

HAJI KHAN: A MEDIAN TEMPLE IN HAMADAN PROVINCE, IRAN

BY

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Abstract: The Haji Khan archaeological sites are located within the precinct of the Ibn Sina Petrochemical Company in the province of Hamadan, western Iran. A single season of excavations directed by Esmail Hemati Azandaryani was undertaken in 2017 and led to the discovery of a temple dating to the Median period. This temple, with its stepped lozenge plan, is very similar to, but larger than the Central Temple at Tepe Nush-i Jan near Malayer.

Keywords: Iran, Hamadan, Haji Khan Temple, Median Period, Iron Age III

Introduction

The excavations at Haji Khan uncovered the remains of a single building dating to the Median period (circa 800 to 550 BC), which can be confidently identified as a temple¹. The first major archaeological excavations of Median sites took place in the 1960s at the sites of Tepe Nush-i Jan, Godin Tepe, and Baba Jan Tepe (Fig. 1). A remarkable feature of these excavations was the exceptionally well-preserved mud-brick architecture. Two temples were identified at the hilltop sanctuary of Nush-i Jan, which have close parallels to the temple found at Haji Khan. In more recent decades further sites have been excavated in the region that is considered to be the heartland of Media. These include the sites of Gunespan, Baba

¹ This article is based on a text submitted to *Iranica Antiqua* by the first four authors. It has been extensively revised by Michael Roaf and checked by Esmail Hemati Azandaryani. Previous publications in Persian about the excavations at Haji Khan include Hemati Azandaryani, Malekzadeh & Naseri Someeh 1397/2018 and Hemati Azandaryani, Malekzadeh & Naseri Someeh 1398/2019.



Fig. 1. Map showing the location of Haji Khan and selected contemporary sites.

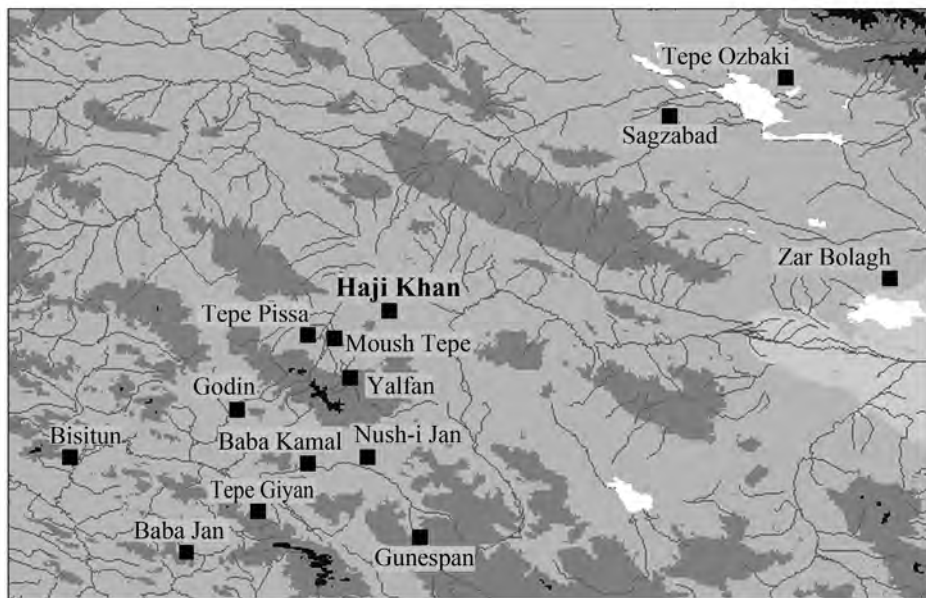


Fig. 2. Map showing sites in the Median heartland.

Kamal, Moush Tepe, and Tepe Yalfan. Tepe Ozbaki, Sagzabad, and Zar Bolagh may also belong to this group (Fig. 2). The architecture and pottery uncovered at these sites are similar to those of the previously investigated sites.

Further afield, several excavated sites have been associated with Median occupation on the basis of their pottery assemblages. Within Iran these include Bastam, Chogha Mish, Tepe Sialk, and Tepe Rivi (Kroll 2013; 2019). Outside Iran, it has been suggested that various sites in Turkey, Armenia, and Turkmenistan show influence from Media either in their architecture or in their pottery (Roaf 2008; Kroll 2019), which may have been due to an extension of Median political control or at least Median cultural influence in the half century following the destruction of the Assyrian Empire by the Medes and Babylonians in 612 BC (Fig. 1).

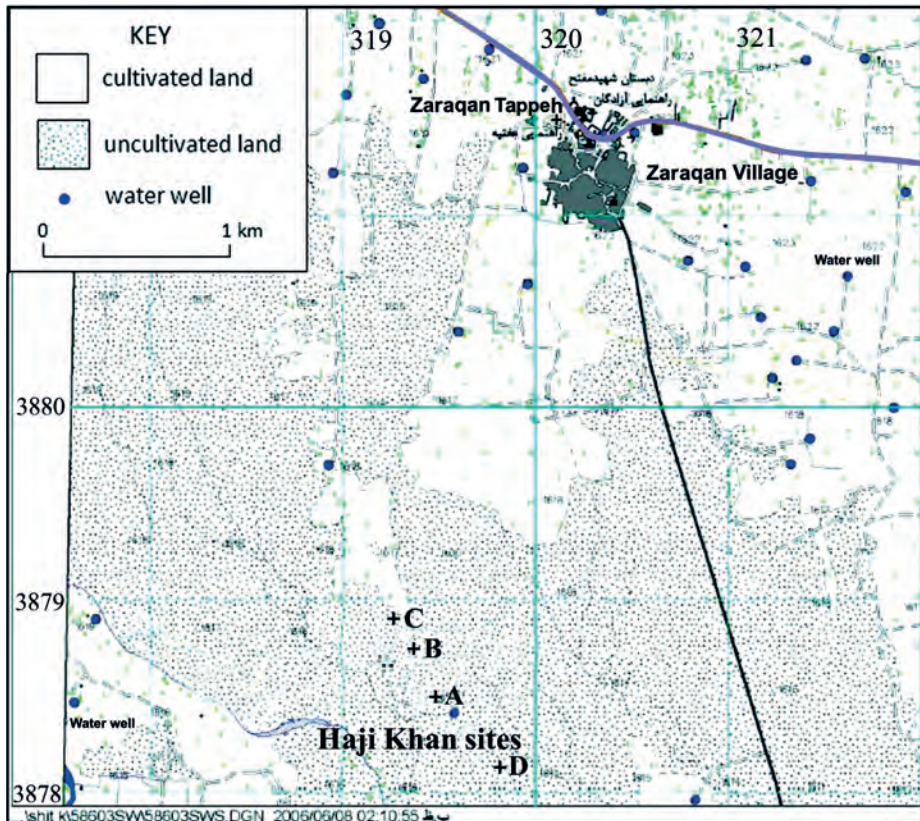


Fig. 3. 2006 map showing the location of the Haji Khan sites in uncultivated pastureland.

Haji Khan Tappeh was first identified in 2009 during a survey of the archaeological remains of the Shara and Famenin districts by Abbas Motarjem and his team (Motarjem et al. 2009). It is now located in the middle of the Ibn Sina Petrochemical Company complex. During the construction of the complex it was necessary to carry out archaeological investigations, which led to the identification of four areas with archaeological remains, Site A (the main site), Site B, Site C, and Site D (Figs. 3 and 5). In this paper, the authors present the results of the excavation of Site A where a temple of the Median period was discovered.

Haji Khan Tappeh (Site A) is located at N 35° 01' 58" and E 49° 01' 17" (UTM 319505 E 3878480 N) at an elevation of c. 1615 m above sea level. The site is 2.5 km south of Zaraqan, 11 km south-east of the city of Famenin, and 53 km north-east of Hamadan. It lies in the centre of the Famenin Plain, 500 metres north-east of a tributary of the Ghareh Chai River. Prior to the construction of the petrochemical company complex, the tappeh was situated in the middle of uncultivated pastureland south of Zaraqan village (Figs. 3-4).



