



Examine the Evolution of Columned Halls of the Second and First Millenniums B.C in Iran, Caucasus and Anatolia

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ABSTRACT

Among the major changes that occurred in the context of architecture in iron age can mention the construction of columned halls in the ancient East. With the goal of understanding the structure technique and style of columned halls in Iran, Anatolia and the Caucasus between second and first millennium BC , the utilization of columned halls and also the study of influence of columned halls in Iran, Anatolia and Caucasus was researched in the second and first millennium BC. The results of this study, show to the evolution and trends columned halls of the during the second and first millennium BC, also These buildings were used initially for religious and ritual ceremonies, but gradually with the formation of the Apadana pattern, their usage has changed and utilized as a reception and ceremonial hall.

Keywords: Columned halls, Apadana, North West, Iron Age, Iran, Anatolia, the Caucasus

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INTRODUCTION

Architecture of every nation reflects its ideas, moral values and economic attitudes. On the one hand, the architecture is influenced by the demands of man and his culture. On the other hand, it is affected by the circumstances in which man lives. The climate and geography also play a decisive role in shaping the architecture. Columned hall and the surrounding rooms, porch and entrance counter, spiral staircase, decorative tile, brick benches and platforms and other architectural features have been formed in Iron Age. Not only the cultural structures were changed during the Iron Age, but new architectural styles such as columned halls emerged. The need for a large place to perform religious and ritual ceremonies seems to be the reason for emerging this architectural style. The large roofs of columned halls are carried by wooden columns.

This articles aims to answer following questions. What architectural techniques have been used to construct columned

halls? What are the functions of columned halls? What is the effect of columned halls on the neighboring areas of the same age?

COLUMNED HALLS IN IRAN IN THE SECOND HALF OF THE SECOND MILLENNIUM BC

Hasanlu: Tepe Hasanlu with 270 m wide and nearly 20 m height is located in the northwest Iran, Solduz. The columned halls of Hasanlu belong to the fourth and fifth periods (800-1500 BC) (Dyson, 1989).

Hasanlu V: The size of columned hall V is 11m ×9 m (Figure 1). There is a rectangular warehouse along the one side of the columned hall with a counter on the front (Danti, 2013). The main features of the building include a central stove on the floor between the columned, platforms around the room and a very grandiose royal room opposite the main entrance. The hall had been mainly used for religious ceremonies (Young Jr, 1966).

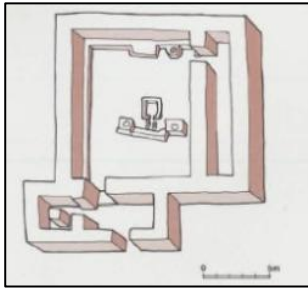


Fig 1. Columned hall of Hasanlu (Dyson, 1989)

Hasanlu IV: There are three columned halls of the IV period. The first hall is the East Columned hall (the Burned Building V) with dimensions of 16×16 m. The southeastern part has not been excavated yet. There are two rows of four columneds in the center of the hall. The skeletons of two horses were found with a distance of 5 m in the eastern and central hall. This proves that the Hall had not been used after the construction of the second columned hall in the south central court yard, but had been used as a stable to maintain horses. The large south columned hall was discovered in the south of the central court yard (the Burned Building II). This great hall had dimensions of 24.30 m × 18.5 m. The heavy wooden roof of the columned hall was carried by eight wooden columneds. The third west columned hall (the Burned Building I) is located far from the northwest of the second south hall (Fig 2).

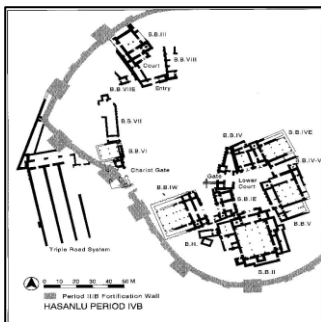


Fig 2. Columned hall of Hasanlu IV (Dyson, 1989)

The columned hall of dimensions 15.6 m×15 m is almost square and two rows of four columneds carry the weight of heavy roof (Young Jr, 1966). The presence of fireplace, altar and platform against the wall in all three halls proves the religious function of the columned halls.

