

**QAL'EH-I YAZDIGIRD**  
**An Overview of the Monumental Architecture**

**BY**  
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# QAL'EH-I YAZDIGIRD

## An Overview of the Monumental Architecture

By Edward J. Keall

This article is the last of three preliminary reports to appear in this journal dealing with the finds of the Royal Ontario Museum's expeditions to Qal'eh-i Yazdigird between 1975 and 1979.<sup>1</sup> The final excavation reports will be published as a separate monograph following completion of studies currently being conducted on the excavation findings.<sup>2</sup> Many aspects of the site have already been reported in this journal and elsewhere. This report presents the basic information on what is known, or is not known, about the free-standing and excavated architecture, and outlines the theories currently associated with these structures by the author.<sup>3</sup> The subject of decorative ornament is introduced only when it has some significance for dating or explanation of function.

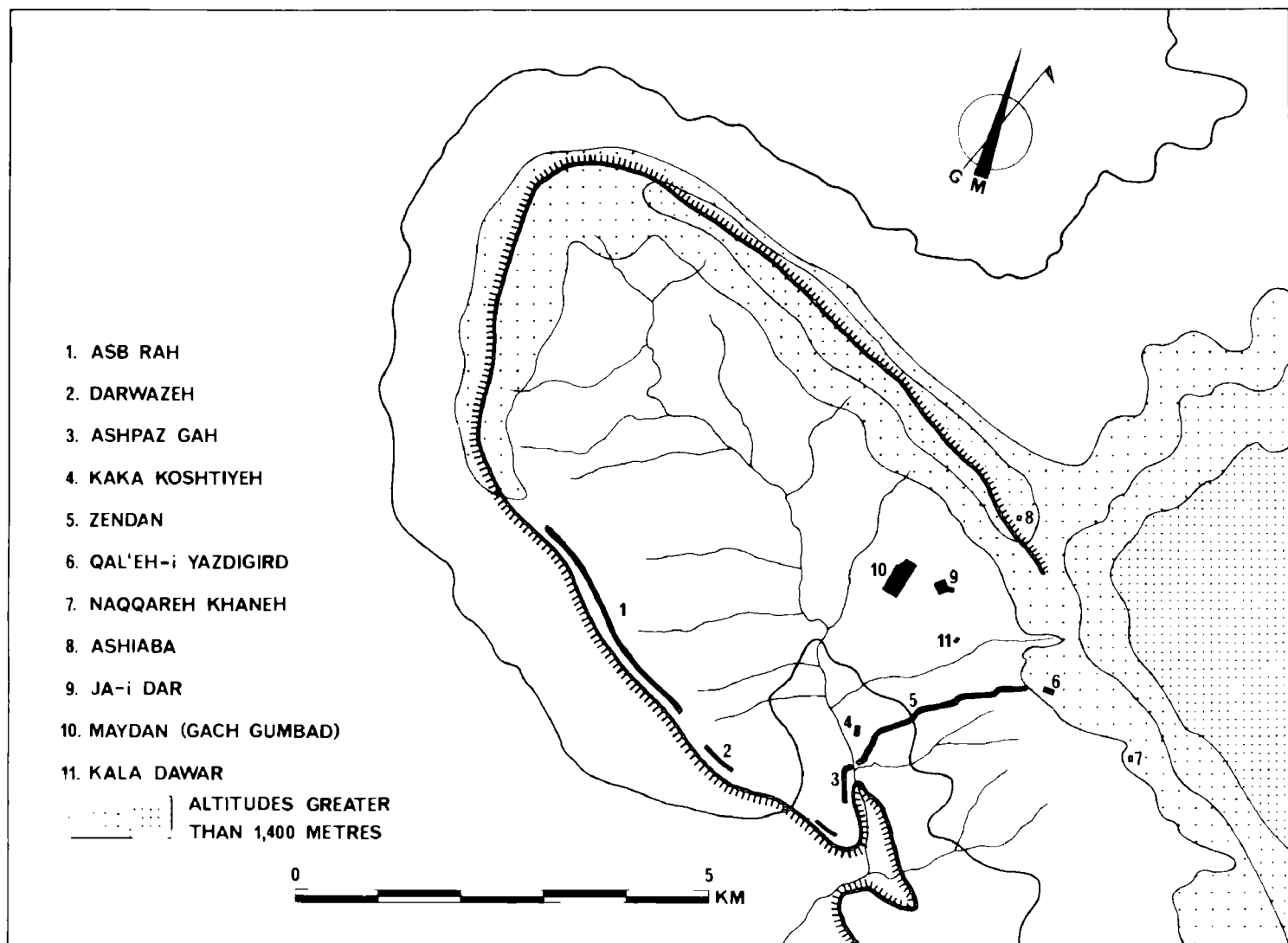
The architecture of the site (which comprises the entire area of the Zardeh basin) is interpreted as having a predominantly Parthian association. While certain hypotheses can be offered toward an understanding of how the site functioned in the Parthian period, it is not possible without further on-site investigation to address exhaustively the whole question of the Zardeh basin from Parthian to Seljuq times. Nevertheless, the Parthian architecture cannot be discussed without reference to the subsequent building activity which modified the way in which the basin was used. Some architectural remains can be associated with activity at least as late as the tenth century A.D., and it is conceivable, based on a preliminary analysis of the pottery, that the late repairs which were made to the Upper Castle date to the thirteenth century or even later. Future work may be able to investigate the wall systems and forts which lie in the uplands behind the basin, but these and other questions of the late mediaeval occupation fall outside the immediate concerns of this article.<sup>4</sup>

Since little of the basin's architecture has been dated firmly, due to the interruption of the excavation programme, great reliance must perforce be placed on an interpretation of how the structures functioned in order to deduce a relative chronology for the various parts of the architectural record. For example, the *chahar taq* of Kala Dawar is determined to be Sasanian because of the basically standard Sasanian character of its floor plan and the lack of any obvious Parthian features. Until further evidence for dating is available, the defensive walls which ring the site must be considered contemporary with the extensive Parthian-period monumental architecture, since no other structures of this size and lavishness are known to exist in the basin. Similarly, the upper lookout posts are judged to be Parthian because their presence makes sense only when viewed as part of the overall defensive system. In the case of both the circumvallation and the upper lookout towers, surface sherds provide some circumstantial material evidence for a Parthian date.

### *The defensive walls* (Pls. I-IV; Figs. 2 and 3)

As previously described in site reports, the Zardeh basin is a remarkable natural syncline on the extreme westerly edge of the Zagros Mountains. Depending upon whether the viewpoint is from the lowlands or the uplands, the basin appears either as a formidable, elevated tableland or as a sheltered, thumb-shaped projection forming one of the last steps of the Iranian plateau (Fig. 1). The circumference of the basin is approximately 25 kilometres. Almost 20 kilometres of this is an escarpment edge which provides excellent natural fortifications. Three kilometres of relatively open ground on the southeast side of the basin called for a massive defensive wall to complete the circumvallation of the area (Pl. 1c), and wherever the cliff edge was easy to scale, the architects of the site judged it necessary to erect additional walling, though of a variety less massive than that of the main defensive wall (Pl. 1a, b). About 5 kilometres of escarpment edge were given additional fortification in this way. The entire protected area amounted to between 35 and 40 square kilometres.





*Fig. 1. Map of the Zardeh basin.*

Where intact, the escarpment wall reveals numerous arrow embrasures along its length (Pls. IIId, IIId). The main defensive wall across the open neck of land has the same kind of embrasures (Pl. IIa, b, c). The top of the opening is capped by two baked bricks set in an inverted "V", making the overall silhouette an arrow shape (Pl. IIId). It is not clear whether any of these embrasures were intended for firing through. The outer slot is often no more than 10 cm. wide, and taken in consideration with the thickness of the wall and the considerably lower elevation of ground on the outer side, the narrowness of the slot would have made taking precise aim at an individual attacker extremely difficult. The end result is that the embrasures seem intended to be more visually daunting than functionally practical.

In addition to the provision of arrow embrasures, the main defensive wall has a large number of buttress towers which enclose guard chambers.<sup>5</sup> Two of the best-preserved towers, designated WF-1 and WF-2, were cleared along this wall in 1975 (Pl. IIIa, b; Fig. 3). As shown by the excavation, tower WF-1 was approximately 9 m. wide, with a curtain wall of approximately 20 m. between it and the next tower. Access to the guard chambers within was provided by a single entranceway on the inner side of the defensive wall, reached by way of an earth ramp (Pl. IVb, c). Sherds recovered from the ramp can be dated to the Parthian range of the Qal'eh-i Yazdigird corpus. The most important of the sherd finds, from tower WF-1 itself, was a piece of a small spouted jug in a fine red clay which related it to the clinky-ware tradition of Parthian pottery.<sup>6</sup>

Material evidence for dating the defensive wall system as a whole rests at present with the finds

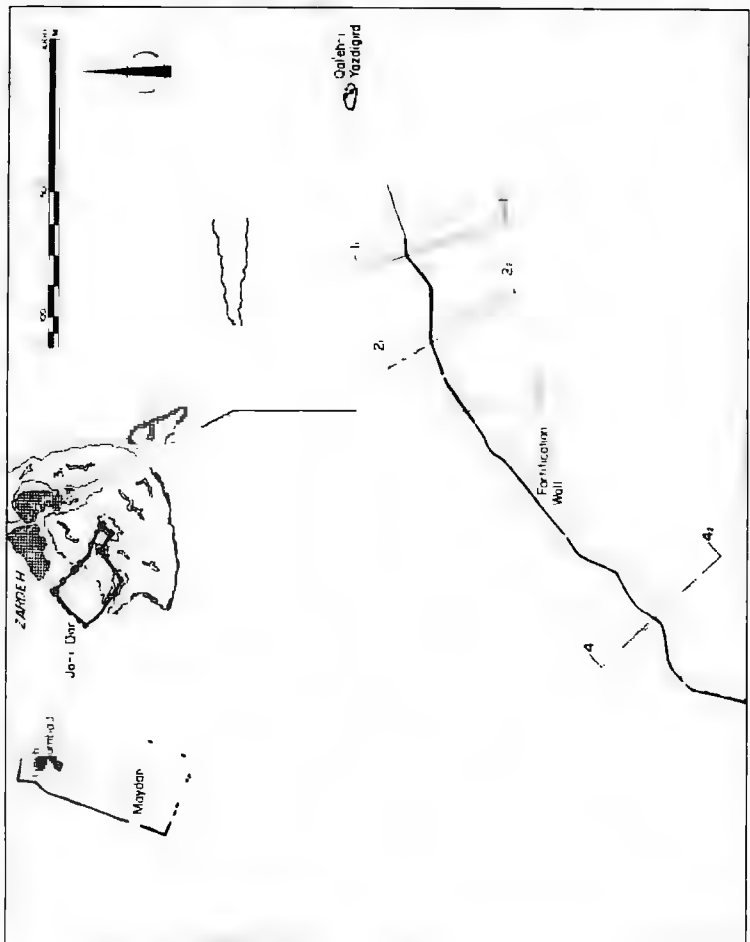


Fig. 2a. Sections through the main defensive wall (Zendan), showing it built on the edge of a shallow ravine.

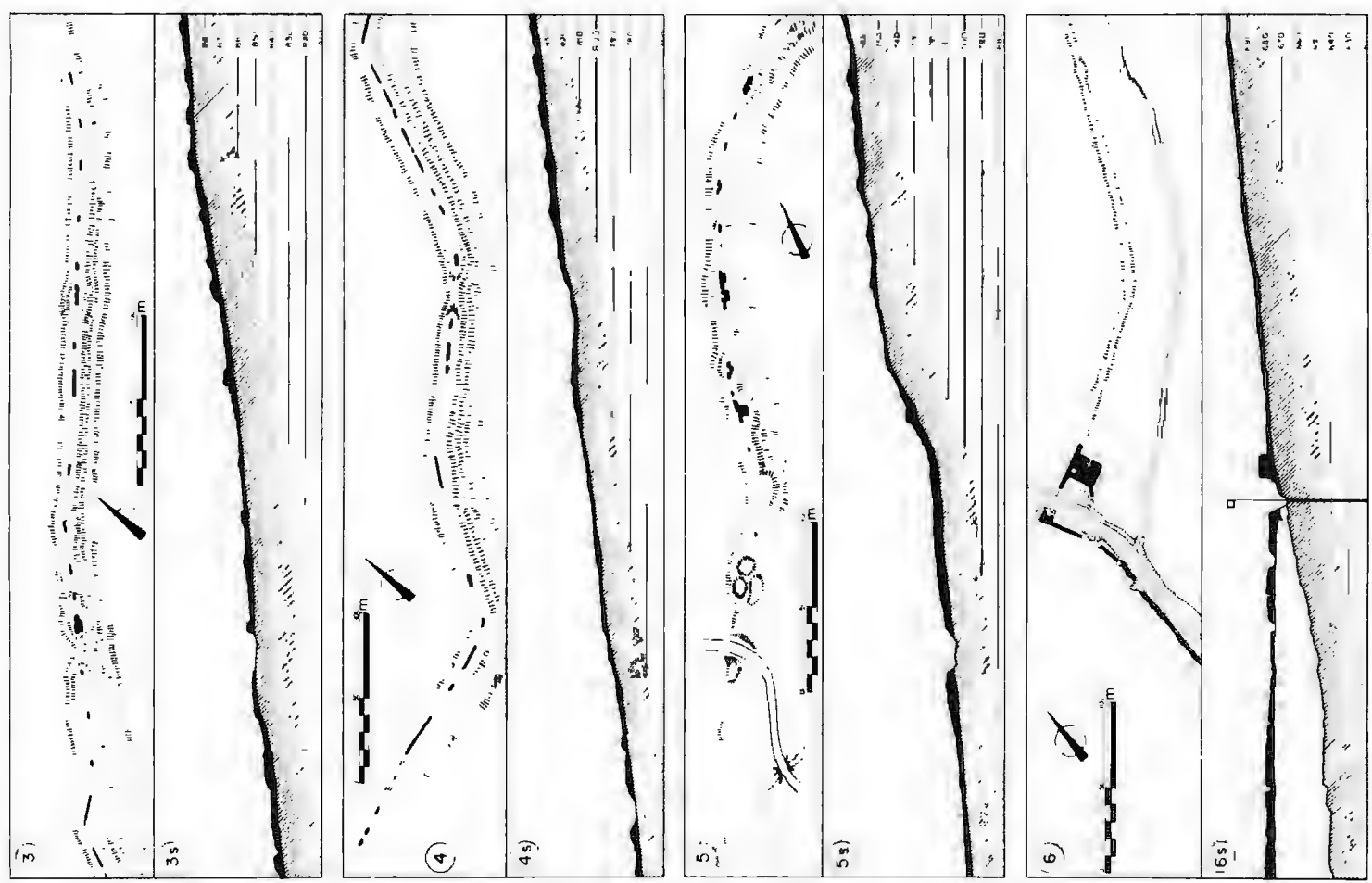


Fig. 2b. Plans and elevations of four lengths of the main defensive wall (Zendan to Ashpaz Gah), based on surface remains.

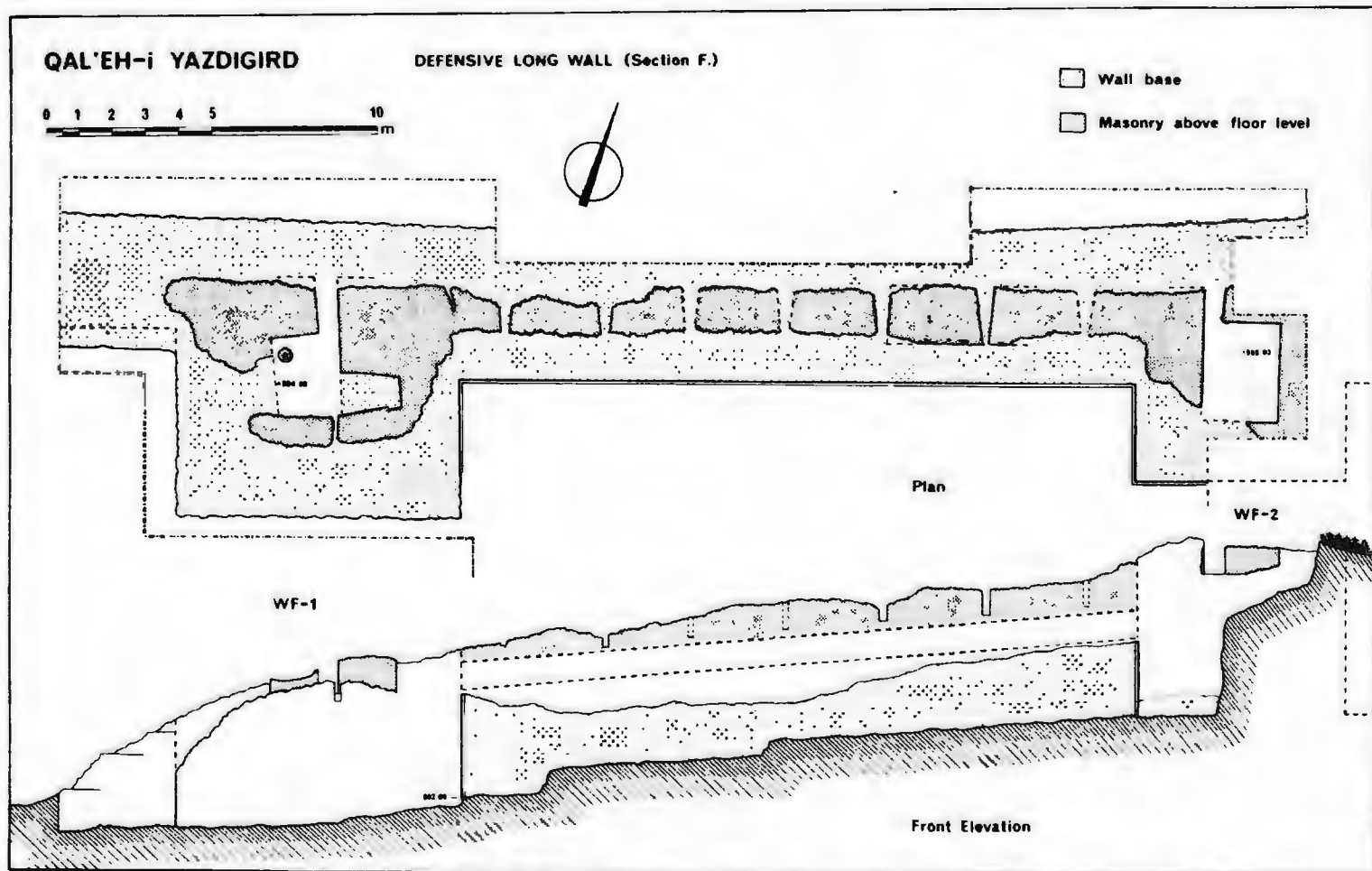


Fig. 3. Main defensive wall (Zendan) showing tower guard chambers and embrasures, as excavated, 1975.

from the excavation of these two towers. Identifiable Sasanian or Islamic pottery has not been found in the general context of the wall system. Some probable Islamic plainwares were recovered from the surface near Ashpaz Gah, close to where the modern road and the ancient track from Rijab enters the site. Late squatter activity, with people taking shelter in the wall's guard chambers, is the most likely explanation for the presence of this material. The nearby "guard station" of Kaka Koshtiyeh (Fig. 4) lacks any of this late pottery, perhaps because it did not provide a shelter so accessible to the ancient road.

