

## CHAPTER TWENTY-FIVE

### ELAMITE ARCHITECTURE

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#### RESIDENTIAL ARCHITECTURE

The origin of residential architecture in Susiana goes back to prehistory, as attested in the excavated areas at Chogha Mish (Delougaz and Kantor 1996: 30–35; Allzadeh 2008). Generally houses were made from mud-brick and consisted of several rooms. In some cases, baked-brick was used for drainage canals or for thresholds, although rooms usually had beaten earth floors. Compared to the scarce prehistoric evidence, the historic era offers a large number of residential mud-brick structures from the *sukkalnah* period (c.1900–1500 BC), recovered in a vast area in the trench A of *Ville Royale* at Susa by Roman Ghirshman. Although the stratigraphy of *Ville Royale* does not allow for the determination of an exact dating (Carter 1979: 113), it gives a rough indication of the chronological development of residential architecture in this period. Earliest dwelling examples in the level A XV generally consisted of a courtyard surrounded by rooms (Gasche 1986: Figure 3). In order to obtain more privacy, a vestibule was usually provided which separated the inside area of the house from the outside. This room was in fact an intermediate zone in which the doors were not arranged on the same axis to obstruct the direct view from outer to inner part. Indeed, the privacy of the intimate inner part of the house played an important role in Elam almost over all periods.

For the so-called “maison du culre” from the oldest level (A XV), Ghirshman (1967: 7–13) determined two building stages. The arrangement of the rooms was similar in both stages, but the spatial organization of the structure was altered by the modification of the connections between the rooms (Figure 25.1). In both stages, rooms 4 and 8 seem to have played an important role, due to their considerably large size. Furthermore, they were furnished with a niche and chimney (Gasche 1986: 89). During the first building stage, both rooms were not easy to access. In order to reach them, one had to pass through several rooms (Figure 25.1a). This condition was changed in the second building stage by modifying the connections in such a way that the large room 4 could have been reached directly from the court 3 (Figure 25.1b). It therefore obtained in this stage an “open access” character and must have been used as an audience hall. The room 8 can be considered as the most private part of the house. It possessed on both sides small chambers and was primarily accessible



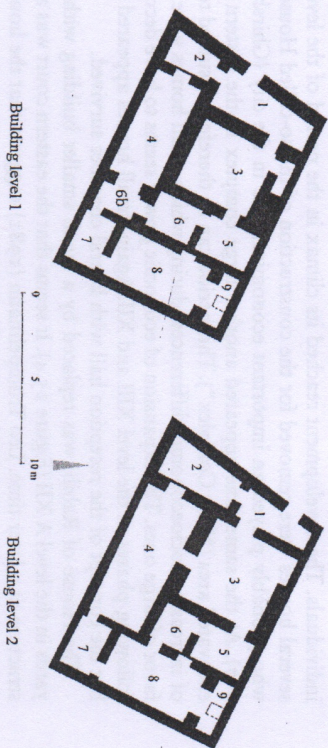


Figure 25.1 Schematic overview of two building stages of the “maison du culte” in Ville Royale A XV.

through one of them (room 7). In the second stage, a doorway was built within the large northwestern side of room 8, so that it became reachable directly from room 6. In this manner both main rooms of the house (rooms 4 and 8) came to be more accessible.

The concept of an accessible main hall with two lateral chambers further developed over the course of time. In the posterior level A XIV, the “maison du culte” together with neighbouring structures were replaced by a new construction known as the House of Rabibi (Figure 25.2a; Ghirshman 1965: 97; 1967: 5–7). It included several courtyards and at least two entrances. The largest ingress lay on the east flank and led to the main courtyard A through three rooms. The court was in fact a central distribution area from which it was possible to reach other functional sections. On the southwestern side of the courtyard lay a wide hall (no. 27) with small lateral rooms. Its doorway was centered in the extremely thick frontal wall. Because of the large size of the hall and its easy accessibility from the courtyard, it could be considered as the reception space of the house. A similar pattern can also be observed for the room 12, placed close to the court C, as well as for other houses of the level XIV (Gasche 1973: Plan 4, locus 71). The lateral chambers of the large hall were connected to this room through wide doorways. Ghirshman considered these doorways to be projections from the walls and the lateral chambers as extensions of the large hall, named by him “salles à quatre saillants” (Ghirshman 1965).

Whether it is a hall with wall projections or it is a hall with lateral chambers, its position, dimensions, and easy accessibility emphasize its important role in the public life of the homeowner who most probably had a particularly high economic and social position. His social status required a change in the structure in order to create a suitable reception space for audience and business transactions. The lateral chambers were used for connection to the other parts of the house.

The same scheme was realized in another large complex of the same level which was named by the excavators as the “East Complex” (Figure 25.2b). Its “salles à quatre saillants” or large wide hall 161 was on one hand directly accessible from the

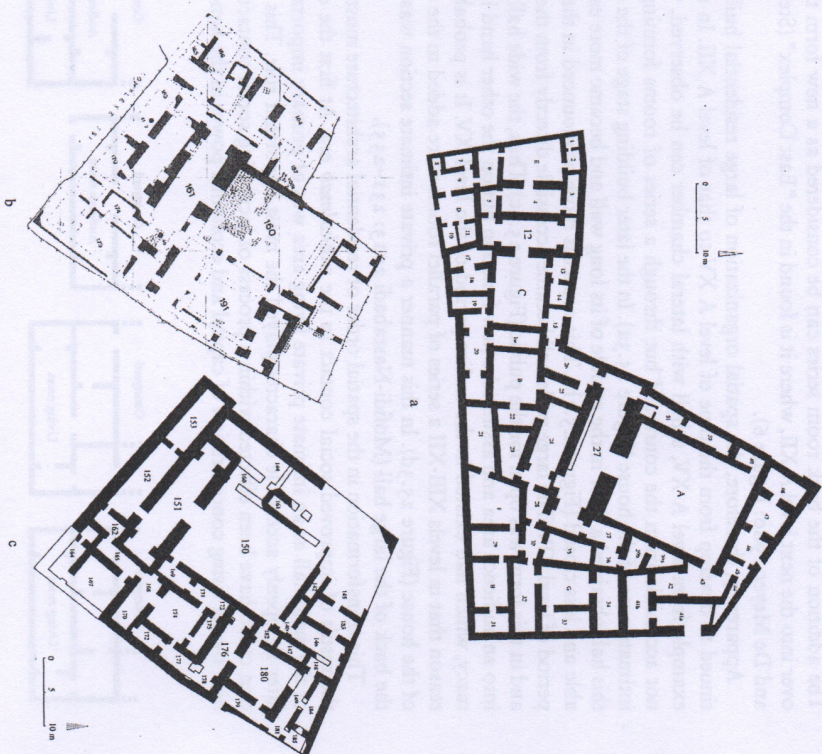


Figure 25.2 Schematic plan of large houses in Ville Royale A XIV and A XIII.  
a: House of Rabibi in Ville Royale A XIV (after Ghirshman 1965; Figure 3);  
b: “East Complex” of A XIV (after Gasche 1973: Pl. 4); c: “East Complex” of A XIII (after Seve, Gasche and De Meyer 1980: Figure 4; Modified after Mofidi-Nasrabadi 2013: 233, n. 724 and Figure 125).

courtyard 160, and on the other hand, it was connected to other sections through the small lateral chambers. A similar arrangement can also be observed for a smaller variation of “salles à quatre saillants” on the southwestern side of the court 191.

During the following period of level XIII, a modification occurred in the spatial arrangement of the house. In this period, two variations of the “salles à quatre saillants” can be observed (Figure 25.2c, hall 151 and 176). One (hall 176) is similar to those of the preceding period. The other (hall 151) was positioned together with a series of rooms (152, 153, and 162) in the building’s back part and represents a new form of “salles à quatre saillants” providing a secluded, intimate sector of the house.