Sagz-Abad: Sagz Abad Hill is located in the plain of Qazvin with a height of 5 m from the surrounding ground (Negahban, 1972). The monuments of the Iron Age I (1200-1450) discovered include the remains of a temple or a building which the size of it's biggest room is 5 m×11 m. It seems to be a columned hall due to it's size (Fig 3). The geometric design of the hall is in the form of an irregular rectangular or square. Due to an earthquake, the location of columneds is not defined on the map (Talaei, 2007). Given the platform against the wall in the southeast corner of the hall and due to its coincidence with columned hall Hasanlu V, it seems to be used as a shrine.

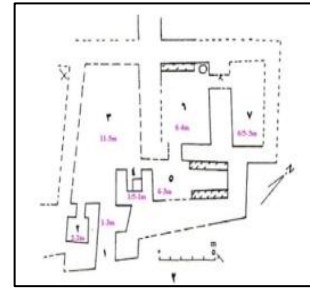


Fig 3. columned hall of Sagz Abad (Talaei, 2002)

Columned halls in Iran in first half of the first millennium BC

Ziwiyeh: Ziwiyeh Hill is located near the village of the same name in Kurdistan province. The excavations led to discovery of a castle belonging to Mannean period. The castle has been one of the most important castles of the central government in 7th and 8th centuries BC (Motamedi, 1995). The castle's main building is a columned hall with a width and length of 48 and 23 extended along east-west direction on a brick platform. The flat cover of the hall is located on two rows of eight columneds.(Figure 4) Today, only eight circular plinths remained (Motamedi, 1997).



Fig 4. Columned hall of Ziwiyeh

Baba Jan Tepe: Baba Jan Tepe is located in the northwest of Khorramabad and has two central and eastern hills. As a result of excavation in the eastern hill, the remains of a building complex were discovered which was very important in terms of architectural history. The building can be considered as a palace-fortress. In the western part of the fort, there is a columned hall of 12 m×11.5 m surrounded by rectangular rooms in the east, west and north (Fig 5).

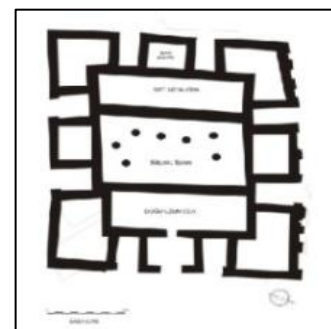


Figure5-columned hall of Baba Jan Tepe (Goff, 1970)

The hall belongs to the 9th Century BC. Although the remains of three plinths have been discovered, there must be a fourth columned given the weight of the roof and weak columned. However, the plinth has not been discovered yet. Among the remains, no windows have been found, probably broken before crumbling the walls (Goff, 1970). Given the presence of fireplace and the platform against the walls, the hall had been used for religious ceremonies.

Nooshijan Tepe: Nooshijan archaeological site is located in the south of Hamedan. Nooshijan columned hall belongs to 7th Century BC. The hall with an irregular rectangular plan (20×15 m) has been built on a brick platform (Figure 6).

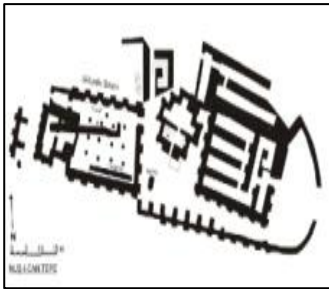


Fig 6 . Columned hall of Nooshijan
(D Stronach, 1974)

The roof of the hall is located on three rows of 4 columns. No windows were found on the walls. According to the restructured plan, it seems that sky light and ventilation have been embedded at the top of the wall (D Stronach, 1974).

Godin Tepe: This archaeological site is located in the region between Hamadan and Kermanshah. According to the surveys, two columned halls were discovered on the second floor of Godin Tepe which have been used as a religious place in 600 BC (Fig 7).



Fig 7 . Columned hall of Godin Tepe

The first columned hall, with a size of 28 m×24 m is protected on three sides by solid walls. However, the south side has not been left intact. The flat roof of the hall was carried by 31 wooden columned and only its plinths remained (Young Jr, 1969). The columned halls with stone plinths are located in five rows of six columned with an additional columned in the southeast corner.