Traces of two single towers along the escarpment wall have been located in the section of walling known locally as Darwazeh.<sup>7</sup> They may represent a cliff-path entrance way: the immediate area in which they occur provides one of the easiest routes of access to the basin along the entire escarpment and is used in present times by the villagers, who make their way annually from their winter settlements along the baselines of the escarpment en route to the summer pasture of the highlands.

Certain interesting observations about construction technique can be drawn from the project's examination of the wall system. The defensive walls are built of rubble-stone and mortar. It is a technique familiar to all who work in Iran and is often automatically associated with the Sasanians. That it is not exclusive to that period is evidenced by the fact that many mediaeval caravanserais are built in the same way. The process of construction involves the creation of a mass of masonry from undressed stones which are set in huge quantities of mortar. In a sense it is concrete, with the stones merely filling up space within the mix. However, in the Qal'eh-i Yazdigird structures, there is no physical bond other than that the mortar sets hard around the stone.

Little effort appears to have been made to standardize the aggregate in the wall system, although for most of its length fieldstone was used, of a size which generally falls in the 20-30 cm. range for

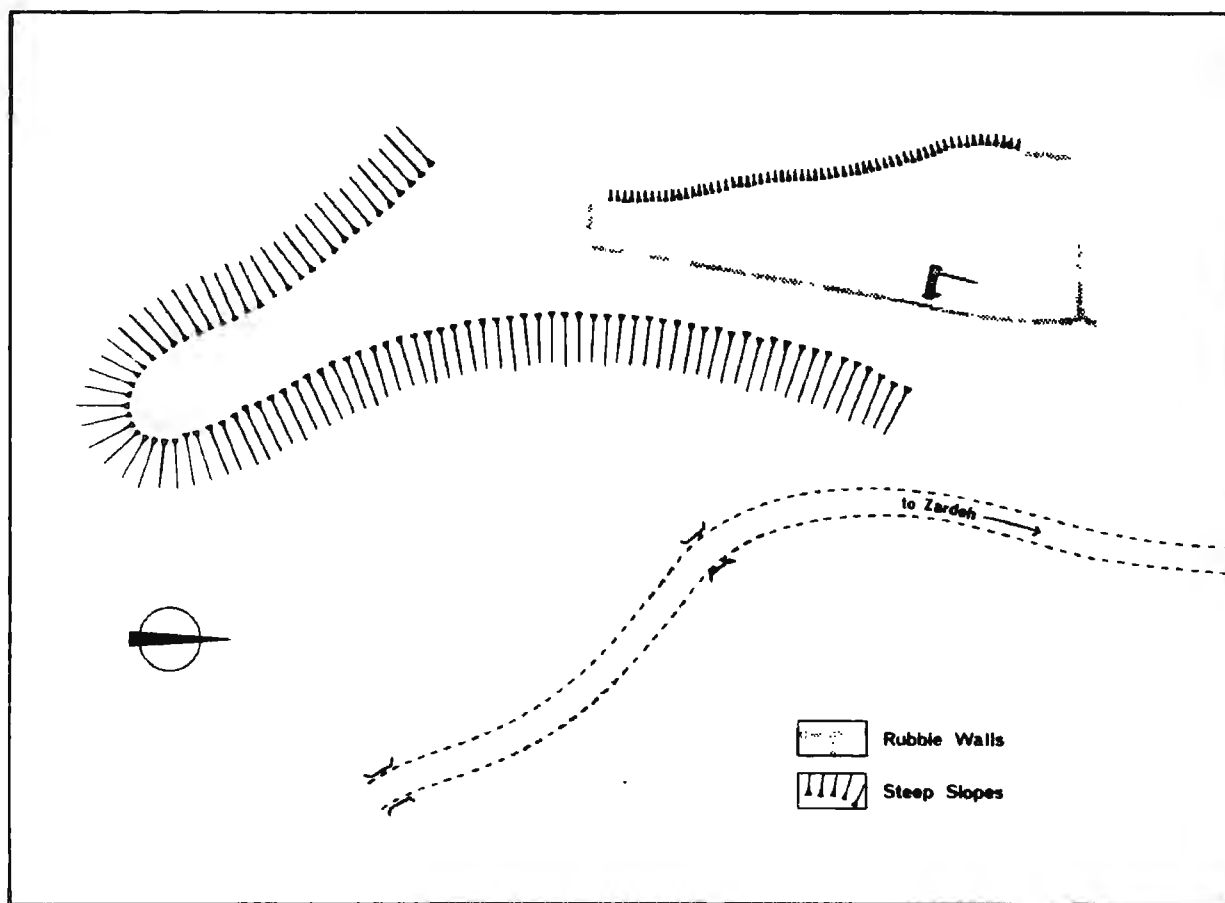


Fig. 4. Plan of the "guard station" (Kaka Koshliye), on rock spur near main defensive wall, based on surface remains.

maximum dimension. In certain areas of the wall, the size and characteristics of the aggregate vary from the norm. Unfortunately, from the point of view of comparative analysis, these variations do not necessarily imply a different date of construction for the sections in question. Rather, the nature of the aggregate appears to depend on what was close at hand. In the northerly part of the main defensive wall, where it climbs the cliff below the Upper Castle (Pl. 1d), the size of the aggregate is comparatively small; large stones were not easy to come by on this exposed cliff edge. The stones used in the Ashiaba lookout post (Pl. VIIb) are markedly angular, but again, this departure from the norm can be attributed to the fact that the structure was built on an exposed pinnacle of rock (Pl. VIIa). The soft limestone here fragments fairly easily with the aid of a crowbar, and the use of pieces pried from the rock strata would be a more practical process than hauling up rocks from hundreds of metres below. Similar angular stones occasionally appear elsewhere in the site's walls, giving those sections an "abnormal" look (see below, under Maydan).

A distinctive feature of all these rubble walls is that, depending upon the state of erosion, a definite line is discernible in the masonry at certain horizontal intervals (Pls. 11d, 111c). The walls were clearly constructed in "lifts", in the manner of pisé mud walling. A 30-50 cm. height of masonry was laid along a given length of wall. When this had dried sufficiently not to slump, it became the base for the construction of the next course or lift. In this way, with quick-drying mortar, rubble masonry could be laid without the need for formwork. (In some of the embrasures, the mortar on the sides of the opening has obviously slumped, reinforcing the notion that the masonry was laid free-standing). The top of each lift was finished off with a rough layer of mortar, and it is this line which is visible on the eroded face of the Parthian walls. The same principle is used by the modern builders in the area when they lay a band of mud mortar on top of their fieldstone courses. In the case of the section of wall that ascends the cliff below the Upper Castle, vertical divisions are also seen (Pl. 1d). Unfortunately, once again, variations from the norm cannot be used automatically, in isolation from other

factors, to make a distinction in time. Predictable construction methods would be impossible to apply here, and the builders were clearly improvising in order to cope with the peculiarities of the terrain.

With respect to the WF stretch of the wall, a further observation can be made about the way in which the masonry of tower WF-1 was laid. It is clear that parts of the curtain wall and the tower were built separately in terms of the actual construction of the masonry. This was not a matter of a later addition, but simply the accretive process of building. The same principle of piecemeal construction has been observed by the author in the foundation walls of the late Parthian fortress at Nippur. There, heavy walls (albeit in mud brick) are made up from segments that interlock on a three-dimensional basis; sometimes the bond occurs horizontally, sometimes vertically. This method would, of course, permit separate gangs of workmen to work independently. In addition, the technique of piecemeal construction may have been used to discourage slumping, since minor settling of the various parts could occur without danger to the whole. Unfortunately, in the case of tower WF-1 at Qal'eh-i Yazdigird, the principle was not put into effect very well. There was a serious slump which is reflected in the way that the masonry of the projecting part of the tower can be seen to have torn away from the masonry of the wall itself (Pl. IVa). The damage does not seem to have been the result of deliberate undermining. Apparently the slump occurred during construction, before the core of masonry was properly cured.

*The Upper Castle and lookout posts (Pls. V-VII; Fig.5)*

As described above, the main defensive wall runs across the open stretch of the basin to connect with the cliffs on the eastern edge. Above this point the terrain is extremely steep—a slope of approximately 45°. Perched on top of the incline, on a rock outcrop (Pl. Vb), is the Upper Castle or Qal'eh-i Yazdigird itself, the feature from which the site as a whole takes its name. The castle forms a logical part of the defensive system, defending the water supply of the basin and protecting against the eventuality of any attacker being able to penetrate the defensive system by coming down from the higher ground and entering the basin through the narrow gorge of Baba Yadgar.

Flanking the Upper Castle on higher peaks to either side of the gorge are the lookout posts of Ashiaba and Naqqareh Khaneh (Pls. VIIa and VIId). They are quite small features, and little remains of them above ground. Like the castle, they can be seen to form an integral part of the defensive system: by combining the observation potential from each of these structures, the defenders were able to command an outstanding view over enormous tracts of countryside (Pl. VIIc) in all directions except the northeast, where the mountain chain rises up to a considerably greater height, as part of the Zagros massif itself. Supporting evidence for the hypothesis that these lookout features are contemporary with the wall system comes from Parthian sherds found on both outposts.

The Upper Castle is not such a simple matter. It had a complex history, as evidenced by the architectural alterations which are visible even above ground. It is likely that these changes occurred in Islamic times, and the local development of the Ahl-i Haqq cult and its shrine of Baba Yadgar around the sixteenth century may have had something to do with this occupation. Sherds of Islamic plain-wares were found on the surface, together with coarseware Parthian pottery; no obvious Sasanian pieces were present. Aside from the occurrence of Parthian sherds, the logic of defensive military emplacements demands that one associates the castle originally with the Parthian defences. The point must be made, however, that the Parthian residents of the site appear to have been in control of the remote highland interior, for without such control, even the Upper Castle would have been very vulnerable to surprise attack. The orientation of the defences was clearly towards the lowlands to the south. One has to presuppose that any attack was expected to come from the direction of the plains.

The vulnerability of the Upper Castle lies in the fact that although it protected the perennial springs which flow into the basin, it did not have a water supply of its own, other than cisterns which would have had to be filled by hand for more than six months of the year from the springs scores of metres below. Two approaches to the castle were possible. One required a scramble over a higher cliff, then across a level shoulder to the pinnacle (as seen in the foreground of Pl. Vb); the other involved a long haul up a steep slope by way of a zig-zag path. Neither would be particularly suitable for horses, and because of the steepness of the terrain it is likely that mules were used to transport supplies to the

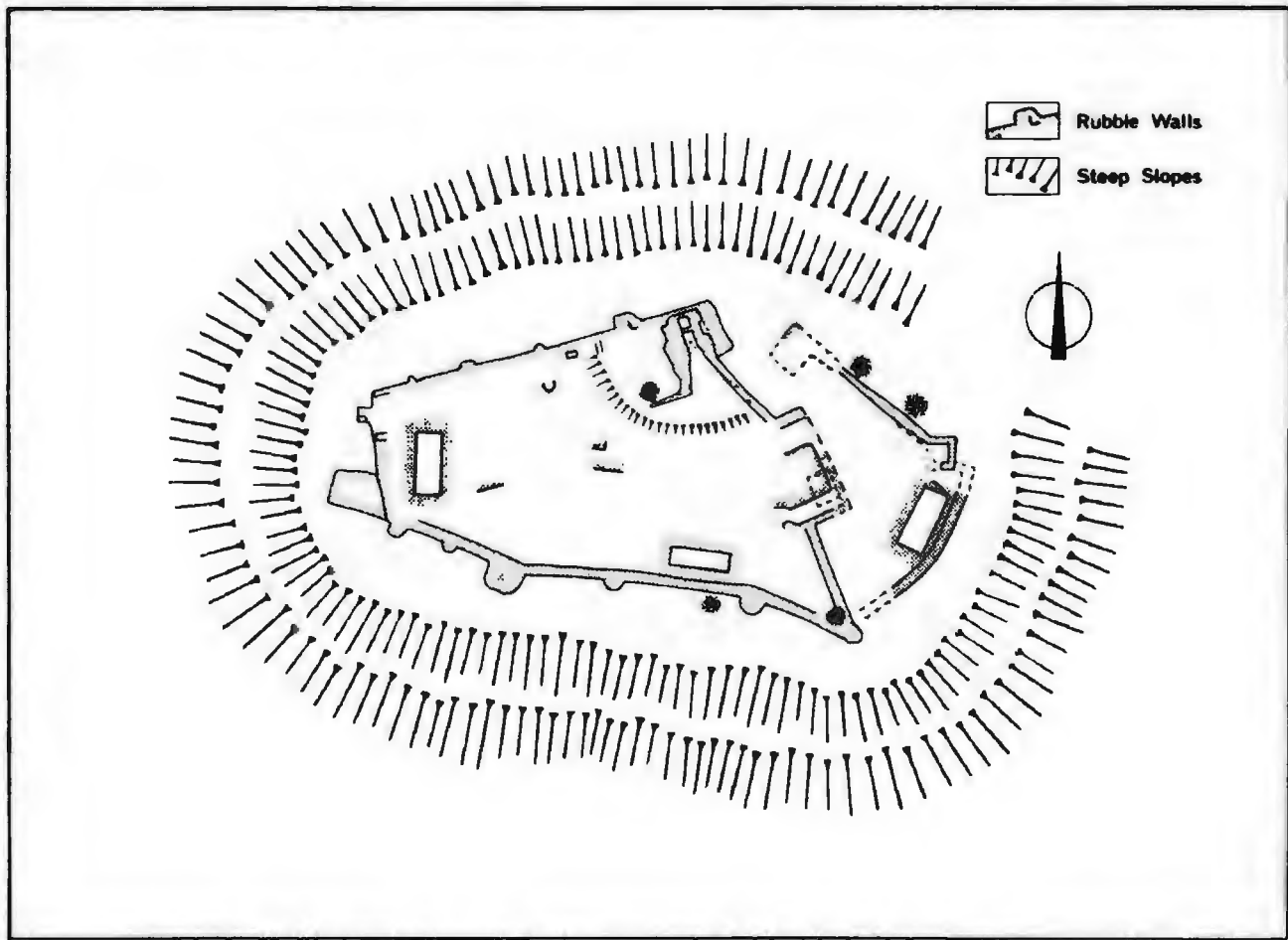


Fig. 5. Plan of the Upper Castle (Qal'eh-i Yazdigird), based on surface remains.

garrison above. Although the castle's later modifications obscure the picture, the original structure can be seen to have had a projecting wall which acted as a protective device for the entranceway (Fig. 5). Small divisions on the inside of this protecting wall are perhaps the remains of stalls for animals; however, it is pure speculation as to whether that was indeed their use.

#### *Ja-i Dar* (Pl. VIII; Fig. 6)

While the Upper Castle can be related to the Parthian fortifications by the obvious strategic requirements of the defensive system, it is extremely difficult to be sure about the dating of the Ja-i Dar compound. No excavations have taken place in connection with this structure. Overall, there is nothing to distinguish the compound in terms of building technique from any of the defensive walls. The compound walls are built of the same rubble masonry; the same horizontal lift divisions are visible (Pl. VIIIb). In scale, the massive buttress towers seem to echo those on the main defensive wall. (Without excavation their exact dimensions have been impossible to ascertain, but a survey measurement of 8 m. approximate maximum dimension for the badly crumbled above-ground remains allows a rough comparison of size with the wall towers). Furthermore, if one acknowledges the Gach Gumbad structures as a palace at one end of a gardened enclosure, the Ja-i Dar compound can be seen as the logical stronghold of the whole site. It is certainly large enough to have housed a garrison and served as the ultimate retreat for the residents.

