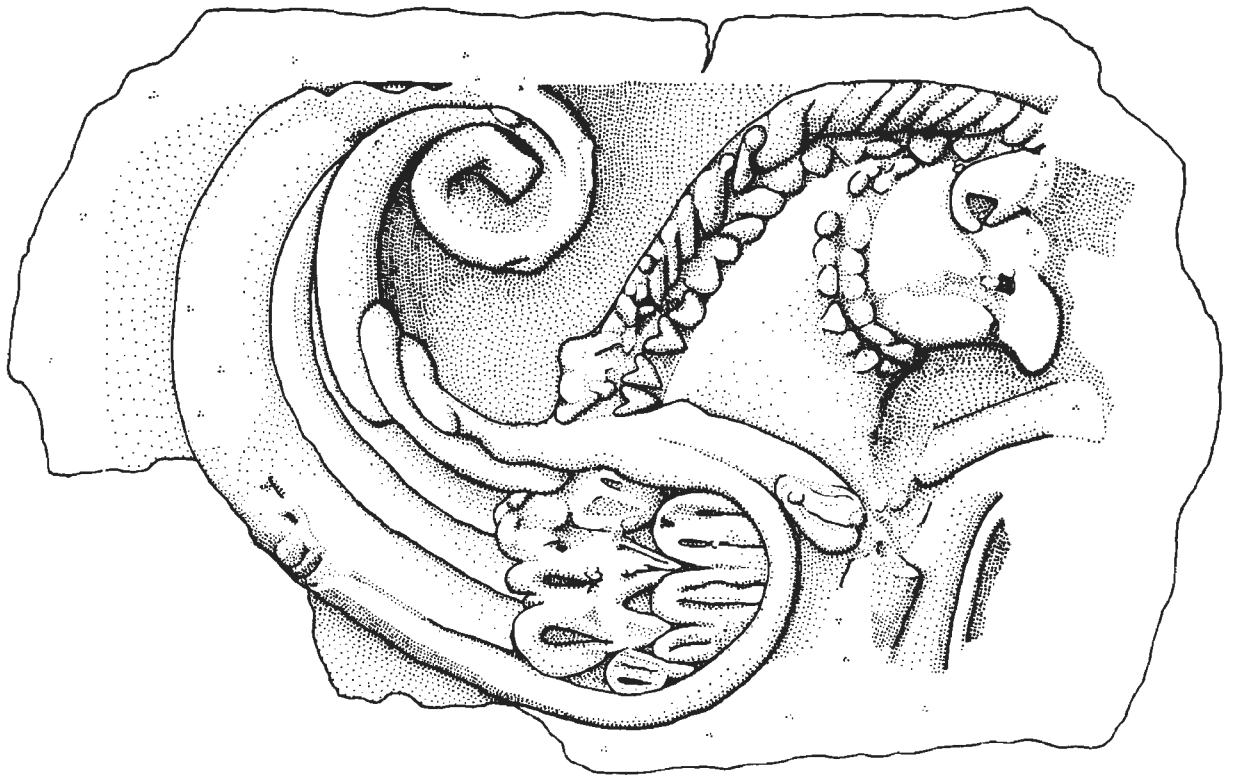
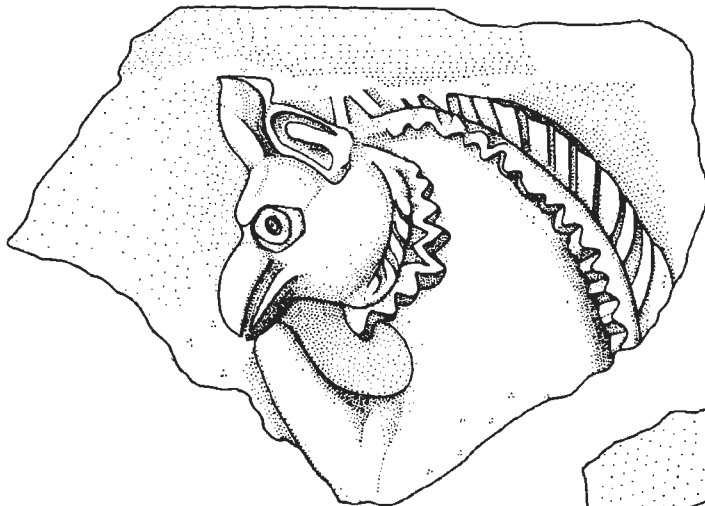


Fig. 16. Flat griffon arches.

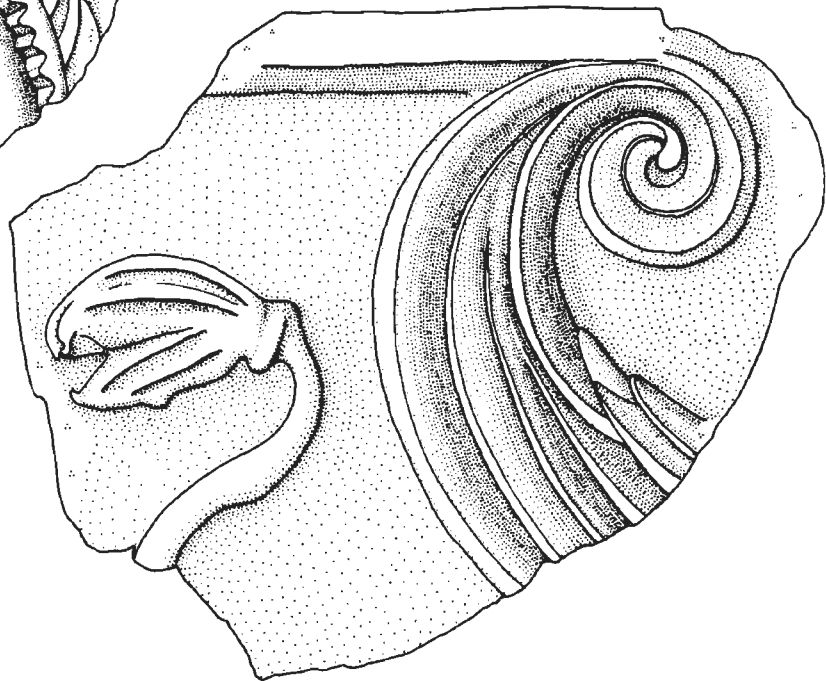




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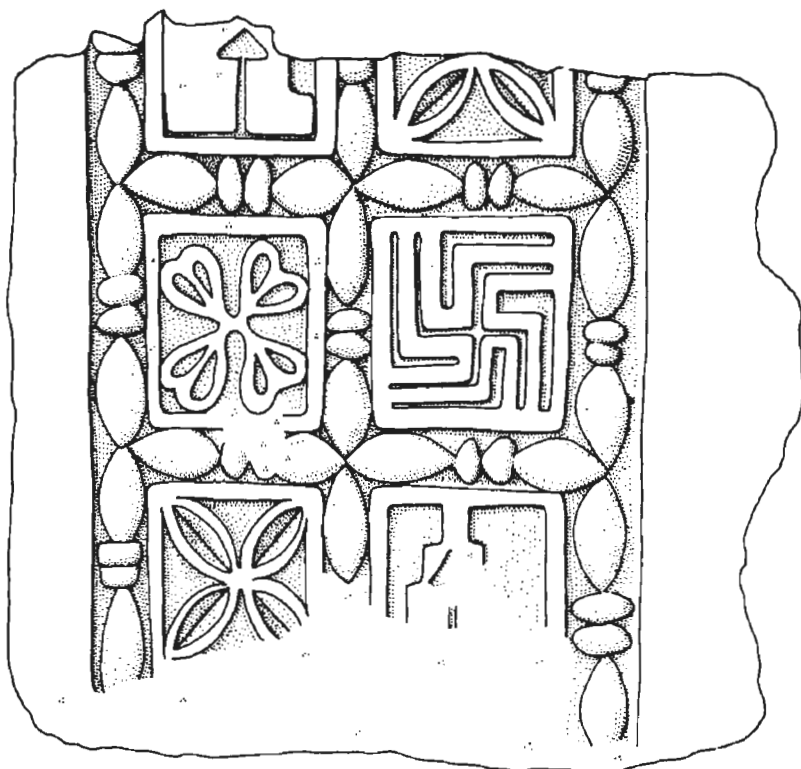
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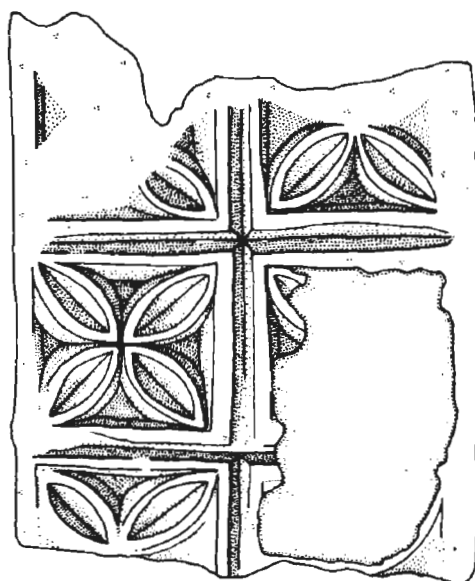
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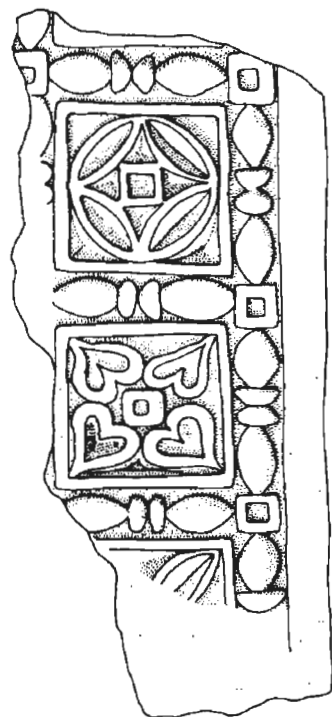
Fig. 17. *Senmuro-griffon frieze.*