The second columned hall, is attached to this complex on the west side of the first columned hall. The size of the second hall is 20 m ×15 m and its roof is placed on two rows of four columned.

Ozbeki Tepe: Ozbeki archaeological site is located at 73 km northwest of Tehran. Ozbeki is a wide archaeological site composed of a high central hill to a height of about 24 m from the surrounding ground with some short hills that the height of tallest hill does not exceed a few meters (Majidzadeh, 1998). Central and northern columned halls were discovered in Ozbeki Tepe (Fig 8).



Figure8-columned hall of Ozbeki
(Degirmencioglu, 2012a)

The central columned hall is an orthogonal hall with dimensions of 5.2 m ×4.3 m. A stone plinths of 50 cm ID is located in the middle of the hall.

The northern columned hall: The size of the hall is not mentioned in the reports of excavation. But it seems to be even larger than the central columned hall. The stone plinths is of the oval shape with dimensions of 50 m × 35 m (Majidzadeh, 2010).

Bastam: Bastam Citadel is one of the largest and most important Urartian fortresses. In this regard, Bastam is the third world's largest Urartian archaeological site. The citadel is located near the village of Bastam in West Azerbaijan province (Kleiss, 1980). Two columned halls were discovered in the south and north of the Bastam Urartian Citadel.

The southern columned hall: Given the rocks beneath the hall, the columned hall is of trapezoidal shape (Figure 9). There are two rows of square stone columned on the floor on which the wooden beams were placed. The roof is placed on one row of 7 columned and one row of 8 columned (a total of 15 columned). The hall had been connected to a triangular room (Kleiss, 1971).

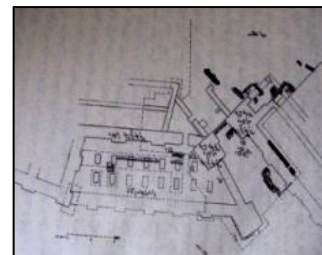


Fig 9. Columned hall of southern Bastam
(Kleiss, 1970)

The northern columned hall: A columned hall with dimensions of 29 m × 10.5 m and two rows of 7 columned had been built near the West Tower of the North Gate (Fig 10) (Kleiss, 1970). Unfortunately, objects containing evidence on the function of the columned hall have not been achieved. Considering defense aspects, the columned hall can be seen as the residence of the forefronts as it has been connected to a triangular space of concierge resort.

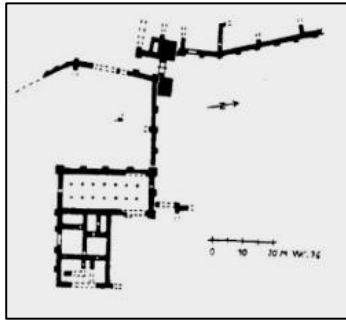


Fig 10 . Columned hall of northern
(Kliess, 1970)

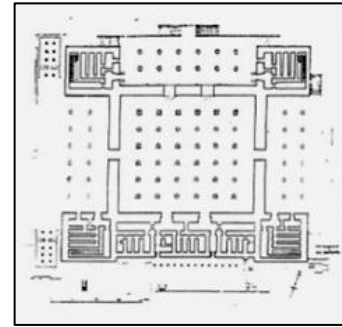


Fig 12. Apadana of Susa
(Kaboli, 1994)

THE COLUMNED HALLS IN IRAN IN THE SECOND HALF OF THE FIRST MILLENNIUM BC

Pasargadae: Pasargadae Building Complex is located 43 km from Persepolis. Pasargadae was built in 550-559 BC by the order of Cyrus II (Shahbazi, 2001). Apadana S is located 600 m from the tomb of Cyrus with dimensions of 32.4 m×22 m (Fig 11). There are two rows of 4 columned in the hall with four columned porches on four sides and two rooms on the sides of the southern porch (Schmidt, 1953). The combination of columned halls and porches is seen in Pasargadae for the first time. The hall has been used as a hall of public audience. The columns of the Apadana are smooth without grooves (Sami, 1996).