However, all of this is hypothetical. Almost half of the ruins are overgrown with dense, permanent garden vegetation (Fig. 6). The portion which lies outside the gardens has been terraced into wheat fields and appears to have scarcely any remnant of occupational activity left intact (Pl. VIIIa). The rough layout and the compound's relationship to the rest of the site are the only basis on



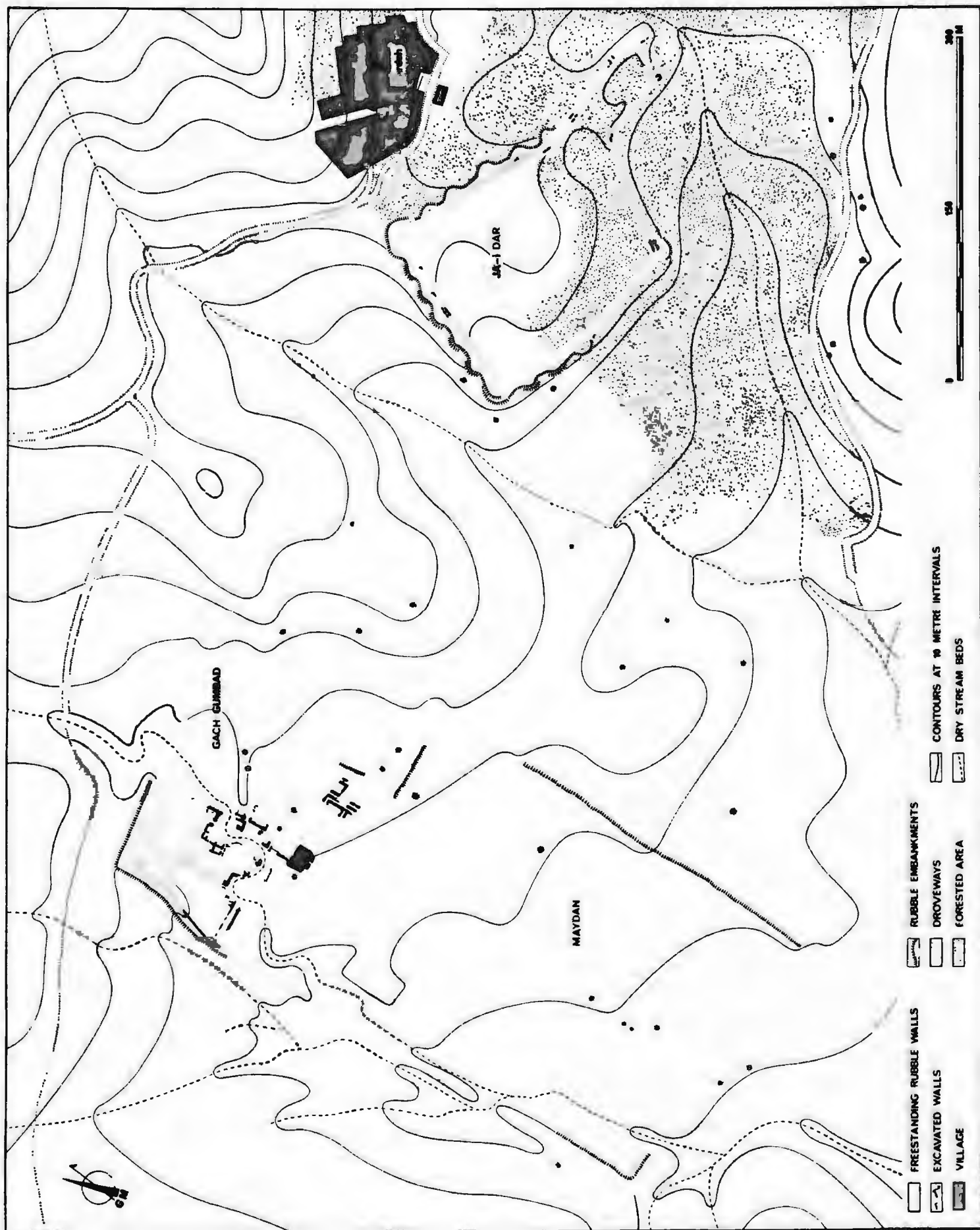


Fig. 6. Map surveyed showing relationship of Maydan, Ja-i Dar, and the modern gardens ("forested area").

which one can judge its role. The “pan-handle” feature of the plan, on the east side, probably represents a protective entrance system, comparable to the protective arm seen on the Upper Castle. While such features are traditionally associated with the Sasanians, there is no reason to deny the possibility of such a device being associated with Parthian times. It is becoming increasingly clear, as studies of the period progress, that the cultural contributions of the Parthians have been underestimated. It is perhaps worth noting that the only Parthian coin known to the writer as coming from the entire Zardeh basin—a silver drachm of the so-called “unknown king” Mithridates, dated to c. 140 A.D.<sup>8</sup>—was said to have come from the Ja-i Dar gardens. It should be borne in mind, however, that besides the normal range of Parthian pottery, a single sherd probably of ninth century date has also been recovered from the wheat fields within the compound, and a later date for the construction of the compound cannot be entirely discounted.

#### *Kala Dawar* (Pl. VIII-IX; Figs. 7 and 8)

The caution which is applied to Ja-i Dar stems from the fact that a Sasanian and an Islamic presence is documented for the basin. The most tangible evidence for a Sasanian occupation sufficient to warrant monumental architecture comes from the Kala Dawar *chahar taq* structure. As described in *Iran* XIX, pp. 33–4, the building had a complex history, culminating in the digging of some pits which have been dated by two bronze objects (a lamp or make-up container, and a vessel bird-finial) of the tenth century A.D. The last major modifications occurred at the west corner of the building in room 3, which has a relatively elaborate floor plan (Fig. 8). In the series of three chambers (areas 2, 11, 12) which were built prior to this room on the west flank of the complex, the ashy debris seems to indicate that some form of industrial activity occurred here. A large number of glass fragments in particular suggest that this may have involved glass-working. A stone flat-roof roller found in the debris in area 10 indicates that these roofs probably were flat at the time of their industrial use. Whether the flanking chambers were originally part of the *chahar taq* complex requires further investigation. Equally, further excavation is needed before the unique buttress at the west corner of the *chahar taq* can be reliably associated with the initial construction of the building. It is apparent that severe damage occurred to the central part of the *chahar taq* at one time, with the dome possibly caving in. The rubble collapse was then walled up, leaving only the corridors and exterior rooms usable (Pl. IXb). The artifacts unearthed suggest that this conversion of the plan occurred in the eighth or ninth century A.D.

The rubble masonry of the *chahar taq* is indistinguishable from that of Ja-i Dar or the main defensive wall. Horizontal lifts were also employed in its construction. The flanking chambers have undergone considerable repair, including in one instance the occurrence of three to four courses of re-used bricks, similar to those used in the known Parthian buildings on the site (Pl. IXa). On the basis of the finds, then, these rooms were used and repaired in the period of the Abbasid Caliphate, but whether the rooms' foundations were contemporary with the original structure has yet to be determined through destructive probes into the core of the masonry.

#### *Maydan* (Pls. X and XI; Figs. 6 and 9)

Standard rubble and mortar, laid down in lifts, forms the masonry of the perimeter wall of the Maydan enclosure. It is worth noting that the angularity of some of the stones which made the Ashiaba masonry look superficially so different is duplicated in a given instance in a cross-section of the Maydan wall (Pl. Xd). Clearly, the variant form here does not have a bearing on the date of the wall. Apart from the use of smaller packing stones within the aggregate, and of large stones laid at the face, the sizes of rubble through the width of the wall seems to be a matter of chance.

The Maydan perimeter wall is buttressed on the inside, as evidenced by the three free-standing portions of wall at the extreme southern end of the west side (Pl. Xc). The slender dimensions of the wall, together with the presence of buttresses which would have no defensive practicality, were the beginning for the hypothesis that the enclosure was non-military in nature. Examination of the surface within the Maydan indicates that the space was apparently devoid of structures at the time when the Gach Gumbad complex was occupied at the north end. Pottery was found much less often in the fields of the Maydan enclosure than it was on the slopes of the nearby Tepe Rash ridge. It would be logical

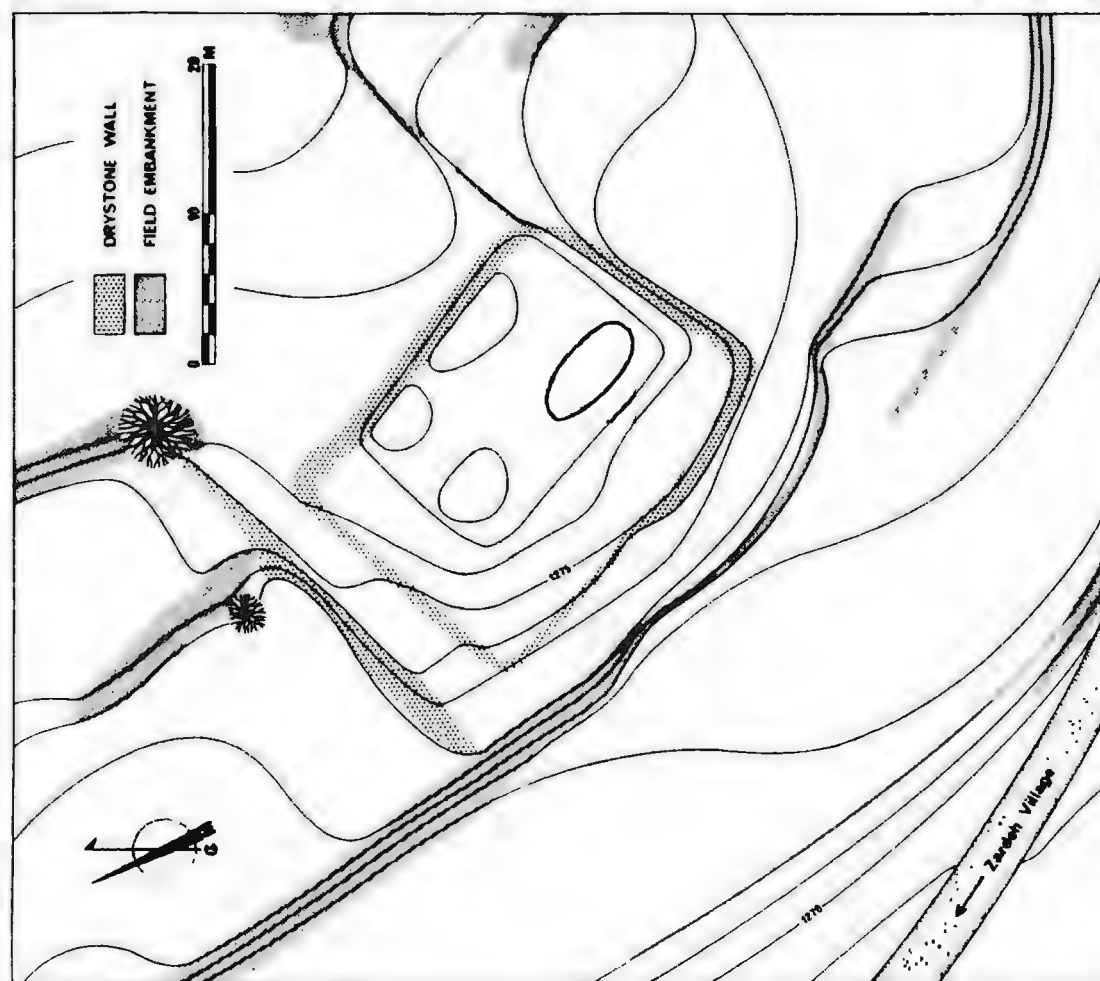


Fig. 7. Plan of Kala Dawar site before excavations.

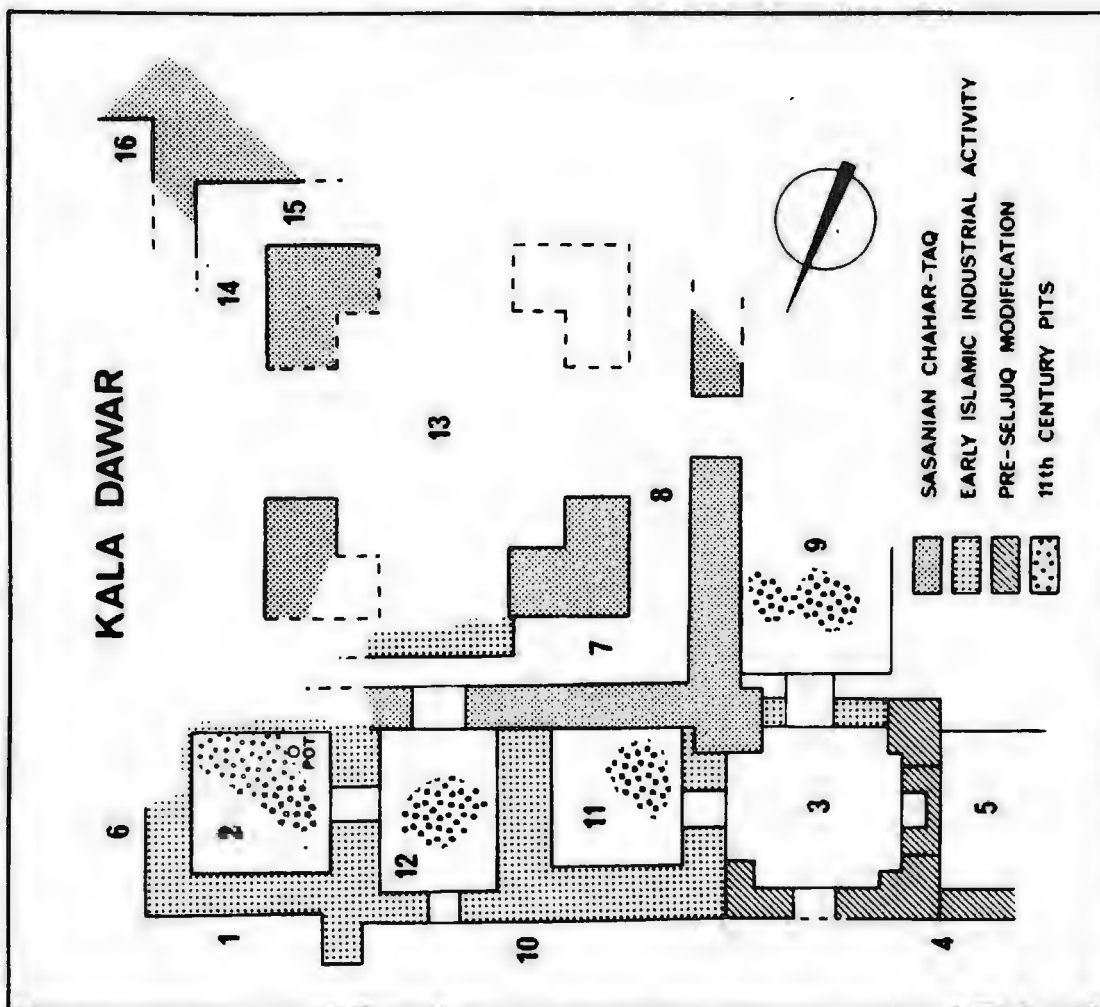


Fig. 8. Plan of Kala Dawar chahar taq, as excavated, 1978.

to assume that the stuccoed structure of Gach Gumbad represented an ornate building set within a "garden of paradise". It is perhaps not without coincidence that the irrigated gardens of the modern village of Zardeh cover an area roughly similar to that of the Maydan (see Fig. 5). There is no immediate geological evidence to suggest that the water supply was any greater or smaller in historical times. The present water supply is inadequate in dry years to meet the full needs of the village today, but that stems in part from the neglect of the terrace system, the loss of moisture-retaining potential from the soil due to overgrazing and to the gradual deterioration of the region's ecology. The water may have gone further in Parthian times, but the actual volume at its source was probably no greater.

Interpreting how the Maydan gardens functioned, or even if they were gardens, is difficult precisely on account of the environmental damage. It can be seen in Pl. Xd that erosion in the gully bed has cut away the ground to a point below that of the base of the enclosure wall. The sharply meandering stream bed, fed by the violent run-off that comes from the late winter storms, has completely obliterated part of the west perimeter wall. In places it is as much as 1.50 m. below the base of the wall. How the shifting meander pattern of the gully has affected the rest of the enclosure is hard to judge without excavation. The ground level in some parts of the enclosure is still preserved at heights considerably above that of the stream bed. From the surface it looks very much like virgin soil/bed rock covered by earth which has been displaced in the farm-terracing process. It is doubtful whether any traces of the original gardens have survived the erosion.

The only tantalizing remnant of anything that can be associated with the deliberate manipulation of water within the enclosure comes from the portion of a plaster-lined brick tank (area 199) located to the northwest of the free-standing Gach Gumbad block. The remnant of the tank lies low down in relation to the general terrain of the enclosure. The feature was badly damaged in antiquity by the scouring action of water, and later became filled with stones and soil. When the tank was discovered by the expedition, the bricks along one 10 m. length of its side were preserved at base level, as well as a small portion of the western end wall (Fig. 18). The interior still retained traces of at least three layers of plaster, as well as a thicker pack in the corners to create a rounded surface.

#### *Gach Gumbad* (Pls. XI–XVI; Figs. 10–20)

During the early work of the expedition, the large size of the gully (Pl. XIa, d) led to the conclusion that this stream-bed was the line of a substantial ancient watercourse which had become somewhat enlarged in more recent times due to storm run-off. A marked distinction was made in the early analysis of the site between the architectural features which appeared on either side of the gully. The stuccoed halls on the east side (built of baked brick) appeared to form part of an ornate structure, then seen as a pavilion, which would have overlooked the hypothetical gardens from the east side of the Gach Gumbad block of masonry. The structures of "Gach Gumbad West", built of rubble-stone masonry, and seemingly much more modest in room dimension, were interpreted tentatively as being domestic quarters associated with the pavilion. The ghost outline of rows of rooms and a number of courtyards of varying size were visible on the surface in raking light (Pl. XIc).

The 1978–79 season revealed that, while the surface traces of walls on the west side could indeed be corroborated as being a reflection of a real building plan, the widening and down-cutting of the gully bed as it exists today appears to be a phenomenon that has occurred almost entirely since the building of the Parthian structures. By reconstructing in plan even a part of the rooms that have been swept away by flood waters, one must envisage at most a very modest watercourse at the time when the buildings were functional (compare Figs. 9 and 10).

The architectural finds of that season have shed new light on the nature of the complex as a whole. On the west bank of the gully, area 81 (Fig. 13) was found to have ornate features reminiscent of area 1 in the main decorated complex. On the west bank, traces of in-situ baked brick were visible on the surface in area 206–208 (Pl. XIVc and Fig. 18); in addition, an arcade with articulated piers (area 201) was discovered, forming the southernmost limit of Gach Gumbad West and seemingly connecting with an entranceway in the west wall of the Maydan enclosure (area 200, Fig. 19). The piers of the arcade carry not only engaged columns on the outer face but also denticulate slots on the inner face; on the easternmost pier, this recess was filled entirely with a thick application of painted plaster. The



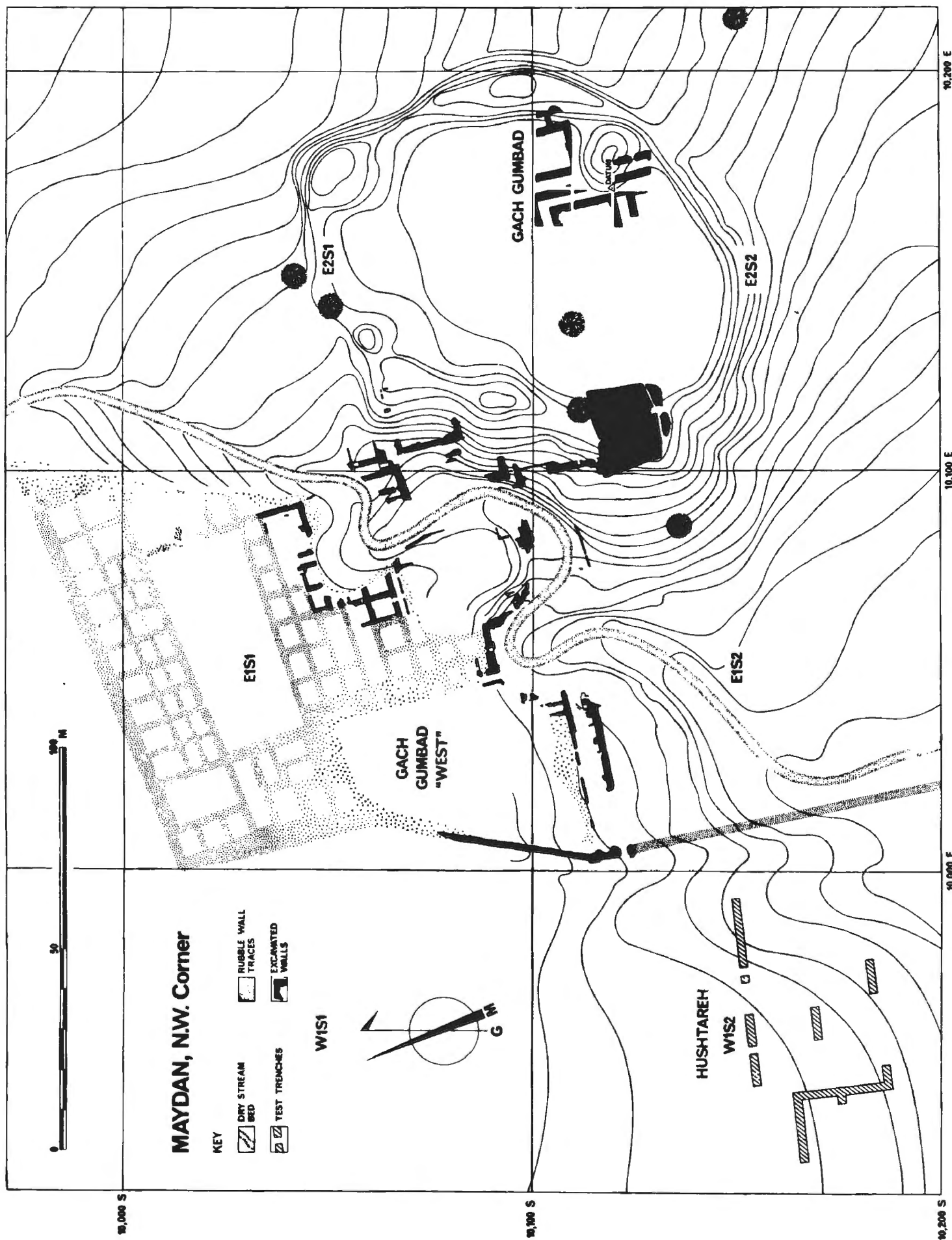


Fig. 9. Plan of Gach Gumbad, Gach Gumbad West, and Hushlareh dump, as excavated 1975-79. Stippled features plotted only through surface traces.



