

## THE ARCHAEOLOGICAL CITIES OF IRAN: A STUDY IN ACHAEMENID PERSIAN ARCHITECTURE

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### Abstract

Persian architecture began late, in the early 6th century BC, and its duration was short-lived. It ended in the late 4th century BC, with Alexander's conquest of Persia (324 BC) and the collapse of the Achaemenid Empire. This art form lasted for approximately 200 years, reaching its peak within a period of approximately 100 years.

The region in which this architecture emerged is the long strip extending from northwest to southeast in the valleys of the Zagros Mountains. This region borders the Iranian plateau to the west and overlooks the Mesopotamian plain from the north to the south of the Persian Gulf. The remaining monuments of Achaemenid architecture are few in number but clearly visible, and from them we can study its style and construction methods.

This research deals with the study of: Ancient cities, including Ecbatana, Pasargadae, Tomb of Cyrus the Great, Persepolis, Behistun, Suse (Shush).

Achaemenid buildings, religious buildings, temples, burial grounds, civil buildings, palaces, and apadanas, such as the Apadana Palace in Susa.

Apadana Palace, Persepolis,

Analytical study, military buildings, the citadel, the courtyard, the staircase, and the entrance.

**Keywords:** Archaeological Cities, Iran, Achaemenid, Ecbatana, Pasargadae, Tomb of Cyrus the Great, Persepolis, Behistun, Suse, apadana, Persepolis.



## Introduction

Iran had fallen under the rule of Ashurbanipal<sup>1</sup> and lost its independence until Cyrus<sup>2</sup> (559–529 BC) established the Achaemenid Empire and became its first king. Among the most famous kings of this empire was Cyrus I and Cambyses (529–523 BC), who conquered Egypt<sup>3</sup>. The Achaemenid Empire reached the height of its glory during the reign of Darius,

<sup>1</sup> Ashurbanipal, king of the Neo-Assyrian Empire and the fourth king of the Sargonid dynasty, ruled Assyria for 37 years, from the death of his father, Esarhaddon, in 668 BC to his own death in 631 BC. Ashurbanipal is remembered as the last of the great Assyrian kings. At the time of Ashurbanipal's reign, the Neo-Assyrian Empire was the largest empire the world had ever seen. Ashurbanipal was the grandson of Sennacherib and the son of Esarhaddon, whom he chose as heir in 672 BC (though not the eldest son). Ashurbanipal ascended the throne in 669 BC jointly with his older brother, Shamash-shum-ukin, who became king of Babylon. Much of the early years of his reign were spent fighting rebellions in Egypt, which his father had conquered. Na'aman, Nadav (1991). "Chronology and History in the Late Assyrian Empire (631–619 B.C.)". *Zeitschrift für Assyriologie*. 81 (1–2), p. 243. Lipschits, Oled (2005). *The Fall and Rise of Jerusalem: Judah under Babylonian Rule*. Winona Lake: Eisenbrauns, p. 13. Cline, Eric H. & Graham, Mark W. (2011). *Ancient Empires: From Mesopotamia to the Rise of Islam*. Cambridge: Cambridge University Press, p. 41. Finkel, Irving (2013). *The Cyrus Cylinder: The Great Persian Edict from Babylon*. New York: Bloomsbury Publishing, p. 123. Chaliand, Gérard (2014). *A Global History of War: From Assyria to the Twenty-First Century*. Oakland: University of California Press, p. 52. Frahm, Eckart (2017). "The Neo-Assyrian Period (ca. 1000–609 BCE)". In E. Frahm (ed.). *A Companion to Assyria*. Hoboken: John Wiley & Sons, p. 189. Brereton, Gareth (2018). Brereton, Gareth (ed.). *I am Ashurbanipal, king of the World, king of Assyria*. London: Thames & Hudson, p. 10. Ahmed, Sami Said (2018). *Southern Mesopotamia in the time of Ashurbanipal*. The Hague: Walter de Gruyter GmbH & Co KG, p. 8.