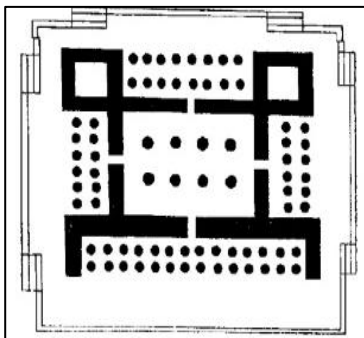


Fig 11. Apadana of Pasargadae
(David Stronach, 1978)

Susa: Four kilometers northeast of Susa, Diolafola excavated a small building from the Achaemenid period and called it Apadana. The size of Apadana is 40m ×30 m and its roof had been carried by 36 columns (6 rows of 6 columns) (Fig 12). The columned body is grooved and the plinth is of square shape with a capital composed of two bulls on the anterior part at the height of 20 m from the floor.

The shape and ornaments of the plinths of columned porches differ with those in other columns. In this case, the plinths are of vase shape with inverted lotus flower. Apadana walls are made of mud and brick and had been decorated with plaster or wall painting. The walls of the porch on the central court yard side are covered by glazed bricks (Kaboli, 1994). It has been used as a hall of public audience.

Borazjan: Charkhab Palace as one of the most important centers in the Persian Gulf coast in Achaemenid period is located in the southeast Borazjan (Sarafraz, 1971). Borazjan columned halls composed of a hall with 12 columns (2 rows of 6 columns) made of black and white stones (Fig 13). It has been used as a hall of public audience. The porch is composed of 24 columns placed in two rows of 12 columns. The columns of the central hall are made of two pieces of cubic stone. The cube-shaped smooth and polished stone is located on the floor with a black color. There is a white stone of the same size on the bottom stone. The columned stem was not discovered, but the alternative colors show that the stem is of white color.

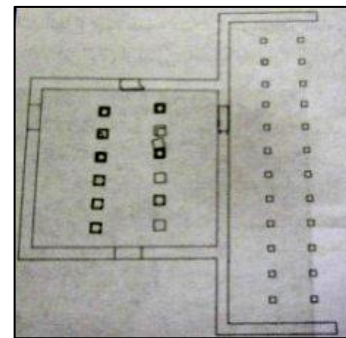


Fig 13. Apadana of Borazjan
(Karimian, Sarfaraz, & Ebrahimi, 2010)

Persepolis: Apadana or Public Palace of Darius and Xerxes is composed of a rectangular central hall with 36 columns of 60.5m× 60.5 m with 36 thick stone columns of 18 m height, 3 porches each with 12 columns in north, east and west, four towers at the four exterior corners of the hall and a guard room string in the south (Fig 14). All four sides of the hall are made of large brick walls. The surface area of hall is 3600 m². Construction of the hall began during the rule of Darius I (515 BC) and was completed over thirty years at the time of Xerxes. The hall had been used as a hall of public audience. The columned body is fluted and only plinths have different shapes. In contrast to the bell-shaped porch columns, the central hall plinth is made of two pieces of cubic stone where the smaller stone is placed on the larger stone. The capital is composed of a two-head bull, flowers and plants (Schmidt, 1953).

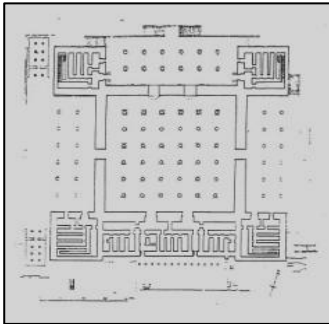


Fig 14. Apadana of Persepolis (Schmidt, 1953)

THE COLUMNED HALLS IN ANATOLIA IN THE SECOND HALF OF THE SECOND MILLENNIUM BC

Boğazköy: Boğazköy is located at 150 km east of Ankara in the village of Büyükkale (Boğazköy) in Çorum province. The first written sources on Boğazköy found in cuneiform clay tablets and Assyrian language indicate the presence of Assyrian merchants in the region known as Hattuşaat that time. The city later became the capital and residence of the Hittite kings (Sevin, 2003). Boğazköy is a spectacular complex of Hittite art in terms of defense and temple systems, organization and palace construction. In this complex, the Royal Building D is the largest building in Büyükkale. The walls of Building Dare irregular. The columned hall of Boğazköy is made in connection with the Palace and is the Anatolia's oldest columned hall (Fig 15). There are wide open spaces and the size of Building is 11.6 m×10.7 m (Neve, 1982). There are 25 square columns of 5 m×5 m in the hall. The roof of the columned hall is covered with wooden beams and windows embedded for air conditioning and lighting. The hall had an independent function.