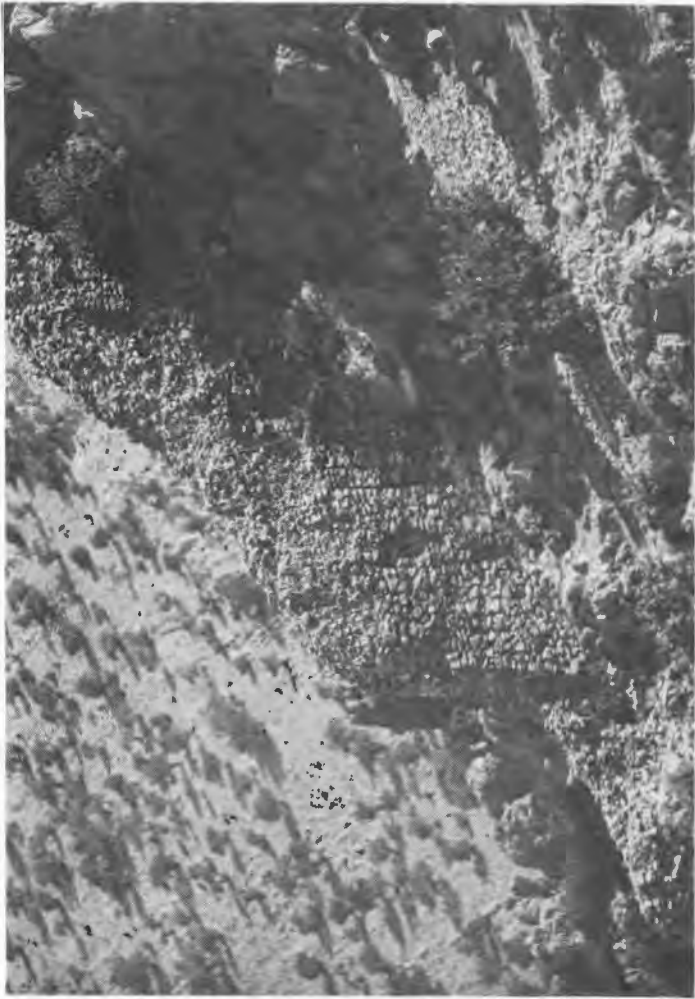
*Pl. 1a. The escarpment defensive wall (Asb Rah) built where the ledge-like rock strata made scaling relatively easy.*



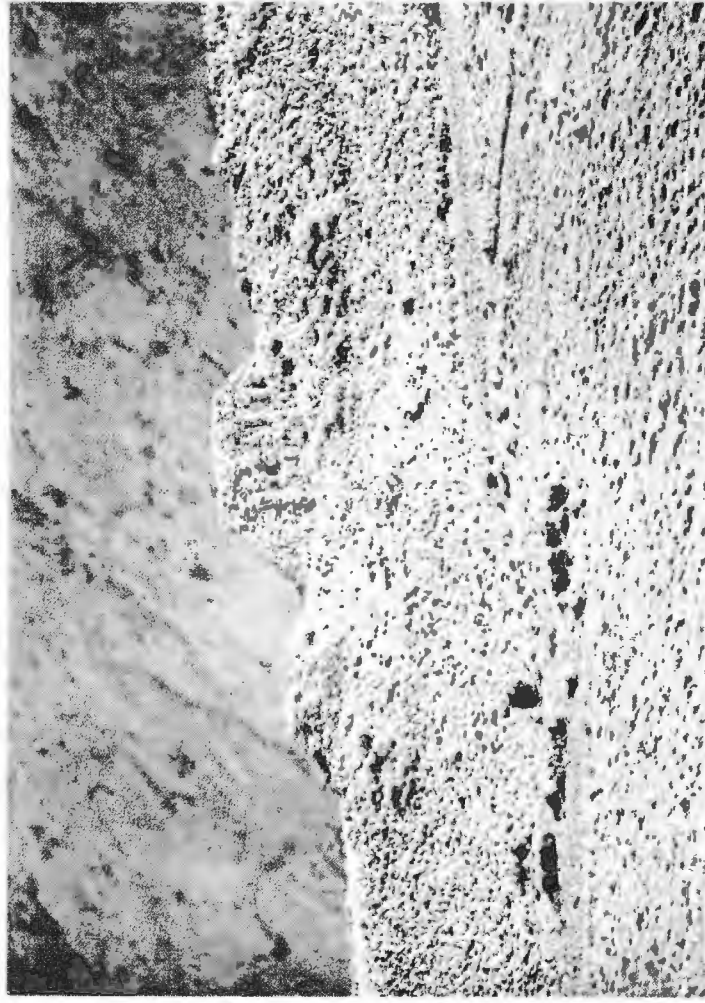
*Pl. 1b. Defensive walling built at the edge of the canyon at Ashpaz Gah.*



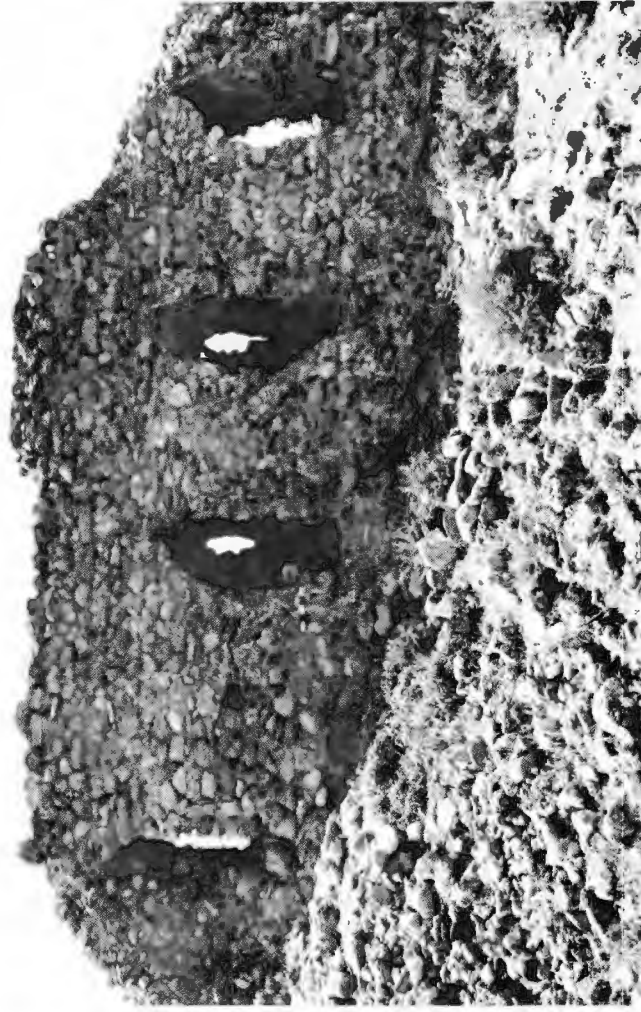
*Pl. 1c. The remains of towers along the lower end of the main defensive wall opposite Kuka Kashiyyeh.*



*Pl. 1d. Detail of masonry, showing vertical construction separations, in the main defensive wall on the cliffs below the Upper Castle.*



*Pl. IIa. The main defensive wall at Zendan.*



*Pl. IIb. Embrasures extant in the main defensive wall at Zendan.*



*Pl. IIc. Embrasures extant in what were vaulted chambers along the main defensive wall opposite Kaka Koshit'yeh.*



*Pl. II d. Detail of masonry showing four separate "lifts" and an embrasure in the escarpment defensive wall (Ash Rah).*





*Pl. IIIa. Tower WF-1 exposed along Zendan defensive wall, as seen from Upper Castle.*



*Pl. IIIb. Tower WF-1 from Zendan defensive wall excavation.*



*Pl. IIIc. Section through Zendan defensive wall immediately south of tower WF-1.*



*Pl. IIId. Typical arrow-shaped silhouette of defensive wall embrasure.*

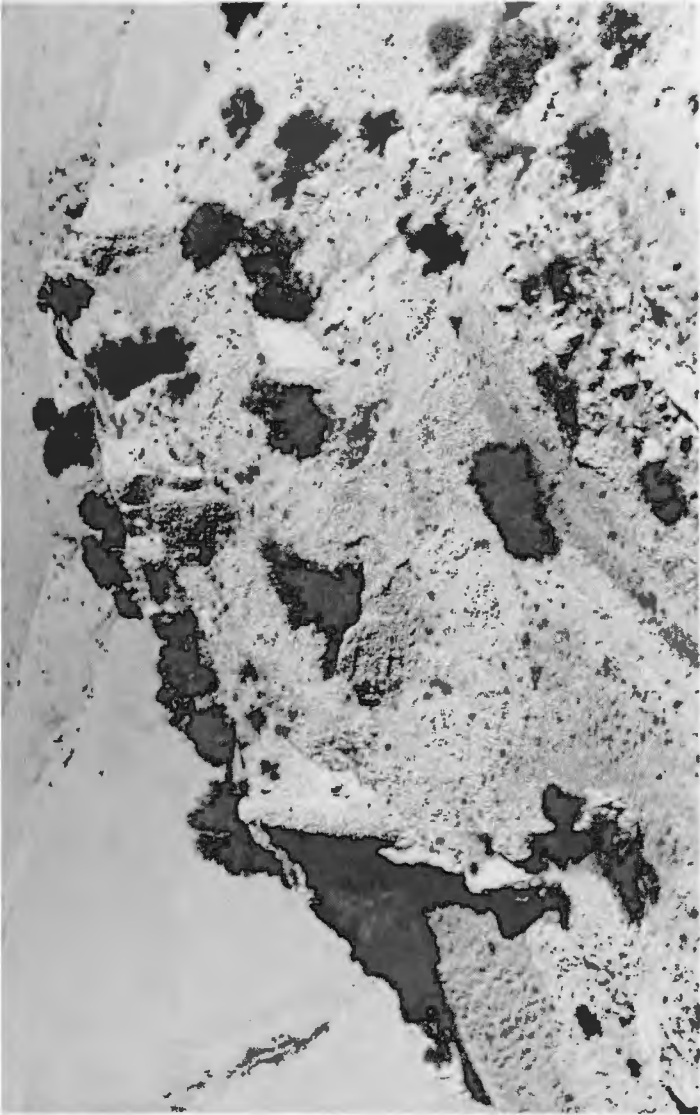




Pl. IVb. Doorway into guard chamber of tower WF-1, Zendan defensive wall.



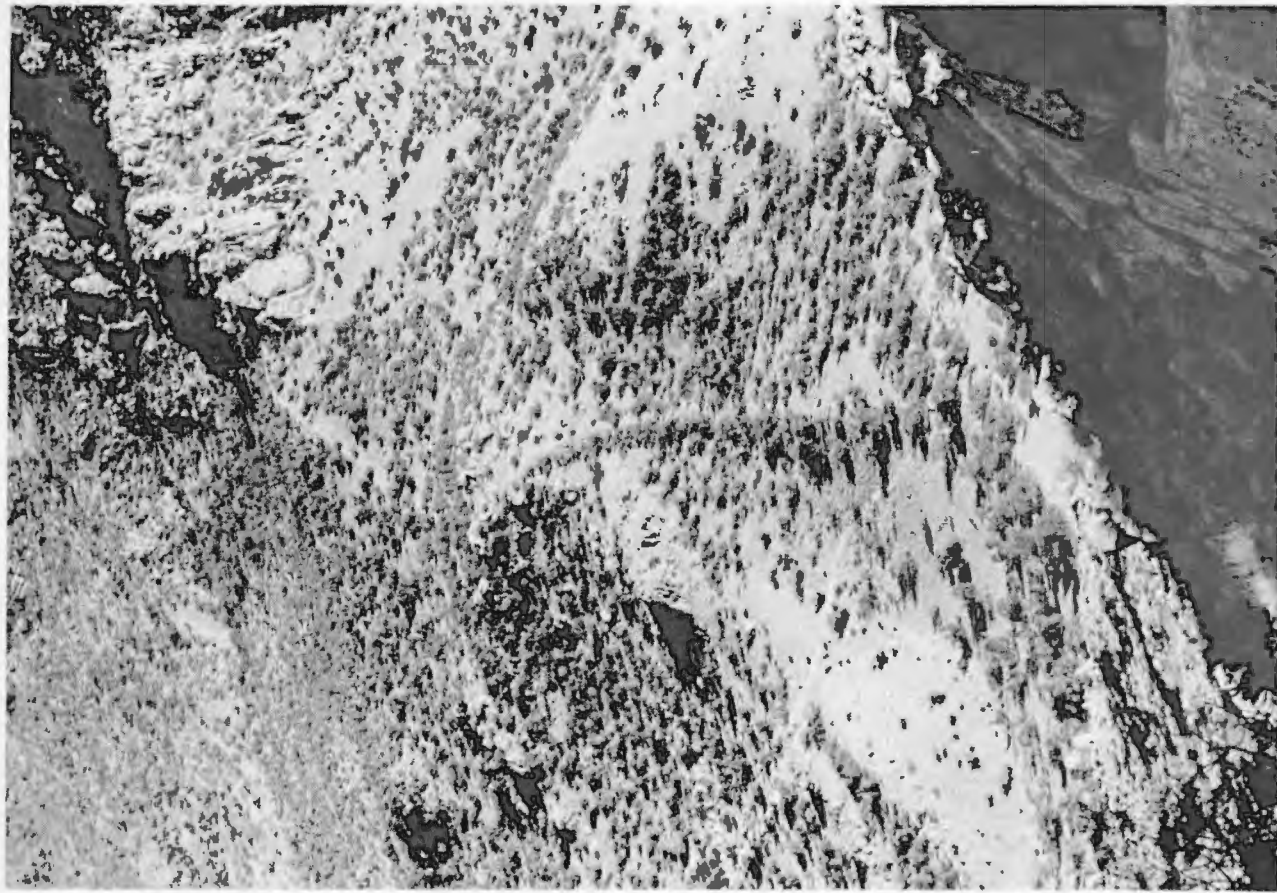
Pl. IVa. Separation of projecting wall of tower WF-1 from the masonry of the wall itself, as seen within the tower chamber.



*Pl. Vb. The Upper Castle from the north.*



*Pl. Vc. A vaulted chamber in the Upper Castle.*



*Pl. Va. Traces of walls, possibly Islamic, on the high ground behind Qal'eh-i Yazdigird.*

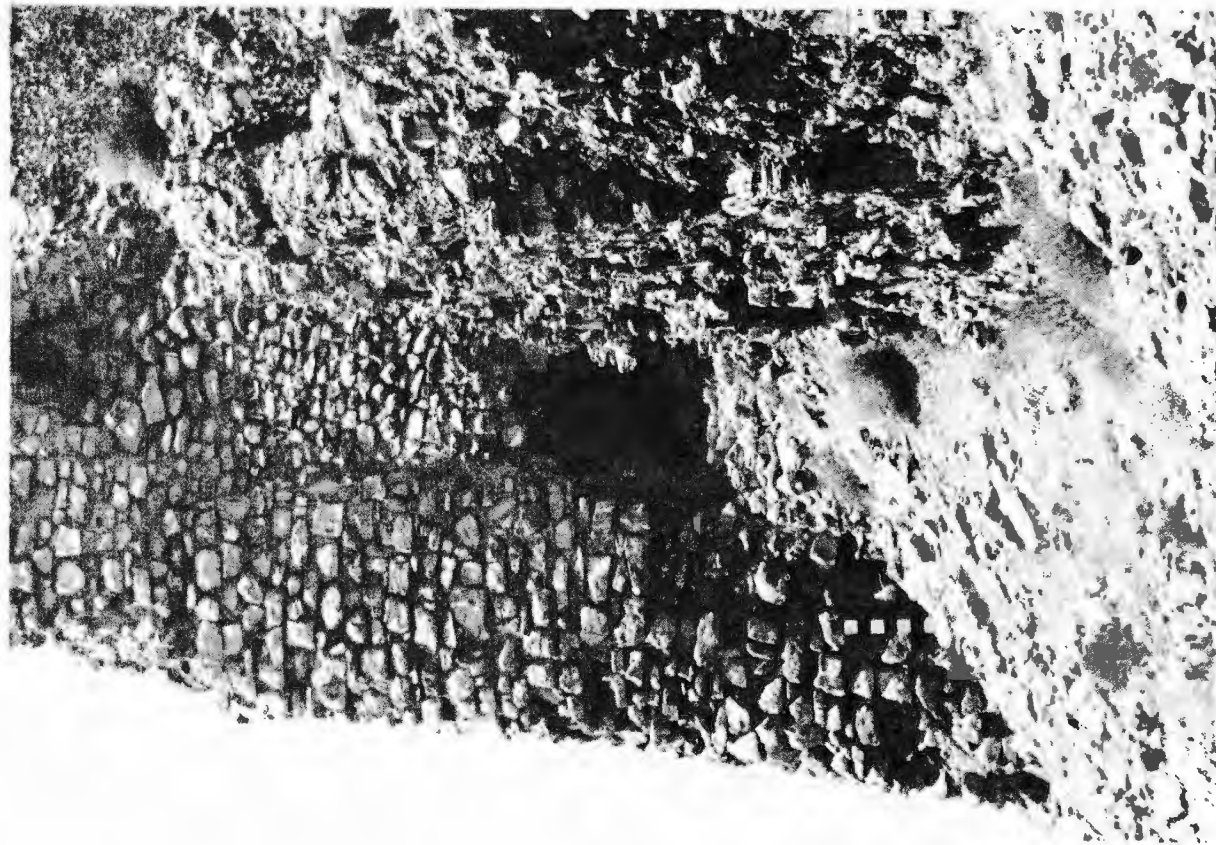




*Pl. V'h. Detail from above of a round tower along the north face of the Upper Castle.*



*Pl. V'ic. The north wall face of the Upper Castle showing three "lifts" in the masonry*



*Pl. VIa. Round tower at the southeast corner of the Upper Castle.*



Pl. VIIa. Ashiaba on the peak in the middle ground, seen from the south, with the higher mountain range behind.



