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Author(s): Ali Asghar Salahshour, Mohammad Hossein Taheri

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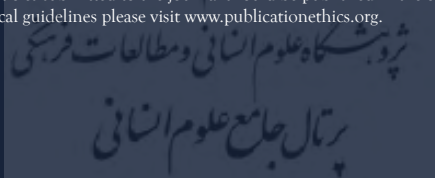
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The Achaemenid or Post-Achaemenid (?) Stone Column Bases and Slabs of Hannā Site in Semirom County, Esfahan Province, Iran

Ali Asghar Salahshour¹ , Mohammad Hossein Taheri²

Abstract

Achaemenid architecture is distinguished by its columned halls and porticoes, which can be found in the empire's major capitals, such as Pasargadae, Susa, and Persepolis. Column bases are one of the most essential parts of a column, and square and bell-shaped column bases were frequently used during the Achaemenid period. During a 2018 survey conducted in Hannā, Semirom County, Esfahan Province, the authors discovered two square-column bases that showed a striking resemblance to other column bases found in the Achaemenid Empire. The column bases, along with several partly carved slabs, were found by a bulldozer during the digging process. If these column bases and carved slabs are indeed from an Achaemenid period construction, it serves as a strong indication of the importance of the Hannā site in Semirom. An additional indication of the significance of these findings is the lack of palaces or buildings with columns from the Achaemenid period in the region of Esfahan. Furthermore, it is essential to take into account the continued use of square-column bases in post-Achaemenid structures, as well as the fact that the masonry tools employed during this period remained unchanged throughout the following centuries. By analyzing the presence of carved stone slabs and columned bases of pillared buildings and halls from the Achaemenid period and beyond, we may determine that we are dealing with a prestigious structure that is associated with the elite of society. After the decline of the Achaemenid Empire, pillared structures and this type of square and stepped column base were used.

Keywords: Square-Column Bases; Stone Slabs; Pillared Hall; Columned Building; Hannā Site; Semirom County; Achaemenid; Post-Achaemenid.

¹ Faculty of Conservation and Restoration, Art University of Esfahan, Archaeology Department, Esfahan, Iran (Corresponding Author).  aa.salahshour@ut.ac.ir

² PhD in Archaeology, University of Tehran and PhD Candidate at Laboratoire Archéorient, Maison de l'Orient et de la Méditerranée, Jean Pouilloux, L'université Lumière Lyon 2, Lyon France.

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Introduction

In 2018, the authors conducted a survey in the central area of Semirom, Esfahan Province. They visited this spot based on information provided by a resident regarding the columned bases that are still there on the northeastern border of Hannā city. Residents of Hannā city claimed that while digging the area following the construction of the Hannā dam in 1376 SH (1997 AD) and the subsequent operation of water transfer channels to the lower plains, a bulldozer unexpectedly uncovered carved stone slabs (Fig. 1) and two square-column bases with circular tori above them (Fig. 2–3). Unfortunately, Esfahan's provincial department of cultural heritage was unaware of these findings. All the items and works were ultimately collected in a stable near the water channel, as the locals had searched everywhere but found nothing (Fig. 4). The square-column bases and partly carved slabs are reminiscent of Achaemenid columned buildings and pillared halls. It's possible that a columned hall or building from the same date or post-Achaemenid (?) existed at the Hannā site (Fig. 5–6). However, it's uncertain whether this area had any connection to the Achaemenid or post-Achaemenid periods, as no records of it exist and no systematic excavations have been conducted.

Researchers have explored the cultural and civilizational traits of the Achaemenid Empire, as well as its archaeological sites, including Pasargadae, Persepolis, and Naqsh-e Rostam (MehrAfarin, 2021; Yaghmaee, 2023; Rahbar, 2023; Atayi, 2024; Kavousi, 2024). The Achae-

menid Empire has been extensively researched elsewhere (Khanipour, 2025; Salahshour, 2025; Dara, 2025; Amanollahi & Alikahi, 2025; Raiygani *et al.*, 2025).

Findings of the Hannā site in Semirom

Semirom County is located on the eastern slopes of the Dena Mountains, in the middle of the southern Zagros region, and the southern part of Esfahan. Hannā city is located in the southeast of Esfahan province's Semirom county. Two column bases and some carved stone slabs can be found within one of the stables on the northern border of Hannā city, around 700 meters from the last of the city's dwellings. Locals claimed that these column bases and the carved stone slabs were left in this location after falling out during the construction of the concrete channel for the Hannā dam's water transfer. After observing those items, the survey team conducted a comprehensive foot survey of the site to gather additional data and artifacts. Unfortunately, the eastern part of it, which overlooks the mountain and is where the survey team was looking for ore, showed no signs of ballast. For more confidence, however, further portions of the mountain's slopes overlooking Hannā city need to be surveyed. The stone slabs and two-column bases are made of white limestone (Taheri, 2018). Similar to typical instances of Achaemenid and even post-Achaemenid (e.g., those at the Frataraka/Fratadara temple northwest of the Persepolis platform¹), two of the column bases at the Hannā site are square. This site's column

¹ For more information, see Schmidt, 1953: 55–56, and Mousavi, 2012: 73–78.