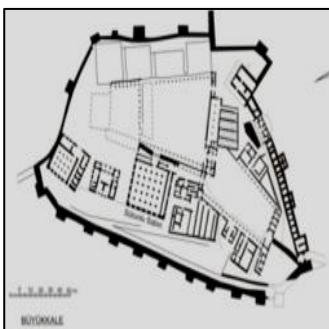


Fig 15. Columned hall of Boğazköy (Degirmencioglu, 2012b)

THE COLUMNED HALLS IN ANATOLIA IN THE FIRST HALF OF THE FIRST MILLENNIUM BC

Karkənəs dağ is located in the center of Asia Minor at the northern edge of Cappadocia. This archaeological site is the largest site of Iron Age in Anatolia plain (G. Summers, 2007). This is one of the sites of the late Iron Age and the techniques used in monuments and wall posts showed that this is a firing settlement. The city is likely to have survived until the rule of Cyrus in Asia Minor. Various architectural spaces such as public buildings, military complex, high-level residential

building (palace), columned halls, etc. have been identified during excavations (G. D. Summers, 2000). Three columned halls were discovered in Karkənəs dağ.

The first columned hall: A columned hall has been identified in the northwest building of Karkənəs dağ. The columned hall of 22 m×22 m has two rows of six columns. In fact, the hall is strengthened by the columns connected to the flat roof. Archaeological research (1996) showed that rough stones had been used as plinths (Fig 16). In 2001, the columns were studied using electromagnetic conductivity measurements. The results showed that the two rows of five columns have been re-created. In addition, there is no evidence on balcony or upper floors. According to the results, the dining hall could be a public building (G. Summers, 2007).

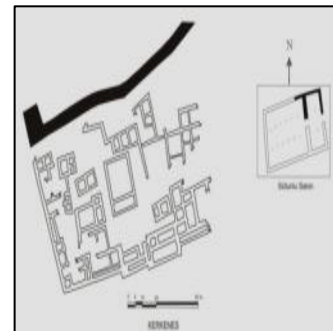


Fig 16. Columned hall of Karkənəs dağ (G. Summers, 2007)

The second columned hall: A fairly regular rows of city blocks was found at the northern end of Karkənəs dağ along the northwest and northeast walls. The blocks were magnetic surveyed. This architecture consists of a large columned hall with dimensions of 18m ×15 m. The roof of the hall was supported by 15 wooden columns placed on stone plinths. There is no direct evidence on the function of hall. This columned hall may show a central building in a residential complex with additions over time (Summers.G.Françoise, 2001).

The third columned hall: In 2001, Karkənəs dağ project was extensively studied using geophysical methods such as electromagnetic induction. A 40 × 40 block at the northern end of the city was selected to be tested by various geophysical methods. Due to the extremely rigid ground to put steel probes, a columned hall was found by the gradiometer and electromagnetic induction method.

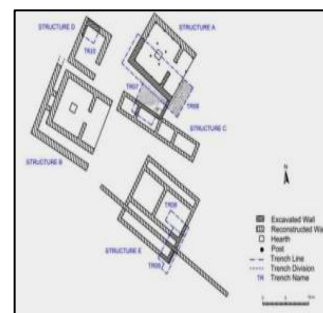


Fig 17. Columned hall of Karkənəs dağ (G. S. Summers, Françoise, 2003)

But this method was not able to detect the number of wooden columneds supporting the roof (Summers.G.Françoise, 2001). In 2003, parts of this columned hall was excavated (Fig 17) and a central porch and fireplace were found. It was also found that the hall had four wooden columneds supporting the roof (G. S. Summers, Françoise, 2003).