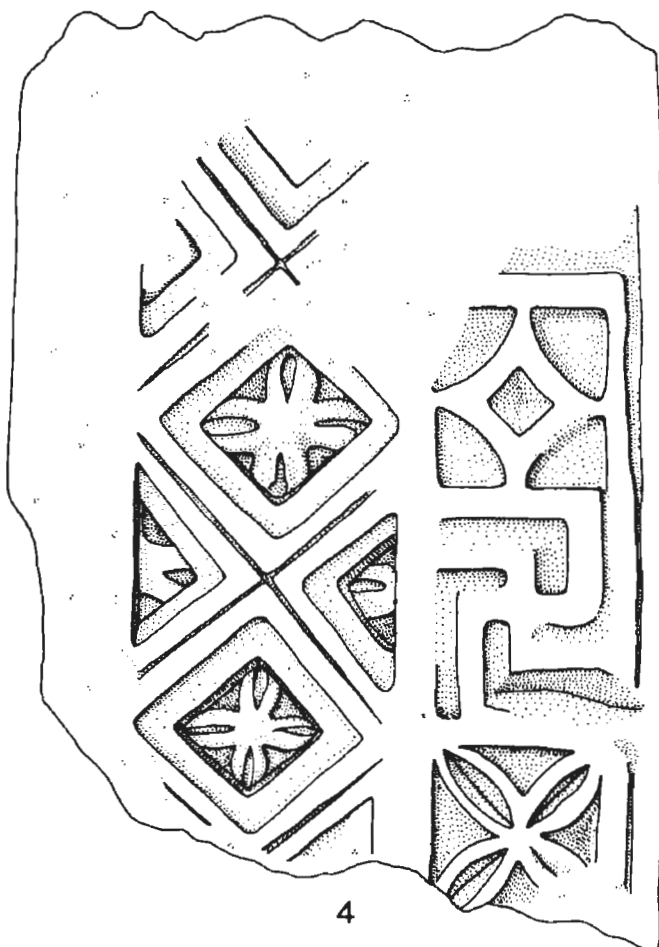
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Fig. 18. Geometric grid-pattern panels.

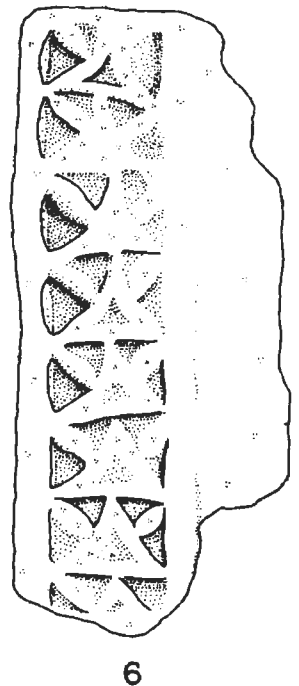
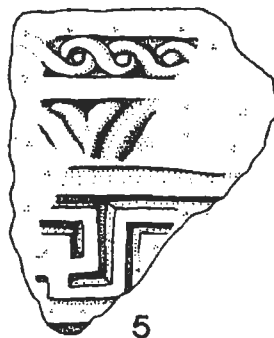
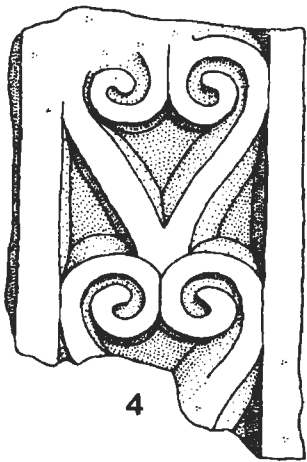
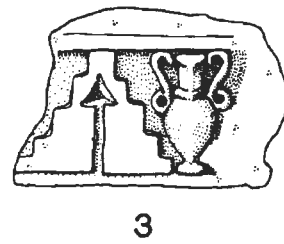
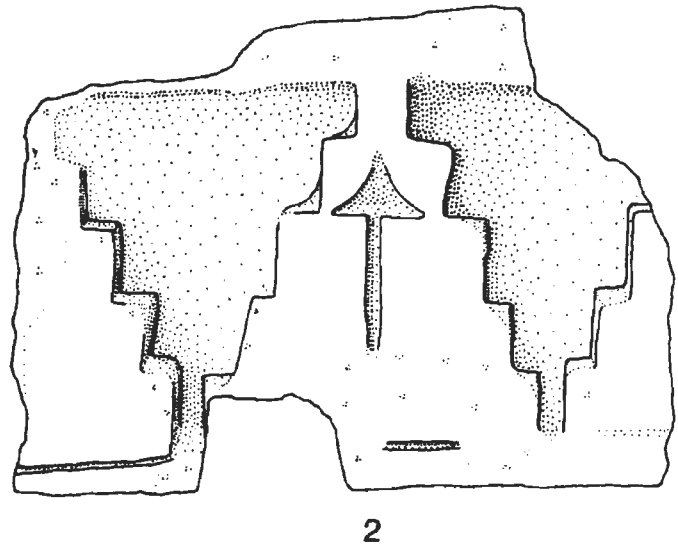
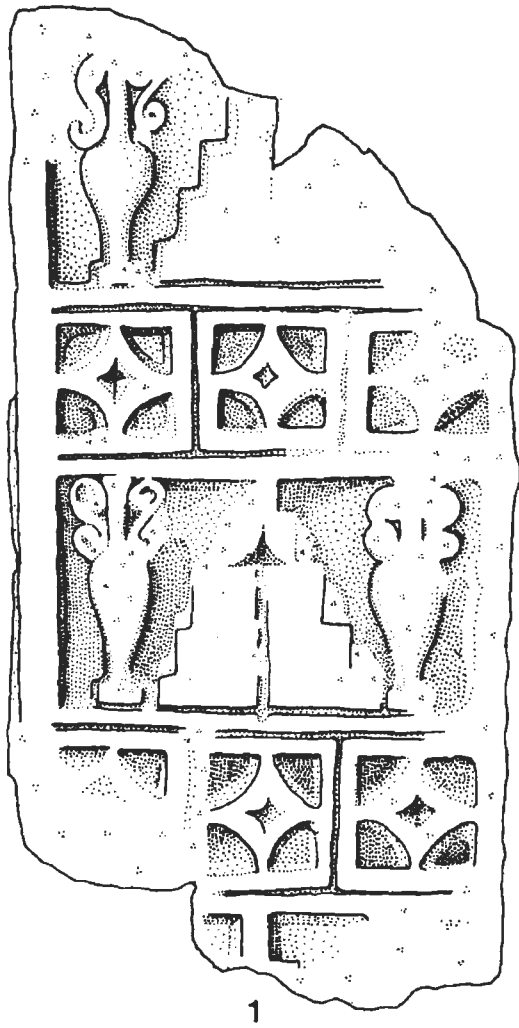
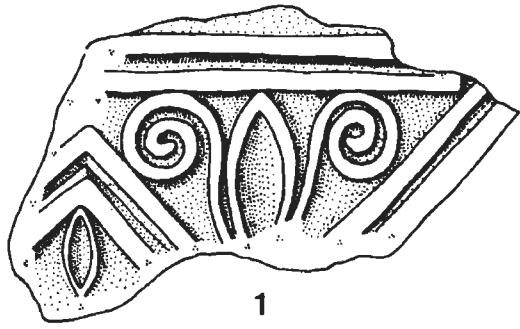
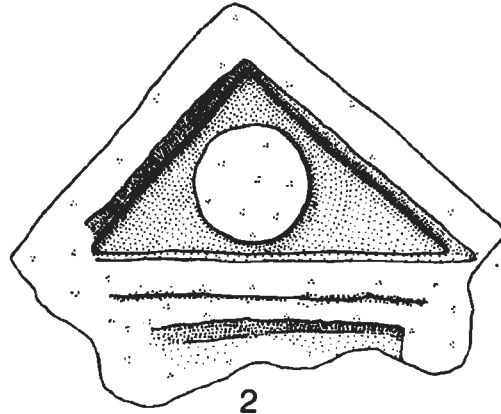