Fig. 1. Stone Slabs of the Hannā Site, Semirom County, Esfahan Province (2018)



Fig. 2. One of the Square-Column Bases at the Hannā Site, Semirom County, Esfahan Province (2018)



Fig. 3. Another Square-Column at the Hannā Site, Semirom County, Esfahan Province (2018)



Fig. 4. Two Square-Column Bases and Stone Slabs Were Left Close by and Around the Stable (2018)



Fig. 5. Hannā Site, East View (2018)

bases consist of two parts: a two-stepped square plinth topped by a circular white torus. A part of the torus on one of the column bases has been broken and damaged (Fig. 2). Today, the location of the column bases has been destroyed, and the Hannā site has been destroyed by the construction of the places for animal housing, the water transfer channel, and

the access road next to it. Almost nothing remains on the site; farmlands have been turned into flat surfaces by yearly tillage and extensive destruction. The stone slabs discovered here have been partly carved and worked, and masonry tool marks (such as chisel and hammer) can be observed on them. As of now, Google Earth shows the stable as being connect-



Fig. 6. Hannā Site, West View (2018)



Fig. 7. The Location of Hannā Site Based on Google Earth

ed to the water transfer channel, and this part of the channel in the stable's eastern section was the same location where the square-column bases and slabs were discovered (Taheri, 2018; Maps 1-2).

During the survey of the southern part of this site leading to the city, pottery fragments were discovered (Fig. 9). A few sherds were visible on the plot's surface. Pottery pieces from the prehistoric, historical, and Islamic periods can be found from the outskirts of the city to the site

and stable. Unfortunately, the survey of the entire Hannā site yielded just a few pieces of pottery, perhaps a result of extensive cultivation and plowing of agricultural lands over the years. Therefore, these few fragments do not greatly contribute to determining the site and its square-column bases' dating. Regarding the valuable stone slabs, it should be noted that, unfortunately, these slabs have been left behind and are now being used by herdsmen as a surface to spread salt for their animals

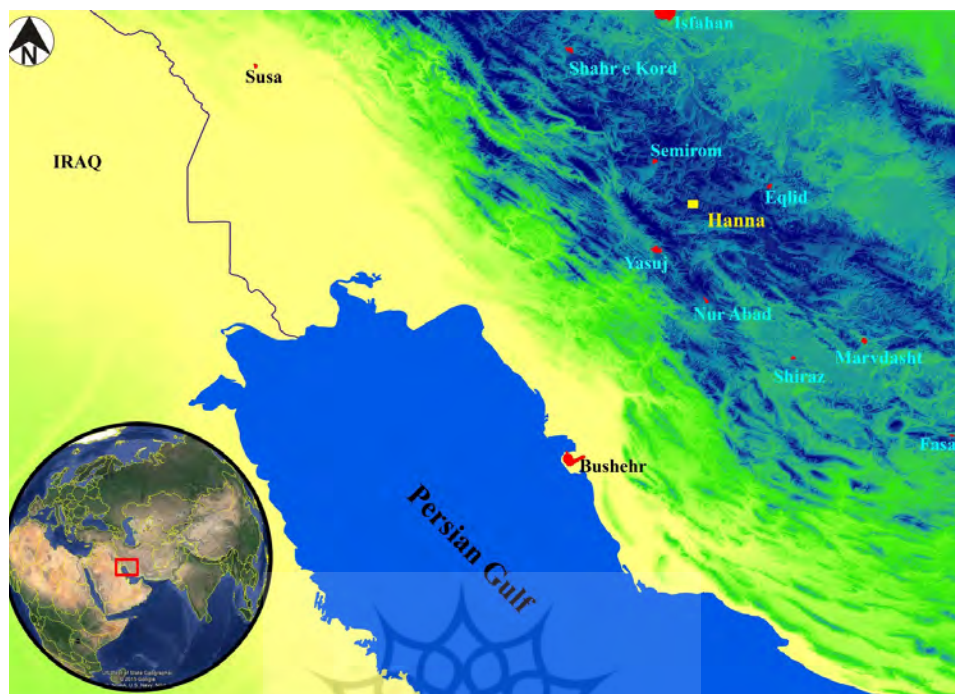


Fig. 8. Geographical Location of Hanna Site (Semirom County, Esfahan Province) (Authors, 2023)

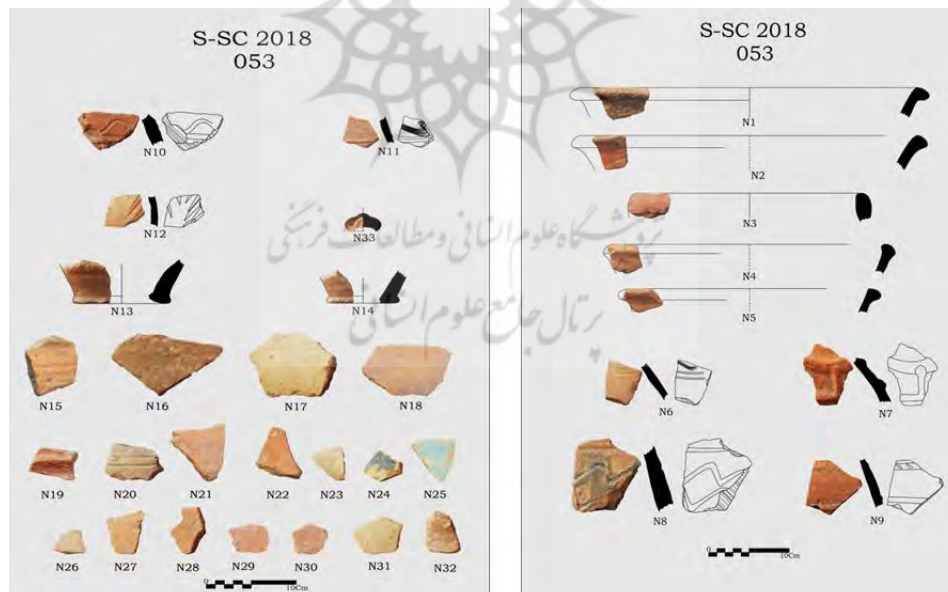


Fig. 9. Pottery Sherds Discovered at the Hannā Site, and the Reconstructed Forms of a Few Fragments

(Fig. 10). Furthermore, in some cases, they can serve as a surface for placing fodder on

top of them. On the column bases, there are signs of damage and even coloring



Fig. 10. Traces of Salt Pouring on One of the Stone Slabs

(in green and blue, Fig. 3). The evidence points to the Hannā site as being rich and large, extending from the bank of the river to the slopes of the heights overlooking the city. However, more investigation and archaeological excavation are needed to determine the connection between the discovered ceramics and the column bases. Sadly, despite the rich works evaluated in this research, neither this site nor its materials have yet been registered nationwide. As a result, protective measures are required for both constructing the site's registration file and its border, as well as for moving artifacts to the museum (Taheri, 2018).