Fig. 4. Satellite view of Haji Khan and its surroundings. A bend of a tributary of the Ghareh Chai River is visible in the bottom left corner. An unexplained linear feature runs diagonally from ENE to WSW just to the south of the site and its circular surrounding wall. The image is 2 km wide and orientated so that north is at the top.

(Google Earth 4 January 2012).

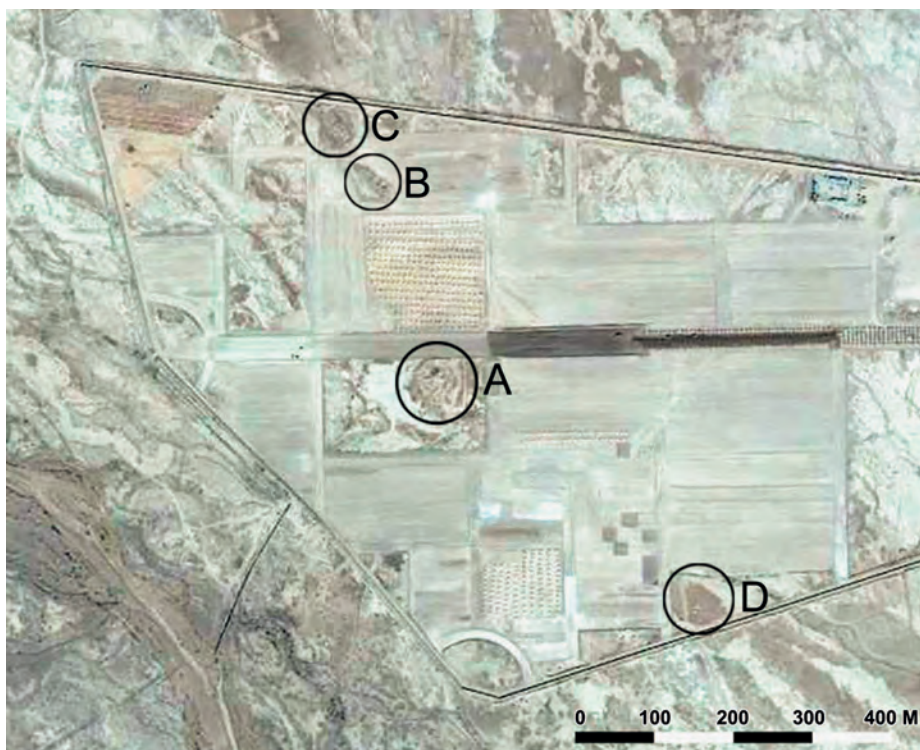


Fig. 5. Satellite view of the Haji Khan Sites (A to D) after the construction of the petrochemical complex had begun. The image is orientated so that north is at the top. (Google Earth 10 October 2016).

Sites B (N 35° 02' 07" and E 49° 02' 13", UTM 319410 E 3878740 N) and C (N 35° 02' 10" and E 49° 02' 11", UTM 319370 E 3878840 N), c. 300 m north of Site A, date to the Islamic period, whereas Site D (N 35° 01' 48" N, 49° 01' 31", UTM 319860 E 38788150 N), 500 m to the south-east of Site A, was approximately contemporary with Site A: originally almost rectangular measuring c. 80 by 60 m, Site D was probably a settlement site.

Satellite imagery suggests that Site A was originally in the centre of a circular walled enclosure about 40 m in diameter (Figs. 6-7).

Archaeological excavations

A single excavation season in the Haji Khan sites was conducted under the supervision of Esmail Hemati Azandaryani from 9 February to 27 May 2017. The excavations of Site A were concentrated on the mound in the

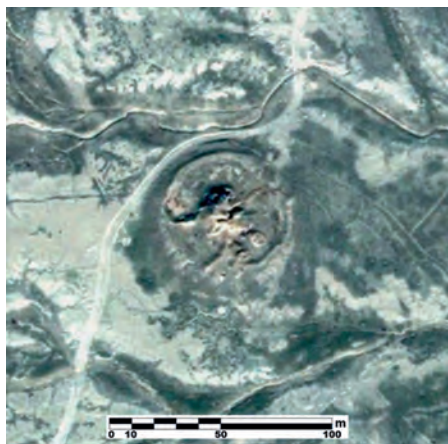


Fig. 6. Satellite view of Site A (4 January 2012) (Google Earth).



Fig. 7. Satellite view of Site A (10 October 2016) (Google Earth).

centre of the circular enclosure, where a building measuring about 25 m from north to south and about 20 m from east to west was discovered. The top of this mound is about 4 meters above the surrounding plain (Fig. 8).

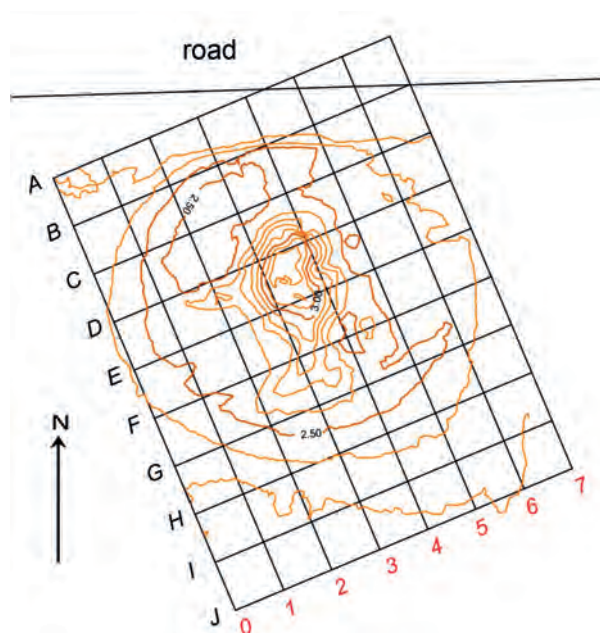


Fig. 8. Topographic plan of Haji Khan Tappeh. The contour lines are measured from an arbitrary level about 1610 m above sea level.

A major problem in exploring the Haji Khan site was the damage done to the site by heavy machinery, including bulldozers, excavators, and other mechanical equipment for levelling and building the infrastructure necessary for the petrochemical project (Figs. 5, 7, 9-11). In addition looters had dug numerous holes into the site, which caused problems throughout the archaeological excavation (Hemati Azandaryani 2017).



Fig. 9. Air view at the end of the excavations. The new road can be seen at the top of the image. Trench GH34 is to the south of the main excavation. The image is 80 m wide and orientated so that north is at the top.



Fig. 10. Haji Khan Tappeh from the ENE before the excavation.



Fig. 11. Haji Khan Tepe from the north before the excavation.

The excavation was initially carried out within 10×10 m squares named after the edges of the square: thus the square at the north corner of the grid is Square AB67 (Fig. 8). The first trench excavated, GH34, measuring 5×10 m, contained no traces of architectural or other features (Fig. 12). However, pottery fragments dated to Iron Age III (corresponding to the Median period) were recovered. After reaching natural clay mixed with gravel (Fig. 13), the excavations were shifted to the elevated part of the tappeh.



Fig. 12. Trench GH34 looking north after excavation.



Fig. 13. Sondage into natural in the NW corner of Trench GH34.

Architectural findings

Site A of Haji Khan consisted of a temple with a stepped lozenge shaped plan, consisting of six rooms of various sizes (Figs. 14-16 and 18). The easternmost room, Room 1, is the largest room of the building: it has a rectangular bay on the east side and next to the east wall of the northern part of the room was a stepped altar on which fire had been burnt. A doorway



Fig. 14. Detailed air view of the excavations.