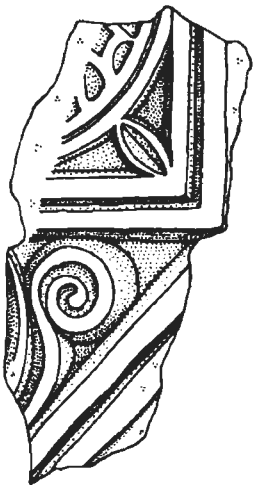
Fig. 19. Flat panels and bands.



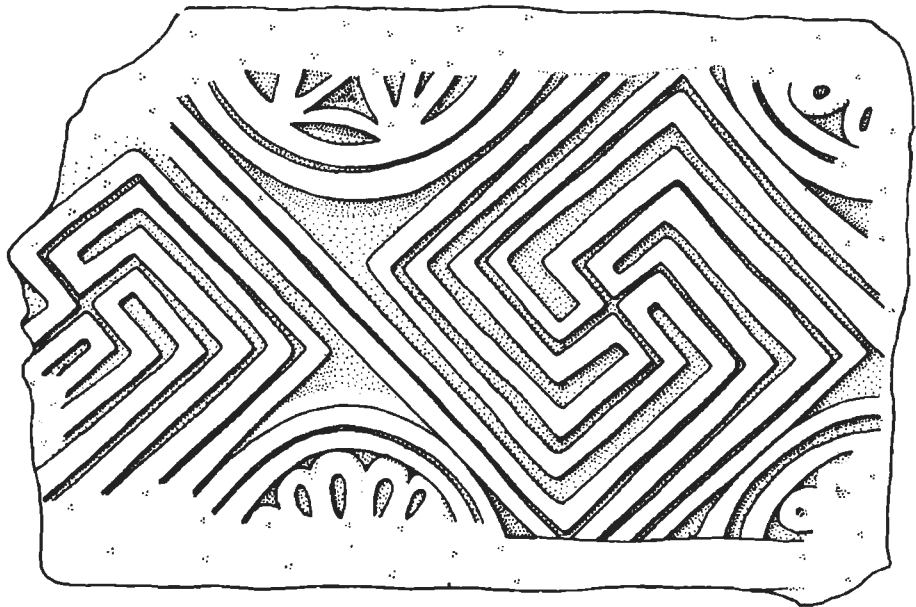
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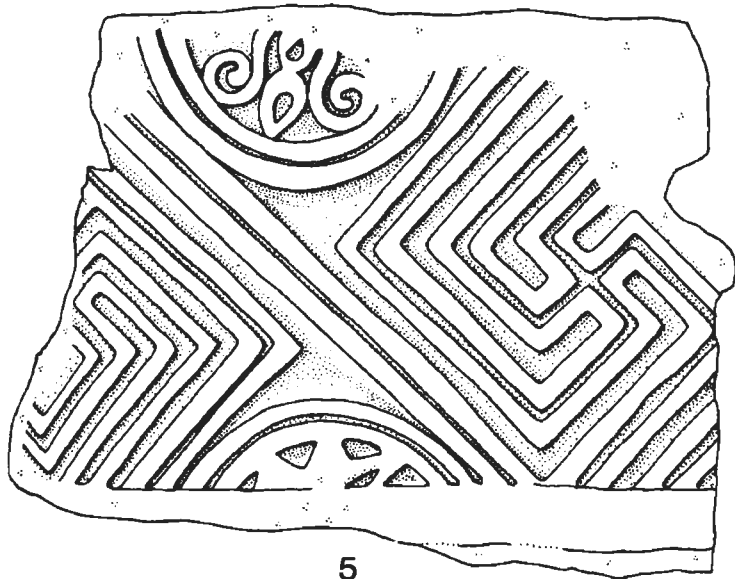
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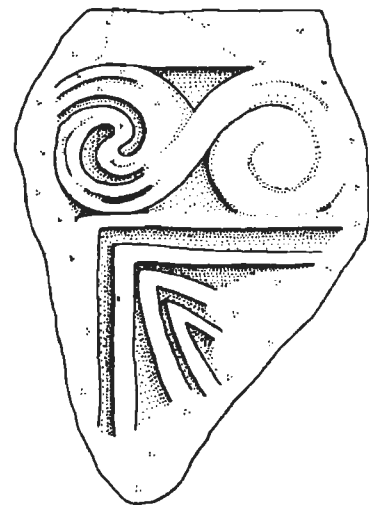
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Fig. 20. Diaper-pattern panels.