Comparing and Analyzing the Stone Works at the Hannā Site (Square-Column Bases and Carved Slabs) and Their Possible Chronology

The architecture of the Achaemenid pe-

riod is known for its palaces and other structures with pillared halls and porticoes. Similar structures can be observed throughout the imperial territory, although the southern Caucasus region (Azarbaijan, Georgia, and Armenia) has a special situation. Their main capitals, Pasargadae, Susa, and Persepolis, have the most significant Achaemenid structures and pillared halls. A key indicator for identifying a site or structure from the Achaemenid period is the presence of palaces and pillared halls, which symbolized the ideology and power of the Achaemenid Empire.¹ Although columns and pillared structures were present before the Achaemenid period², it was the archi-

¹ More information is available in Khatchadourian, 2013 and 2016, and Gopnik, 2010.

² For columned halls and structures that existed before the Achaemenids, see Khatchadourian, 2016; Huff, 2005; Minardi et al., 2017; Gopnik, 2010 and 2011; Young and Levine, 1974.



Fig. 11. The Magnificent Columns of Cyrus the Great's Private Palace (P) in Pasargadae, with Square-Column Bases and Circular Tori Above Them (2021)



Fig. 12. The Main Hall's Square-Column Bases of Charkhāb Palace in Borāzjān (Zehbari, 2020: 7)

tects and artisans of the Achaemenid period who further developed and refined them. A basic element of Achaemenid architecture was the column, which provided structural support for the roof of the hall, portico, or room, arranged in one or more rows. In the Achaemenid period, each column consisted of three essential elements: the base, shaft, and capital. During this historical period,

bell-shaped and square-column bases were extensively used throughout the Achaemenid Empire.

The square plinths and tori, which are often two-stepped, make up the square-column bases from the Achaemenid period. However, in some places, such as the palaces of Pasargadae and Borāzjān, two-stepped square plinths have two colors, the lower made of a black and a white stone,



Fig. 13. The Square-Column Bases of Susa's Apadana Central Hall (Perrot and Canal, 2013: 188)



Fig. 14. The Square-Column Bases of Unfinished Gate at Persepolis (2021)

the upper with white stone topped by a black torus (Boucharlat, 2021: 200). Nevertheless, the lower and upper parts usually show similar colors, a characteristic that is also observed in the two-column bases of the Hannā sit. There is usually a circular

torus above the stepped plinth on which the column's shaft is mounted. The use of square-column bases in the rooms, porticoes, and halls throughout the vast territory of the Achaemenid Empire is evident in both Iran and other regions, including:

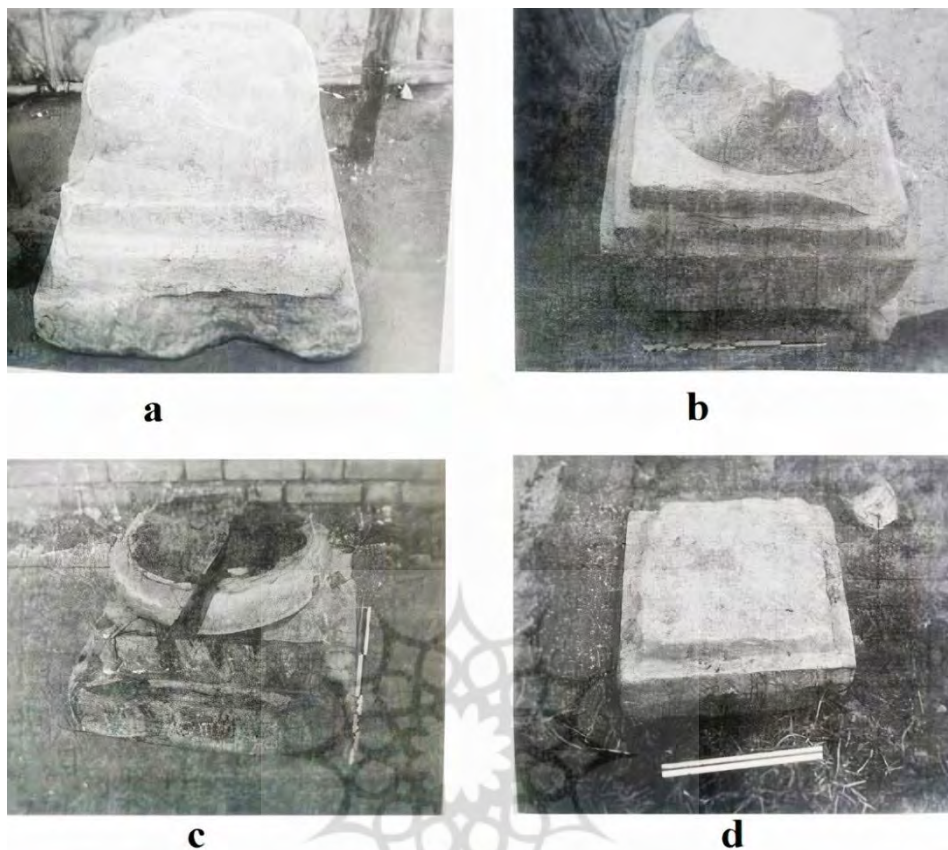


Fig. 15. Some Square-Column Bases that Ehsan Yaghmaee (2006) Discovered While Conducting Surveys of Various Nurabād-i Mamasani sites and Places (Fars Province)