Fig. 15. Air view of the temple after excavation from the north-east.



Fig. 16. Air view after excavation from the north-north-west.

in the west wall, just to the south of the east bay, led into the southern part of Room 2. Opposite this doorway a further doorway led from Room 2 into the southern part of Room 3, which contained a rectangular bay on the west side approximately matching the bay in Room 1. No doorways leading out of these three rooms were identified in the excavation, but it is probable that there was a doorway in the southern wall of Room 2. To the south of Room 2 was a row of two further rectangular rooms, Rooms 4 and 6. To the west of Room 4 was a further rectangular room, Room 5 (Fig. 18)².

The walls were constructed of rectangular sun-dried mud-bricks and mud mortar. The wall faces were vertical: no evidence that the walls had a batter (being narrower at the top) or for corbelling was observed. The dimensions of the bricks were 42 cm long, 25 cm wide, and 12 cm high, similar to those from other Median sites such as Nush-i Jan, Baba Kamal, Moush Tappeh, Gunespan, Godin Tepe, and Tappeh Yalfan that measure 40-49 × 24-27 × 10-13 cm.

No foundations for the walls were identified. The bricks were laid so that their surface was similar to the effect of horizontal feather edge (overlap) fence panels (Figs. 17, 26 and 48). The surfaces of the walls were coated with one layer, and in some cases two layers, of white plaster, on which the diagonal imprints of fingers can be seen, sometimes in a herring bone pattern (Fig. 17). A similar surface treatment to the walls was observed at Tepe Nush-i Jan (Stronach & Roaf 2007: pl. 42c) and Tell Ozbaki (Madjidzadeh 1389/2010: fig. 308).

Rooms 1, 2, 3, and 4 were encased in the mud-brick walls of the main structure of the building. The excavators proposed that the edges of Rooms 5 and 6 were partly formed by the mud-brick walls of the main structure and partly by a different mass of mud-brick added to the outside of the main structure of the building. This additional mass of mud-brick was observed on the north, east, and south sides of the main building.

² Fig. 18 is a revised version of the plan drawn at the time of excavation (see Hemati et al. 1398/2019: 102 fig. 11 for the original). This plan does not incorporate the interpretation of Rooms 4, 5, and 6 suggested below. Note that the division between the “walls” and the “mud-brick filling” is mostly not based on definite observations. The areas of the “mud-brick filling” not marked with an arbitrary brick pattern also consisted of regularly laid brick courses. The area of Room 4 marked with an arbitrary brick pattern indicates the upper layer of mud-bricks. The bricks in Corridor 7 indicate the position of the steps leading down to the east.



Fig. 17. Detail of the east wall of Room 2, showing alternate rows of diagonally impressed finger marks.

The available evidence suggests that the ceiling and roofs of Rooms 1, 2, and 3 were not vaulted. There was no trace of the springing for vaults up to a height of 4.80 meters. Charred fragments of wooden beams were found in these rooms that may have supported the roof.

Room 1

Room 1 is in the eastern part of the building (Figs. 19-20). It is about 13.67 m long and approximately 2.60 m wide, being wider at the north end than at the south, with a rectangular bay in the centre of the east wall measuring 265 cm wide (north-south) and 230 cm deep (east-west) (Fig. 20). The maximum preserved height of the walls is 480 cm.

To the south of the east bay, there is an entrance in the west wall leading to Room 2 (Fig. 21). It is 100 cm wide and 156 cm high. The soffit of the doorway was a semi-circular arch³. This doorway and the doorway from Room 2 to Room 3 are similar to the doorways in other Median sites such as Nush-i Jan (Stronach & Roaf 2007: 184-185), Godin (Gopnik 2011:

³ It is not clear whether this arch was constructed out of normal mud-bricks or out of curved mud struts; both techniques were attested at Tepe Nush-i Jan.

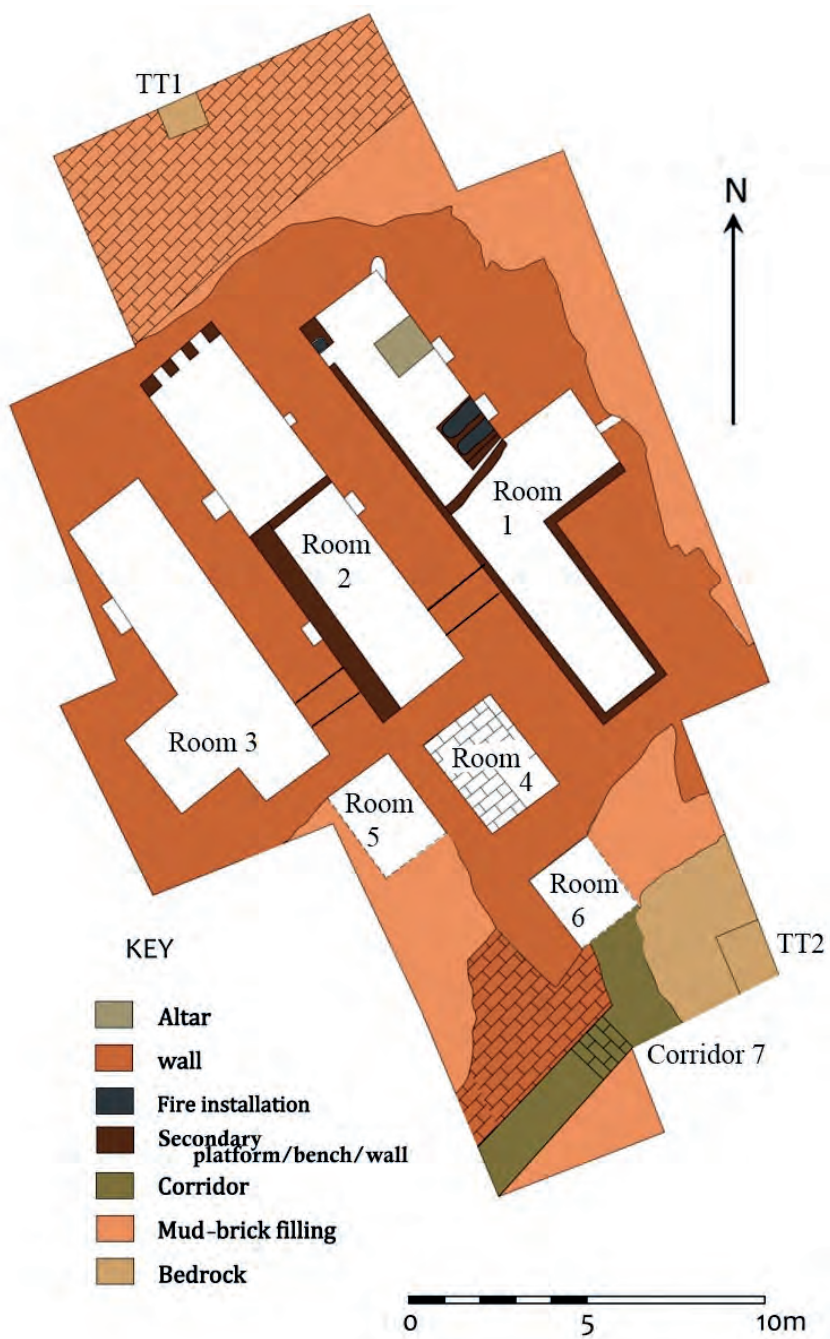


Fig. 18. Plan of the excavated remains (for details see footnote 2).



Fig. 19. View of Room 1 looking north.



Fig. 20. Room 1 from the SW, showing the north end and the east bay.



Fig. 21. The door from Room 1 to Room 2.



Fig. 22. Niches on the east wall of Room 1.