Pl. VIIb. Detail of masonry with embrasure in the Ashiaba lookout post.

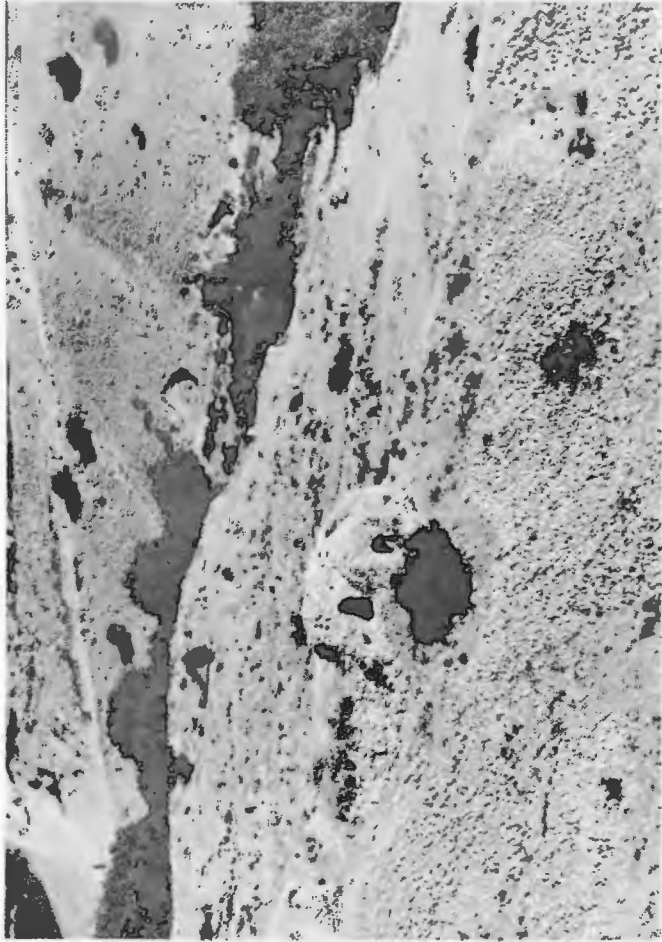


Pl. VIIc. View from Ashiaba lookout post towards southeast. The Upper Castle and Naqqareh Khaneh are on peaks in the middle ground.



Pl. VIId. Naqqareh Khaneh lookout post.





*Pl. VIIIa. Vaulted corridors extant in a tower along the northwest side of Ja-i Dar. The high mound behind is mostly a natural rock outcrop.*



*Pl. VIIIb. A vaulted corridor seen along the alignment of the northwest side of Ja-i Dar.*



*Pl. VIIIc. Rubble piled up around the site Kala Dawar before excavation.*



*Pl. VIId. Bird's eye view of Kala Dawar seen from the cliffs to the north.*



*Pl. IXa. Rubble masonry built above Parthian brickbats in room 12, Kala Dawar.*



*Pl. IXb. L-shaped pier and blocking wall in corridor of Kala Dawar chahar taq (areas 7 and 12).*



*Pl. IXc. Plaster intact upon wall face of Sasanian period, at floor level, in west corner of corridor 7, Kala Dawar.*





Pl. Xa. Free-standing walls with buttresses on inner face along west and south sides of the Maydan enclosure.



Pl. Xc. Detail of wall with interior buttress at southwest corner of Maydan enclosure.



Pl. Xb. Free-standing remains of the entranceway through the south wall of the Maydan enclosure.



Pl. Xd. Section through Maydan enclosure wall revealed by down-cutting flood action, showing masonry "lifts". Note irregularity of some of the stones which match those of Ashiaba (see Pl. VIIb).



Pl. XIa. View from the north of the deeply eroded gully bed between Gach Gumbad and Gach Gumbad West, showing block (100/101 (left top) and areas 219-223 (right centre).



Pl. XIb. The north and west sides of the 101 addition to the Gach Gumbad block 100.



Pl. XIc. View towards northwest corner of Gach Gumbad West, showing traces of the room plan on the surface.



Pl. XIId. Areas 70-72 on the east bank of the gully which has torn away the north end of those spaces. The fissure between block 100 and 101 is visible in the distance.





Pl. XIIa. Gach Gumbad: general view of the east bank of the gully, with areas 90-92 to the right.



Pl. XIIb. Gach Gumbad West: a flat arched niche in corridor 219.



Pl. XIIc. Gach Gumbad West: interior of area 211, showing west doorway.



Pl. XIId. Gach Gumbad West: the round arched doorway between areas 210 and 211.



*Pl. XIIIa. Masonry of corridor 12 vault.*



*Pl. XII lb. Plasterer's trowel marks on underside of corridor 12 vault fragment, Gach Gumbad.*



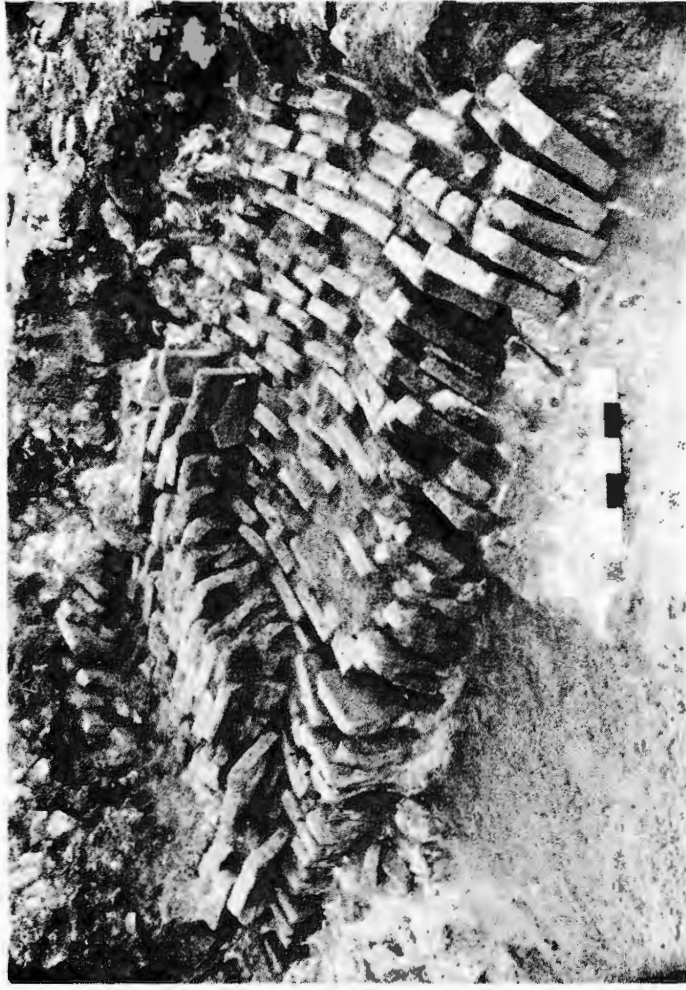
*Pl. XIIIc and d. Typical Parthian-period baked bricks, showing workman's trademark.*







Pl. XIVa. Vertical brick lays in corridor 21, Gach Gumbad.



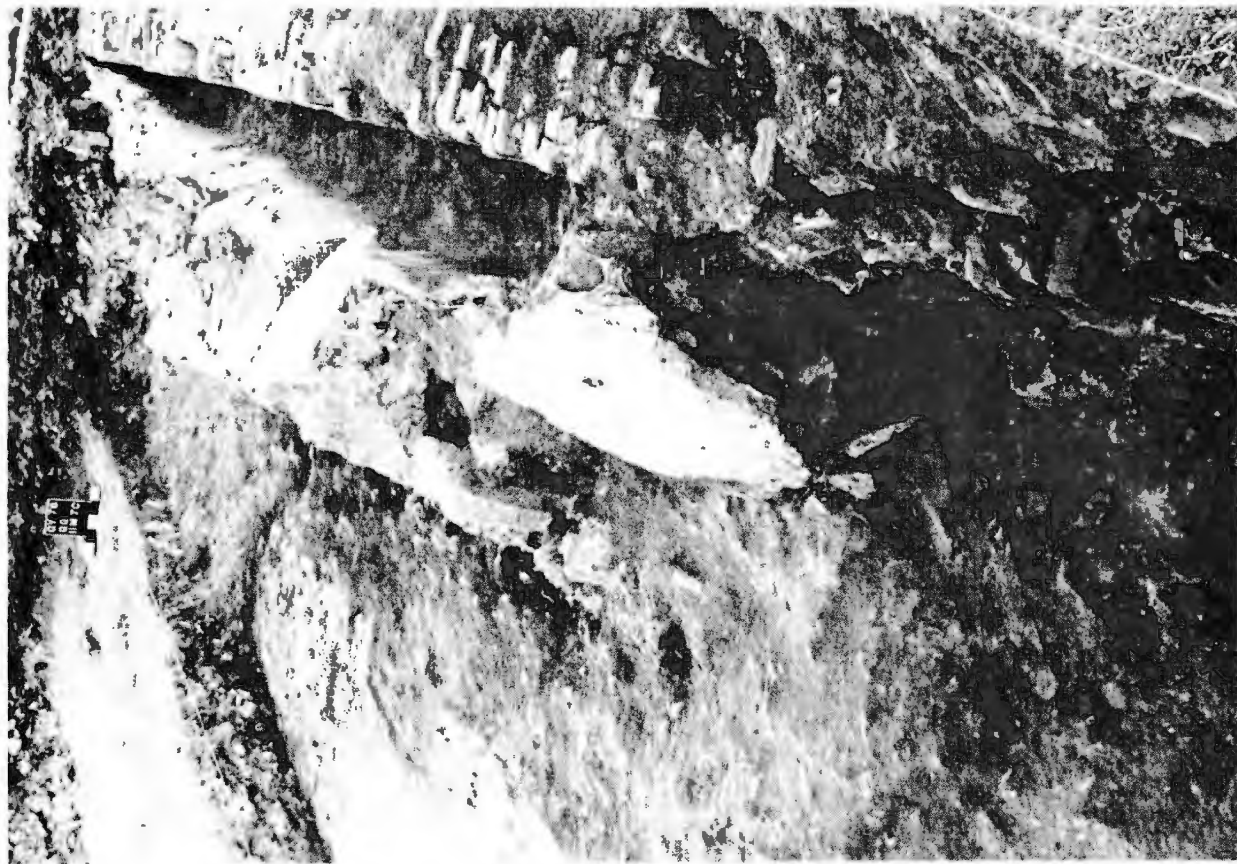
Pl. XIVb. Vertical brick lays between areas 82 and 73, Gach Gumbad.



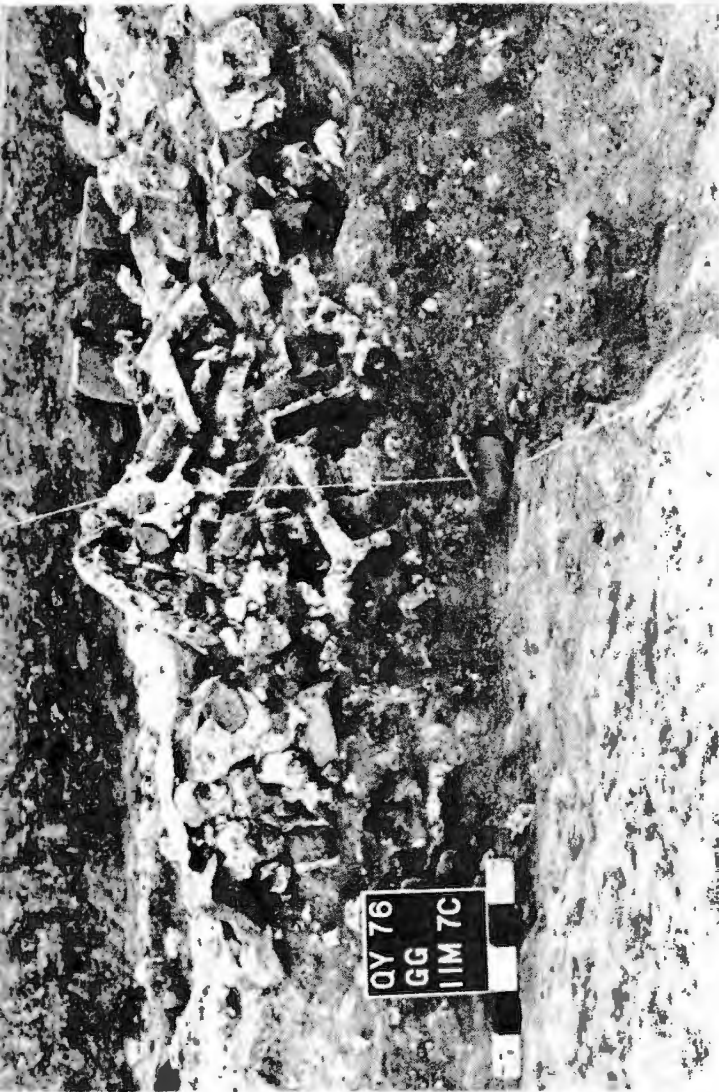
Pl. XIVc. Vertical brick lays between areas 206 and 208, Gach Gumbad West.



Pl. XIVd. Typical corridor section showing full plaster and soil from decayed bricks. Corridor 91, Gach Gumbad.



Pl. XV'a and b. Collapsed first floor vaulting from corridor 12, Gach Gumbud.

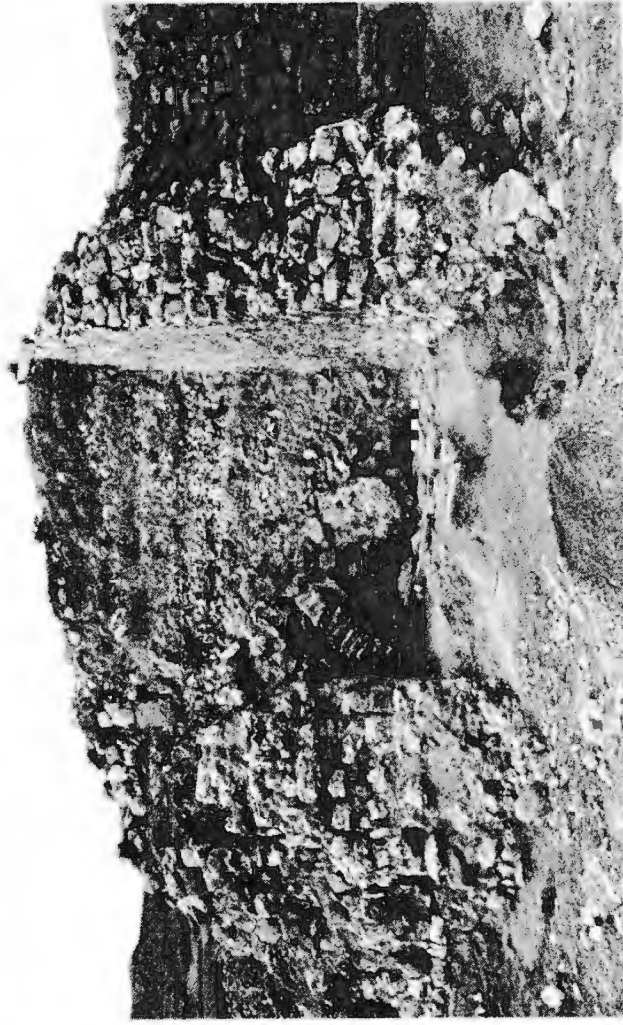


Pl. XVc. Vertical brick lay construction, east side of area 14, Gach Gumbud.