There is evidence that the Achaemenid period constructed palaces and pillared halls in Iran. Square-shaped column bases have been found in several of the palaces and columned halls from the important Achaemenid capitals such as Persepolis and Susa, as well as from regions like Borāzjān in the Bushehr province. At the Achaemenid palace of Sang-e Siah in Borāzjān, the square-column bases of its pillared hall have two-stepped square plinths, the lower made of a black and a white stone of the same size, and the upper made of a smaller white stone topped by a black torus. They

are similar in color and size to those of Palace S of Pasargadae (Boucharlat, 2021: 200; Stronach, 1978). Another pillared building with a similar columned portico was at Bardak-i Siah. The rectangular hall exhibits four rows of six bases. The column bases recall those of Pasargadae buildings (Boucharlat, 2021: 200–201) from the reign of Cyrus the Great, such as the palaces P (Fig. 11) and S. Charkhāb is another Achaemenid palace of Borāzjān, which has a main pillared hall and porticoes, as well as square-column bases. The Charkhāb palace's square-column bases (Fig. 12) are similarly formed of two

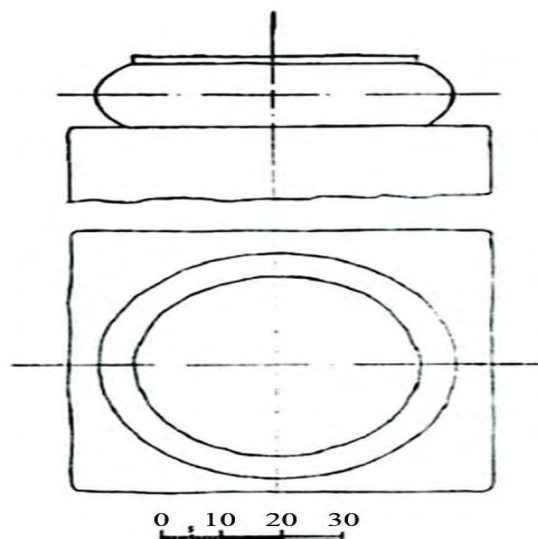


Fig. 16. Drawing of a Square-Column Base at Benjamin, Armenia (Ter-Martirossov, 2001: 159)



Fig. 17. A Square-Column Base from Georgia's Sabatlo Village (Knauf et al., 2013: 4)

parts (or four components): two-stepped square plinths, the lower made of a black and a white stone of the same size, and the upper made of a smaller white stone with a black circular torus above them.¹

¹ For more information about the Achaemenid palaces or buildings in Borāzjān, see Sarfaraz, 1971; Yaghmaee, 2007, 2017, 2018a, 2018b; and Zehbari, 2020: 1-52.

Susa's pillared halls and royal residences from the Achaemenid period are also clearly apparent. Apadana's central hall features square-column bases. The Darius I Apadana Palace in Susa had a square ground plan, with sides measuring 109 m. It comprised a central hall with six rows of six columns flanked, to the west, to the north, and the east, by



Fig. 18. A Square-Column Base in one of the Gurban Tepe Palace's Southern Rooms at Karačamirli Complex, Azarbaijan (Knauf et al., 2013: 12)

porticoes with two rows of six columns. The columns of the central hall rested on square bases (Perrot and Canal, 2013: 179, 186). The square-column bases in the central pillared hall are made up of square plinths with circular tori above them (Fig. 13).

Persepolis, one of the most significant Achaemenid capitals, is home to a large number of royal structures, including palaces with columned halls, rooms, and porticoes. Square-column bases can be observed in some palaces and royal structures on the Persepolis platform, including the Unfinished Gate (Fig. 14), the Treasury building's various parts, and the central hall of Apadana, which consist of two parts of two-stepped square plinths and circular tori above them (of course, except for the Treasury building, which has a square plinth rather than a two-stepped one [Schmidt, 1953]).

The Achaemenid data and findings from Nurabād-i Mamasani in the Fars province include two types of column bases: Column bases were discovered by

Yaghmaee during surveys conducted in different parts of Nurabād. He regarded these settlements as the stations, or halting places, on the royal road during the Achaemenid period, where the king, princes, court women, elites, and the king's companions would temporarily reside. He discovered two types of square and bell-shaped column bases in different places and sites around Nurabād. The sites and places where square-column bases were found include the square-column base of Nowbandegan [Fig. 15(a)], with a three-stepped plinth and part of a circular column above it; the square-column base of Tall-i Jouy-i Barmak [Fig. 15(b)] with a three-stepped plinth topped by a circular torus; the square-column base of Tall-i Kareh Gholi [Fig. 15(c)] with a three-stepped plinth and a circular torus above it; the square-column base of Chārbāzār village; Bābā Meydan [Fig. 15(d)] with a two-stepped plinth without a circular torus (Yaghmaee, 2006: 32–49).

There are other regions outside of Iran where columned halls, porticoes,



Fig. 19. The Six-Column Hall's Square-Shaped Column Bases at Gurban Tepe Palace, Karačamirli, Azarbaijan (Knauf *et al.*, 2013: 16)

and rooms (along with column bases) from the Achaemenid period have been discovered. One of the most significant regions where these types of structures have been found is the southern Caucasus. The western part of Benjamin¹ in Armenia was separated from the east side by a wall without passage. This part has apparently been a palace. A large number of column bases have been found in the building. The majority of them had a torus-like shape (round). One of the column bases (Fig. 16) had a different shape: a low square plinth on which a large round torus is placed (Ter-Martirossov, 2001: 159–160).