320), Moush Tepe (Mohamadifar et al. 2015: 241), and Gunespan (Naseri et al. 2016: 127, 128; pls. 11a, 11b, 12, 13); but unlike these doorways, the edges of the internal side of the doorways were flush with the wall surface and were not set into a stepped rectangular frame. The interior of these two doorways were not excavated, in order to protect them from further damage.

There were several niches in the walls of Room 1. Three were in the northern part of the east wall (Fig. 33). The northernmost was in the north-east corner of the room and was apparently oriented at an angle to the walls. It was 42 cm wide, 41 cm high and 30 cm deep and 115 cm above the floor. The other two niches further south on the east wall were 65-70 cm wide, 35-40 cm high, and 30 cm deep (Fig. 22). The northern niche was 85 cm above the floor and the southern was 155 cm above the floor. The upper parts of these niches were constructed of two bricks leaning against each other. Through the application of mud plaster the form of these niches was converted into a low pointed arch.

A further narrow niche or opening (20 cm wide and 14 cm high) was situated in the middle of the east wall of the east bay. It was 98 cm above the floor of the room and may well have been a ventilation hole like those found in the buildings at Nush-i Jan and Gunespan. It is possible that there were two ventilation holes in the north end of Room 1, one through the north wall at the top right hand edge of the burnt area of the wall and the other through the east wall above the north edge of the altar (Fig. 26).

A sondage through the floor of Room 1 showed that the floor was 4-6 cm thick and made of clay with some plant temper. Its surface was white plaster (Fig. 23). In places four layers of flooring were recognised.

The altar and other fire installations

A square mud-brick structure was erected 145 cm from the north wall and 15 cm from the east wall in the north part of the room (Figs. 24-28). This structure is similar to the altar in the Central Temple at Nush-i Jan (Stronach & Roaf 2007: 82-85, fig. 2.13 and pls. 17-19), with projecting ledges getting wider at the top. The Haji Khan altar is square and has two projecting ledges (Figs. 24-28). The lower part of the altar measured 90 × 90 cm and was 24 cm high. The second step measured 100 × 100 cm and 12 cm high, and the top step measured 110 × 110 cm and 24 cm high. All are made of mud bricks measuring 45 × 25 × 12 cm. The shaft consists



Fig. 23. Sondage through the floor of Room 1 next to the east wall in the southern part of the room.



Fig. 24. The altar from the south.



Fig. 25. The altar from the west.



Fig. 26. The north-east corner of Room 1 showing the altar, a niche in the corner behind the ranging rod, a niche in the east wall and two possible ventilation holes at the same height as the niches on the north and east walls.



Fig. 27. View of the altar from the west, showing how the secondary fireplace was dug into the face of the east wall.



Fig. 28. The altar from the north-west.

of two courses of bricks and the first ledge of a single course, while the top ledge consists of two courses⁴. The sides and the upper surface were covered by a thin layer of mud plaster.

At a later date the altar was modified so that it was no longer free-standing but was attached to the east wall of the room. The top surface of the altar was extended to the east to connect with the east wall and the east wall was cut back to a depth of about 10 cm in order to create an oval fireplace (Figs. 26-28).

Traces of burning extended to a height of c. 40 cm on the back wall. Narrow retaining side walls, between 7 and 10 cm thick, were constructed at the north and south next to the east wall. They were preserved to a height of less than 20 cm. The fireplace was oval, made of clay with vegetal temper, which had become red due to heat. Its interior dimensions were at most 55 × 65 cm, and its external dimensions were 77 × 62 cm. The interior surface was pale and had turned grey because of the heat. The western edge of this fire installation was not preserved but it seems that this fire installation was originally an oval oven extending halfway across the altar.

⁴ The shaft of the Nush-i Jan altar was rectangular not square and the altar had four projecting ledges rather than two. The Nush-i Jan ledges were all the same height (c. 15 cm) while the upper ledge of the Haji Khan altar was twice as high as the one beneath.

Signs of burning and ash were also visible in the centre of the upper surface of the altar, especially in the centre and on the north and west sides. The surface of the altar was burnt red, grey, and in some parts light brown. The fireplace contained ash and cereal grains.

Due to the valuable nature of the altar, we attempted to protect the structure using preservatives and stabilizers during the excavation.

A further fire installation was constructed in the north-west corner of Room 1 (Figs. 29-31). This consisted of a rectangular mud-brick platform measuring (85 cm wide (N-S), 65 cm deep (E-W), and 27 cm high). It was divided into two parts. To the north in the corner was a fireplace level with the top of the platform (about 55 cm long (E-W), 35 cm wide (N-S), and 9 cm deep). The oval shape of this fireplace was formed by mud plaster. To the south raised up about 9 cm above the top of the platform was a U-shaped fireplace surrounded on three sides by a narrow ledge about 4-6 cm wide. The northern fireplace may have been replaced by a later fireplace level with the top of the southern fireplace. All surfaces of the platform and the fireplaces were burnt. The west wall behind this platform was also burnt to a grey colour. The north wall behind the platform and extending to the east the north wall was burnt grey and red in a semi-circular shape edged in black from the smoke of the fire (Fig. 32). Further to the east the lower part of the north wall was also burnt to a red colour again with a black edge.



Fig. 29. Vertical view of the north end of Room 1 showing the altar against the east wall and fire installations in the north-west corner and against the east wall to the south of the altar.



Fig. 30. The fire installation in the north-west corner of Room 1.



Fig. 31. The fire installation in the north-west corner of Room 1 from above.



Fig. 32. The north end Room 1 showing the burning on the north wall and the possible bench along the west wall.

South of the altar, next to the east wall of Room 1, was a roughly square platform measuring c. 124 cm by 144 cm N-S and c. 60 cm high. On this platform, fire installations were constructed (Figs. 33-35). As in the case of the fire installation in the north-west corner of Room 1, there seem to have been two phases of construction⁵. The earlier phase included a fireplace, whose northern edge coincided with that of the platform and whose internal dimensions were 103 cm long, at least 54 cm wide, and 15 cm deep (the external dimensions were 124 cm long, at least 66 cm wide, and 30 cm deep). In the later phase the lower fireplace was filled in and the surface of the platform was raised and a second fireplace replaced the earlier one located to the south. The internal dimensions of this later fireplace were 83 cm long, 40 cm wide, and 15 cm deep (the external dimensions were 110 cm long, 60 cm wide, and 30 cm deep). A considerable amount of grain, partly charred, was found in this installation.



Fig. 33. The north end of Room 1 with the fire installation south of the altar in the foreground.

⁵ At the time of excavation, the possibility that there was more than one phase was not realised.



Fig. 34. The fire installation south of the altar in Room 1.



Fig. 35. The fire installation with the northern fire bowl fully excavated.

Secondary wall and platforms

A low, narrow partition wall constructed of clay 32 cm wide and 18 cm high was built diagonally across the room from the north-east corner of the east bay, which joined with a bench or platform that ran along the west wall (Figs. 18-20, 29, and 32). This bench was 30 cm wide and between 25 and 30 cm high. Its northern end began south of the fire installation in the north-west corner, 160 cm south of the north wall. It continued along the rest of the west wall of Room 1 (Fig. 68), along the south wall, along the southern part of the east wall, and the south wall of the east bay.

The function of these features is uncertain. The cross wall could be compared with the low partition wall in the sanctuary of the Central Temple at Nush-i Jan Tepe, which served to protect the fire altar when the room was filled with shale chips (Stronach & Roaf 2007: 88, figs. 2.2 and 2.4, pls. 18, 19a, and 20a). At Haji Khan, however, Room 1 was not filled with stone chips or with mud-bricks and therefore the “partition wall” probably had a different function and may have served to mark a division within the room. The features along the walls could have been low platforms or benches or alternatively might have been foundations for the walls of the room. Less likely these are the stubs of the walls of an earlier smaller temple.

The floor of Room 1 to the north of the “partition wall” was covered with ash and clusters of burnt grain, which were less dense near the altar and in the northernmost part of Room 1.