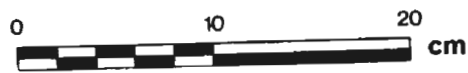
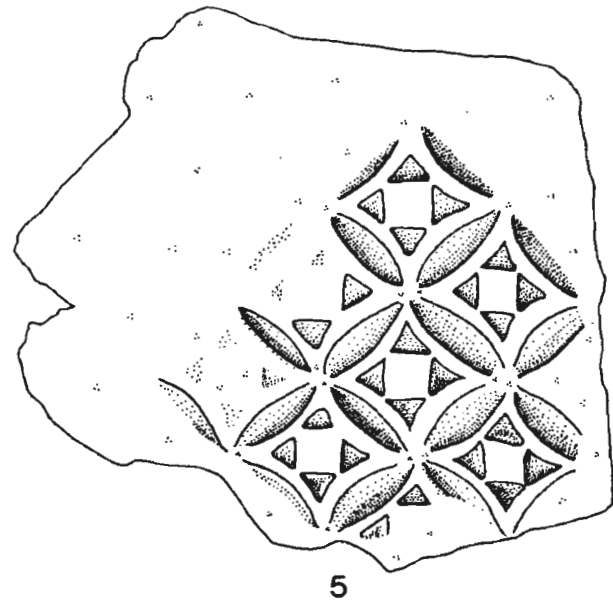
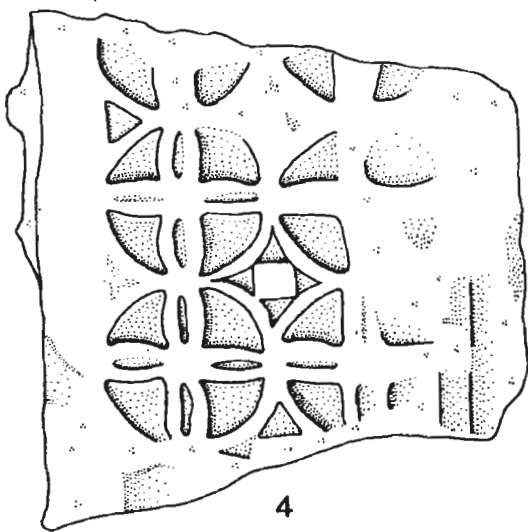
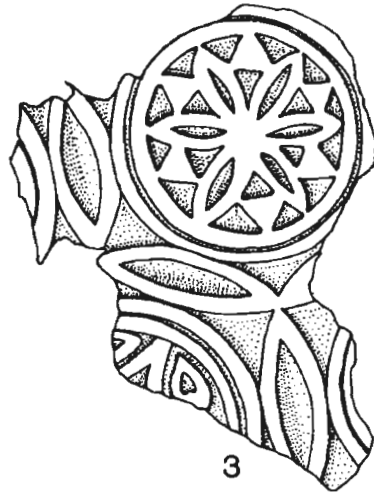
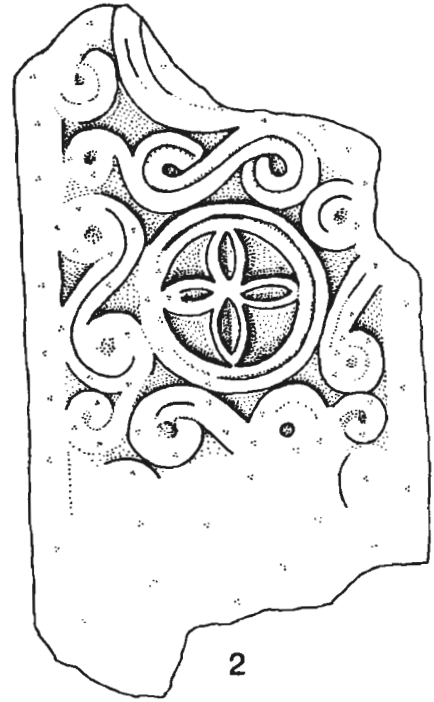
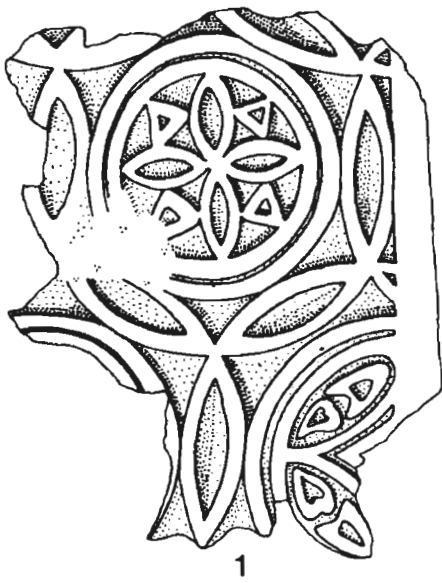
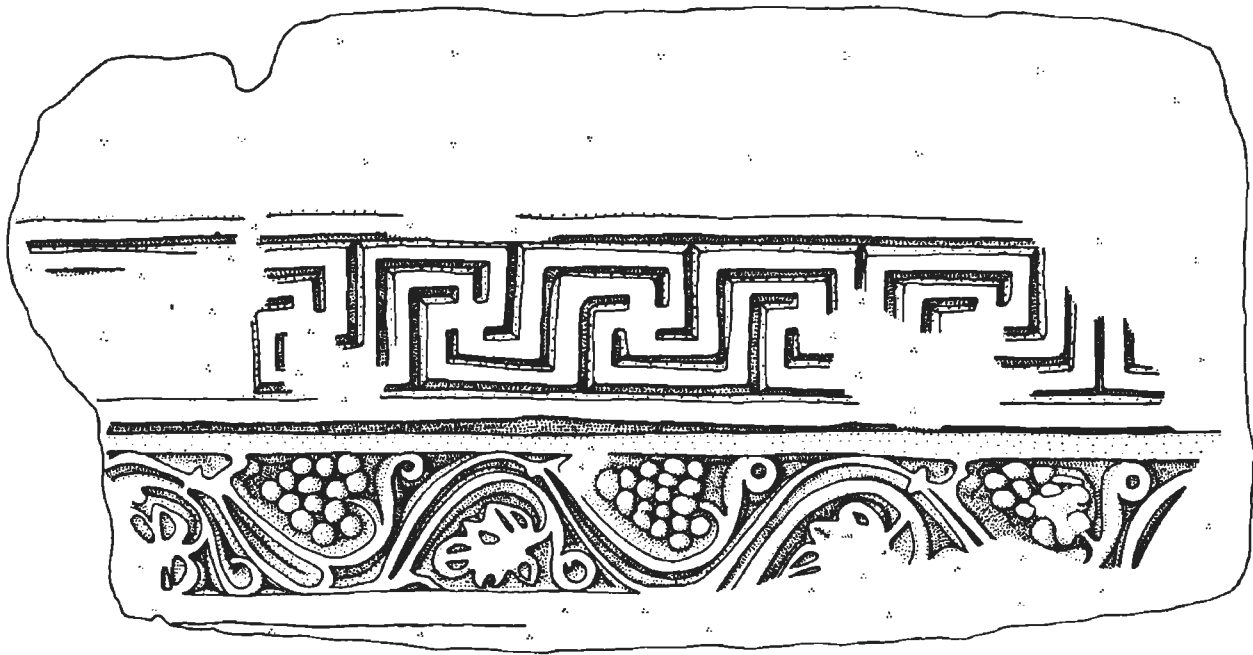
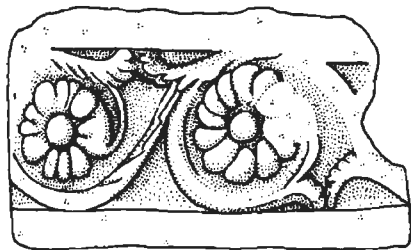


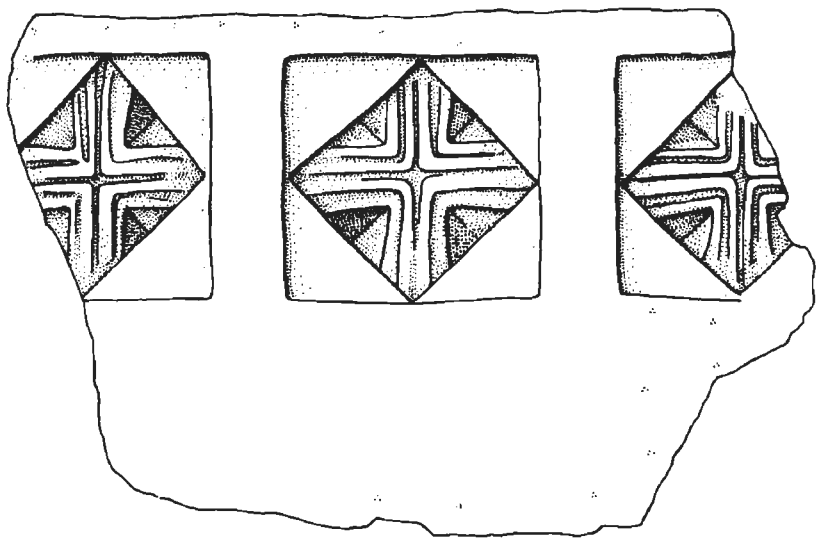
Fig. 21. Circular-motif panels.



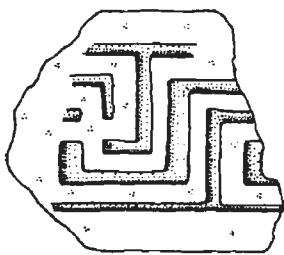
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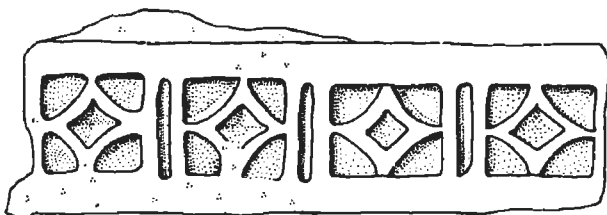
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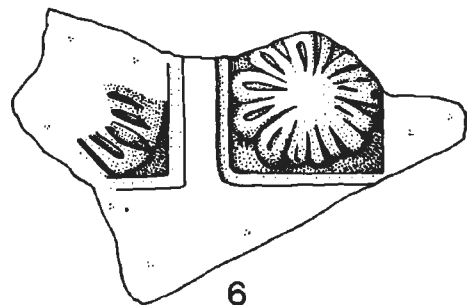
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Fig. 22. Horizontal bands and friezes.