The addition of the back room series can be considered as a new form that carries over into the next level A XII, where it is found in the "East Complex" (Steve, Gasche and De Meyer 1980: Figure 6).

Apparently, therefore, the spatial organization of large residential buildings continued to develop from the time of level A XV to that of level A XII. In the earliest example from level A XV, a hall with lateral chamber can be observed, which was not accessible from the courtyard but through a series of rooms forming the most intimate area of the house (Figure 2.5.3a). In the later building stage of the same level, this hall obtained a door in the middle of its long wall and became more easily reachable and less closed (Figure 2.5.3b). This aspect is more pronounced in the following period of level XIV. The large wide hall became accessible directly from the courtyard and in this form was open for the public (Figure 2.5.3c). Thus, the wide hall developed into an audience area and assumed a new function but on the other hand lost its intimacy, which had existed in the earlier period of the level XV. It is probably for this reason that in levels XIII-XII a series of parallel rooms were added to the rear sector of the house (Figure 2.5.3d). In this manner a private intimate section was created at the back of the large hall (Mofidi-Nasrabadi 2013: 231-235).

This transformation in the spatial order of residential architecture must have been the result of improved social contact in the *sakalmah* era. At first the conception of the main hall as an intimate private living area was of primary importance, while later an openly accessible character played the most important role. This new function could have been effected within a process of increasing social contact accompanied by the rising concentration of capital and economic power in the hands of some

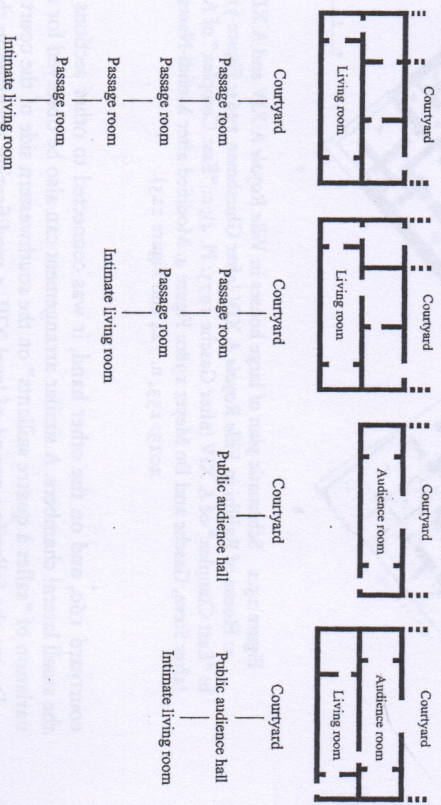


Figure 2.5.3 Schematic variations of the main large hall in different levels in *Ville Royale* at Susa. a: First stage of the "maison du culte" in VR A XV; b: Second stage of the "maison du culte" in VR A XV; c: House of Rabihi in VR A XIV; d: "East Complex" in VR A XIII-XII.

individuals. The development reached its climax in the period of the level A XIV as several houses were removed for the construction of the so-called House of Rabihi, who probably played an important economical role in the city (Ghirshman 1967: 5-7). At the same time appeared another large complex in the eastern part of the excavated area ("East Complex"). This period can be therefore assumed to be a phase of increasing socioeconomic differences, during which small homes were forfeited in favor of large ones. The expansion of economic power seems to have decreased in the following phases of the level XIII and XII. Again, small houses appeared more often, but the concept of the reception hall with lateral chamber survived.

The House of Rabihi was replaced by a much smaller building with two courtyards in the level A XII (Figure 2.5.4). It seems that the eastern court was added to the structure at a later time. Leo Trümpelmann (1981) suggests that the house was used in its last phase as a brothel because of several large vats presumed to have contained beer, often containing pottery goblets, installed under the baked-brick plaster of six rooms. The adaptation of the building structure to this new function, however, does not alter the fact that it had originally possessed a typical house structure with a vestibule on the northeastern corner, a central courtyard which led to a main reception hall (no. 35) with lateral chambers and an intimate private section in the back part.

For the subsequent Middle Elamite period, we know nothing about the inhabited structures at Susa. Only a few residential buildings are attested at Chogha Zanbil,

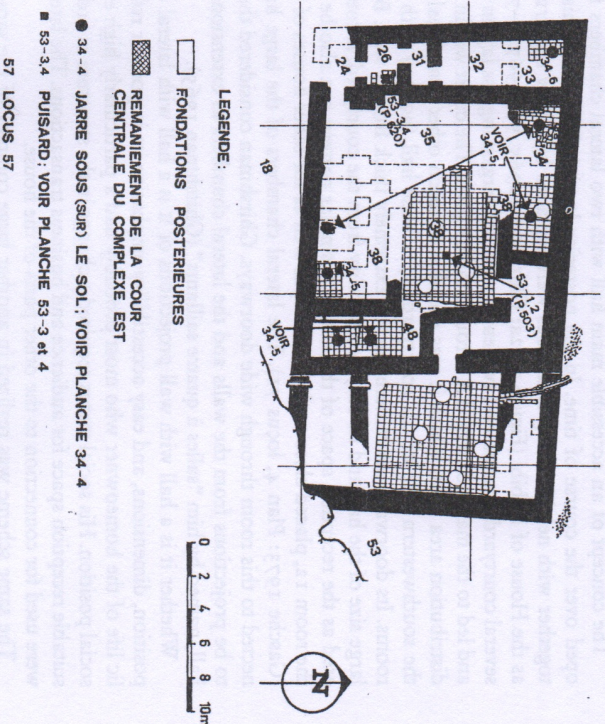


Figure 2.5.4 Building in the level A XII in *Ville Royale* at Susa (after Steve, Gasche and De Meyer 1980: Figure 6).



where Ghirshman discovered two large mud-brick constructions in the eastern part of the city that he referred to as Palaces 2 and 3 (Ghirshman 1968: 47–92). Compared to the monumental complexes at Haft Tappeh or the palace at Dur-Kurigalzu in Babylonia (Heinrich 1984: 89–91), they were built on a much smaller scale and were less suited to receiving an audience. Their identification as palaces is vague, especially considering that there is no evidence for different functional sectors of a palace, such as the throne hall, or administrative and economic sections. It seems that these constructions were planned as temporary accommodation for the royal family and not as their permanent residential palace. The spatial order of both buildings seems at first glance to be similar, but in fact important differences can be observed. The only feature they have in common is that both consisted of two or three similar rectangular sections with a central courtyard around which rooms were arranged.

The structure of the so-called Palace 2 is no longer preserved in its entirety. Three square courtyards could be identified, arranged close to each other in an L-shape. The preserved remains of some rooms permit a general reconstruction (Figure 2.5.5a; Mofidi-Nasrabadi 2013: 218–221). These rooms were situated in two rows on all sides of each courtyard. The main entrance lay in the east corner of the section I which led to a passage (no. 11), from which it was possible to reach every courtyard. The surrounding rooms of the courtyards were divided into different closed units. The unit comprising rooms 6–8 was well preserved on the southeastern side of section I. Accessible from the courtyard, it can be considered an independent dwelling composed of a large hall and two small lateral chambers. Apart from this dwelling with three rooms, there were also variations with four (no. 20–23) or even more rooms.

Although the three courtyard sections were connected, it seems that the surrounding dwellings were not linked to each other. This would mean that the sections I–III were in contact, but several independent domiciles were provided. This planning aspect reflects the functional feature of the construction and gives an insight into the social relationship of those who used it. The layout seems to have been intended for an extended family consisting of three main groups, each with several family nucleuses.