It is uncertain whether the construction of the fire installations, the cross wall and the benches as well as the alterations made to the altar took place while the building was still in use as a place of worship. Such features are typical of domestic occupation and so it would be rash to assume that these features were original and are evidence for the rituals that were carried out in the temple. In this respect the Haji Khan Temple differs from the Central Temple at Nush-i Jan which was carefully and reverentially filled with stone chips. It is, however, possible that the circumstances that brought an end to the building operations associated with the Filling at Nush-i Jan also interrupted the modifications to the Haji Khan Temple which started with the encasing of the building with mud-bricks and which when completed might have preserved the interior rooms in a similarly respectful way as was done at Nush-i Jan. These circumstances might have led to the abandonment of Haji Khan as an active religious centre and allowed the Haji Khan building to have been used for secular occupation.

Room 2

Room 2 is situated on the central north-south axis of the building. It is 11.81 m long and 2.60 m wide; the maximum height of the remaining walls is 4.8 m (Figs. 36 and 39). The northern wall of this room extends about 1.5 m beyond the north wall of Room 1 and about 2.2 m beyond the north wall of Room 3. This latter extension is comparable to the size of the rectangular bays in Rooms 1 and 3.

At the southern end of the east wall of Room 2 was the doorway leading into Room 1 (Fig. 37). The edges of the doorway were flush with the wall surface. Opposite this doorway in the west wall was an arched doorway leading into Room 3 (Fig. 38). It was 100 cm wide and 156 cm high.

It is very probable that there was a doorway in the south wall leading into Room 4, but the brickwork was not well-preserved and it was not possible to excavate the doorway without endangering the structural stability of the wall. The right hand (western) jamb of this doorway, however, appears to be visible in Figs. 38-39.

There were two niches on the west wall. The northern niche was 70 cm wide, 50 cm high, and 50 cm deep. It was 87 cm above the floor of Room 2 (Fig. 40). The southern niche was close to the door leading into Room 3. It was 60 cm wide 30 cm deep, and originally 24 cm high (Fig. 41). At a later date two bricks of the standard size were inserted into the base of this niche.



Fig. 36. View of Room 2 looking north. Note the bench by the west wall appears to continue further north than on the plan.



Fig. 37. The doorway from Room 2 to Room 1.



Fig. 38. The south-west corner of Room 2, showing the doorway from Room 2 to Room 3.



Fig. 39. View of Room 2 looking south.



Fig. 40. The north niche in the west wall of Room 2.



Fig. 41. The south niche in the west wall of Room 2. Note the possible bench and the right-hand jamb of the doorway into Room 3.

There were also two niches in the east wall. The northern one was 20 cm wide, 20 cm high and 20 cm deep and was high up on the wall 265 cm above the floor (Fig. 42). Since it is small and high above the floor, it is possible that this hole had been used to hold a wooden beam. The corresponding part of the west wall where the other end of a beam would have been inserted was not preserved. The southern niche had a pointed arch profile and was 60 cm wide, 30 cm high, and 24 cm deep and was lower but still high up on the wall 165 cm above the floor (Fig. 43).

A sondage through the floor of Room 2, like that in Room 1, showed that the floor was made of clay with some plant temper and not constructed of mud-brick and that the whole building was not built on a mud-brick platform.

On the floor of Room 2, there was no charred grain. However, there were pottery fragments as well as pieces of burnt clay and charcoal. The remains of a charred wooden beam were found in the fill of the northern part of the room (Hemati et al. 1398/2019: fig. 15).



Fig. 42. The small northern niche high up on the east wall of Room 2.



Fig. 43. The south niche in the east wall of Room 2.

Mud-brick feature at the north end of Room 2

A mud-brick feature was placed against the north wall (Fig. 44). This consisted of three courses of mud-bricks on top of each other in the north-west corner, a gap followed by two courses of brick, a second gap followed by a single brick, and a third gap followed by a single brick in the north-east corner. This feature was not well preserved and the edges of the different part were not always well defined. The excavators thought that two different sizes of bricks were used ($48 \times 30 \times 12$ and $45 \times 25 \times 12$ for the brick in the NE corner), but there was some difficulty in measuring the bricks because of the damaged state of the feature. The smaller brick size might have been due to this. These bricks were placed directly on the floor of the room. This feature is similar to the bench and rectangular bin built against the east wall of the antechamber (Room 2A) in the Central Temple at Tepe Nush-i Jan (Stronach & Roaf 2007: 76-77, figs. 2.2 and 2.4, and pl. 10c) and it is possible that originally the bricks in Room 2 of the Haji Khan temple were the supports for such a bench, but they are

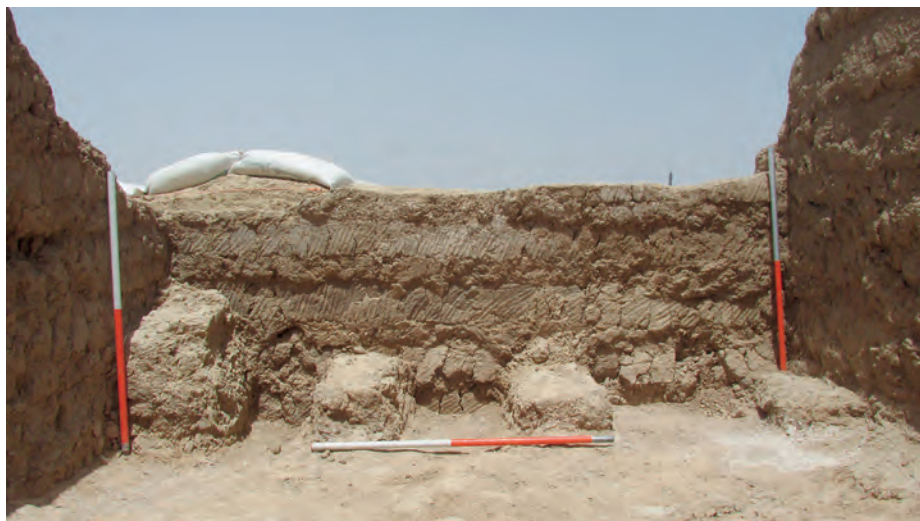


Fig. 44. Mud-brick structure against the north wall of Room 2.

more widely separated than the supports of the bench at Nush-i Jan and, although the gaps between the brick piers are smaller than the length of the bricks, the use of mud-bricks as lintels would have been unstable and it is likely that either timber lintels or triangular arches made of angled bricks provided support for the upper surface of the bench. Diagonal marks on the end wall suggest that this bench or table rested on angled brick arches (Fig. 44). In front of this feature was a rectangular stone block (Figs. 36 and 39). It seems probable that this was part of the original fittings of the Temple, but whether it served the same purpose as the large grinding stone in the anteroom of the Central Temple at Nush-i Jan is uncertain.

Cross wall and bench

A row of bricks of standard size ($42 \times 25 \times 12$ cm) formed a narrow partition (55 cm wide and 12 cm high) across the middle of the room. As in Room 1, there was a bench or platform next to the southern part of the west wall. This was made a single course of two parallel bricks, 6.70 m long, 55 cm wide, and 12 cm high. A photograph of the south wall of Room 2 suggests that there was a similar row of bricks in front of that wall (see Fig. 38). This partition and bench were built directly on the floor. Their function, however, is not clear.

Room 3

To the west of and parallel to Rooms 1 and 2 was Room 3 (Fig. 46). It was 9.54 m long and 2.55 m wide. Matching the east bay in Room 1, Room 3 had a rectangular bay in the west wall. This was 2.65 m wide (N-S) and 2.30 m deep (E-W). The bays in Rooms 1 and 2 lie on the central east-west axis of the building.

The arched doorway leading into Room 2 was located towards the southern end of the east wall (Fig. 45).