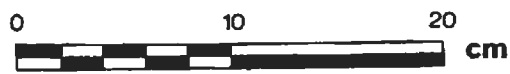
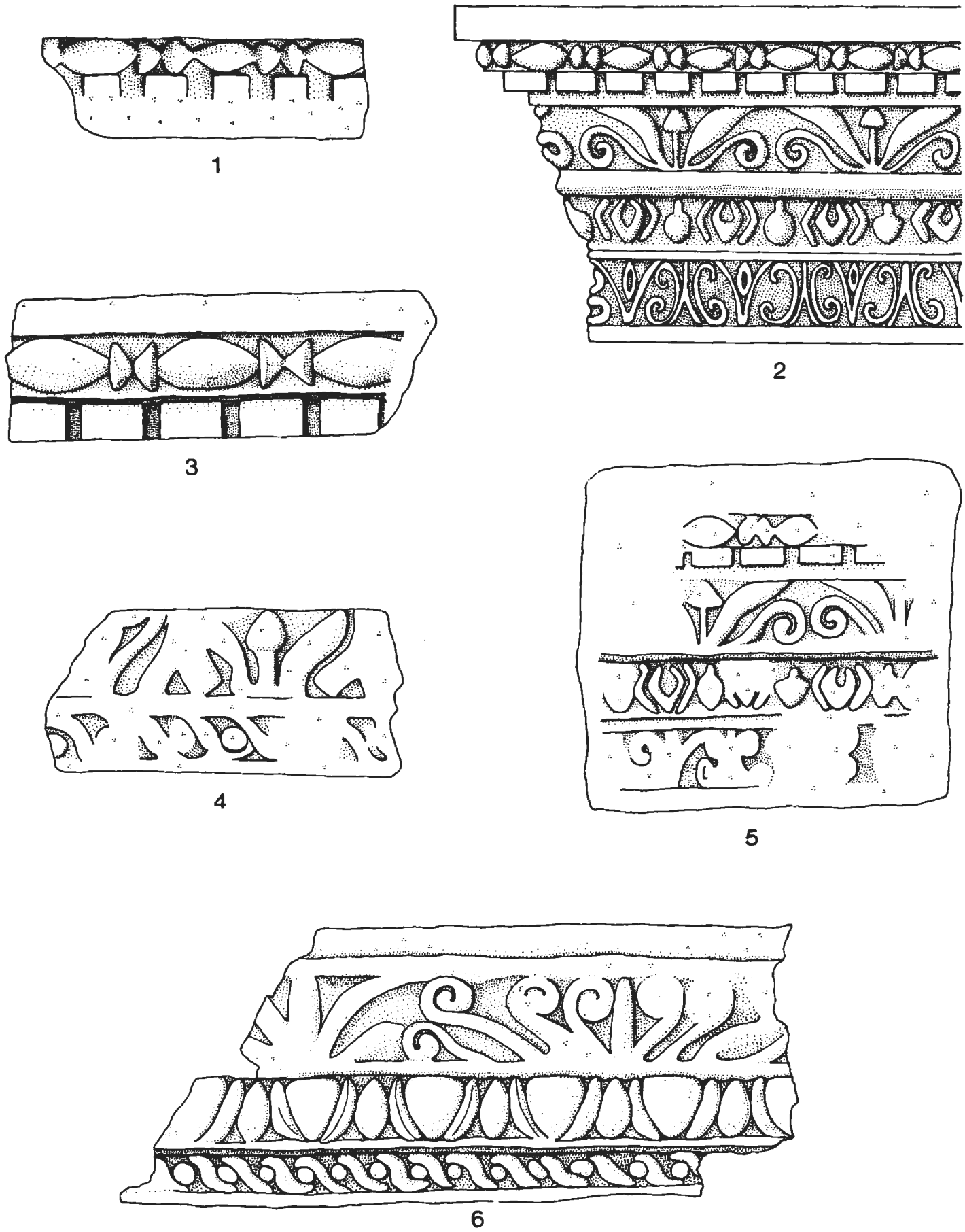


Fig. 23. Cornices.

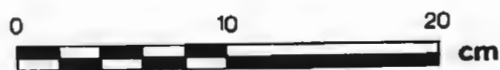
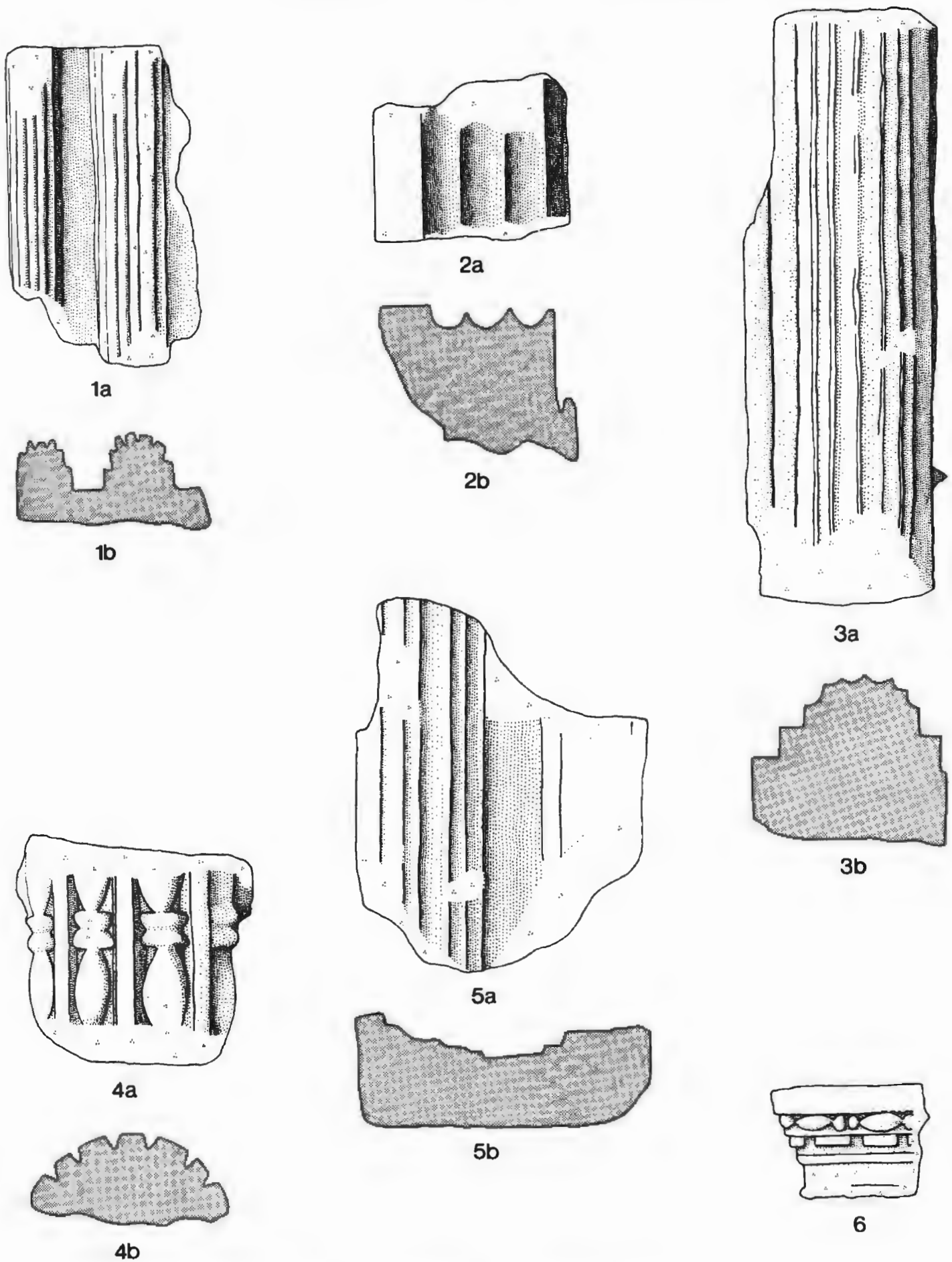


Fig. 24. Miniature fluted-columns.