¹ See Khatchadourian, 2013 and 2016, for information about Benjamin's site and its attribution to the Achaemenid period.

In Sabatlo, situated midway between Gumbati and Karačamirli in the Alasani valley in Georgia, at a critical junction, chance finds of fine column bases (Fig. 17) hint at another important Achaemenid center (Knauf *et al.*, 2013: 4; Knauf, 2021: 303).

Undoubtedly, the Karačamirli site (also known as Qarajamirli or Qaradshamirli) in Azarbaijan is the most significant Achaemenid site in the southern Caucasus. The site is a large complex consisting of several palaces, one of which is Gurban Tepe. The square-column bases have been discovered in various parts of the palace, including the entrance hall, the large central columned hall, one of the southern rooms (Fig. 18), and the

northwest's six-column hall (Fig. 19) (Knauß *et al.*, 2013: 15).

The pottery, palaces, columned halls, and Persian paradise (garden) at the Karačamirli site all indicate that this was a magnificent complex in the Achaemenid period.¹

In Ancient Chorasmia, the pillared hall is attested as early as the mid-sixth century BC on the west bank of the Amu Darya at the site of Kyuzeli-g'yr, and in the mid-fifth century BC on the east bank at Dingil'dzhe. Kyuzeli-g'yr is the Ancient Chorasmian settlement best known for its association with the first stages of the polity's socio-political transformations that occurred during the sixth century BC, most likely due to an Achaemenid intervention in the area. Based on early dating, the first pillared hall with three-stepped bases surmounted by bowl-shaped tori is attested at Kalalyg'yr 1 palace (not far from Kyuzeli-g'yr) in the late fourth/third centuries BC (Tolstov, 1948, 1958; Rapoport, 1987, 1991)², but

this type, recorded at Akchakhan-kala since the first century BC, appears later in the sites of Gyaaur-kala (from the second century AD) and Toprak-kala (c. from the second century AD) on the east bank. Some three-stepped bases, spolia from older unknown monuments (from Kyat?), were also used in the Friday Mosque of Khiva and are attested among the ruins of Mizdakhkan (Minardi *et al.*, 2017: 216). In Chorasmia, three-stepped bases were also carved during the Middle Ages (Kd'yrniyazov, 1981: 21–25). The main architectural element in Kalalyg'yr 1 is an elite residence – the palace (c. 80 × 80 m) – defended by a rectangular enclosure that surrounds the whole site. In the palace, the presence of columns is recorded for three rooms (Fig. 20): a main rectangular hall (Room 23) with two rows of three columns, a secondary room of private character (Room 8) with two columns standing in front of a niche, and a third rectangular room (Room 12) with a single central row of four columns (Minardi *et al.*, 2017: 216–217). According to Minardi, considering that the composite base is not recorded in Chorasmia before the third century BC, in addition to the fact that in the sixth/fifth centuries BC, three-stepped bases are not yet documented in the polity, it isn't easy to relate any Achaemenid hypothetical models with the Chorasmian output. Thus, the bowl-shaped elements of Akchakhan-kala might well have also derived from post-Achaemenid types locally developed. This interpretation aligns with the fact that from the third century BC, Chorasmia adopted certain aspects of the Hellenistic material culture prevalent in

¹ For more details, see Knauß *et al.*, 2010; Knauß *et al.*, 2013; Knauß, 2021: 301–303; and Babaev *et al.*, 2007.

² Researchers such as Rapoport (1991: 512–513), Stavisky (1989: 53), and Helms (Helms *et al.*, 2002: 13) pointed out that Kalalyg'yr was the seat of the newly established Chorasmian satrapy, but the unfinished state of the stone column bases, abandoned molds, and layers of silt and deposits on the floors are evidence that the satrap never took up residence there (Rapoport, 1991: 513). According to Rapoport (1987, 140, 1991: 512–513) and Tolstov (1958: 167), archaeological investigations in level I at the site of Kalalyg'yr have shown that Achaemenid rule there ended shortly after the beginning of the 4th century.

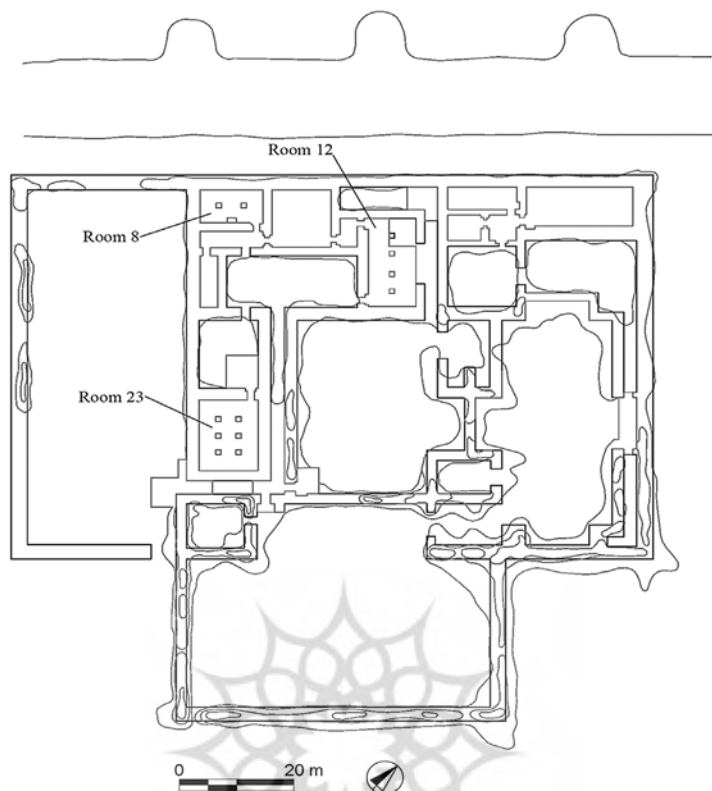


Fig. 20. The Columned Rooms of Kalalygyr 1 Palace with Square-Column Bases (Minardi *et al.*, 2017: 218).

its surroundings (Minardi *et al.*, 2017: 221–222). He (Minardi, 2015: 87–113; Minardi *et al.*, 2017: 208–226) showed that the material culture indicates a post-Alexander age and refutes the idea that Kalalygyr 1 was a satrap seat in Chorasmia.