Above and to the left of the doorway, an oval opening was cut into the east wall of the room. In appearance it looks similar to the secondary opening cut into wall separating the cella and anteroom of the Central Temple at Nush-i Jan which opening was created in order to allow stone chips to be brought into the cella via the first floor room. In Haji Khan, however, this opening did not pierce the wall and did not extend into Room 2.

A single large pointed triangular arch-shaped niche was located on the west wall (Figs. 47-48). It measured 90 cm wide, 55 cm high, and 40 cm deep. Like the middle niche in the east wall of Room 1, it was 85 cm above the floor. No niches were found in the east wall. Ventilation holes were not observed in the north wall or in the west wall of the west bay.

No other features such as fire installations and benches were found in this room. Room 3 with its west bay seems to have been created solely in order to allow the building to have an external stepped outline.



Fig. 45. The doorway from Room 3 to Room 2.



Fig. 46. View of Room 3 from the south-east.



Fig. 47. Room 3 looking south showing the entrance to the west bay and the niche in the northern part of the west wall.



Fig. 48. Niche in the west wall of Room 3.

Room 4

The excavation of Rooms 4, 5, and 6 was complicated by disturbances done to the site by earlier robber trenches and more recent destruction by bulldozers and other earth moving machinery (Fig. 49). It was not possible to excavate these rooms completely and there are still several unresolved questions. The excavators noted that the fill of Rooms 4, 5, and 6 was different from the fill of Rooms 1, 2, and 3, which, except where disturbed by later pits, consisted of broken brick and earth presumably from the collapse of the walls and roof. By contrast the fill of Rooms 4, 5, and 6 included articulated brickwork and not just fragments of fallen mud-brick. This was interpreted as an intentional filling with mud-bricks like that found extensively at Tepe Nush-i Jan. Further analysis, however, suggests that this brickwork is evidence for the existence of a second storey.

Room 4 was in line with Room 2 although slightly narrower. It measured 3.20 m long (N-S) and 2.40 m wide (E-W). The east walls of Rooms 2 and 4 were aligned, but the east wall of Room 4 lined up with the edge of the “platform” along the west wall of Room 2. As noted above, there was probably originally a doorway from Room 4 into Room 2. Room 4 was not completely excavated and so the south side of this doorway was not investigated (Figs. 50-51). There was probably also a door from Room 4 into Room 6 but this could not be confirmed because looters’ pits prevented excavation to the floor.



Fig. 49. Air view of the southern part of the excavated area.



Fig. 50. View over Rooms 4 (right) and 5 (left) from the south.

At a high level (about 2.7 m above the floor levels in Rooms 1, 2, and 3), a layer of mud-bricks ($45 \times 25 \times 12$ cm) was identified covering much of the room leaving an open area near the south-east corner (Figs. 51-54). It is possible that this layer originally covered the whole of the room but had been destroyed by a later pit. Since artefacts, such as pottery, animal bones, and a clay figurine of a quadruped (perhaps a sheep or a dog), were found on this layer, it was used as a floor at some date. Excavation photographs show that there was a hollow space beneath this floor suggesting that the floor was still almost in its original position. The similarity of this feature to the situation of Rooms 2 and 2A in the Central Temple at Nush-i Jan is striking and it is possible that the upper floor in Haji Khan Room 4 was supported on mud-brick struts like those in Nush-i Jan. In this case it is likely that the struts ran from east to west across the narrower width of the room, since at Nush-i Jan rooms wider than 2.5 m were not roofed with mud-brick struts.

At Nush-i Jan Room 2A in the Central Temple and Room 45A in the Old Western Building on the ground floor were narrower than the corresponding Rooms 2 and 45 on the upper floor, but this does not seem to have been the case with the east wall of Room 4 which appears to have been on the same alignment on both the upper and the lower level.



Fig. 51. View over Room 4 from the south-west. The measuring rods are resting on the upper floor.



Fig. 52. The upper floor in Room 4. Note the empty space beneath the floor.



Fig. 53. View over Room 4 from the north.



Fig. 54. Room 4, showing the east wall of Room 4 below the high level floor.

Room 5

Room 5 is situated to the west of Room 4 and to the south of Rooms 2 and 3. This area was badly damaged by the mechanical diggers and by looting. A large pit may have removed the west wall and the western part of the south wall of the room (Figs. 49 and 55). The surviving lengths of the north and east walls were 2.6 m and 2.7 m respectively. If the proposed length of the east wall is correct, the south wall would have been in line with the south wall of Room 1.

Brickwork found within the fill of Room 5 suggested to the excavators that the room was originally filled with mud-bricks, but another explanation is more probable. Examination of photographs and comparison with the Central Temple in Nush-i Jan suggest that there was probably a spiral ramp in Room 5. This was not recognised at the time of excavation. At the north end of the east wall there appears to have been a roofed passage through the wall with roofing struts meeting at an angle creating a ceiling with a pointed arch profile (Figs. 55-56). As the upper part of this passage



Fig. 55. Room 5 from south-west.



Fig. 56. East wall of Room 5, showing the passageway with a pointed arch.

was empty at the time of excavation, the excavators thought that this was a tunnel dug by robbers. This passage could have led into a first floor room (Room 4)⁶. The lower part of the doorway in Room 5 was lower than the

⁶ Although it is not easy to be certain, the photograph seems to show that this doorway may have been blocked with mud-brick.

upper floor in Room 4 suggesting that this passage through the wall would have had to rise to reach the level of the floor in Room 4.

No evidence for a central pier or for the west and south walls of Room 5 was found. It is possible that the entrance into the spiral ramp was in the northern part of the west wall of Room 4 and the ramp rose until it reached the west wall of Room 5 and then turned left. When the ramp reached the south wall, it would have turned left again and again left at the east wall of Room 5 having risen in one complete turn a bit more than two metres above the floor of Room 4⁷. When it reached the north wall of Room 5 again there would have been a doorway and passage leading up to the upper floor in Room 4, while the ramp itself continued until it reached the roof.

The excavation of Room 5 stopped before the floor was reached and the supposed position of the west wall was not investigated. The south wall and the central pier may have been destroyed or damaged by later pitting to such an extent that they were not recognized in the excavation.

Room 6

The east and south walls of Room 6, which was situated south of Room 4, like the west and south walls of Room 5, were not found in the excavation. Shortly before the excavation started, earth-moving machinery took a semi-circular scoop out of the mound to the west of Room 6 and removed a considerable part of the mud-brick massif encasing the building and probably also the west wall and the western part of the south wall of Room 5. A further attack on the mound was made by a toothed digger which left the marks of its teeth in the bedrock and may have removed the east wall of Room 6 (Fig. 49).

The west wall of Room 6 (Fig. 57) was in line with or slightly to the east of the west wall of Room 4 and this side of the room was 2.50 m long: this may have included a length of a supposed wall in the mud-brick massif that surrounded the building (Fig. 57). The north-south length of the original west wall was probably c. 1.7 m as the excavators identified a difference between this wall and the mud-bricks surrounding the building at this point. The width of this wall would then have been c. 1.6 m.

⁷ At Nush-i Jan, Ramp 3 rose 2 m in a complete turn and its slope was 1 in 4. Ramp 44 rose 2.3 m in a complete turn and it may be assumed that the ramp at Haji Khan rose to a similar height.



Fig. 57. West wall of Room 6.

The identified part of the north wall was 2.30 m long, slightly less than the width of Room 4. Although not excavated, it is likely that there was a doorway that connected Rooms 4 and 6. There was probably access to Room 6 through the mud-brick massif via Corridor 7 (see below). If the identified part of the north wall extended the full width of the room, the east wall would have been in line with the east walls of Rooms 4 and 1. Although no evidence of this wall was observed, the excavators thought that the impression of the wall could be observed on the side of the fill, but the area was so damaged by later pits and recent activity of mechanical diggers that it is difficult to be certain.