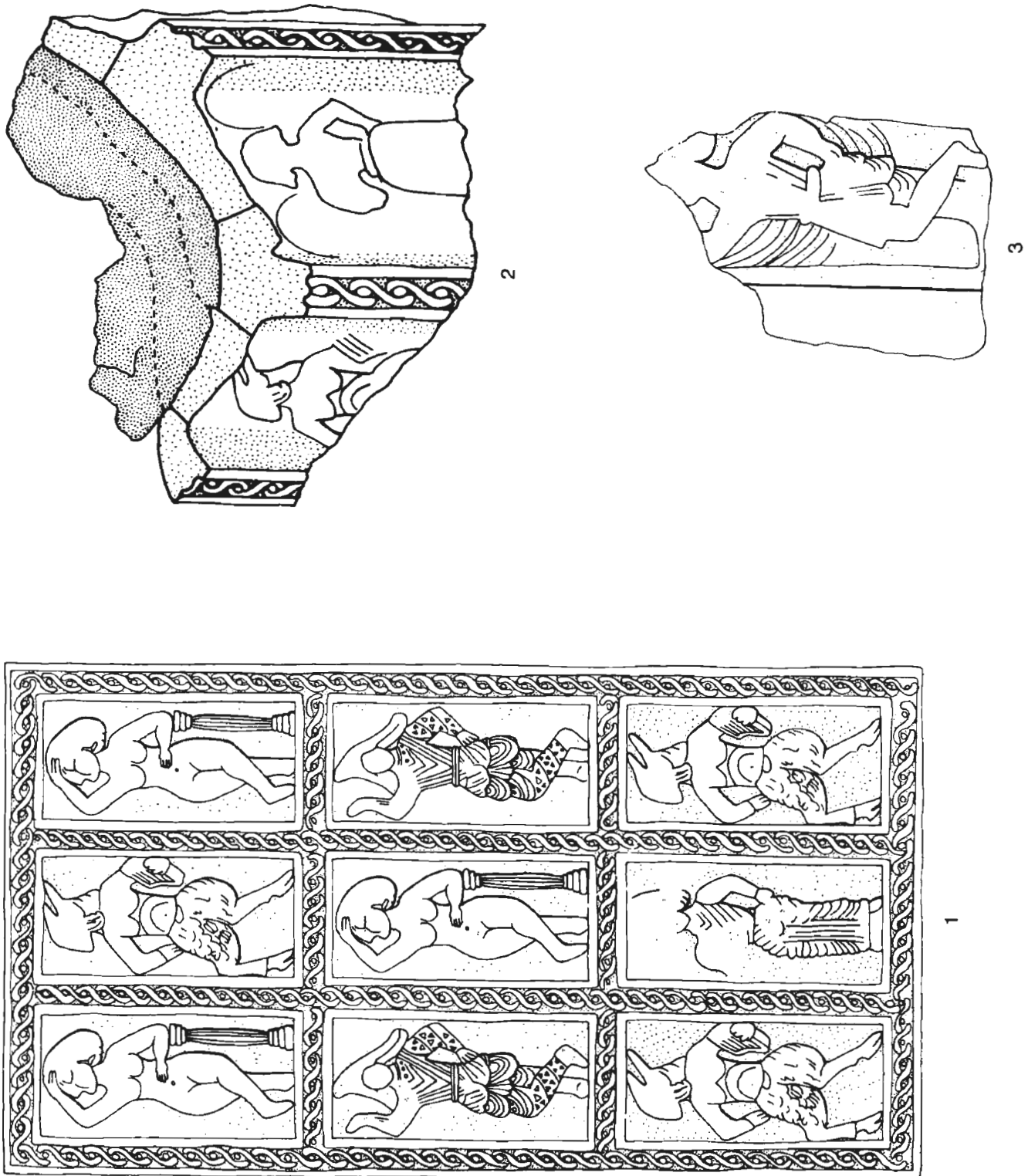


Fig. 25, 1. Conceptual reconstruction of triple-faceted column;  
2. Schematic representation of multi-mould piece

## CATALOGUE

- Fig. 6, 1. QY76.A95. Area 1, stratum 3: Male portrait in roundel. Frontal bust of "Parthian" male with large side bunches of hair. Face badly preserved. Diadem band around forehead. Roundel border has egg-and-dart detail and is set in a square frame, of which the top member carries a stylized vine with leaves, grape clusters and tendrils depicted.
- Fig. 6, 2. QY76.A72. Area 11, stratum 2: Female portrait in medallion. Bust of *himation*-draped female. Head missing. Tight folds of drapery brought over left shoulder to V-shape in front, with twist or braid by left arm, which is bare. Medallion merges with horizontal band of running swastikas. Deep red background behind roundel; blue paint on swastika band; green drapery.
- Fig. 6, 3. QY78.A51. Area 201(B), stratum 2: Female portrait in roundel. Bust of *himation*-draped female. Tight folds of drapery brought over left shoulder to V-shape in front, with braided or other edge at neckline. Right arm bare. Face mutilated in antiquity by broad chisel strokes (see Conservation Report, supra). Twist of hair survives behind left ear. Roundel border has egg-and-dart detail. Entire object was covered by complete (remodelling) overplaster, following deliberate defacement. Paint of drapery is pink, against blue background (greenish near neck); roundel border is blue with highlights in dark red, orange-vermilion, and yellow ochre.
- Fig. 7, 1. QY76.A69. Area 12, stratum 4: Human-headed member. Pair of diminutive male busts on curved surface, indicative of column or capital form. Figure painted in dark red; blue background.
- Fig. 7, 2. QY78.A50. Area 201(B), stratum 2: Human-headed capital. Female head in high relief, with hair in long ringlets down side of face, spit curls on cheeks, roll-curls on brow. Top of head is flat. Acanthus foliage to left of figure indicates capital member.
- Fig. 7, 3. QY78.A49. Area 201(B), stratum 2: Male portrait in vine scroll. Small bust of "Parthian" male with large side bunches of hair. Face is portrayed looking slightly to one side (not totally frontal). Bust is contained within meander of a vine scroll. Part of a star-shaped rosette survives.
- Fig. 7, 4. QY76.A136. Area 11, stratum 2: Male portrait. Male head with hair in short bobbed style, lobes of ears visible. Deep red paint.
- Fig. 7, 5. QY78.A40. Area 201(B), stratum 2: Human-headed capital. Female head with hair in long ringlets down side of face, spit curls on cheeks. Above head, horizontal bud-and-leaf motif.
- Fig. 7, 6. QY78.A23. Area 201(B), stratum 2: Portrait in vine scroll. Part of small bust contained within meander of vine scroll. Scroll has small leaflet and bud-union. Star-shaped rosette (dahlia-like flower) does not appear attached to the scroll by a stem, but balances the bust in the composition.
- Fig. 7, 7. QY76.A45. Area 5, stratum 2: Diamond bust. Diminutive female bust in small diamond-shaped frame. Hair in long ringlets on either side of head, falling loosely in front of shoulders.
- Fig. 7, 8. QY76.A84. Area 5, stratum 2: Diamond bust. Vague outline of human bust in diamond-shaped frame. Filler motif in space between diamond and square frame. Repeat of this motif above indicates design probably repeats itself.
- Fig. 8, 1. QY76.A48. Area 1, stratum 3: "Cupid" or putto. Nude torso in high relief of figure leaning on a fluted pedestal. Right arm across chest, left leg placed loosely across the right. Left forearm is covered by folded garment or animal skin which hangs down in front of pedestal.
- Fig. 8, 2. Composite of QY76.A48 and others. "Cupid" or putto. Wings discernible behind both shoulders. Youthful features, head tilted to one side on left shoulder.
- Fig. 8, 3. QY76.A74. Area 1, stratum 3: "Dionysiac" frieze. Vaguely defined human form reaches with both hands for a bunch of grapes from a stylized vine.
- Fig. 8, 4. QY76.A71. Area 5, stratum 2: "Dionysiac" frieze. Nude male reclines on left elbow, and reaches for a bunch of grapes from vine.
- Fig. 9, 1a and b. QY76.A49. Area 1, stratum 3: Two "cupids" in medium relief sport with the tail and head of a feline between projecting fillets which frame the scene. The head of the "cupid" on the left extends beyond the upper limit of the background and protrudes into the frame. The feet of both animal and "cupids" merge with the lower frame. The soffit of the frieze is defined by a series of step-recessed, coffered designs, of which the central motif is a crude star shape.
- Fig. 9, 2. QY76.A52. Area 11, stratum 2: "Nude dwarf". Legs and lower torso, in high relief, of dwarfish figure in half-squat position. Dimensions large, but figure lacks intricate detailing. Trace of red paint on background.