The so-called Palace 3 consisted of two similar square sections with a central courtyard (Figure 2.5.5b), which in contrast to those of Palace 2 were not connected to each other, instead being accessible separately from the outside. Their doorways (nos. 7 and 19) were not oriented out towards the city area, but lay on the southeastern side facing the city wall (see Figure 12.4 this volume). Every section was provided with identical dwellings consisting of four rooms. Analogous to Palace 2, they had a wide hall directly accessible from the courtyard and two small lateral chambers. One of the chambers could be identified as a kitchen due to the installation of a hearth. In contrast to Palace 2, every dwelling was furnished with a bathroom containing a basin, positioned behind the kitchen.

Apart of the four-room dwellings there was a larger variation with five rooms arranged in two rows in section I (Figure 2.5.5b). From the courtyard it was possible to enter the wide hall (no. 9) which was connected with the kitchen (no. 8) and the bathroom (no. 12) on its sides, and with another wide hall (no. 11) through two doorways at the back. This hall (no. 11) was linked to a small chamber (no. 31). The doorways between the halls 9 and 11 were not situated on the same axis as the entrance from the courtyard, so it was not possible to have any visual contact from outside into the hall 11, giving more privacy in this backward part of the dwelling.

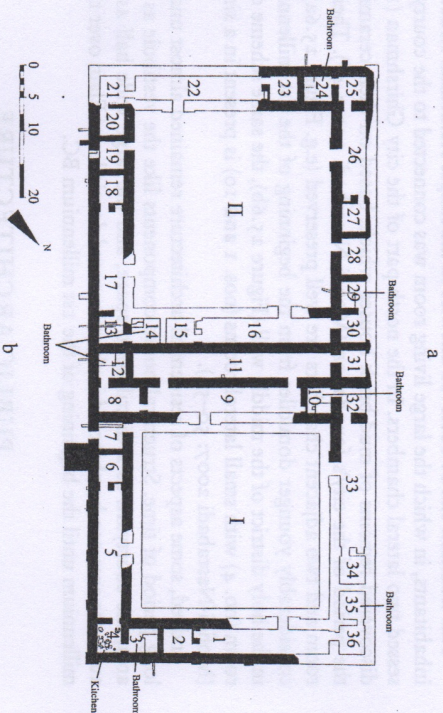
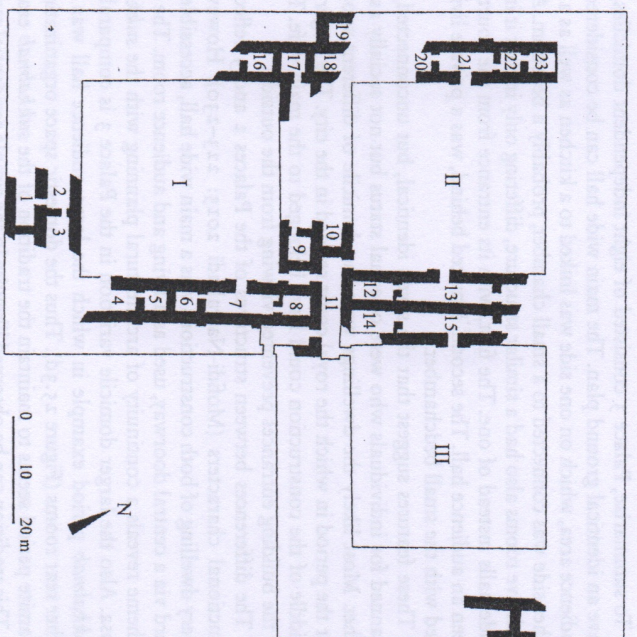


Figure 2.5.5 Palaces at Chogha Zanbil; a: The reconstruction of the Palace 2 and preserved dwelling on the southeast of the courtyard I (after Mofidi-Nasrabadi 2013; Figs. 114–115); b: The ground plan of the Palace 3 at Chogha Zanbil (after Mofidi-Nasrabadi 2012a; Figure 15).



To summarize, Palace 3 consisted of eight independent domiciles, seven of which have an identical ground plan. The main wide hall can be considered as a living and audience area, which on one side was linked to a kitchen as well as a bath and on the other side was connected to a small chamber, probably a bedroom. A single domicile with five rooms also had a similar structure, differing only in that it incorporated two wide halls instead of one. The first, with its entrance from the courtyard, must have been an audience hall. The second, situated behind, was a private living room associated with the small bedchamber.

These features suggest that the seven identical, but unconnected, dwellings were planned for individuals who were of equal status but not socially associated to each other. Most likely the dwellings were the domicile of different spouses of the king for the period in which the royal court resided in the city. The larger residence in the middle of the construction could have belonged to the main wife. The arrangement of the building entrances prevented viewing from the outside.

The differences between structures of the Palaces 2 and 3 reflect their different functional characters (Mofidi-Nasrabadi 2013: 223–230). However, common to every dwelling of both constructions was a main wide hall, accessible from the courtyard via a central doorway, used as a living and audience room. The above-discussed scheme reveals a continuity of architectural planning with the *sukkahmah* period at Susa. Also the larger domicile variation in the Palace 3 is comparable with the late *sukkahmah* period example in which the large audience hall was associated with other rear rooms (Figure 2.5.3d). Thus the domestic space organization in the Middle Elamite period seems to maintain the tradition of the *sukkahmah* era.

This tradition can be observed likewise in the simple residential structures made by inhabitants, in which the large living room was connected to the courtyard and possessed two lateral chambers. In the north part of the city Ghirshman (1968: 93–95) discovered remains of mud-brick houses which, based on their ceramics, belong to the period of the city's foundation (Mofidi-Nasrabadi 2013: 47). Their wide living room and two adjacent chambers are well preserved (e.g. Figure 2.5.6a). Even in the considerably younger domiciles from the beginning of the 1st millennium BC built in the holy district of the middle wall (Figure 2.5.6b), the same scheme of wide living room (no. 4) with small lateral rooms (nos. 1 and 10) is present in a simplified form (Mofidi-Nasrabadi 2007: 50–52).

Indeed, some aspects of residential architecture remained almost unchanged for a long period of time. Structural house components like the vestibule as intermediate area, the courtyard as a distribution space, and the large wide hall as a living and audience area can be observed in the excavated domiciles of Elam over the whole 2nd millennium until the beginning of the 1st millennium BC.

## PUBLIC ARCHITECTURE

From the early era of Elamite history little is known about public constructions. The eldest well-known examples with administrative character belong to the Middle Elamite period. The earliest of these is a mud-brick construction excavated at Haft Tappeh dated to the ME I period (Mofidi-Nasrabadi 2010: 19–22). Judging by the burnt roof beams and layers of ash found on the pavement of the rooms, it was destroyed by fire. Its complete structure remains unidentified (Figure 2.5.7). The

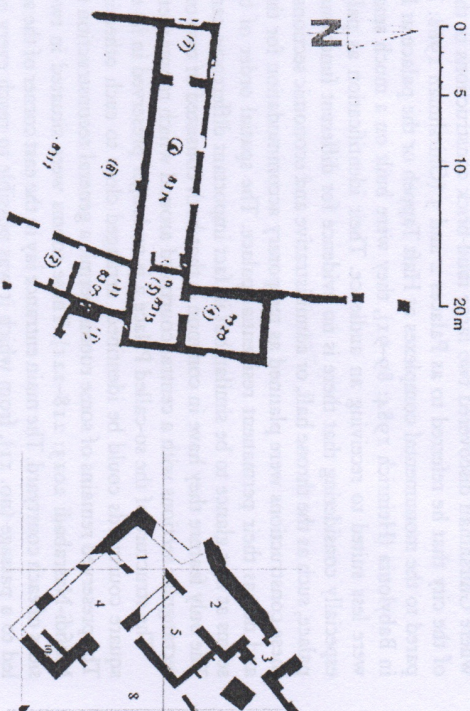


Figure 2.5.6 Houses at Chogha Zanbil from a: the ME II period (after Ghirshman 1968: Figure 3.6); and b: the beginning of the 1st millennium (after Mofidi-Nasrabadi 2007: Figure 12).

recovered area included a large square courtyard (no. 3), on the northwestern side of which is a rectangular room used as a workplace of scribes (no. 1). It was paved with mud-brick and provided with a small canal to channel water used for producing clay tablets (Mofidi-Nasrabadi 2012b). The adjacent room 2 was not well preserved due to the intrusion of several burials after the devastation of the building.