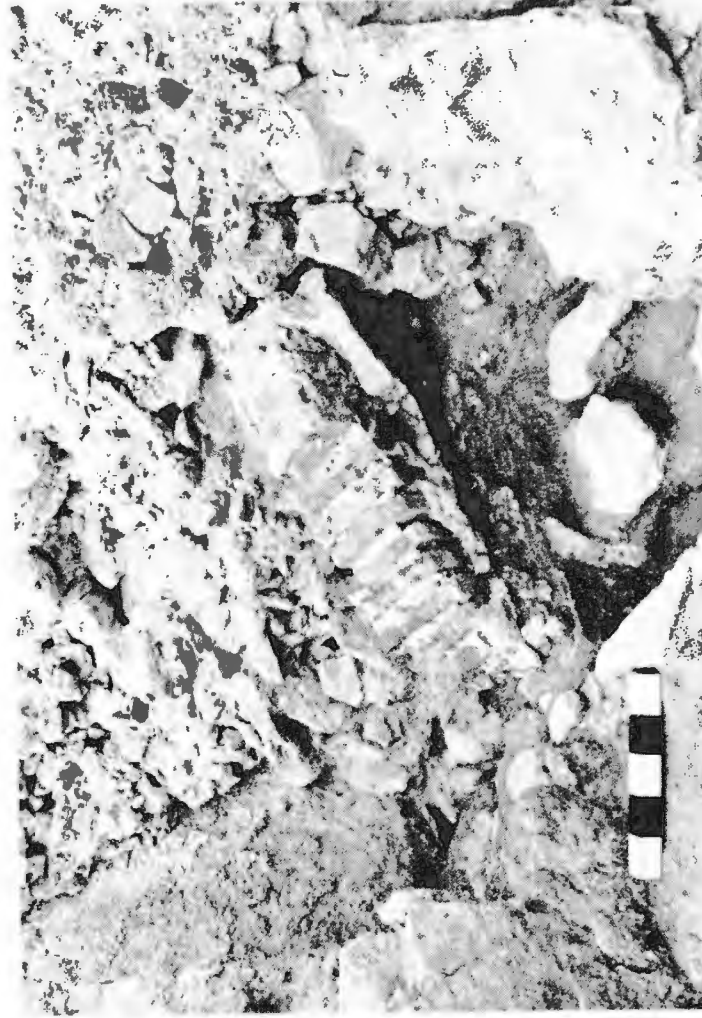
*Pl. XVIa. Broken top of in-situ rubble masonry arch of arcade, area 201, Cach Gumbad West.*



*Pl. XVIb. North-south section in debris of area 201, showing fallen vaulting behind arcade pier.*



*Pl. XVIc. Baked brick vaulting fallen along side articulated pier of arcade, area 201.*



*Pl. XVIId. Detail of fallen baked brick vaulting from area 201.*



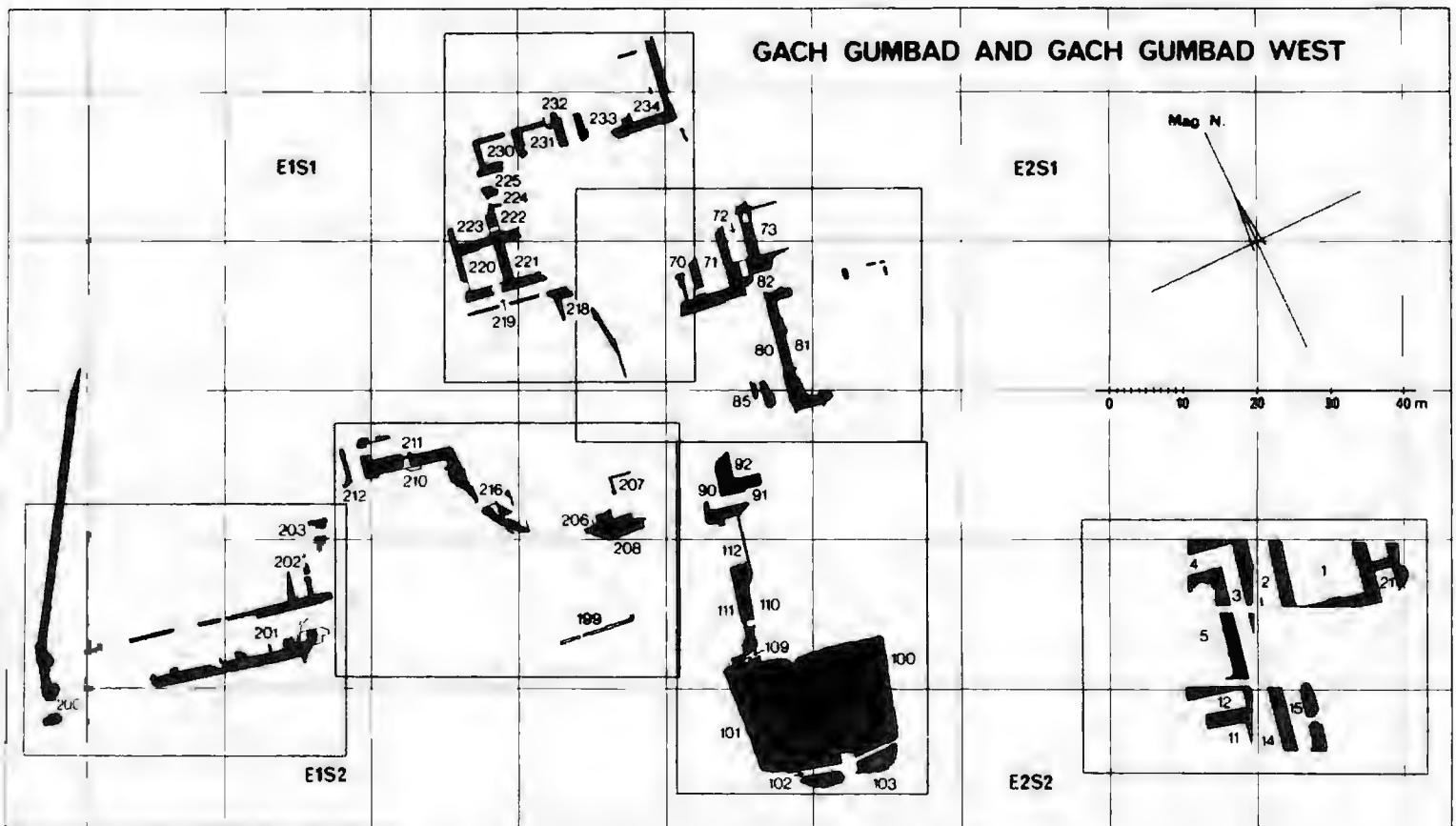


Fig. 10. Plan of walls of the palace, as excavated 1976-79.

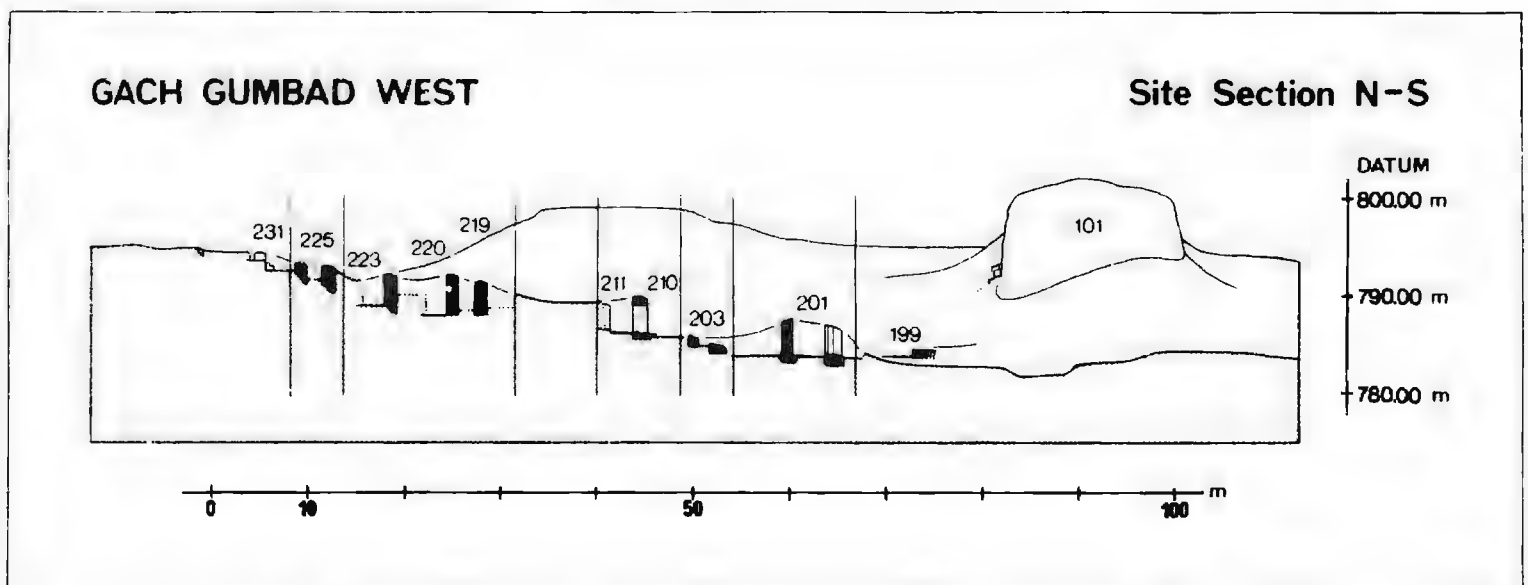


Fig. 11. Section showing drop in elevation accommodated by groups of rooms at different levels.

final most extraordinary discovery of the season was that the shapeless Gach Gumbad block was originally about half its present size, with its own elaborately decorated façade (area 100, Figs. 14 and 15). Later, the façade was covered over when a second mass of masonry (101) was applied against the western face. This addition also carried a trace of an articulated façade on the north side (engaged columns, see Fig. 16). These findings from both sides of the gully reinforce previous indications of the extensive dimensions and scope of the building complex. The layout speaks of something akin to the

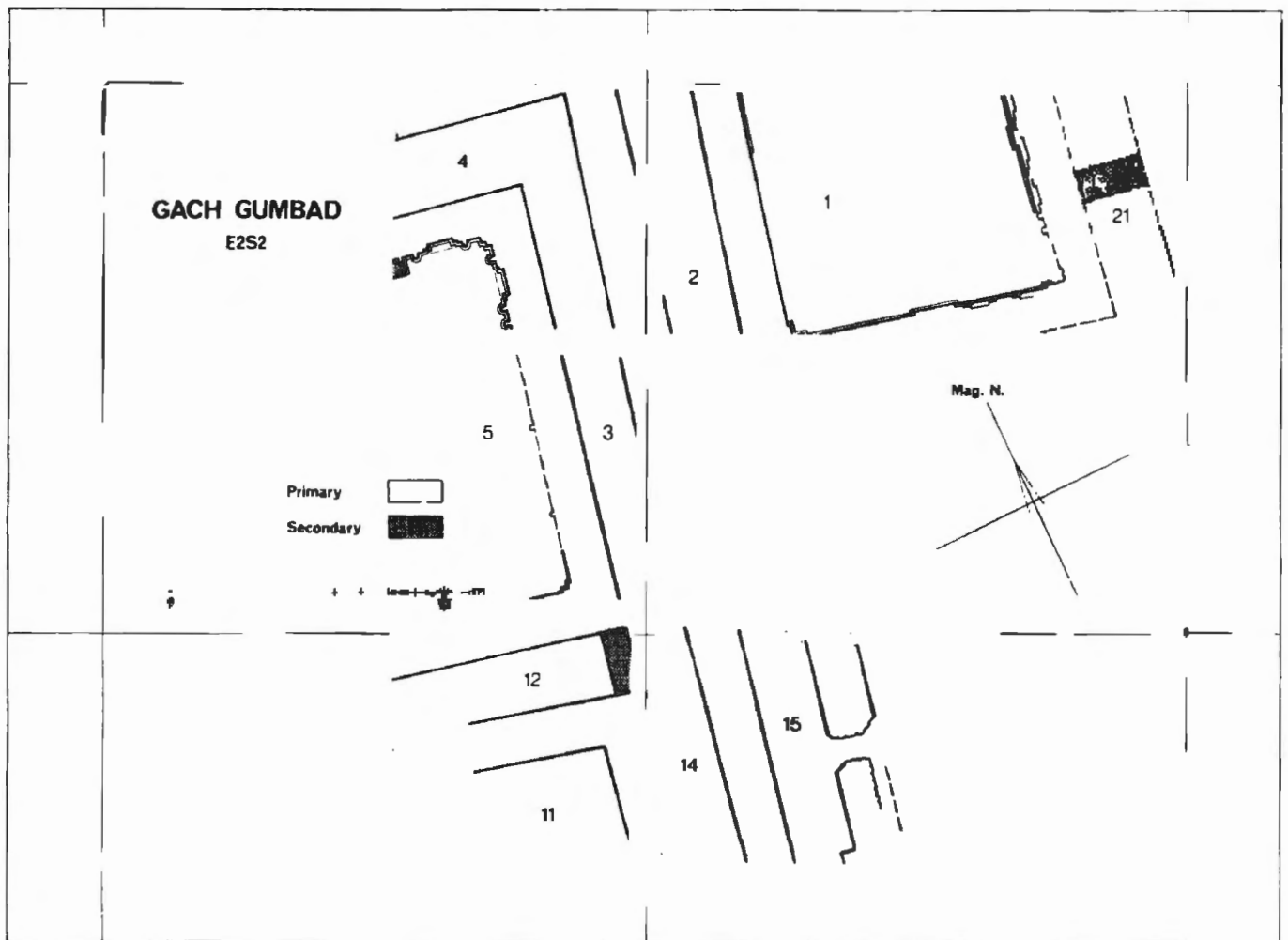


Fig. 12. Baked brick walls of the main halls. The east wall of area 15 is of rubble masonry.

disjointed plan of an elaborate Roman villa. In a Middle Eastern context it is probably not inappropriate to talk in terms of a palace.

The three large, heavily ornamented halls on the east side of the gully (Fig. 12) remain the most important formal element so far found in the complex. A series of corridors surround them. At present only parts of the halls have been excavated, but what has been exposed bears a likeness in plan to the north *eyvan* unit of the Parthian palace at Ashur.<sup>9</sup> The distinctive feature of these walls, apart from the plan, is the use of baked brick, stacked on edge, and laid at right angles in alternating courses (Pls. XIVa, b, c; XVb). The engaged half-columns of area 5 were also executed in vertically stacked bricks. A crucial discovery of the 1976 season was that the east corridor wall of area 15 was constructed of rubble masonry, rather than of baked brick like the other excavated corridor walls. This is the outer wall of a double corridor. Although the building can be seen to extend further east immediately to the north, the fields directly to the east show no traces of further wall remains, and the rubble wall at this point seems to represent the easternmost limit of the building (compare Figs. 6 and 9).

Reaching an understanding of how the whole palatial complex functioned is difficult without further excavations. At the end of the 1978–79 season, however, a remarkably consistent building formula was beginning to emerge in the layout of the complex on the west side of the gully. The bedrock here consists of a series of shale and soft rock strata which have fractured, leaving distinct “steps” in the ground. The architects have accommodated this feature by erecting a series of small chambers along the natural contour whose southernmost limit is represented by corridor 225; the next series of chambers was erected at the substantially lower level in which corridor 219 occurs (Figs. 11

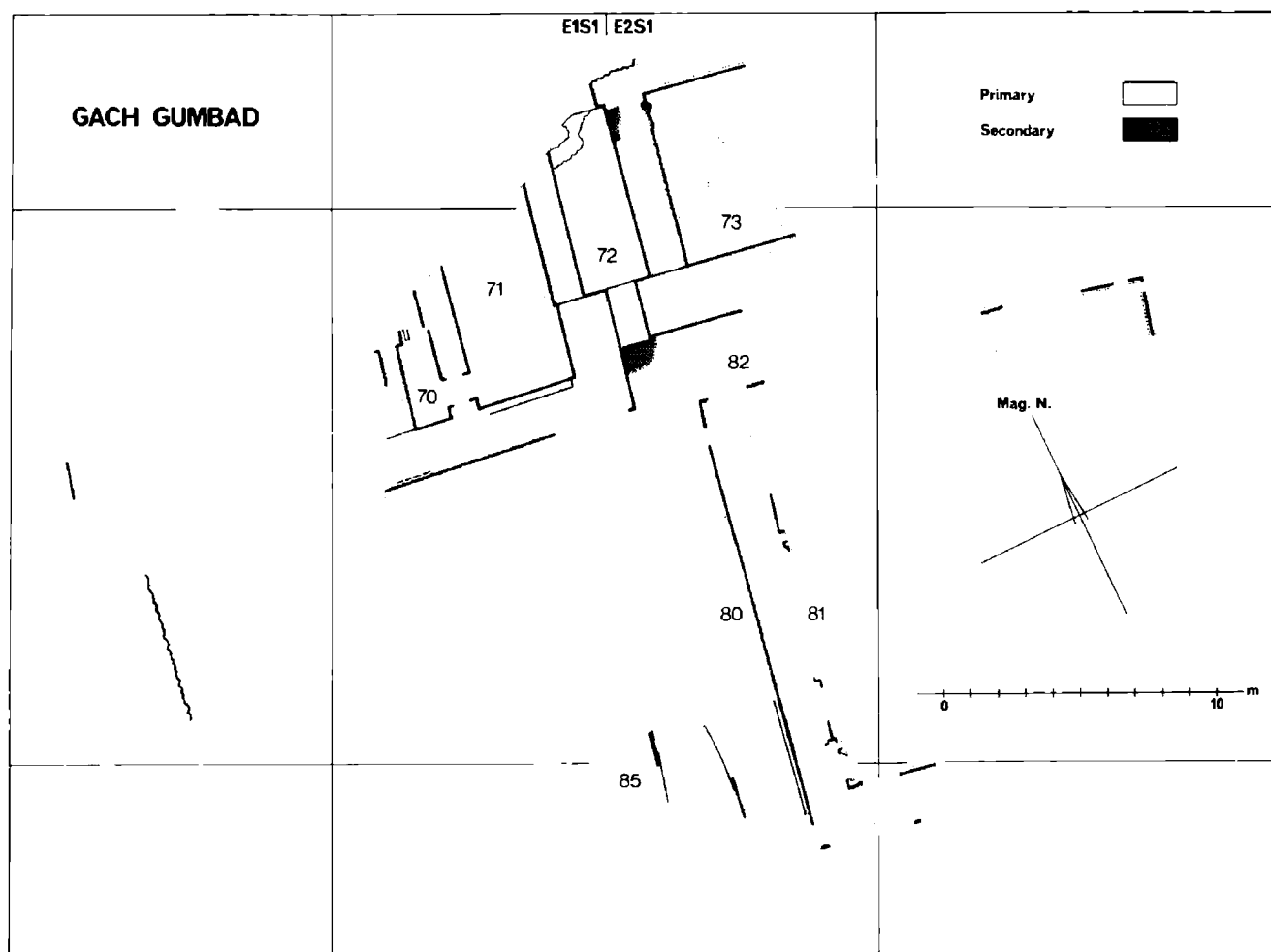


Fig. 13. Plan showing areas 70–72 cut away by the gully. Area 81 has an articulated interior face reminiscent of the upper parts of area 1. The south wall of area 73 is of baked brick.

and 17). Whether this process involved much cutting and terracing, or was accomplished instead mainly by building up the foundations from an uneven base level, is not as yet known. However, it is to be expected that the builders adapted the structure to the natural features wherever possible. Above all, it is worth emphasizing the consistent use of the corridor throughout the complex, a feature of Iranian and Mesopotamian architecture both before and after Parthian times. These corridors are seen by the author as primitive solutions to the need to provide buttressing support for the vaults in the adjacent spaces. In Gach Gumbad, standard corridors of this type are represented in areas 2, 3, 4, 12, 14, 15, 21, 80, 90 and 91, and in Gach Gumbad West in areas 203, 211, 212, 219, 225 and 232.