- Fig. 10, 1. QY76.A43. Area 11, stratum 2: "Architectonic narrative". Remains, in low relief, of a figure facing right against an architectonic setting survives in the form of wings behind the shoulders, in a scene defined by fluted column with simplified Corinthian capital at the side, and crenellation-and-vase motif above. Column in marginally higher relief. Blue paint on background; green column; pink on capital, arrow-slot in crenellation, and wing; yellow ochre vase.
- Fig. 10, 2. QY76.A25. Area 11, stratum 2: "Architectonic narrative". Two winged figures, in high relief, embracing against an architectonic setting, defined by crenellation-and-vase motif above and canopied, columnar feature, possibly a tree, to one side. Figure on left has hair in chignon, indicating a female. Columnar feature in marginally higher relief. Blue paint on background; green on column shaft and arrow-slot; red on vase, columnar canopy, and wing.
- Fig. 10, 3. QY76.A7. Area 11, stratum 2: Dancing couple. Female to right with arms partially raised encounters another figure (left) of indeterminate sex whose face is in partial profile. Tail-like feature at top right may belong to a winged "victory" or similar figure. Blue paint on background; green on winged figure.
- Fig. 10, 4. QY76.A252. Area 11, stratum 2: "Architectonic narrative". Crenellation with arrow-slot motif and flanking vases. Wing below survives as remnant of standing figure. Blue paint on background; red wing; yellow ochre vase and arrow-slot.
- Fig. 10, 5. QY76.A284. Area E2S2, dump: "Standing angel". Standing figure, in medium relief, of female with large-scale wings. Folds of full-length drapery appear behind figure. Head is portrayed tilted to one side, and it protrudes beyond the background into the area of the frame. Replastering layer apparent in top portion. Red paint on drapery; green on wings.
- Fig. 10, 6. QY76.A139. Area 1, stratum 3: "Inhabited vine". Figure, in low relief, appears with arms raised (a dancing pose?) amongst oversized grapes. Vine has leaves, bunches of grapes, tendrils, and a lobed feature from which it appears to emerge. The scene, as preserved, has no obvious vertical or horizontal axis.
- Fig. 10, 7. QY76.A57. Area 11, stratum 2: "Inhabited vine". Nude figure, in low relief, with arms raised above head, and legs flexed back (a dancing pose?). Figure flanked by feature that may be oversized bunch of grapes (as Fig. 10, no. 6). Trace of pink paint.
- Fig. 11, 1. QY76.A38. Area 11, stratum 2: "Pan" and a draped female. Portion of engaged half-column with three facets at about 130° angles, carrying a series of flat, rectangular panels separated by bands of guilloche scrollwork. The lower portion of a standing, draped female in medium relief, arm on hip, is flanked on both sides by the lower portion of "Pan" figures, with just the bottom of their pipes showing. Folds of drapery (in Greek style) are clearly defined. Blue paint on background; pink drapery on female figure; yellow ochre on "Pans".
- Fig. 11, 2. QY76.A253. Area 11, stratum 1: "Pan". Portion of engaged half-column with guilloche border (as above). Horns and mane of creature (probably a "Pan"). Blue and yellow ochre paint on background; trace of red on border above.
- Fig. 11, 3. QY76.A113. Area 11, stratum 2: Draped female. Portion of engaged half-column with guilloche border (as above). Partial bust of (female?) figure, with folds of dress forming V-shape below neck. Side bunches of hair (bobbed) to shoulder height. Deep red paint on background; vermilion on lower, deep red on upper border; figure blue.
- Fig. 11, 4. QY76.A88. Area 11, stratum 2: "Pan". Portion of engaged half column with guilloche border (as above). Standing figure of "Pan", carrying pipes (hands on hips); rib cage and goat-hair legs well defined; beard and mane visible, but top of head missing. Inexplicable "pin" at right arm. Pink-red paint on background and border; "Pan" blue.
- Fig. 11, 5. QY76.A41. Area 11, stratum 2: Male in tunic and nude female. Portion of engaged half-column with guilloche border (as above). Male stands, left arm on hip, right leg flexed in front across the other. Head, held frontally, is damaged but flap of tall cap survives. Dress defined as loose trousers and tunic. Sleeves and legs of dress depicted with distinctive, deeply defined zig-zag design, and row of dots at neckline; upper part of tunic has V-shaped folds drawn down to navel; belt around waist; horizontal fold in skirt of upper garment. Scratched, spoked star-shape on background of panel. Standing nude female leans with left arm on slender pedestal, left leg flexed across in front of the other, and right arm held up to brow. Body held frontally, but head in complete profile. Yellow ochre and blue paint on background and scroll border; male figure yellow ochre; female pink.
- Fig. 12, 1. QY76.A117. Area 5, stratum 4: "Hero in combat". Portion of engaged half-column with rectangular panels containing a series of human and animal images in medium relief. A nude "hero", on alternating sides of the panelled area, lunges at his quarry, which varies from hyena to lion, and perhaps a second lion

(head missing). The lions sit on their haunches with fore-paw raised; the "hero" thrusts a rod (probably a spear) at the animals through the mullions of the panel.

- Fig. 12, 2. QY76.A58. Area 11, stratum 2: "Hero in combat" (as above). "Hero" lunges at a lion that sits on its haunches in a higher stance than that of Fig. 12, no. 1.
- Fig. 12, 3. QY76.A243. Area 1, stratum 3: "Sphinx". Creature sits on its haunches in profile, with foreparts positioned frontally. Breasts shown, and stub of wing survives, but head missing.
- Fig. 12, 4. QY76.A68. Area 11, stratum 2: "Nude female and beast". Nude female, in low relief, of which only the lower half survives, is being carried by a hybrid creature whose legs have scales (?) and a fin. Rib cage of beast is strongly defined. Above its back is an undecipherable (bird?) shape. Blue paint on background; nude and other shape yellow; beast green.
- Fig. 12, 5. QY76.A36. Area 1, stratum 1: "Sphinx". Foreparts of creature portrayed frontally. Strange lump to side of head is possibly its wing.
- Fig. 13, 1. Composite of QY76.A292 and .A96. Area 1, stratum 3: "Intertwined beasts" capital. Pair of winged and bearded dragon-beasts, twisted around each other's midribs, stand in backwards-rampant stance. Wings have volute-scroll form. Feature on either side is stylized tree. Bands above and below are bud-and-tendrill motifs.
- Fig. 13, 2. QY76.A116. Area 11, stratum 2: "Dolphin" capital. Nude (female?) figure stands flanked by pair of dolphins, whose hooked tails she grasps with raised arms. Fish scales are carefully depicted. Lower band of capital carries bud-and-tendrill motif, as well as on sides at top. Overall red paint.
- Fig. 14, 1. QY76.A77. Area 5, stratum 2: Acanthus capital. Fragment of capital with curled acanthus frond on either side of a prow-shaped form. Upper band had bud-and-tendrill motif.
- Fig. 14, 2. QY76.A44. Area 5, stratum 2: Human head. Youthful head with hair tightly curled in rows; diadem with central scalloped feature above brow. Broken off from capital below chin.
- Fig. 14, 3. QY76.A67. Area 5, stratum 2: Inhabited capital. Part of engaged pilaster capital with curled acanthus frond. Head has same tightly curled hair and scalloped diadem as Fig. 14, no. 2. Upper band of capital has bud-and-tendrill motif.
- Fig. 14, 4. QY76.A75. Area 5, stratum 2: Acanthus capital. Fragment of engaged column capital with curled acanthus frond, and squat and tall lobate leaves. Upper profile is prowlike, with band of bud-and-tendrill motif; lower band is circular, also with bud-and-tendrill motif.
- Fig. 14.5. QY76.A78. Area 5, stratum 2: Inhabited capital. Part of engaged pilaster capital, with squat and tall acanthus leaves. Lower part of bust remains, showing fronds of hair falling down in front of left shoulder. Lower band has bud-and-tendrill motif.
- Fig. 15, 1. Composite of QY76.A16, .A18 and .A20. Procession of confronted and addorsed griffons, with hump-backed bull.
- Fig. 15, 2a and b. QY76.A18. Area 11, stratum 2: Fragment of rounded arch with winged griffon marching left, right fore-paw raised. Beak, wings and hooves strongly defined. Stepped coffers in diaper pattern on soffit. Trace of purple paint.
- Fig. 15, 3a and b. QY76.A20. Area 11, stratum 2: Fragment of rounded arch with winged griffon marching right, left fore-paw raised in front of horned, hump-backed bull. Stepped coffers in diaper pattern on soffit. Design is one and a half coffers wide; coffer has inset quatrefoil. Overall purple and blue paint.
- Fig. 15, 4a and b. QY76.A16. Area 11, stratum 2: Fragment of rounded arch with winged griffon marching right. Mane, beak, and eye strongly defined; tail forked at end. Stepped coffers in soffit. Overall purple paint; trace of red on soffit.
- Fig. 16, 1a and b. QY76.A119. Area 5, stratum 2: Griffon arch. Fragment of flat arch with pair of addorsed, half-rampant griffons, of which one attacks the neck of an antlered deer. Stepped, coffered device in soffit with inset lobed lozenge motif.
- Fig. 16, 2a and b. QY76.A124. Area 11, stratum 2: Fragment of rounded arch with vague outline of griffon; purple paint on background. Coffered device, with inset quatrefoils, on soffit. A layer of complete (remodelling) overplaster survives on archivolt face.
- Fig. 16, 3. QY76.A209. Area 11, stratum 2: Vertical panel. Antlered head of deer, with ribbon or other feature associated. Blue background; trace of reddish-brown paint on deer; red "ribbon".
- Fig. 16, 4. QY76.A70. Area 2, stratum 4: Flat panel. Half-rampant griffon. Tendrill motif below.