In the southern section of the construction, three long rooms were situated parallel to each other (nos. 6, 9, 12). They formed a section that was difficult to access, so that one had to pass from the courtyard first through the room 4 in order to reach a row of small chambers. From there it was possible to pass through the anterooms 5, 8, 11 and enter the long rooms 6, 9, 12, respectively. Small pieces of gold-plate in room 12 indicate these long rooms were most likely used for storage of valuable objects. This section was separated from the northeastern part through two long rooms (14–15) situated in a row like a corridor. Another room (no. 17) on the northeastern side, furnished with red painted wall plaster, was accessible through the anteroom 16 from the courtyard. Room 17 may also have been a storage area with its anteroom 16.

From a functional and structural point of view, the building was organized in two parts; namely, a work space for the scribes including room 1 as well as the courtyard 3 on the northern side, and a storage section consisting of several long rooms that were difficult to access.

A second example of public architecture is exhibited at Talle-Malyan (ancient Anshan). According to textual finds, it was in use during the last phase of the Middle Elamite period (Stolper 1984; Carter 1996). The construction is only partly excavated, showing a rectangular courtyard surrounded by several rooms (Figure 2.5.8).



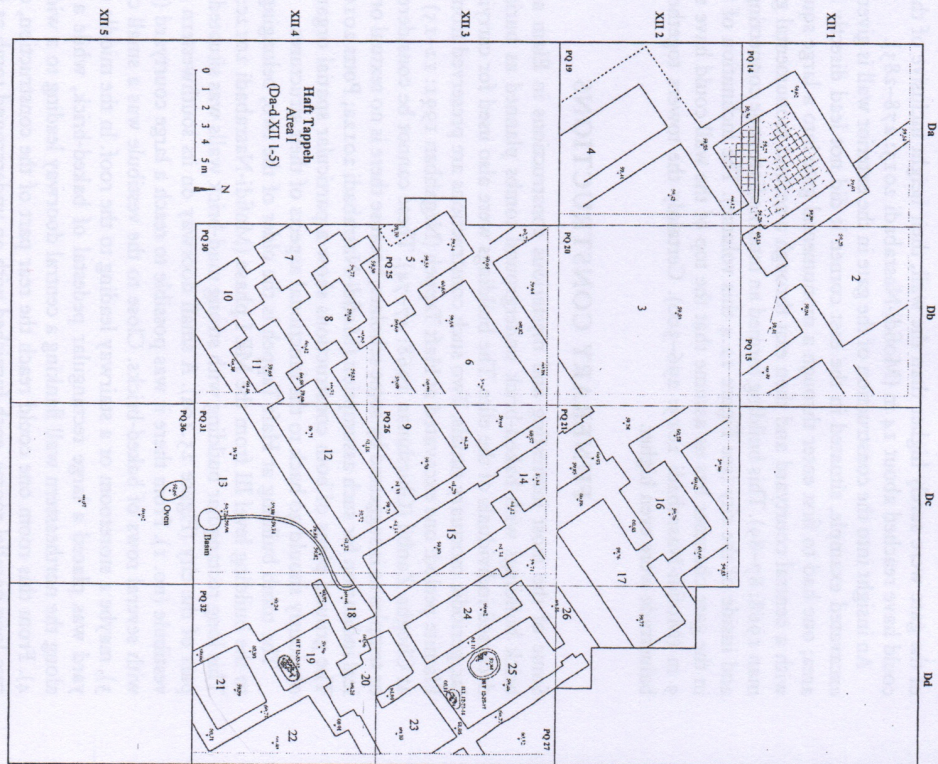


Figure 25.7 Administration building from the second building level (ME I) at Haft Tappeh (after Mofidi-Nasrabadi 2014: Taf. 2).

On two sides were situated wide rooms with lateral chambers, which show similarity to the central wide halls of dwellings in the palaces at Chogha Zanbil. Therefore, Elizabeth Carter suggested a symmetrical reconstruction for the whole structure similar to the ground plan of the Palace 3 at Chogha Zanbil (Carter 1996: Figure 16). It must be noted that there is no indication of domicile usage of the building as was the case in the palaces of Chogha Zanbil. Since the functional aspect was a significant factor in the formation of the structure, the assumed imitation of the plan of Palace 3 can be considered as highly speculative. Many of the coneiform tablets recovered at Malyan mention different metals, like gold, silver, copper, and tin, generally as

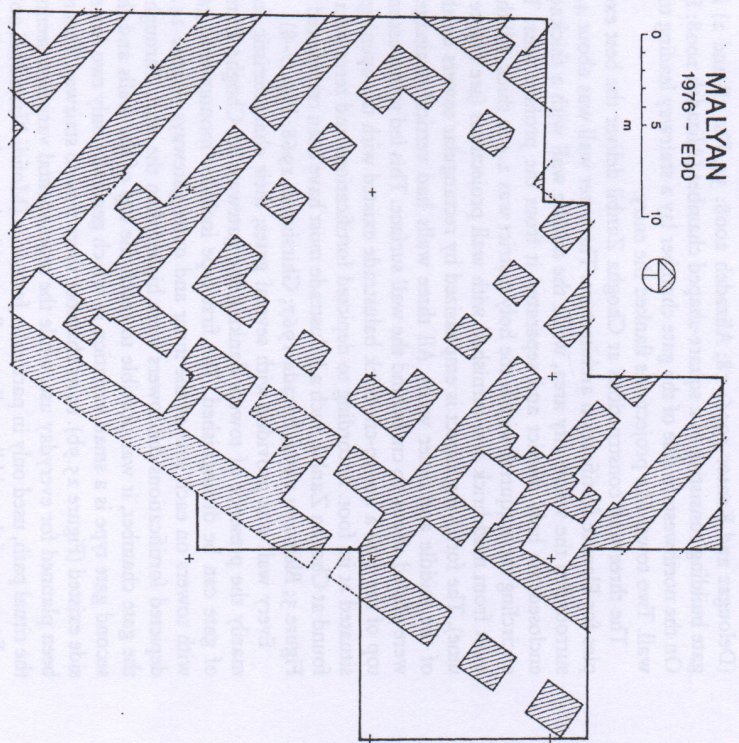


Figure 25.8 Public construction from the ME III period at Tall-e-Malyan (after Carter 1996: Figure 16).

raw metal or as artefacts which were received or delivered (Stolper 1984). A large number of tablets were impressed with the same seal, indicating that the transfer of material must have taken place within a centralized administrative organization. Most probably the construction was used for reception, storage, and redistribution of resources as suggested by Carter (1996: 49). It is therefore possible that storerooms with restricted access, similar to those in the administration building at Haft Tappeh, had existed in the uncovered part of the building. Furthermore, since both raw metals as well as finished products are mentioned in the texts, it can be assumed that the building was in relationship with a metal workshop.

### FORTIFICATIONS

Even though not completely investigated, Tall-e-Malyan (ancient Anshan) in the province of Fars provides evidence for a walled city in the early history of Elam (Summer 1985). The earliest known Elamite fortification in Susiana dating to the *sakkahtah* period was partially excavated at Chogha Mish. The 8–11-m-thick mud-brick wall



(Delougaz and Kantor 1996: 18; Alizadeh 2008: 34, pls. 1B and 2) incorporated a gate building consisting of a square-shaped chamber (Alizadeh 2008: Figs. 8 and 10). On the northwestern side of the gate chamber lay a stairway leading to the top of the wall. Two tower-like projections flanked the entry.