There does not appear to have been a south wall to this room and it seems probable that the south side was left open. This finds a close parallel to the entrances of the Central Temple and the Old Western Building at Nush-i Jan that were originally constructed with open *ayvan*-like portals.

Fragments of mud-brick, mud plaster (sometimes with finger marks), and other debris were found in this space: it is probable that the room was filled with the collapse from the walls and the ceiling and that it was intentionally filled.

If there was an *ayvan* portal, it would not have filled the whole of the façade but would have only been open as far as the ceiling of the ground floor and there would have been a first floor room above the vault of the portal. Since there was a wall between Room 4 and Room 6 at a high level, the two spaces would have been separate, unlike Room 2 in the Nush-i Jan Central Temple but like Rooms 45 and 40 in the Old Western Building, without a doorway between them.

The outer wall of the building and the mud-brick surrounding it

The excavations at Haji Khan were largely restricted to the interior of the temple, and the outer wall of the building was investigated in only a couple of places. On the other hand almost everywhere outside the building on the north, east, and south sides, courses of mud-bricks were encountered. This mud-brick extended at least 4 m to the north, at least 6 m to the south, and an uncertain distance to the east. On the west side, this mud-brick massif was not identified, but it can be assumed that mud-bricks existed on this side as well. In most places it was not possible to distinguish the additional mud-brick encasing the building from the original outer façade of the temple. Much of this brickwork was damaged by mechanical diggers and the marks of the teeth of such a digger are visible to the north-east of Room 1 and to the south of Rooms 1 and 6.

The surrounding brickwork represents a substantial investment in materials and labour and undoubtedly must have had a specific purpose. But it is difficult to suggest a convincing explanation.

Corridor 7

Within the mud-brick encasing the building was a passageway (Corridor 7) running roughly from west to east (Fig. 58). The floor of this corridor was made of an olive-green clay. It was 1.3 m wide and extended some 6.9 m sloping down to the east. Near the east end there were four steps going down before it turned through 90° towards the north for a further 3.5 m leading to Room 6, the presumed entrance to the temple (Fig. 59). It therefore appears that, when the brickwork encasing the temple was built, it was necessary to preserve a means of access into the building⁸.

⁸ This recalls the passageway left within the mud-brick filling in the East Court at Tepe Nush-i Jan that allowed access into the Fort after the courtyard had been filled with bricks.



Fig. 58. View of Corridor 7.



Fig. 59. The steps at the east end of Corridor 7.

The external wall of the temple

In two places, buttresses on the external wall of the temple could be recognised. To the east of the southern part of Room 1, a rectangular buttress, a recess, and part of a second buttress were identified (Figs. 60-62). The buttress was c. 1.2 m wide and c. 0.5 m deep.

South of Room 1 there appears to be a part of a buttress and recess belonging to the external wall of the temple (Fig. 63). The width of the outer wall (including the buttress) at these points was about 2.9 m. Assuming that the outer wall was of uniform width on the west, north, and east sides and the plan exhibited a considerable degree of symmetry, it is possible to reconstruct the outline of the external walls on the west, north, and east sides, and the outline of the south-west and south-east corners of the building (Fig. 64).



Fig. 60. The area east of the southern part of Room 1 looking south. Note the buttress next to the measuring rods.



Fig. 61. The buttress east of the southern part of Room 1 looking north.



Fig. 62. Detail of the buttress shown in Fig. 61.



Fig. 63. The area north of Room 1 from the north. Note a possible buttress on the outer wall of the temple in the middle foreground.



Fig. 64. An air view of the temple with a possible outline of the outer wall. This line marks the external part of the wall and does not include the positions of buttresses and recesses.

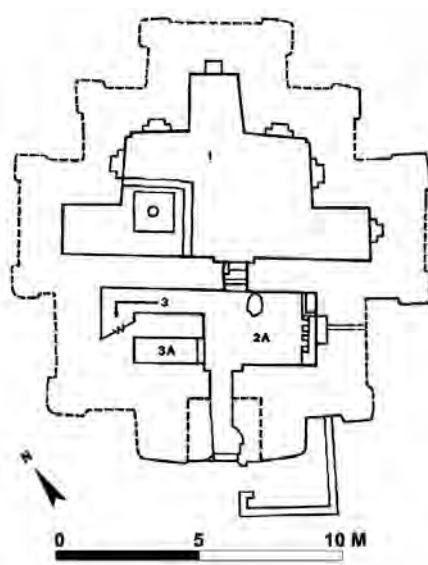


Fig. 65. The plan of the Central Temple at Tepe Nush-i Jan.

A further place where the outer wall was recognised is the southern end of the west wall of Room 6. At this point the wall would have been about 1.6 m wide. As discussed above, Room 6 was probably the wide entrance to the temple and the west wall would have been the side of an *ayvan*-like portal. Using this information a probable external outline of the building can be proposed (Fig. 64).

The line dividing the “walls” of the temple from the “mud-bricks” of the surrounding structure elsewhere on the original plan prepared by the excavators (Fig. 18) does not match the original outer wall of the temple except on the west side of Room 6 and next to the buttress to the east of the southern part of the east wall of Room 1. In some places (including in the vicinity of the probable buttress to the north of Room 1), the line seems to mark the extent of the damage done to the site by the mechanical diggers and in other places to have been arbitrary or to have been omitted (as, for example, north of Room 3 where a wall over 4 m wide is suggested on the plan (Fig. 18) by the absence of any indication of the surrounding mud-bricks). In some places this line overlaps the supposed walls of the temple. It is possible that the mud-brick encasing the temple in places did overlap the perhaps damaged or eroded outer façade of the temple, but without further careful excavation this cannot be confirmed. It is therefore reasonable to ignore this line except in the places mentioned above.

The similarity of this reconstruction to the external outline of the Central Temple at Nush-i Jan (Fig. 65) is obvious, but here we may note that the arrangement of buttresses and recesses at Haji Khan was more elaborate than that at Nush-i Jan and that the Haji Khan temple was larger and had more rooms than the Nush-i Jan temple. The comparison also gives support to the suggestion that Room 6 was the entrance to the Haji Khan temple and that, as at Nush-i Jan, it probably consisted of an *ayvan*-like opening perhaps covered by a vault. It also supports the contention that a spiral ramp was contained in Room 5, though only slight evidence in favour of this proposal was found in the excavation.

There is more difficulty and uncertainty in placing buttresses on the line marking the external envelope of the temple. Unlike the Central Temple, the buttresses on the Haji Khan temple were not restricted to the corners of the stepped lozenge. Instead it is probable that buttresses were more or less regularly placed along the outer walls as in the other buildings at Nush-i Jan. Given the uncertainties involved it does not seem

appropriate to include such a reconstruction here, but we will present a possible reconstruction in a future article which will explore in further detail the implications of the architectural relationships between Haji Khan, Nush-i Jan, and other Median sites.

Finds: Pottery

Pottery sherds were found in all the rooms of the temple, but no complete vessels were recovered⁹. The great majority of the pottery was of plain buff well-fired ware, but there were also sherds of different colours and a small percentage was of grey ware. The pottery was normally wheel-made and handmade vessels are rare. Almost all of the potsherds, except those with mica particles, are slipped and burnished and similar to pottery found on other Median sites such as Tepe Nush-i Jan (Stronach 1978), Moush Tepe (Mohamadifar et al. 2015), Gunespan Patappeh (Naseri et al. 2016), Tepe Yalfan (Almasi et al. 2017a and 2017b), Godin Tepe (Young & Levine 1974; Gopnik 2011), Baba Jan (Goff 1978 and 1985), and Ozbaki (Madjidzadeh 1389/2010). Typical are small bowls, bowls with horizontal handles, and small jars with vertical handles (Fig. 66).