The Achaemenid period's scope of influence and distribution of palaces and pillared structures may also be observed in the westernmost regions dominated by them. The Lachish Palace¹ was built

¹ There are different opinions about the chronology of Lachish Palace: Starkey (1937) suggested an occasional resettlement in the ruined palace took place in the middle of the fifth century BC based on some black-glazed and black-figured Attic pottery dated by J. Iliffe between 475–425 BC. Tufnell (1953: 135)

rejected Starkey's argument, and she weighs the possibility of attributing those findings to the first stage instead of the second one, and nothing was preserved from the Persian occupation. based on their analysis of the local and imported Attic pottery. Fantalkin and Tal (2006: 173–174) concluded that the palace was established in 400 BC. Aharoni (1975: 34–38) was not convinced that there were Persian influences on the palace. Aharoni concluded that the Palace of Lachish combines the Assyrian type, which is the "inner courtyard building," and the Neo-Hittite type, termed "bit hilani." The renewed excavations demonstrated that this palace was erected above pits and debris layers containing typical Persian Period pottery and Attic pottery, mostly from the fifth century BC (Ussishkin, 2004: 96).



Fig. 21. West and South Porticoes of the Lachish Palace with Square-Column Bases In Situ (Tufnell, 1953: Pl. 22)



Fig. 22. A Square-Column Base of Qaleh Kali Portico (Potts et al., 2009: 218)

on a platform, just like the Persepolis citadel, and square-column bases were discovered there as well (Fig. 21). The two pillared porticoes at the entrances to the southern and western halls are the building's prominent feature. The columns of

the porticoes are well-quarried and stand on stepped square plinths topped by circular tori (Khries, 2016: 53–60 and 2017: 93; Fantalkin and Tal, 2006: 169). According to Khries (2017: 93), the pillared porticoes with two-stepped stone-made



Fig. 23. Three-Stepped Bases at Room 5, Frataraka Temple in the Northwest of the Persepolis Terrace (Schmidt, 1953: 51)

square plinths and circular tori above them topped by cylindrical columns (column shafts) are a Persian style found in the Achaemenid palaces such as the Residential Palace of Cyrus the Great at Pasargadae.

Notably, square-column bases have been found in post-Achaemenid contexts, demonstrating the influence of Achaemenid architectural design. One small square-column base (Fig. 22) found from the Achaemenid portico of Qaleh Kali (Nurabād-i Mamasani in Fars province), re-used in one of the Islamic walls on the site, may have supported the type of smaller column used on the eastern and western sections of the portico. Such smaller column bases are not dissimilar to those employed in the so-called Frataraka temple at Persepolis, which is definitely post-Achaemenid in date (Potts *et al.*, 2009: 215-216). At Frataraka temple, the three-stepped bases marked in room 5 (Fig. 23) and portico 1 do not occur in the buildings on the Persepolis terrace. Column bases in a style completely distinct from Persepolitan models, as well

as a stepped rectangular base.¹

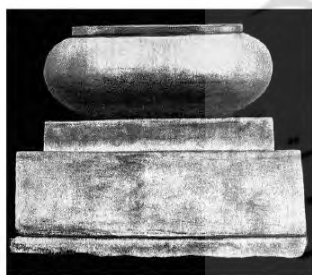
As discussed above, the impact of square-column bases with three-stepped plinths topped by circular or bowl-shaped tori can be seen in Chorasmia's post-Achaemenid buildings, as well as in other Central Asian sites and regions.² Akchakhan-kala is one of the many fortified strongholds that characterized the area on the east bank of the Amu Darya in the early historic period. The site was

¹ For more information about the Frataraka temple, see Schmidt, 1953: 55–56, Mousavi, 2012: 73–78, and Callieri, 2007, 2024. Pierfrancesco Callieri (2007: 56–62, 2024), the scholar who, more than anyone else, has discussed the function and dating of the temple of the Fratarakas, attributed the beginning of this monument's construction to the Hellenistic period.

² This type of column base was called oriental (a torus on the stepped plinth) by Paul Bernard (1970, 1976), who is best known for excavating the Hellenistic site of Ai-Khanoum in Afghanistan between 1964 and 1978. He detected a fusion of Greek and Eastern artistic traditions in the columns of Ai Khanoum.



Fig. 24. Akchakhan-Kala: The Main Pillared Hall with Stepped Columned Bases in the Central Building (Minardi et al., 2017: 211)



a



b

Fig. 25. Stepped-Column Bases from the Temple of the Oxus (a [Source: Litvinskii and Pichikyan, 2000: Pl. 40]) and Ai-Khanoum (b[Source: Bernard, 1970: 331])

founded around the end of the third century or early second century BC and was abandoned around the second century AD. One of the types of column bases at this site is the square-column base with a three-stepped plinth and a bowl-shaped torus above it (Fig. 24). East bank

Gyaur-kala and Toprak-kala, the other two sites with three-stepped column bases surmounted by bowl-shaped tori, are not earlier than the second century AD. Chorasmanian bases find their best parallel with others, such as those of the temple of the Oxus [Fig. 25(a)]. At Ai-Khanoum, the col-