The three wall constructions at Chogha Zanbil deliver the best excavated examples for Elamite fortification architecture. The outer wall was about 4.6 m thick and surrounded the whole city area, while the middle wall with a thickness of 4.8–5 m enclosed the holy district and separated it from the profane area. The inner wall encircling the ziqqurrat within the holy district was 2.4 m thick. All three walls were built from mud-brick and furnished with wall projections (see Figure 12.4 this volume). The fortifying aspect is emphasized by rectangular towers on the outside face of the middle and outer walls. All three walls had vertical drainage canals which were placed about 50 cm behind the wall surface. This led to the assumption that on top of the wall a 40–50-cm-thick balustrade existed with the openings of the canals situated at its foot. According to depicted fortifications and terracotta tower models found at Chogha Zanbil, such a balustrade must have been crenellated (Mielke 2011: Figure 3; Bleibrey 1994; Porada 1967; Ghirshman 1968: Figs. 7–8).

Every wall was provided with several gates; their characteristic feature was primarily the presence of towers flanking the gateway. At Chogha Zanbil, two types of gate can be distinguished. The first type includes monumental gates, furnished with towers on each side of the inner and outer gateways (Figure 25.9a). Based on depicted fortifications the towers were higher than the wall. Through a stairway in the gate chamber, it was possible to reach the top of the walls and the towers. The second gate type is a small variation in which generally only two towers on the outside existed (Figure 25.9b). In its chamber there was no stairway. This type must have been planned for everyday use, while the monumental variation seems to be part of the ritual path, used only in particular festivities (Mofidi-Nasrabadi 2013: 259–304). Features of the middle wall as well as particular architectural details of its southeastern gate allow the calculation of its height as 9.87–10.08 m. Since the towers

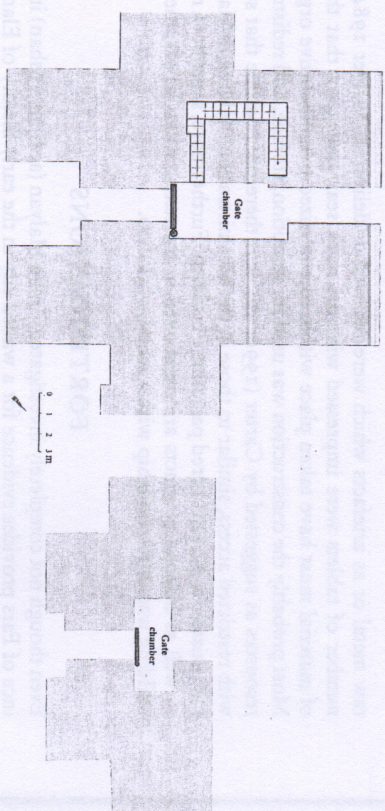


Figure 25.9 Two gate variations at Chogha Zanbil.

of the gate were surely higher than the wall, their height inclusive of the balustrade could have reached about 14 m (Mofidi-Nasrabadi 2013: 278–283).

An insight into the construction of the gate in the exterior wall is given by the only excavated example, situated in the east corner. It did not lead directly into the city area; one had to first enter through a monumental gate into a large square building with a central courtyard and then exit through a second monumental gate (Ghirshman 1968: 87–89). This building formed an intermediate zone connecting the outside and inside of the city (see Figure 12.4 this volume). The inclination of the stairway in the gate chamber lets us assume that the top of the wall could have reached over 9 m (Mofidi-Nasrabadi 2013: 296–300). Certainly the towers together with their balustrade were even higher.

## FUNERARY CONSTRUCTIONS

Some of the most interesting and mysterious constructions in Elam are the mud-brick buildings with baked-brick underground tombs planned as burial places for deceased individuals of the elite. The buildings were also used for carrying out regular, periodic mortuary rituals. Two such constructions are preserved from the Middle Elamite period: one excavated at Haft Tappeh (Negahban 1991: 12–15) and another at Chogha Zanbil (Ghirshman 1968: 47–74). These cannot be considered as palaces or temples as is suggested by some scholars, because there is no textual or archaeological indication for such assumption (Mofidi-Nasrabadi 2012a; Potts 2016: 184–186). The ground plans of both constructions show a particular spatial organization that obviously should go back to the functional aspects of their structures.

The tomb building at Haft Tappeh is the older of the two, belonging most likely to the building level III from the ME I phase (Mofidi-Nasrabadi 2012c: 86, 98–99). This long rectangular building with strong mud-brick walls was situated in the north part of the city (Figure 25.10a). A small doorway on its southwestern side led to a vestibule (no. 1). From there it was possible to reach a large courtyard (no. 2) paved with several rows of baked-bricks. Close to the vestibule was a small chamber (no. 3), maybe a storeroom or a stairway leading to the roof. In the middle of the courtyard was placed a large rectangular pedestal of baked-brick, while a podium lay along the northeastern wall flanking a central doorway leading to a wide room (no. 4). From this room one could reach the rear part of the construction, consisting of two long parallel rooms, each furnished with an underground tomb at its rear. Both tombs were made from baked-brick and had a vaulted roof. One was larger and had a broad platform divided into three parts by small walls. Most probably these sectioned spaces were intended for the burials of different members of an extended family as was common in many regions of the ancient Near East. Thus the tomb can be considered as a typical funerary construction. The deposition of at least 21 skeletons indicates that the tomb was used several times. The bones of earlier periods were amassed on the floor close to the entrance in order to make place for new interments on top of the platform. The suggestion of Negahban that the construction must have been the tomb of the king Tepti-ahar is highly speculative, because no direct evidence for a royal mausoleum can be distinguished (Mofidi-Nasrabadi 2003–04: 231–232). In the smaller second tomb, 23 individuals were buried at the same time. In contrast to the larger tomb, it had no doorway and its floor was plastered with large



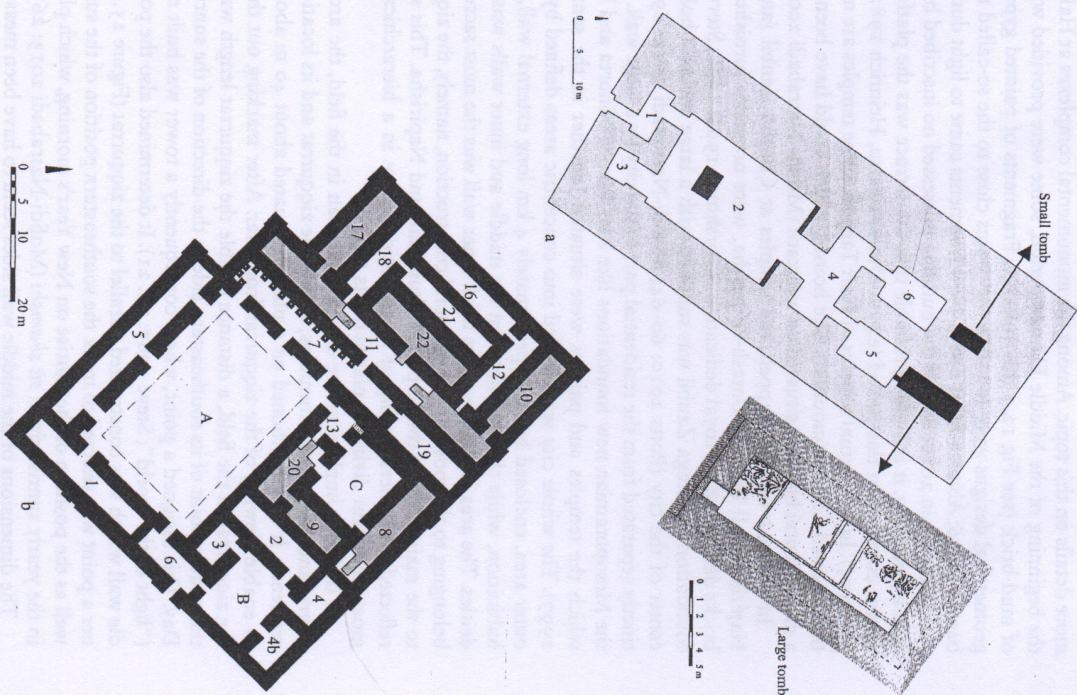


Figure 25.10 Tomb buildings from the Middle Elamite period.  
 a: Haft Tappeh (modified after Negahban 1991: Pls. 3–4);  
 b: Chogha Zanbil, underground tombs are marked in grey (after Mofidi-Nasrabadi 2013; Figure 131).

irregular pieces of gypsum slabs. Remarkably, there was another similar plastered pavement about 20 cm deeper, separated from the upper one by a layer of sandy soil (Mofidi-Nasrabadi 2012c: 86–88).