With regard to masonry types, some general observations can also be made. The rubble masonry of the Gach Gumbad structures as a whole belongs to the standard type in which horizontal lift divisions are visible in the exposed surface of the wall faces (Pl. XIIb). (Of course, these would not have been visible in antiquity when the plaster surface was intact). One interesting phenomenon which emerged from the excavations is the use of different building materials for arches and vaulting. In area 210, the arches between the piers of the arcade are built of rubble masonry, like the arcade piers themselves. The exposed (broken) top of one of these arches can be seen in Pl. XVIa. By contrast, the fallen fragment that appears in the section of area 201 at floor level is of baked brick (Pl. XVIb-d). Its curvature is different from that of the arcade arches themselves, and from its considerable size and its position at floor level, one must conclude that it lies where it fell. A reasonable explanation would be that it represents vaulting along the length of the arcade. Elsewhere, evidence of a rubble masonry vault is to be seen in the debris associated with the corridor of area 12. Pls. XIIIa and XIIIb (and see



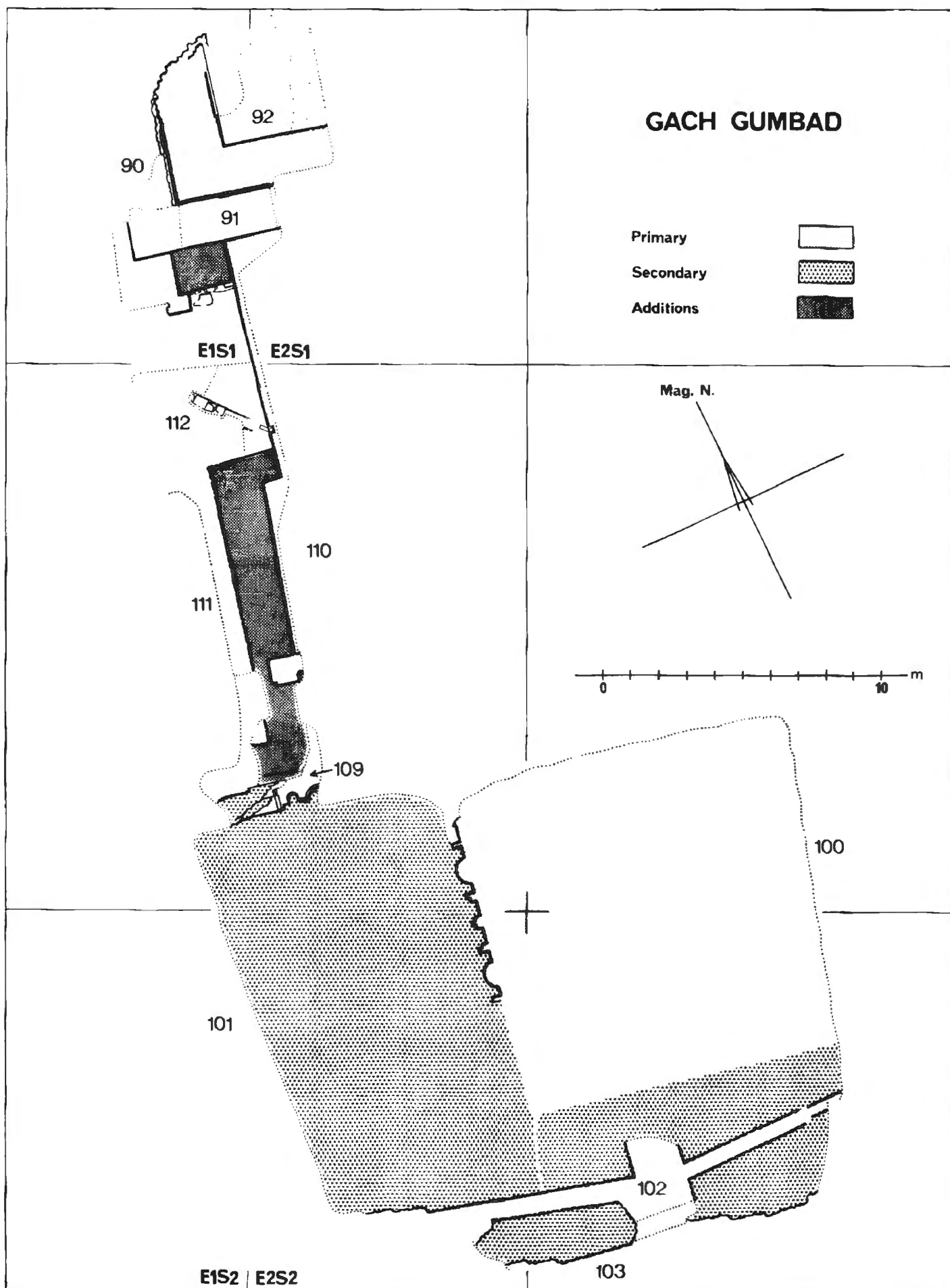


Fig. 14. Plan showing the large mass (with its own articulated north face in area 109) which obliterated the decorated west façade of the Gach Gumbad block 100.

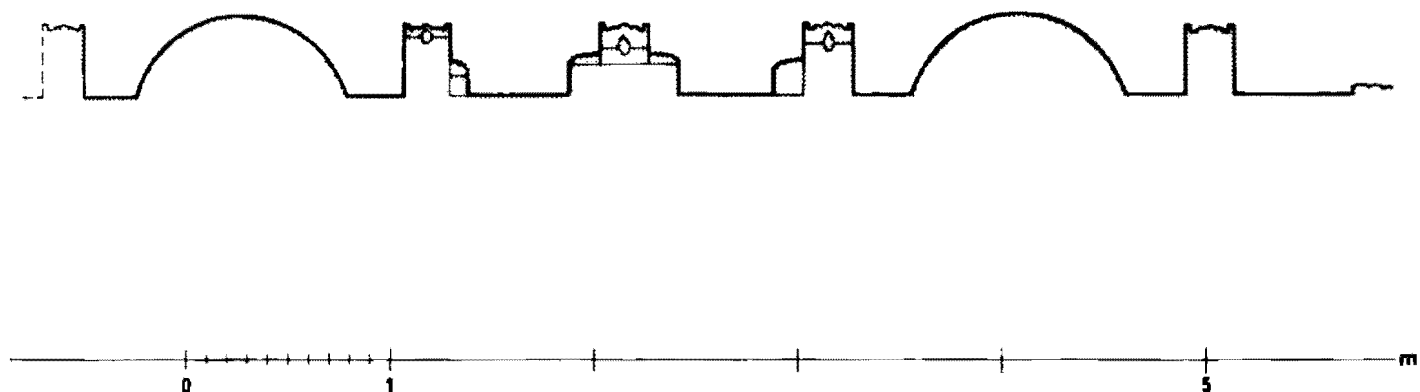
**GACH GUMBAD****Area 100, West Facade**

Fig. 15. Detail of the original Gach Gumbad (area 100) west façade. The projecting pilasters carry decorative stuccowork, some of which was torn away and now adheres to the back of the added block 101.

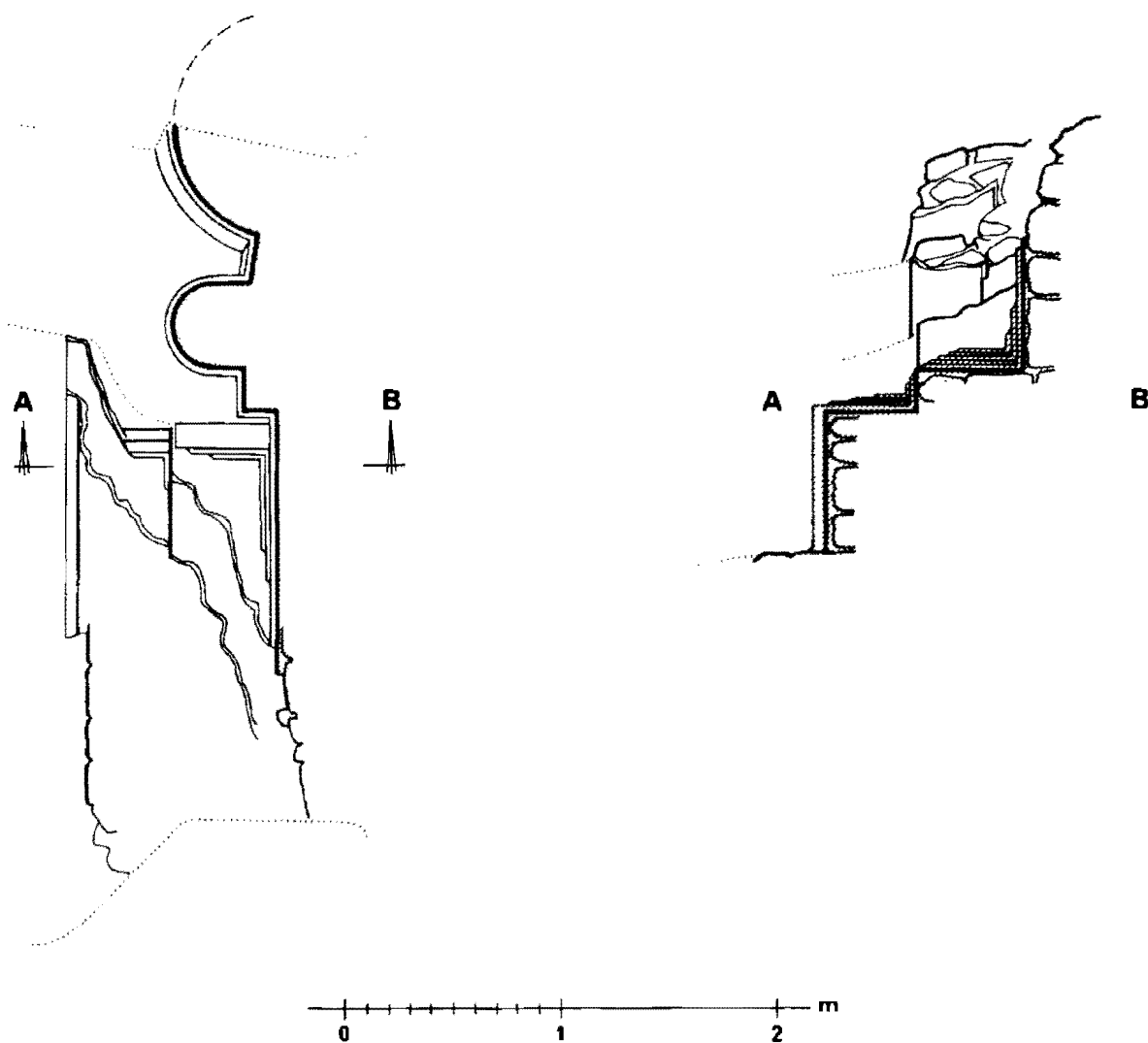
**GACH GUMBAD****Area 101**

Fig. 16. Left. Plan of the articulated north face of block 101.  
Right. Section through line A-B.

# GACH GUMBAD WEST

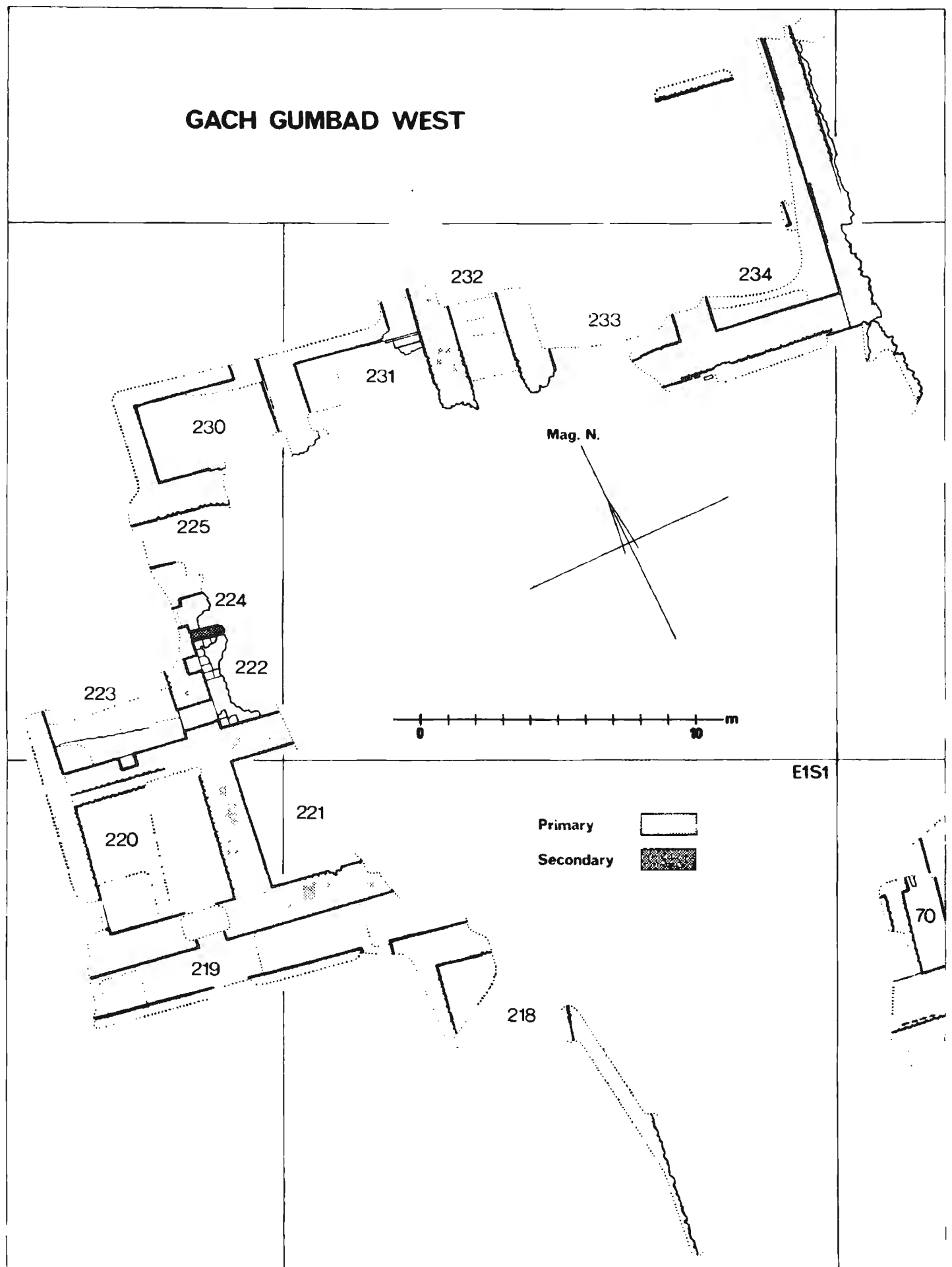


Fig. 17. Areas 70 and 218 now widely separated on either side of the eroded gully bed, but clearly once very close to each other.



Pl. XVa) illustrate what must have been a very shallow, almost flat vault of masonry. The tool markings of a plasterer's trowel, seen on the plaster still adhering to the underside of the fallen fragment, suggest that once the masonry was erected in place, presumably with some use of centring, the surface was plastered over to furnish the eventual finished surface.

Different forms of arch are present in the complex: in the corridor of area 19, a small niche, constructed of rubble masonry, is capped by a flat arch (Pl. XIIb). The doorway between areas 201 and 211, also of rubble masonry, has a rounded arch (Pl. XIIId). (In the illustration, the keyhole effect of the doorway silhouette is probably due to the way the masonry has been preserved, rather than an indication of its original shape; the top part of the arch was exposed above ground and its surfaces have eroded to a greater extent). Apart from the round arch of the doorway just mentioned, the site contains other examples in one of the towers of Ja-i Dar, which has extant round arch forms in rubble masonry for a main corridor and a side passage vault (Pl. VIIa, b). Again, there is no ready explanation as to why the builders constructed their arches in different ways, although there is a possibility that it is related to the width of the particular span, and to load-bearing considerations. It is generally acknowledged that bricks could be employed in the construction of a vault without centring. It is less certain in the case of rubble masonry. Whatever the case, it does not explain satisfactorily why spaces of like proportion are sometimes covered by brick, sometimes by rubble masonry.

One of the most puzzling elements of the whole site is the presence of ceramic roof tiles. Numerous tiles have been recovered from all over the surface of the Maydan enclosure, in contrast to the area outside it. They appear to have come from Gach Gumbad. There are no obvious traces of buildings within the enclosure to explain the occurrence of tiles in this area. Furthermore, observation has proven that heavy sherds can move considerable distances from their former place of deposition because of ploughing and erosion,<sup>10</sup> and the presence of the roof tiles some distance south and downslope of Gach Gumbad is not inexplicable. The tiles include a large, flat pantile which was designed to have the upturned flanges covered by a round tile (Fig. 20). The largest near-complete fragment of the flat tile found measured 43.9 cm. long, 39.5 cm. at the top end, and 33 cm. at the bottom end. The tiles were tapered, obviously, to permit one to fit over the end of another between the flanges on either edge. Crude tabs were found attached to certain of the tiles, suggesting that even in their decorative aspect there was a memory of the western origin of this particular type of roofing.<sup>11</sup> The tabs seem to be a vestige of what in the Classical world would be termed an *antefix*. The *antefix* and the tiles themselves make no sense in the arid climate of western Iran, other than by explaining them as an example of cultural influence. It does rain in the Zardeh basin between November and early April. These rains are heavy but intermittent; in January there can be wet snow, though it does not last long on the ground at this altitude. The traditional flat, mud roofs of the modern village appear to be adequate to cope with the requirements of the climate.

While large numbers of these tile fragments were found on the surface in most of the fields of the Maydan, and in the top layers of the debris within the complex, there were no indications that tiles had crashed down inside the building early in their process of decay. Small fragments found their way into the debris at a late stage in its accumulation. The largest piece was found deep down in the natural fill of the gully, and the explanation of how it got there depends upon the continued analysis of the life-story of the gully itself. One can only presume at this stage that the structures of Gach Gumbad were not covered by pitched roofs (that, presumably, was done in a more traditionally Parthian manner with barrel or flat profile vaults, but that pantiles must have been used to cover short, sloping surfaces—either the edges of the flat roofs which surmounted the vaults, or *atrium*-like walls flanking a court. The resolution, as with many of the intriguing questions at Qal'eh-i Yazdigird, lies in continued excavation.