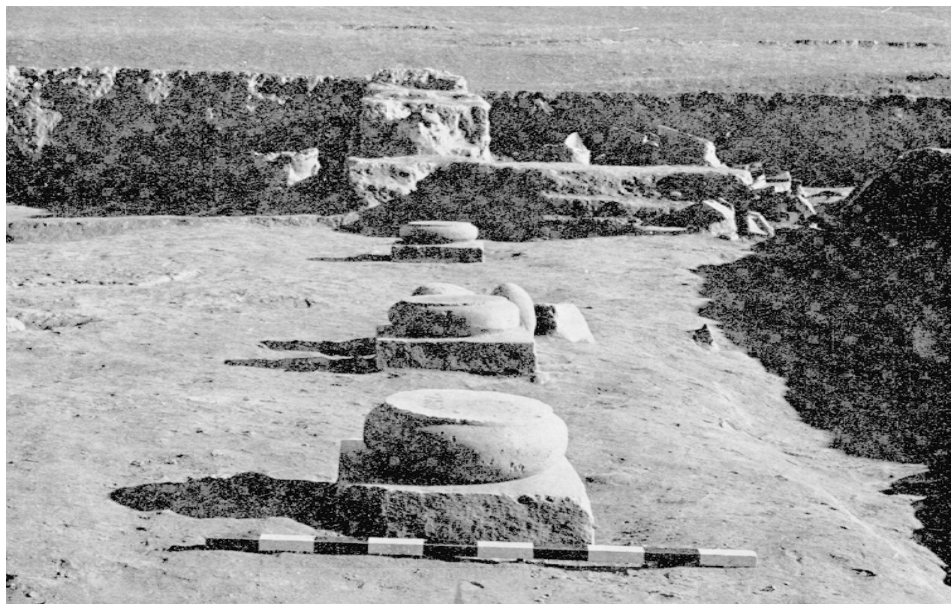


Fig. 26. Three Oriental-Type Stone Column Bases, the Sanctuary of Ai Khanoum Temple, South Portico (Bernard, 1970: 336)

umn bases [Fig. 25(b)] of the southeast portico of the “Sanctuaire du temple à redans” are of the same “oriental” type (as defined in contrast with the Greek specimens of the polis) (Minardi *et al.*, 2017: 208–222). The southeast portico of the sanctuary at Ai-Khanoum temple features an oriental-style column base (a large torus placed on a two-stepped plinth [Fig. 25(b)]), while the east portico of the sanctuary features a perfectly Greek type (two tori on a high plinth). Furthermore, three stone column bases of the oriental type (torus placed on a simple plinth [Fig. 26]) have been discovered near the south portico. A small oriental base in the form of a torus on a stepped plinth was also found during the temple sanctuary’s excavation. (Bernard, 1970: 333, 337)¹. In the palace of

Khalchayan, similar column bases were also found, for example in Old Nisa, with a three-stepped plinth, although associated with a more traditional torus with an elliptic section (Minardi *et al.*, 2017: 222).

During the bulldozer excavating operation at the Hannā site in Semirom, relatively carved slabs were also found in addition to two-column bases. Some of these slabs appear to have edges that have been worn and deteriorated over time. These slabs appear to have been architectural components at that time, similar to column bases, and it is possible that they were part of a building’s wall. The stone slabs and column bases that were found during the digging operation might not have been abandoned items, but rather architectural components that, because of their proximity, are structurally tied to one another. Giv-
 “Les traditions orientales dans l’architecture gréco-bactrienne,” with references.

¹ For a three-stepped specimen from the Propylée of Ai-Khanoum, see Bernard, 1973: Pl. 24a. On the column bases of Ai-Khanoum and their ascendancy, see also Bernard, 1976,



Fig. 27. One of the Stone Slabs from the Hannā Site with Toothed or Clawed Tool Marks (2018)



Fig. 28. Another Stone Slab from the Hannā Site with Toothed or Clawed Tool Marks (2018)

en their apparent archeological backgrounds, the stone slabs and column bases were most likely part of the architectural context.

The main feature of these slabs is the presence of masonry tool marks. Because

the stone slabs at the Hannā site are not completely carved, masonry tool marks are visible on them. These stone slabs include multiple tool marks on them, such as those from flat-edged hammers and toothed or clawed tools (Fig. 27–29).



Fig. 29. One of the Hannā Site Slabs with Flat-Edged Hammer and Toothed or Clawed Tool Marks (2018)

The masonry tools (pointed hammer, pointed chisel, toothed or clawed chisel, flat-edged hammer, pointed or flat tools) were frequently used in the Achaemenid period masonry, and monuments and sites such as Pasargadae, Susa, Borāzjān (Sang-i Siah, Bardak-i Siah, and Charkhāb buildings), and Persepolis (the numerous structures of this monument bear evidence of toothed or clawed tool marks, [Fig. 30]) contain evidence of their use. One applicable dating criterion is the tool marks on the stone slabs or columns (Zehbari, 2019: 111–120; Nylander, 1966: 373–374; Stronach, 1978: 99). Remarkably, a toothed or clawed tool mark can be observed on one of the Hannā site's column bases (Fig. 2). In fact, the marks of toothed or clawed tools are more visible on these stone slabs and even the column base. According to Nylander (1991: 1041), the use of toothed or clawed tools

can be traced back to Greece in the sixth century BC. He (1966: 373–374) claimed that the Achaemenid Empire borrowed this tool from the Greeks or Ionians. However, more recent studies suggest that Egypt may have employed toothed or clawed tools prior to the 7th century BC (Palagia and Bianchi 1994: 185). It is essential not to forget that only relying on the marks left by masonry tools and their widespread use throughout the Achaemenid period may be misleading, as these kinds of tools were likely used in the post-Achaemenid period as well.