Although the construction had a simple ground plan with only a small number of rooms, it included three functional sections (Figure 25.12). The vestibule together with the large courtyard and the small chamber on its southern corner formed a public section which gave ample space for the gathering of numerous people who could have participated in mortuary practices. This public area was connected to the rear tomb by means of a wide intermediate room. Lateral to the entrance of this room, the podium on the northeastern wall of the courtyard probably played a practical role in rituals. On the other hand, the wide room had the specific function of hindering direct access to the tombs. The public courtyard as the sphere of the living was separated from the tomb section belonging to afterlife by this intermediate room. In general, the spiritual link between the living world and the underworld can be realized by carrying out rituals which in both spiritual thinking and in conception of spatial order have an intermediate position. In other words, the action space of this world must have been connected to the underworld through an intermediary space where the rituals took place.

A similar functional combination can be observed also for the second series of Middle Elamite funerary buildings excavated at Chogha Zanbil (Figs. 25.10 and 25.12). Compared to the tomb building at Haft Tappeh, the structure at Chogha Zanbil was much more complex. The public section consisted of two parts, one including courtyard A and the other courtyard B. On one side of the vestibule (no. 6) lay the courtyard B, surrounded by three rooms and a kitchen (no. 4) which apparently formed a private dwelling, most probably belonging to the caretaker of the building. On the other side it was possible to enter the large courtyard A flanked by two long halls (no. 1 and 5). This courtyard occupied a large part of the construction and offered sufficient space for the participants in mortuary practices.

The tomb section also included two parts. One could be reached through the room 13 where a pithos containing a goblet was found, maybe used for washing rituals before entering. The second part was situated behind the long hall 7 which possessed 15 small pedestals. This hall had three doorways. In front of the western door lay also a pithos with a goblet, similar to that in the room 13 (Figure 25.11). Most likely it was necessary to carry out a purification ritual before entering the tomb areas. The arrangement of the three doorways as well as the pithos and the pedestals in hall 7 allows for the reconstruction of a path that must have been passed during a ceremony (Mofidi-Nasrabadi 2013: 236–254).

The constructions at both Haft Tappeh and Chogha Zanbil reflect the notion of a separation between this world and the sphere of the dead, which can be linked only by ritual acts (Figure 25.12). Therefore, both tomb buildings were provided with a ritual section for mortuary practices which took an intermediate spatial position in the constructions.

## SACRED ARCHITECTURE

For sacred architecture from the early era of Elamite history, only some partly recovered structures are known. However, the Middle Elamite period supplies us with



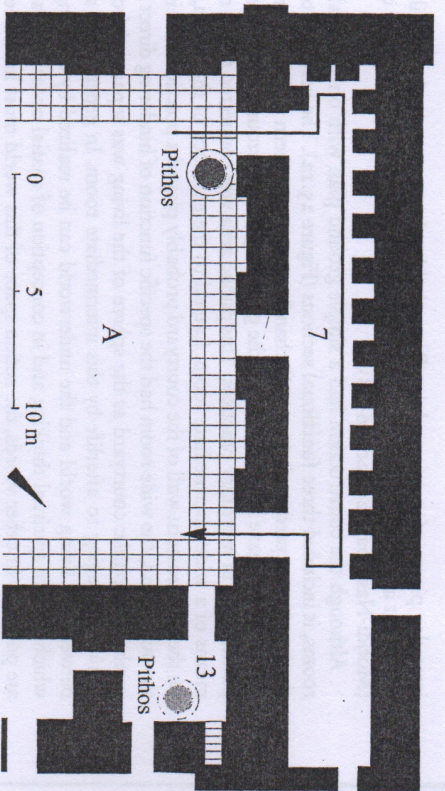


Figure 25.11 Reconstruction of the path taken during the mortuary ceremony (after Mofidi-Nasrabadi 2013; Figure 136).

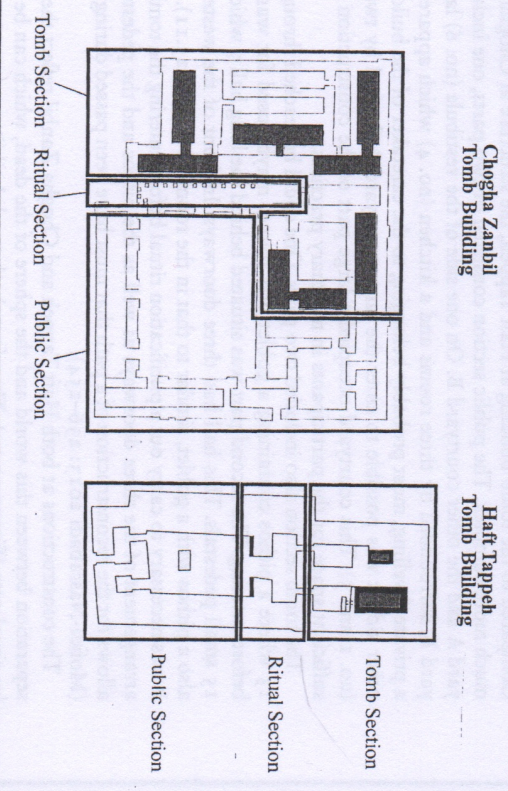


Figure 25.12 Spatial order of the Middle Elamite tomb buildings and the mythological relationship of their different sections (after Mofidi-Nasrabadi 2012a; Figs. 17–18).

more details on this topic. Among the monumental complexes at Haft Tappeh built at the beginning of the Middle Elamite period, some were provided with large terraces of mud-brick (see Fig. 12.3 this volume). Fragments of painted gypsum plaster with geometrical designs were found in the rooms close to the so-called terrace I (Negahban 1991: 16; Álvarez-Mon 2005). New fragments came to light during the last excavation season in 2012. Even if the building possessed no inscribed bricks designating it as a sanctuary, it is highly probable that the terrace was the platform for a temple as was common in this period (e.g. at Dur-kurigalzu, Heinrich 1982: 224–225; Figs. 302–303). In the textual sources of Haft Tappeh, some temples are mentioned, one of them named É.KUR (mountain-like house), which could have been an indication of a monumental building situated on a terrace (Mofidi-Nasrabadi 2003–04: 236–237).

In contrast to Haft Tappeh, the temples at Chogha Zanbil (ancient Al-Untash-Napirisha), all built by Untash-Napirisha, were normally furnished with inscribed bricks describing the royal dedication (Ghirshman 1966; 1968; Steve 1967). The new foundation of Chogha Zanbil was supplied with a large enclosed holy complex in the center of the city (Potts 2010: 60–64; Mofidi-Nasrabadi 2013: 69–71). It was distinctly separated from the residential part of the city by a large wall. This differs from the Mesopotamian new foundations like Kar-Tukulti-Ninurta and Dur-Sharrukin in which the temples and palaces were situated together in the same sector (Novák 1997). The whole city was divided into concentric areas defined by three walls. The outer area, enclosed by an approximately 4 km long external wall, was planned for habitation, while the area between the middle and inner walls was intended for the deities. The area inside the 2.4 m thick inner wall was the most sacred part of the city belonging to the most important sacral construction, namely, the ziqqurat, dedicated to the main gods of the empire, Inshushinak and Napirisha. This spatial separation reflected an understanding of mythological space in a hierarchical form, with the most important divinities placed on its top.