- Fig. 17, 1. QY76.A76. Area 1, stratum 3: Protome of *senmurv*-griffon, in shallow relief. Mane, proximal feathers, and neck ruff strongly defined. Wing has tight volute-scroll tip. Diminutive, raised fore-paw.
- Fig. 17, 2. QY78.A22. Area 201, stratum 3: Head of *senmurv*-griffon, in shallow relief. Plaited mane and neck ruff have scalloped edges. Raised fore-leg clashes with beak.
- Fig. 17, 3. QY78.A60. Area 201, stratum 3: Wing and tail of *senmurv*-griffon, in shallow relief. Wing has tight volute-scroll tip. Bovine tail terminates in forked tassel.
- Fig. 18, 1. QY76.A137. Area 1, stratum 3: Engaged half-column, divided up into a grid of squares defined by lines of reel-and-bead. Designs consist of stepped crenellation with arrow-slot, quatrefoil, and swastika.
- Fig. 18, 2. QY76.A89. Area 1, stratum 3: Flat panel, divided up into a simple grid of plain quatrefoils. Surfaces sharply defined. Design had been covered by complete (remodelling) overplaster. Trace of red paint.
- Fig. 18, 3. QY76.A256. Area 11, stratum 2: Flat panel, divided up into a grid of squares defined by lines of reel-and-bead. Designs consist of quatrefoil with heart-shaped leaves and circular device of two half-quatrefoils. Overall blue-green paint.
- Fig. 18, 4. QY76.A56. Area 1, stratum 3: Flat arch fragment. Soffit defined by a series of coffers in diaper pattern. Archivolt face has random pattern comprising quatrefoil, swastika, and lozenge motif.
- Fig. 19, 1. QY75.17. Hushtareh, W1S2. 5h: Vertical, flat panel with repetitive design consisting of stepped crenellation with arrow-slot, and flanked by pair of twin-handled vases. Dividing bands contain three lozenge shapes set within squares.
- Fig. 19, 2. QY76.A23. Area 11, stratum 1: Flat panel with deep definition and design comprising large-scale stepped crenellations with arrow-slot. Blue paint on background; centre crenellation green; two flanking crenellations pink; lower band yellow.
- Fig. 19, 3. QY76.A135. Area 5, stratum 2: Diminutive band with standard stepped crenellation device and flanking twin-handled vase.
- Fig. 19, 4. QY76.A291. Area 1, stratum 3: Vertical band, deeply cut, with superimposed device consisting of two tendrils in V-shape.
- Fig. 19, 5. QY78.A17. E1S2, discard: Horizontal member with guilloche band, another damaged surface, and an interlocking swastika device.
- Fig. 19, 6. QY76.A90. Area 5, stratum 2: Repetitive band of devices consisting of triangles with twin lobes.
- Fig. 20, 1. QY76.A262. Area 5, stratum 2: Flat panel divided into square and triangular shapes containing leaf-and-tendrils motif and another unknown.
- Fig. 20, 2. QY76.A148. Area 5, stratum 2: Triangular device, with deep definition, containing inset rosette.
- Fig. 20, 3. QY76.A261. Area 5, stratum 2: Flat panel (as Fig. 20, no. 1), divided into square and triangular shapes, with leaf-and-tendrils motif in the triangle and medallion with lobe set in the square.
- Fig. 20, 4. QY76.A30. Area 5, stratum 2: Flat panel consisting of continuous swastika devices, set diagonally across the axis, with half-medallions in between.
- Fig. 20, 5. QY76.A173. Area 5, stratum 4: As above, with different medallion patterns.
- Fig. 20, 6. QY76.A175. Hushtareh, W1S2 discard: Flat panel with part of leaf device set in a square, with border of meander scroll.
- Fig. 21, 1. QY76.A129. Area 5, stratum 2: Flat panel with overall design of medallions containing rosette and lobate designs; medallion separated by lobate device.
- Fig. 21, 2. QY76. A141. Area 1, stratum 3: Flat panel with overall design consisting of medallion containing quatrefoil, surrounded by series of meander scrolls.
- Fig. 21, 3. QY76.A105. Area 5, stratum 2: Flat panel (as Fig. 21, no. 1) with different combinations of rosettes.
- Fig. 21, 4. QY76.A296. Area 1, stratum 3: Flat panel with overall design consisting of quatrefoils set in adjacent circles. Design covered by thin layer of complete (remodelling) overplaster. Trace of red paint on design.
- Fig. 21, 5. QY76.A163. Area 5, stratum 2: Flat panel with overall design consisting of lozenges set in adjacent circles.
- Fig. 22, 1. QY75.19. Hushtareh, W1S2.8f: Frieze fragment. One band of running swastikas, and another of a stylized grape vine with leaves, grape clusters, and tendrils.
- Fig. 22, 2. QY76.A32. Area 11, stratum 2: Horizontal band of Vitruvian scroll with rosette flowers; small leaflets. Overall blue paint.

- Fig. 22, 3. QY76.A172. Area 11, stratum 2: Band with running swastika pattern. Red and blue paint.
- Fig. 22, 4. QY78. A28. Area 201(B), stratum 3: Flat arch fragment, with soffit carrying coffered device consisting of cross within a diamond set in a square.
- Fig. 22, 5. QY76.A106. Area 11, stratum 2: Simple band of lozenges set in separate squares. Overall red paint.
- Fig. 22, 6. QY76.A282. Area 5, stratum 2: Coffered device, consisting of rosette set within a square.
- Fig. 23, 1. QY76.A165. Area 1, stratum 3: Cornice fragment, consisting of dentil and reel-and-bead elements.
- Fig. 23, 2. Composite of QY76.A10, .A22 and .A144. Cornice with bands of reel-and-bead, dentils, bud-leaf-and-tendrill, near egg-and-dart motif, and an addorsed scroll element.
- Fig. 23, 3. QY76.A27. Area 11, stratum 2: Large-scale cornice fragment with reel-and-bead and dentil elements. Overall blue paint.
- Fig. 23, 4. QY76.A28. Area 11, stratum 2: Cornice fragment, consisting of bud-and-leaf motif, with guilloche band below.
- Fig. 23, 5. QY76.A144. Area 11, stratum 2: Cornice fragment, consisting of reel-and-bead, dentils, bud-leaf-and-tendrill, near egg-and-dart, and another indistinct element.
- Fig. 23, 6. QY76.A130. Area 1, stratum 3: Cornice fragment, consisting of bud-and-tendrill, egg-and-dart, and a guilloche motif.
- Fig. 24, 1a and b. QY76.A168. Area 1, stratum 3: Miniature engaged half-columns. Two fluted half-columns affixed to flat backing.
- Fig. 24, 2a and b. QY76.A276. Area 11, stratum 2: Fluted pilaster. Three flutes, with abutting flat band. Traces of red and yellow ochre on flutes and flat band; red and traces of blue on side face.
- Fig. 24, 3a and b. QY76.A290. Area 11, stratum 2: Engaged half-column, fluted, with stepped sides. Flutes painted alternately red and green; traces of yellow under green on some flutes. Stepped sides repainted "shocking pink" over original red.
- Fig. 24, 4a and b. QY76.A142. Area 1, stratum 3: Engaged half-column, fluted, with relief reel-and-bead motif in each flute.
- Fig. 24, 5a and b. QY76.A274. Area 1, stratum 3. Moulding. Conformations step down to central flat band.
- Fig. 24, 6. QY76.A166. Area 11, stratum 2: Moulding or cornice fragment with reel-and-bead and dentil elements.
- Fig. 25, 1. Conceptual reconstruction of triple-faceted column.
- Fig. 25, 2. QY76.A300. Area 11, stratum 2: "Pan" and a draped female. Perspective drawing shows (in solid lines) the irregular, vertical mould divisions of the decorative facets. See also Fig. 11 for other triple-faceted fragments.
- Fig. 25, 3. QY76.A99. Area 11, stratum 2: male in tunic. Same type as Fig. 11, no. 5 with incised lines forming folds of cape behind (?). Yellow ochre and blue paint on background; figure vermillion.

<sup>1</sup> Subsequent laboratory analysis of stucco samples was performed by Florence E. Whitmore of the Boston Museum of Fine Arts. Quantitative analysis revealed only the presence of calcium sulphate (gypsum) and a minute quantity of quartz (less than 1 ppm).

<sup>2</sup> M. A. R. Colledge, *Parthian Art* (New York, 1977), p. 72.  
B. Goldman, "The Architectural Decoration", in *Topography and Architecture of Seleucia on the Tigris* (Ann Arbor, 1972).

<sup>3</sup> H. E. Wulff, *The Traditional Crafts of Persia* (Cambridge, 1966), pp. 133-35.