Even though the site's archaeological context is not completely clear and the evidence at hand prevents the establishment of a trustworthy chronology of the site, it is possible to interpret the Hannā site's square-column bases, which are unique to the Achaemenid or post-Achaemenid periods, as evidence of

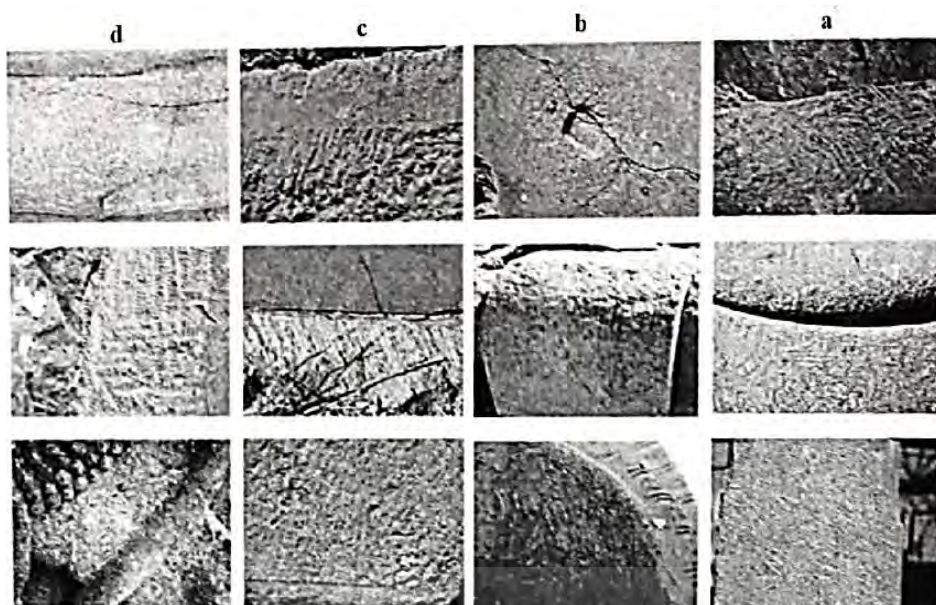


Fig. 30. Persepolis Site, Marks Left by Masonry Tools: a. Flat-Edged Hammer, b. Pointed Hammer and Chisel, c. Flat-Edged Chisel, and d. Toothed or Clawed (Zehbari 2019: 119)

columned structures erected by the society's nobles and elites. Scholars such as Gondet (2018) and Matin (2024) have all emphasized the background of Persian elites and distinct urban development and planning. According to their point of view, Achaemenid town planning and design would represent the culmination of earlier advancements, creating a brand-new city model. They have also mentioned the cities of Tamukkan, Pasargadae, and Persepolis (Pārsa), noting that all three share a standard urban structure based on the construction of dispersed urban plans. The components of these cities are scattered widely, covering an extensive area in a predetermined layout. Consequently, the total density of these cities is low, and the density of structures and buildings at all levels is also low. The existence of empty spaces, some of which

are set aside for green spaces, is a crucial component of these settlements as it serves to define boundaries between various areas and structures (Matin, 2024, 300–304; Gondet 2018: 190–193, 203–205). There are several Achaemenid palaces or pavilions in Fars (Farmeshgan and Mamasani Plain) and Bushehr (Borāzjān) provinces, both of which are situated in the heart of the Empire. Because these constructions are isolated, their function is still unclear. Perhaps their primary significance should be viewed as indicators of Achaemenid dominance over regions and as observable remnants of local power centers that adopted the open plan characteristic of Pasargadae and Persepolis (Gondet, 2018: 204). Persian or Achaemenid city planning included many buildings with royal or noble architecture that belonged to the social elite. Each set-

tlement's architecture shares significant similarities. A large-scale construction project was likely underway because the columns' bases and the structures' construction directions were similar (Matin, 2024: 300, Matin, [in press]). Given that Semirom, Esfahan province, is located geographically to the north of the settlements mentioned above, it is possible that the Hannā site also had a columned building that was a noble structure, similar to the examples of Bushehr and Fars provinces. This is further confirmed by the square-shaped column bases and carved stone slabs discovered at this site.

Conclusion

Based on the discovery of Achaemenid-type column bases, i.e., square-shaped type, from the Hannā site in Semirom, as well as some slightly carved stone slabs that were discovered close to these column bases, these may have been architectural elements; there was likely a columned structure in the area from the Achaemenid period. It should be emphasized that columned architecture was uncommon in this area at that time. On the other hand, these stone slabs also bear marks of flat-edged, toothed, or clawed tools. This holds true for the stone slabs discovered in the monuments and sites of the Achaemenids, such as Pasargadae and Persepolis. Of course, further study is required to determine whether Hannā was an Achaemenid site. Although the exact relationship between this site and the Achaemenids is unclear, structures with pillared halls and porticoes constitute two of the most critical architectural indicators of the Achaemenid period. As men-

tioned above, the square-column bases of various sites and structures dating to the Achaemenid era have been discovered in Iran as well as in regions outside of current Iran that were once under Achaemenid dominion. However, as already pointed out, square-column bases from post-Achaemenid period sites and buildings as well as masonry tool marks, such as those created by flat-edged, toothed or clawed tools, have also been found and identified, and now it isn't easy to talk confidently about the Hannā site's findings and the period attributed to them. The Achaemenid period was one of Iran's and the ancient Near East's most innovative and artistic periods; as such, its influences can be seen in the art and architecture of later times. The masonry tool marks and the square and stepped column bases are examples of these influences. Additionally, these column bases might be post-Achaemenid copies of the Achaemenid style. However, the post-Achaemenid period might extend to Sasanian times. As discussed, if there was a columned building at the Hannā site, it likely belonged to the same noble class that was occupied by the elite and upper classes of society.

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