In order to implement the city ground plan in the field, the architects used geometric and mathematic formulas, taking the ziqqurat and its location as the point of reference. It was positioned on a plateau situated about 40 m above the river plain to enable viewing of the ziqqurat from afar. After marking out the ground plan of the ziqqurat in the field, a distance double the ziqqurat length was measured from the middle point of its southeastern side in the direction of the sunrise on New Year's Day. This assigned a point, where consequently a tower was built named *Narr kibrat* ("light of the world"; Steve 1967: no. 21). It determined also the position of the middle wall which was constructed parallel to the ziqqurat (Figure 25.13a). In this manner a point was selected to mark the southeastern position of the surrounding wall as well as the position of the sunrise on New Year's morning, which played a major role in the yearly sunrise ritual *sit shamshi* (Mofidi-Nasrabadi 2013: 263–267, 287–291). The dimensions of the middle wall sides seem to have been measured according to a unit which equaled the distance between the tower *Narr kibrat* and the gates on both of its sides (Figure 25.13b). Although a rectangular shape was planned for this holy area, deep gullies on the northern and southern parts meant that an exact quadrangular form could not be achieved (for details see Mofidi-Nasrabadi 2013: 275–277, 291–296, 313–319).

The ziqqurat as the most important building must have been constructed at the city's foundation. Ghirshman distinguished two building stages (Ghirshman 1966:



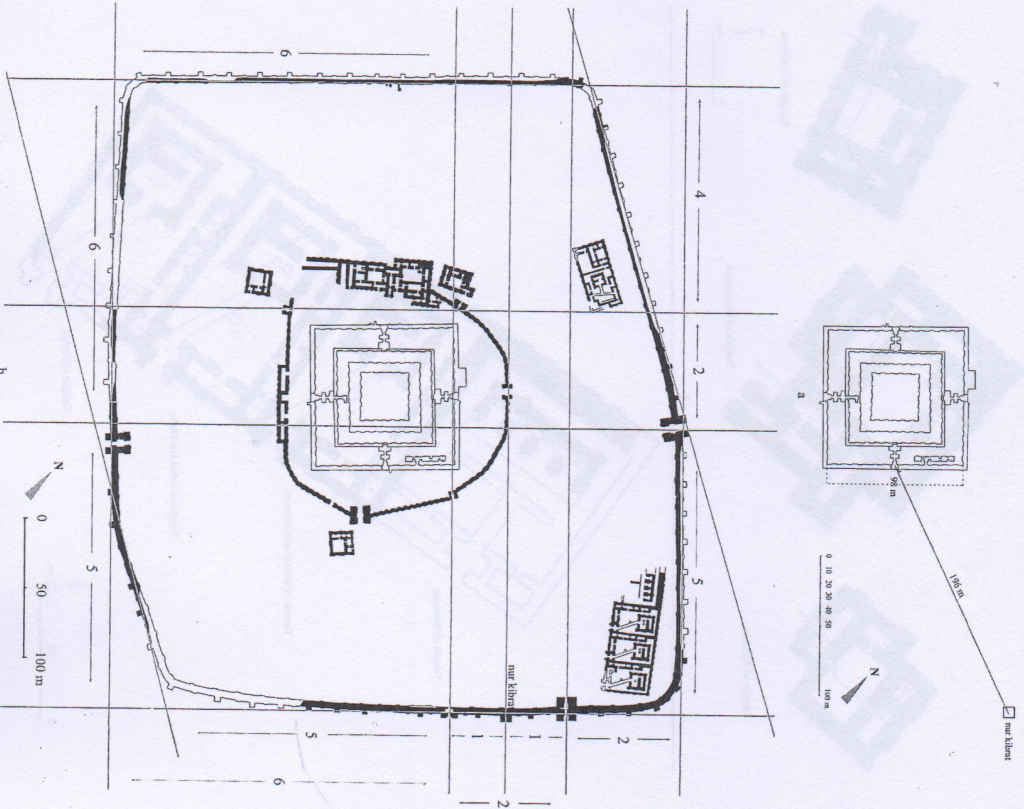


Figure 25.13 Planning aspects of the middle wall area. a: The relationship of the tower *Nur kibrat* to the ziggurat in the planning of the middle wall; b: The dimensions of the different sides of the middle wall.

38–45). In the first stage the ziqqurrat consisted of a square building with a large central courtyard including two temples for Inshushinak named by Chirshman temple A and B on its southeastern tract. On the other sides of the courtyard, storerooms were arranged. In the second building stage, the central courtyard was filled with

mud-bricks in order to build the ziqqurrat terraces (Figure 25.14). In this manner the roof of the earlier building became the surface of the first terrace and the upper terraces were constructed within the courtyard. Subsequently, the doors of the temple A as well as of the storerooms in the previous courtyard were blocked. The temple A remained out of use, while the storerooms continued to be used by opening new entrances in their ceilings, so that it was possible to reach them from the surface of the first terrace via a stairway. Eventually the whole mud-brick structure of the ziqqurrat was provided with a baked-brick mantel and decorative elements like glazed bricks. Furthermore, wall knobs were added to the terrace façades (Basello 2012: 6–11).

For structural reasons, the mud-brick core of every terrace was built separately, resulting in a vertical split between them. Chirshman was able to identify these splits and discern that the ziqqurrat originally possessed four terraces with a high temple on the top (Chirshman 1966: 36–38, 58–61). It was therefore possible to distinguish the dimensions of the different terraces.

At first sight, it seems that the dimensions of the ziqqurrat terraces were chosen arbitrarily, but recent research shows that they were selected based on a sexagesimal rule system. The measurement unit for the constructions was the square mud-brick which together with the mortar was about 43 cm long. The mud-brick cores of the first and the second terraces were 216 and 144 bricks long, respectively. Interestingly both numbers can be divided by 6. Taking other terraces into consideration, the brick numbers of all parts divided by 6 resulted in the following scheme (for more details see Mofidi-Nasrabadi 2013: 98–108; 2015: 37–42):

Terrace 1	216 bricks	(36 × 6 or 6 × 6 × 6)
Terrace 2	144 bricks	(24 × 6 or 4 × 6 × 6)
Terrace 3	108 bricks	(18 × 6 or 3 × 6 × 6)
Terrace 4	72 bricks	(12 × 6 or 2 × 6 × 6)
High temple	36 bricks	(6 × 6 or 1 × 6 × 6)

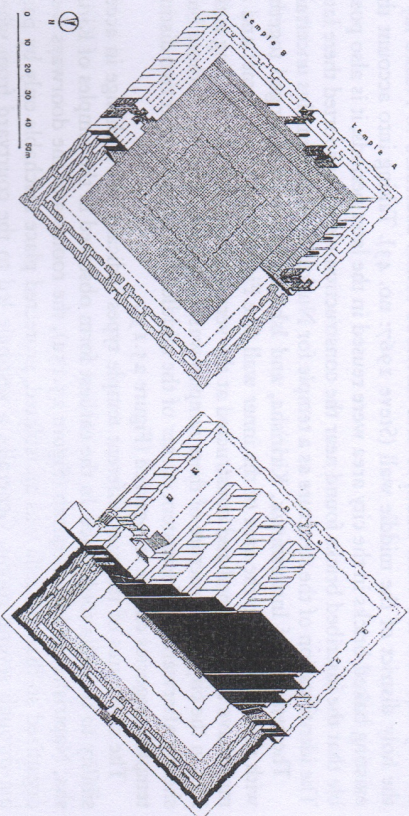


Figure 25.14 Two building stages of the ziqqurrat at Chogha Zanbil (after Chirshman 1966: Figs. 27 and 29).