The precise dating of this pottery assemblage has not yet been established. It may have started as early as the 8th century BC and similar pottery may date to the early Achaemenian period. The pottery found in Haji Khan belonged to the latest phase of occupation. Unfortunately no pottery was found that could be associated with the original construction of the temple. While it is certain from the obvious architectural similarity to the Central Temple at Nush-i Jan that the building was originally constructed as a temple, it is less certain whether the building still maintained its role as a place of worship to the end of its life. Although the pottery in use during the principal phase of occupation may not have been very different to the pottery recovered, it is possible that these potsherds and some of the features such as the fire installations and platforms in Rooms 1 and 2 were the result of a squatter occupation in the building after it had ceased to be used for religious purposes.

⁹ A detailed report on the pottery by E. Hemati is in preparation.

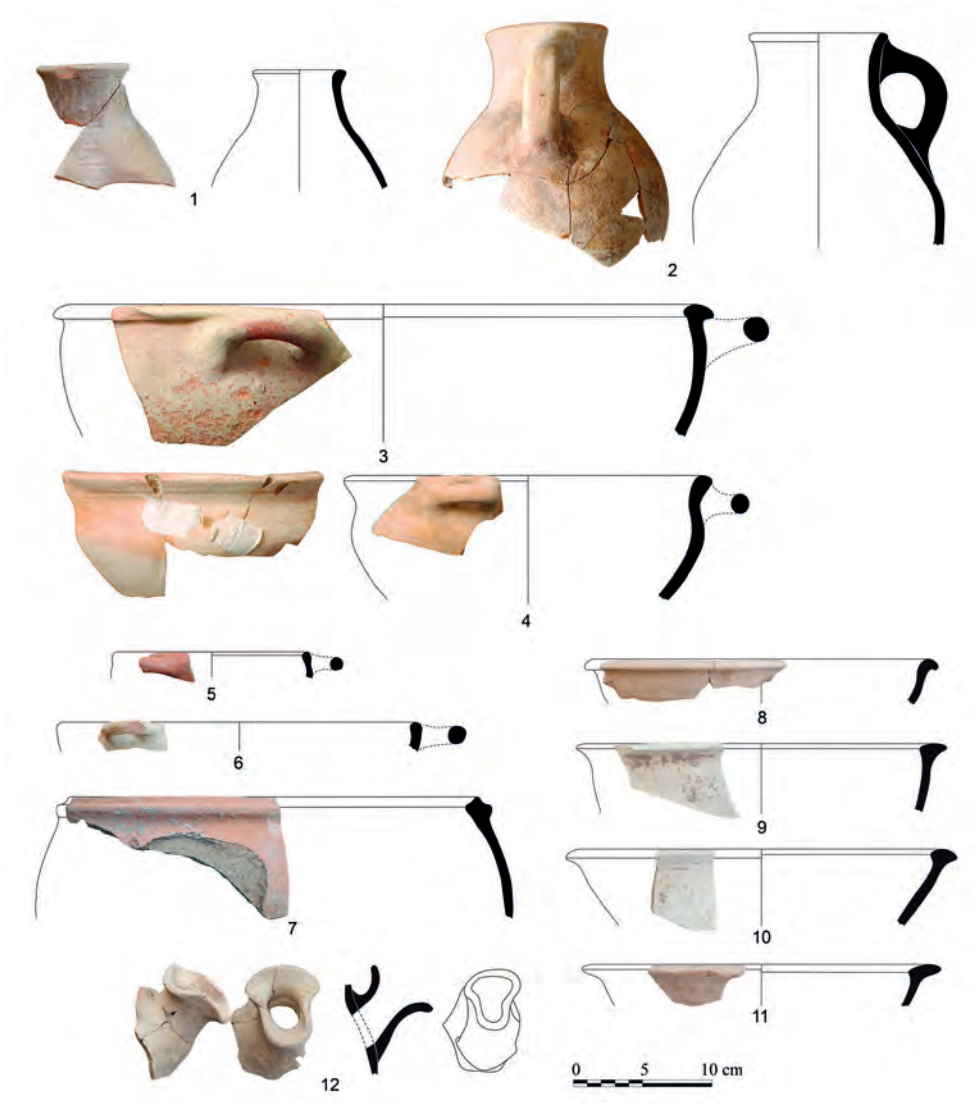


Fig. 66. A selection of typical pottery found in the Haji Khan temple.

1-7. Locus 104 in Trench EF34b, the upper filling of Room 4.

1, 4. Wheel-made, very pale brown, well made, mineral, shiny flecks, fine.
2-3. Wheel-made, pinkish white, well-made, mineral, shiny flecks, fine.

5. Hand-made, pinkish grey, mineral, fine.

6-7. Wheel-made, pale brown, well made, mineral, fine.

8-12. Locus 109 in Trench CD34, the collapsed debris in Room 1.

8-11. Wheel-made, very pale brown, well made, mineral, shiny flecks, fine.

12. Wheel-made, pale brown, well made, mineral, fine.

Cylinder seal

One of the most valuable finds from the Haji Khan Temple is a blue grey stone cylinder seal (Fig. 67). It was found during the final days of the excavations in one of the looters' pits in the vicinity of Room 6. This seal is 4.2 cm high and 1.7 cm in diameter, with a 0.4 cm diameter vertical perforation. The image shows a human-headed winged lion with a special crown with four projecting vertical lines topped with drilled circles fighting a lion standing on its rear legs while raising its front legs. It is skilfully carved. Stylistically it is in a style typical of the reign of the Middle Assyrian king Tukulti-Ninurta 1 (1243-1207 BC) (Matthews 1990: 103). It is therefore an heirloom from a much earlier period. It is tempting to suggest that this valuable object came into the possession of the Medes when they sacked the Assyrian cities at the end of the seventh century BC, but there is no way of confirming this hypothesis.



Fig. 67. The cylinder seal from Haji Khan Tappeh.

Conclusion

The architecture and the pottery of the Haji Khan temple are comparable to the discoveries at other Median sites such as Tepe Nush-i Jan (Stronach & Roaf 2007), Moush Tepe (Mohamadifar et al. 2015), Gunespan-e Patappeh (Naseri et al. 2016), Godin Tepe (Young & Levine 1974; Gopnik 2011), and Ozbaki Tepe (Madjidzadeh 1389/2010). Similarly shaped and sized mud-bricks were used in all these buildings and the forms of the doorways and the frequent use of wall niches is also typical of other Median sites. The lack of rabbets on the doorways at Haji Khan is, however, unexpected.

In particular the stepped lozenge plan of the Haji Khan temple is comparable to the Central Temple in Nush-i Jan, although the Haji Khan temple is larger than the Central Temple. Particularly significant is the presence of a stepped altar in the largest room of each building. In both buildings, this room, which can be identified as the cella of the temple, had a triangular outline. The arrangement of the rooms with an entrance through an open *ayvan*-like chamber, an anteroom, and a spiral ramp is paralleled both in the Central Temple and in the Old Western Building (also identified as a temple) in Nush-i Jan. The fate of the temple at Haji Khan being encased in mud-brick has parallels with Nush-i Jan and perhaps also with Gunespan Patappeh and Tepe Ozbaki where thick oval enclosure walls were constructed which curtailed the existing structures. The final occupations of both Haji Khan and Nush-i Jan may also have been squatter settlements after the sites had lost their religious character.

After the excavation season ended, measures were undertaken to preserve the site (Figs. 68-69). The whole of the temple was covered with tarpaulins and then with polythene sheeting. It is to be hoped that in the future it will be possible to erect a roof over the temple and allow tourists and scholars



Fig. 68. Conservation under way at Haji Khan Tappeh.



Fig. 69. Conservation at Haji Khan Tappeh.

to visit the site. Before this is done, the outer wall should be investigated and the excavation of Rooms 4, 5, and 6 should be completed in order to test the proposed interpretation of these parts of the building.

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