Altintepe: located 20 km from the ERZENCAN on Erzurum-Sivas roadside in a fertile plain (Birol CAN, 2007). The first settlements in the region are related to the Bronze Age, but its brightest period is the Urartian era. The columned hall in the second floor belongs to the Urartian period and a tower-shaped temple had been built on the first floor (Özgüç, 1961). The interior dimensions of the columned hall are 44 m×25.3 m (Fig 18). The hall had been built on stone plinths with three-meter-thick walls.

The roof of the hall had been carried on three rows of six columneds with stone plinths of 1.5 m diameter. The beams were too high and the wooden beams were thick enough. That is why the roof of the hall had been supported by brick beams (Özgüç, 1966). Hall lighting had been supplied through windows embedded on top of the wall or through vents in the roof. A series of paintings has been depicted inside the building displaying hunting scenes and Urartiangods. There is no evidence on construction of benches or chairs along the walls of the columned hall.



Fig 18. Columned hall of Altintepe (Karamanoğlu, 2009)

THE COLUMNED HALLS IN ANATOLIA IN THE SECOND HALF OF THE FIRST MILLENNIUM BC

Nevsehir: Nevsehir (formerly known as Muşkara, perhaps the ancient city of Nyssa in ancient Greece) is located in the central region of Turkey. The city has long been under the rule of the Assyrians during 8th Century BC. It was later used by the Achaemenid Empire. In 2004, the municipality of Nevsehir found some processed square stones when working on a road. A short investigation showed that the documents are the plinths of a structure (Fig 19).

Instructions were issued to stop the road and rescue began for drilling. Now, 55 columneds remain carrying the roof of the hall. According to Dr. Oztan, this Apadana is similar to those found in Achaemenid period representing Ionian-Achaemenid culture (Yenipinar, 2005).

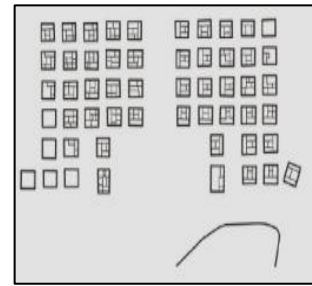


Fig 19. Columned hall of Nevsehir (Yenipinar, 2005)

Larisa: Larisa is one of the ancient cities of Turkey where the monuments of pre-Achaemenid period to the Hellenistic period have been discovered. Larisa is located in Buruncuk in the northern Izmir of Maneman. Plans found in Larisa belong to the Achaemenid period, most important of which is the palace of Xerxes. Palace of Xerxes in Larisa had been built in the highland of the central building. The building has a square plan and includes an entrance porch with four stone columneds and a round plinth. The building had been used as a hall of public audience. After passing through the column porch, we reach the Apadana with four rows of 9 columneds. The plinths are round grooved with Ionian capitals (Fig 20). Materials used in the construction include large stones, wood and glazed bricks (Schefold, 1934).

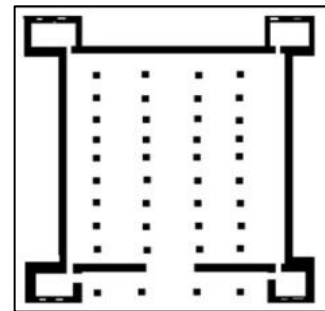


Fig 20 . Columned hall of Larisa (Boehlau & Schefold, 1940)

THE COLUMNED HALLS IN CAUCASUS IN THE FIRST HALF OF THE FIRST MILLENNIUM BC

Arin Berd: Erebuni Urartian Castle is located on a hill called Arin Berd near east Ierevan. According to archaeological evidence, the castle had not been destroyed during the fall of Urartu (Knauss, 2006). During the excavations in 1952-56, a columned hall with 30 stone plinths was found on which 30 wooden columneds had been placed. In addition, some rooms forming a complex were found (Fig 21). In this columned hall, 12 main columneds belong to the temple of Khaladi Urartian God and 18 columneds had been added in the 5th Century BC (Ter-Martirossov, 2001). Like the Altintepe, this columned hall is decorated with Urartian paintings which are completely different with Assyrian paintings (Kliess 1969).