In summary, three functional sections can be distinguished for the whole structure. The first terrace accommodated the storerooms and was reachable from all four sides of the ziqqurat. In contrast, the high temple on top was the holy section which could be accessed only from the southwestern side via a stairway. The third section included the temple B of Inshushinak in the southeastern wing of the ziqqurat and was easily accessible directly from the outside. Since the main temple of Inshushinak was elevated atop the ziqqurat, temple B was probably used for festivities. A podium in front of its door offered the possibility of placing the divine statue in a manner allowing a large number of people to observe the ritual action from outside.

The connection and mode of accessibility to the sacred space played an important role at Chogha Zanbil. Several temples were excavated in the holy area (see Figure 12.4 this volume). Two sanctuaries, one dedicated to Ishmeqarab and the other to Kiririsha, were situated close to the ziqqurat on its northwestern side and entered from the area inside the inner wall (Ghirshman 1966: 85–104). Another temple was built for Napirisha nearby, but outside of the inner wall. At a distance of about 90 m towards the north, just inside the middle wall, was placed a sanctuary dedicated to Hishmitik and Ruburatur consisting of two separate sections. In the eastern corner lay a complex of four more temples (Figure 25.15b), three of which had similar ground plans. The first was dedicated to Pinigir, the second to Adad and his spouse Shala, and the third to Shimut and his spouse Bel-et-ali (Ghirshman 1968: 9–21). Next to the latter was the fourth temple for a group of gods named Napraterp. It contained four chapels, each furnished with two podiums for divine statues, indicating that a group of four divine pairs was worshipped here. Two square buildings close to the southeastern and western gates of the inner wall were made from mud-brick but lacked any inscribed bricks to facilitate identification. Because of their spatial order and structure, they could also have been sanctuaries as suggested by Ghirshman (1966: 105–107).

Outside the holy area, a structure at about 500 m distance on the southeastern side of the ziqqurat was identified as a sanctuary for Nusku (Ghirshman 1968: 84–87). This suggestion is based on some inscribed bricks found in its debris (Seve 1967: nos. 23–24). On the other hand, several inscribed bricks dedicated to Nusku lay in the holy district of the middle wall (Seve 1967: no. 43). Taking into account that existing baked-bricks in the city area were reused in the later periods, it is also possible that the inscribed bricks found near the construction were transported there later. The identification of the structure as a temple for Nusku therefore remains uncertain.

The temples of Inshushinak, Kiririsha, and Ishmeqarab were arranged together with the ziqqurat in the area of the inner wall (see Figure 12.4 this volume) and all must have been planned and constructed at the very beginning of the building activities in the city. The structure of these temples was completely different to those built shortly afterwards in the eastern corner of the middle wall, meaning that two distinct temple categories can be recognized (Figure 25.15).

The structures of the two different temple types indicate that a change in accessibility to the cella took place. In the earliest form observed in the temples of Kiririsha, Napirisha, and Ishmeqarab (Figure 25.15a), the rooms and the doorways were organized so that the cella was an isolated, protected place reachable only by passing through several rooms. Generally, a vestibule led to the courtyard from where it was possible to reach an antecella and then the cella, the well-protected main domicile of the deity with a podium for the divine statue. The whole construction

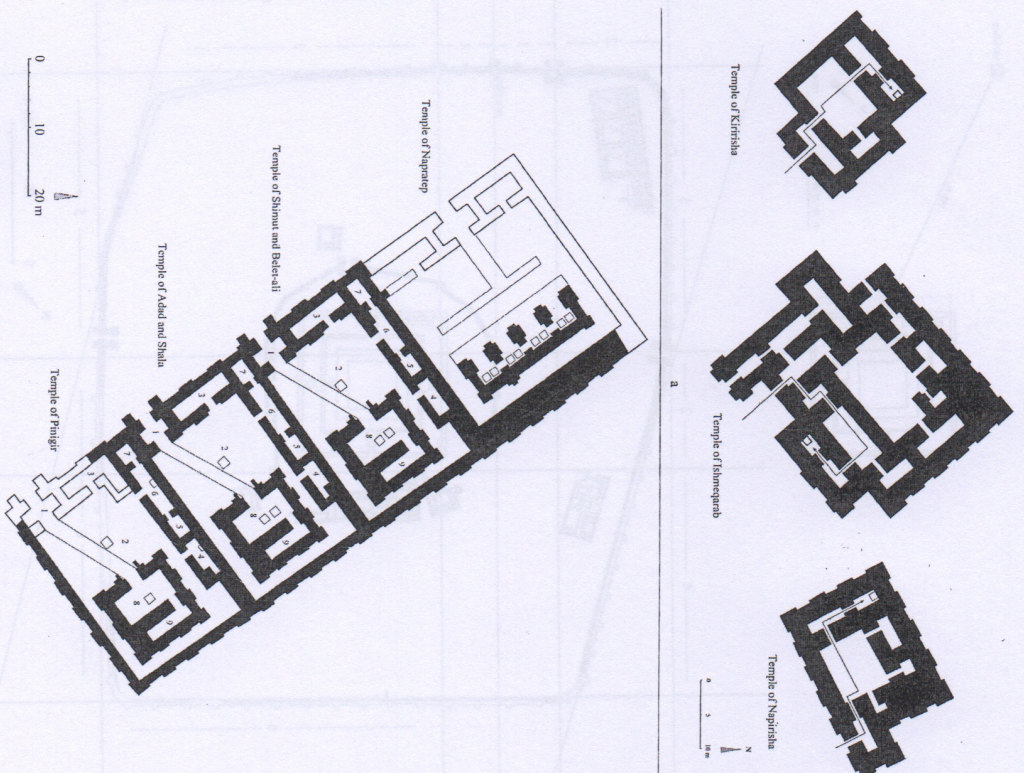


Figure 25.15 Different temple types at Chogha Zanbil.  
 a: The temples on the northwestern side of the ziqqurat;  
 b: The complex in the eastern corner of the middle wall.

was intentionally planned to make the cella difficult to access, giving an introverted character to the structure. This characteristic changed over the course of some years during the city foundation, as can be observed in the four-temple complex in the eastern corner of the middle wall area. The ground plan of these sanctuaries represents a



totally different concept of spatial order (Figure 25.15b). The vestibule (no. 1) possessed two large doors which were both placed on the same axis leading to the courtyard (no. 2). This eliminated the function of the vestibule in shielding the interior from the outsider viewer. The cella (no. 8) with the podium for the deities was placed in the middle of the courtyard and furnished with a back storeroom. There was no antecella in order to protect the privacy of the cella. The statue of the divinities could have been viewed through the wide doorway even from the outside.

The modification of the sacred structure from a sanctuary with particularly protected and isolated cella to the temple type with an easy accessible chapel seems to be associated with the change in usage of the temples. Traditionally, Elamite sanctuaries were protected and not easily accessible. An understanding of isolated sacred space initially lay behind the structure of the sanctuaries as well as the foundation of the city. On the other hand, this was contradictory to the fact that the new foundation and its monumental buildings must have been displayed as important deeds of the king Untash-Napirisha. His extraordinary undertaking must certainly have attracted worshippers, raising public participation in religious ceremonies. This came into being a social dynamic that required a new appropriate form of sacred architecture providing greater possibilities for religious communication. This may have been the reason underlying the development from an introverted temple type to an extroverted type within some decades of the city's foundation.

Because of a lack of sanctuary examples from later periods, it cannot be concluded whether the new temple type was transmitted more broadly within Elam or remained an exception realized only at Chogha Zanbil for a short time. Textual sources provide indications that the traditional introverted type with a less accessible cella must have been used even in the Neo-Elamite period. In the inscriptions of the Neo-Assyrian king Assurbanipal, Inshushinak is characterized as the god who lives hidden, so that nobody is able to view his divine presence (Streck 1916: 53).

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