The same holds true for establishing the absolute chronology of the Gach Gumbad structures. At least some relative chronology has emerged. Reference has already been made in a previous article<sup>12</sup> to the small buttress which was appended against one of the niches on the north wall of room 5 (buttress Xa, Xa<sup>1</sup>). The buttress is clearly the result of repairs having been made, and is an important indication that attention was paid to the building's upkeep. The reason behind the need for two other massive alterations is still obscure. These "repairs" involved major modifications both to the block (area 100)

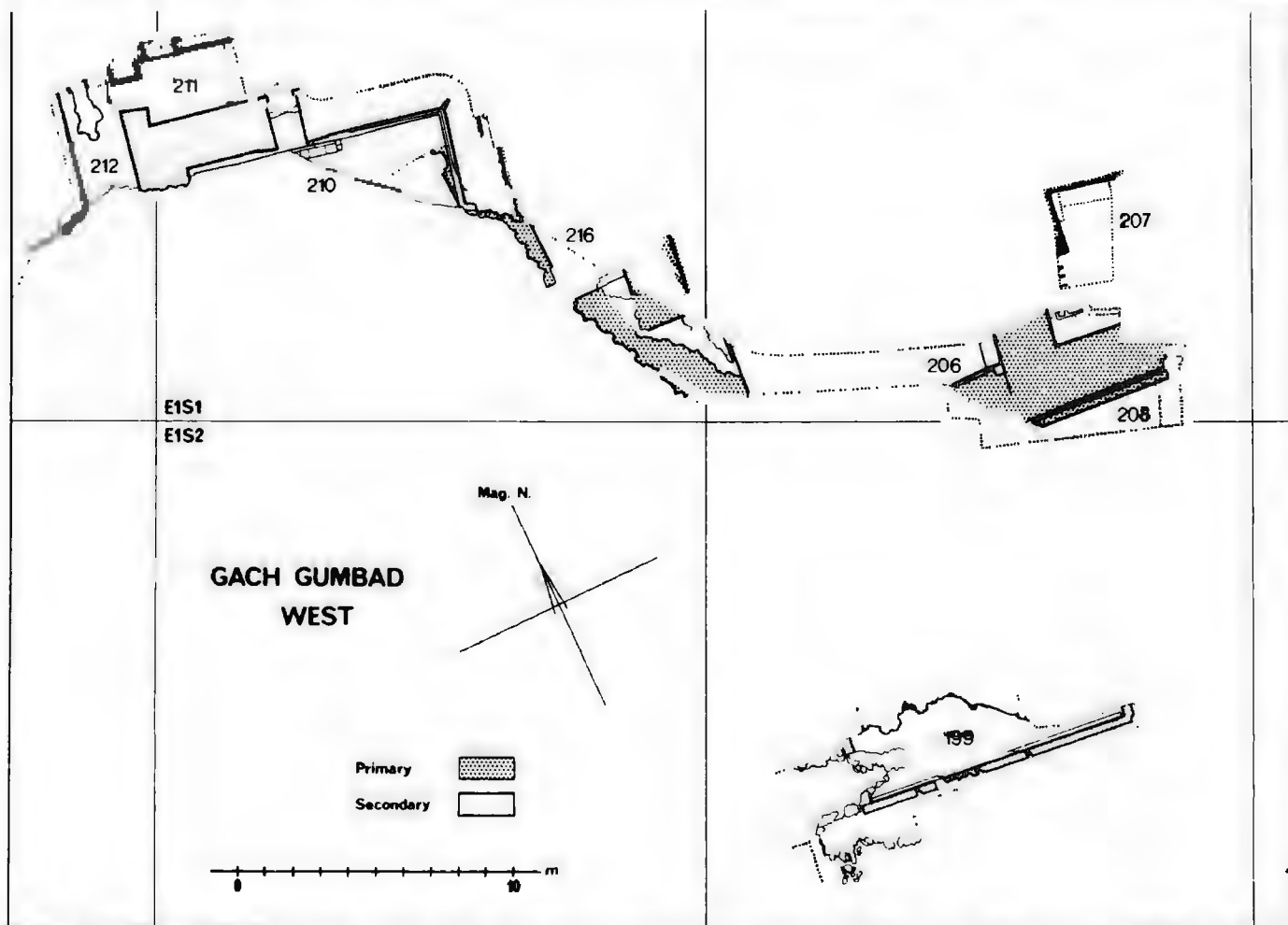


Fig. 18. Area 199 is the baked brick tank. The walls of areas 206–208 are also baked brick and represent the earliest features on the west bank, but their chronology relative to areas 1, 5, and 11 is as yet unknown.

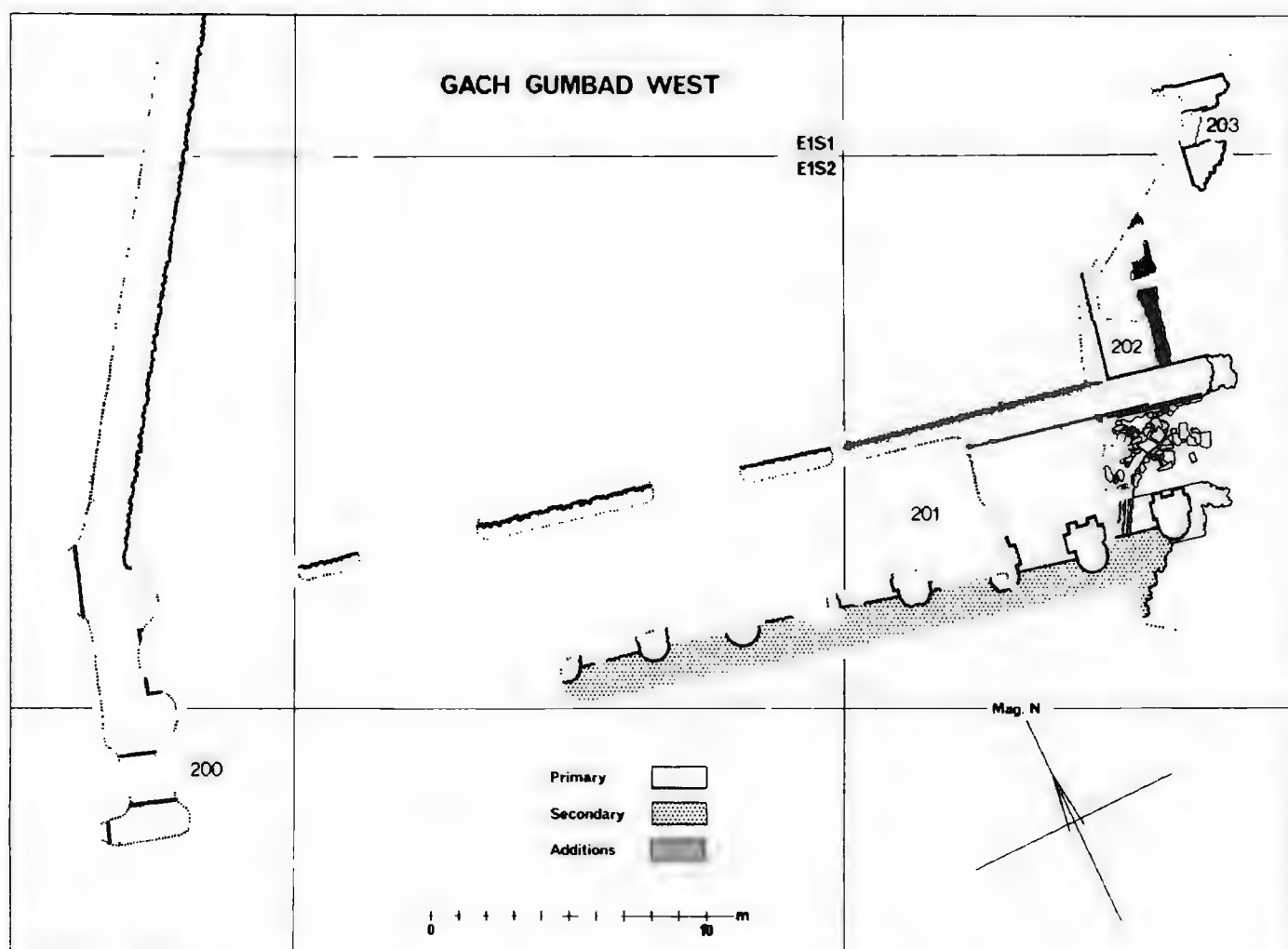


Fig. 19. The blocked-up arcade which once connected with an exterior entrance in the enclosure wall (area 200).

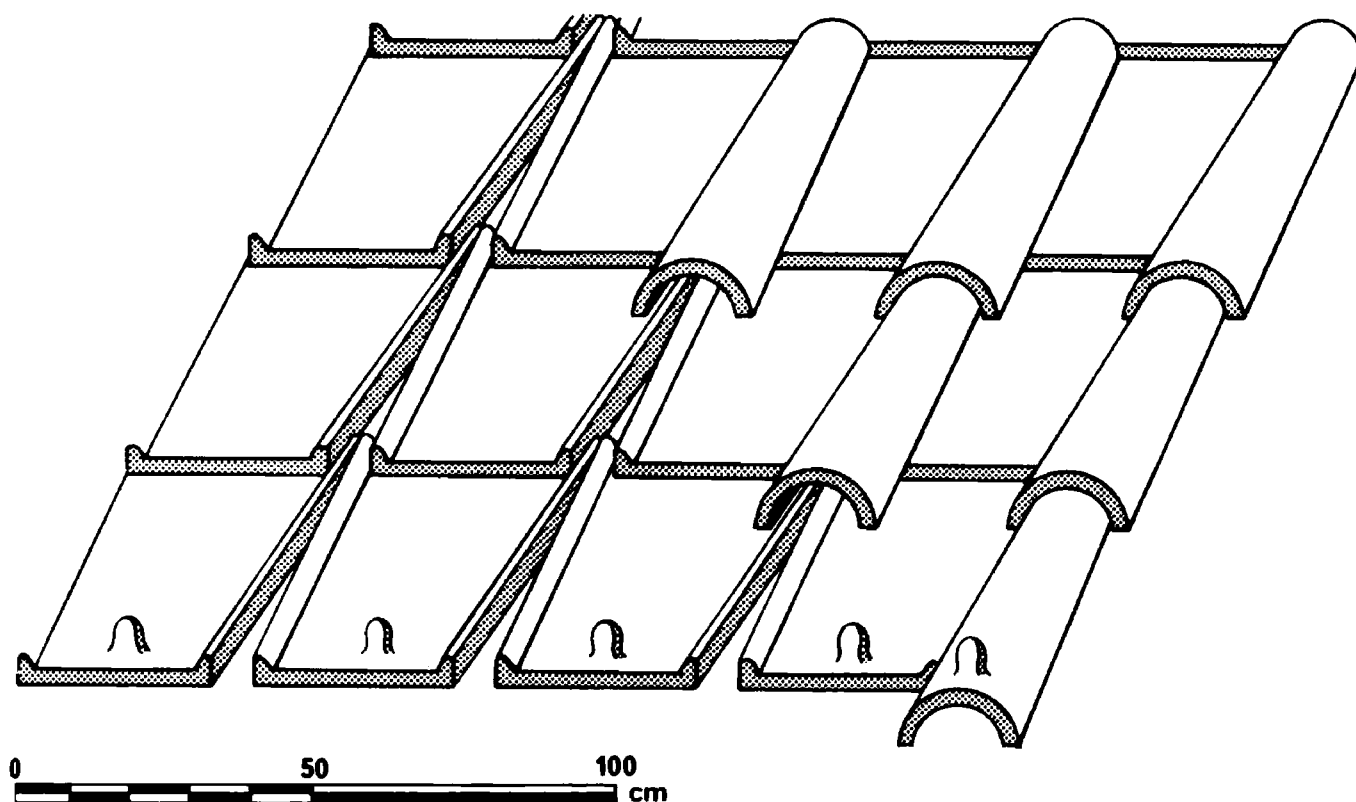


Fig. 20. Reconstruction of the layout for ceramic tile roofing. Note the terminal "antefix" tabs.

and to the arcade (area 201). In these two instances, volumes of masonry were constructed against the exterior of the existing structures. In the case of the arcade, the open archways were completely blocked up, then debris was dumped deliberately into the space created by this walling-up operation.

The debris from this fill contained fragments of a griffon-senmurv creature, identical in type with those found in area 1. Other pieces from the fill include a human bust set in a vine scroll: this figure is identical with that preserved in situ on the original exterior face of the west façade of block 100 (now hidden in the fissure between the two blocks).<sup>13</sup> Both the senmurv and the bust-in-vine-scroll motifs were recovered from the same thick stratum of stucco fill, suggesting that at some point in the history of the complex, extensive clearing of stucco debris was required, possibly both from the main halls and the adjacent block at the same time. The Hushtareh dump is also involved in the scenario.<sup>14</sup>

If this explanation of the sequence of events can be accepted, it follows that all of the dumping activity was associated with the modifications to the complex described above; it is unlikely that the labour of blocking up the arcade and moving masses of debris would have been undertaken unless continued occupation of a repaired or renovated complex was intended. This interpretation places the arcaded area in a contemporary context with the so-called *eyvan* cluster. On this basis, and taking into consideration the regularity with which the walls are aligned, it would appear that most of the rooms and corridors shown on the plan of Fig. 10 were contemporary. The major modifications as described above, as well as small face-lifts and repairs that such spaces usually receive, would then have taken place subsequently. Only in the instance of area 216, and of the walls between 206 and 208, is there sound evidence to show that these walls pre-date those of area 210–211 (Fig. 18). But whether the latter are contemporary with the original arcade 201 and block 100, or with the subsequent modifications made to those features, remains unanswered.

<sup>1</sup> The two previous reports appeared in *Iran* XVIII and XIX. The project was sponsored by the Royal Ontario Museum, with additional extensive funding by the Social Sciences and Humanities Research Council of Canada (S.S.H.R.C.C.).

<sup>2</sup> The most exhaustive of these studies is a comparative analysis of relevant architectural decoration, a year-long project being

conducted with the assistance of N.J. Willson, funded by the S.S.H.R.C.C.

<sup>3</sup> The field drawings are the work of Claus Brede and James Knudstad; the figure plates were prepared by Carole Richards. Acknowledgements to all who were involved in the various expeditions appear in the various site reports, including E.J.



- Keall, "Qal'eh-i Yazdigird: A Sasanian Palace Stronghold in Persian Kurdistan", *Iran* V (1967), pp. 99–121; "Qal'eh-i Yazdigird", in Summary of Excavations, *Iran* XIV (1976), pp. 161–4; "Qal'eh-e Yazdgerd: First Season of Excavations, 1975", in *Proceedings of the Fourth Annual Symposium on Archaeological Research in Iran (November 1975)*, Tehran, 1976, pp. 380–90; "Qal'eh-i Yazdigird", in Summary of Excavations, *Iran* XVII (1979), pp. 158–9; "Qal'eh-i Yazdigird: The Question of its Date", *Iran* XV (1977), pp. 1–9; Edward J. Keall, Margaret A. Leveque and Nancy Willson, "Qal'eh-i Yazdigird: Its Architectural Decorations", *Iran* XVIII (1980), pp. 1–41; Edward J. Keall and Marguerite J. Keall, "The Qal'eh-i Yazdigird Pottery: A Statistical Approach", *Iran* XIX (1981), pp. 33–80.
- <sup>4</sup> After the eleventh century the focus may have been more on the pastoral highland area than on the lowland basin itself. This theory is based upon observations made about the occupational activity of the whole area between Qal'eh-i Yazdigird and the town of Rijab and involves the notion that the eleventh-century invasions of Iran brought about marked pastoralist settlement patterns because of the "nomadic" background of the invaders. For an illustration of one of the upland walls, see Pl. Va.
- <sup>5</sup> Free-standing towers are seen in Pl. Ic; evidence of a guard chamber is shown in Pl. 11c; and the extant remains of the wall are indicated in Figs. 2a and 2b.
- <sup>6</sup> The lack of a metallic clinky sound and the absence of a distinctive grey core place this piece in a different category from that of the standard clinky. This type can perhaps be thought of as a late version, or, if it is a contemporary local version, then the traditional date for clinky itself must be brought forward to include at least the first century A.D.
- <sup>7</sup> For place names in this article, see Fig. 1. Here, Darwazeh ("Entrance") does not necessarily have any ancient connotation. The folk etymology for the various parts of the basin is extremely colourful, but this author does not feel qualified to develop the theme other than to use the names as convenient references. Robert Rice has pointed out the dangers of taking the names at face value for legendary historical associations. Shah Neshin ("King Enthroned"), for instance, can just as easily be Shan-i Shin ("Green Hillside"). The names used generally reflect modern usage of the land and do not relate, except with the major free-standing structures, to the ancient monuments. Rubble walls are labelled indiscriminately as "Qal'eh" or "Gach".
- <sup>8</sup> Wroth publishes coins of this type in his series "a" of "Mithridates IV, ca. A.D. 130–147". This king is unknown except for his coins but is to be associated with the Iranian part of Parthia through the coin types. The coin referred to here carries the same, almost illegible, Greek inscription of standard Parthian silver drachms, whose formula is decipherable through numismatic tradition. Sellwood publishes the Wroth series "a" drachms under his own Type 83, as "unknown king, ca. A.D. 140". He reserves the designation of "Mithridates IV" specifically for those of his Type 82 and Wroth series "b" which bear the substitution of "King Mithridates" in Parthian Pahlavi in the inscription. The portraits of both types, however, are virtually identical, and it is highly probable that they belong to the same figure. See W. Wroth, *Catalogue of the Coins of Parthia*, British Museum Catalogue (1903), pp. lix–lx, pl. XXXIII, nos. 6–9; and D. Sellwood, *An Introduction to the Coinage of Parthia* (London, 1971), pp. 262–6.
- <sup>9</sup> See Walter Andrae and Heinz Lenzen, *Die Partherstadt Assur* (Leipzig, 1933), pls. 9–11, and compare E. J. Keall, "Some Thoughts on the Early Eyvan" in *Near Eastern Numismatics, Iconography, Epigraphy and History* (Studies in Honor of George C. Miles), ed. Dickran K. Kouymjian (Beirut, 1974), pp. 123–30.
- <sup>10</sup> The author has seen storage jar rims dragged many metres in a single instance by shallow donkey-drawn ploughs. By contrast, tractor-drawn mouldboard ploughshares have a far greater tendency to bury sherds. This has, obviously, important implications for surface surveys.
- <sup>11</sup> For the existence of this kind of tile-work further east, see G. A. Pugachenkova, *Khalchaian; k probleme khudozhestvennoi kul'tury Severnoi Baktrii* (Tashkent, 1966), p. 23, Fig. 81.
- <sup>12</sup> Cf. *Iran* XVI, Fig. 2.
- <sup>13</sup> When the masonry of 101 was poured against the face of 100, it took the impression of the existing decoration. Later, when the addition pulled away as a result of some subsidence, the reverse impression of the decoration was preserved in the hardened masonry. The original decoration itself, in some places, was destroyed; in other areas it may have fallen down and been buried at the bottom of the fissure beneath fill. Still other portions remaining in situ have been severely worn by water action.
- <sup>14</sup> Cf. *Iran* XIV, p. 164, and *Iran* XV, p. 8.