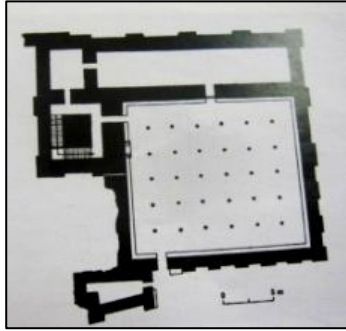


Fig 21. Columned hall of Arin Berd
(Ter-Martirossov, 2001).

Armavir: Armavir complex is located on the top of a high hill in the central part of the Ararat Valley. At the time of Urartu, Armavir was a castle with ritual monuments as a part of Argishti-khilini City. During the excavations, architecture sets of Urartian period were discovered. A columned hall with 21 columneds was found in the west of Armavir castle (Fig 22). It is believed that the city had been an important Urartian center which lost its prominent role after the fall of Urartu in 585 BC (Ter-Martirossov, 2001).

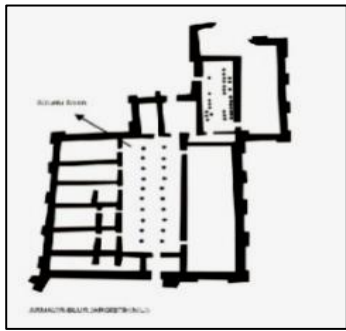


Fig 22. Columned hall of Armavir
(Ter-Martirossov, 2001)

THE COLUMNED HALLS IN CAUCASUS IN THE SECOND HALF OF THE FIRST MILLENNIUM BC

Karacemirliis located in west Azerbaijan. This site is one of the important Achaemenid satraps. In the summer of 2006, a plinth was discovered while archaeological excavations in Karacemirli in west Azerbaijan, 2 km south of the Kura River in a flat hill called Qurban Tepe (Fig 23). The size of columned hall is 27m×27 m and the roof of hall had been supported by 6 rows of 6 columneds (Knauss, Gagoshidze, & Babaev, 2010). The bell-shaped, flat and square plinths have been made of limestone (Knauss et al., 2010). Unlike

Achaemenid halls in Iran, the columneds are made of wood and there is no evidence of plaster or paint (Boucharlat, 1979). Notably, before the arrival of the Achaemenids to the Caucasus region, no similar architectural complex with this large size had not been built.

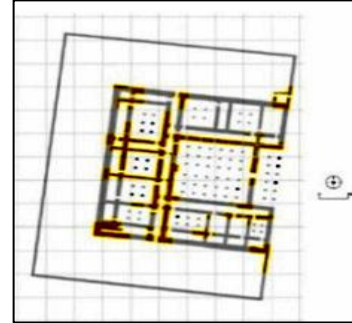


Fig 23. Columned hall of Qurban Tepe
(Knauss et al., 2010)

CONCLUSION

A columned hall is a quadrilateral area that the weight of roof is carried by wooden columneds. The first columned halls were found in Mannean period in Hasanlu V. Later, this architectural style reached the West Iran and the columned halls of Ziwiyeh, Babajan, Nooshijan and Godin were built. After overcoming Hasanlu, Urartu became familiar with this architecture style and built magnificent columned halls of Altintepe, Bastam, Armavir and Erebuni. Given the presence of fireplace, benches against the walls, altar platform and paintings with religious themes in the columned halls of Hasanlu, Ziwiyeh, Babajan, Nooshijan, Godin, Altintepe and Arin Berd, these columns halls had a religious function until the second half of the first millennium BC. However, the independent function of the Boğazköy should be noted. The supreme columned halls can be seen later in Achaemenid architecture. Achaemenids combined Urartian columned halls with columned porches of Assyrian palaces derived from Bit Hilanis architecture and created the old pattern of Apadana at Persepolis. Thereafter, the fully developed old pattern of Apadana was used in the palaces of Susa and Persepolis. More importantly, stone was used instead of wood in the body of columneds in the Achaemenid period. From this period onwards, the columned halls became halls of public audience with grandiose additions. The number of columneds can show the importance and high social status of people used these columned halls.

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