<sup>2</sup> Cyrus II of Persia (Old Persian:c. 600 – 530 BC), commonly known as Cyrus the Great, was the founder of the Achaemenid Empire Hailing from Persis, he brought the Achaemenid dynasty to power by defeating the Median Empire and embracing all of the previous civilized states of the ancient Near East, expanding vastly across most of West Asia and much of Central Asia to create what would soon become the largest empire in history at the time. The Achaemenid Empire's greatest territorial extent was achieved under Darius the Great, whose rule stretched from Southeast Europe in the west to the Indus Valley in the east.

Bassett, Sherylee R. (1999). "The Death of Cyrus the Younger". *The Classical Quarterly*. 49 (2): 473–483. Beckwith, Christopher I. (2009). *Empires of the Silk Road*. Princeton University Press. p. 63.

<sup>3</sup> Radner, Karen (2003). "The Trials of Esarhaddon: The Conspiracy of 670 BC". *ISIMU: Revista sobre Oriente Próximo y Egipto en la antigüedad*. 6. Universidad Autónoma de Madrid, pp. 176–177.

Frahm, Eckart (2017). "The Neo-Assyrian Period (ca. 1000–609 BCE)", p. 187 Novotny, Jamie (2018). "Ashurbanipal's campaigns". In Brereton, Gareth (ed.). *I am Ashurbanipal, king of the World, king of Assyria*. London: Thames & Hudson, p. 199-201.



and the capital was Persepolis, which he established and on whose plateau he built the most magnificent palaces<sup>1</sup>.

The Persians followed this rapid development in the arts, taking ornaments, decorations, and structural forms from Egyptian, Chaldean, and Assyrian architecture, as well as Roman art, and blending them to suit their tastes until they created a new form: Persian art. While this art lacks a prominent personality that distinguishes it from other arts, we see in it a grace and beauty that is unique to it.

Count Gobineau<sup>2</sup> stated that the Iranians did not invent anything new in the arts, whether during the Achaemenid, Parthian, or later Sassanid eras. Even during the Islamic era, the Persians had no style or pattern of their own. Rather, they drew on Assyrian, Indian, Greek, and Roman tastes, and were ultimately able to develop from all these tastes a distinctive style of their own, which gives Persian art its character. The Persians did not build temples to the one god, Ahura Mazda, or any other god. Herodotus stated in his History that the Persians do not erect statues, temples, or altars, believing that anyone who does so is irrational. The reason for this is that they do not believe, like the Romans, that the gods share life with people<sup>3</sup>.

## **First: Ancient cities<sup>4</sup>**

### **1. Ecbatana**

Ecbatana was an ancient city, the capital of the Median kingdom, and the first capital in Iranian history. It later became the summer capital of the Achaemenid and Parthian empires. It was also an important city during the Seleucid and Sasanian empires. Ecbatana was located

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Novotny, Jamie (2018). "Ashurbanipal's campaigns". In Brereton, Gareth (ed.). *I am Ashurbanipal, king of the World, king of Assyria*. London: Thames & Hudson, p. 199.

<sup>1</sup> Morabet, Mahmoud Fouad (1953). *Fine Arts of the Ancients*, Cairo, p. 144.

<sup>2</sup> Gobineau, Arthur de (1971). *The World of the Persians*, J. Gifford.

<sup>3</sup> Charles Henry Caffin (1917). *How to study architecture*. Dodd, Mead and Company. p. 80. Boardman J. (2000). *Persia and the West: An Archaeological Investigation of the Genesis of Achaemenid Art*. Thames & Hudson, p. 102-122.

André-Salvini B. (2005). *Forgotten Empire: The World of Ancient Persia*. University of California Press. p. 54.

<sup>4</sup> Morabet, Mahmoud Fouad. *Fine Arts*, pp. 148-150.



in the Zagros Mountains, the east of central Mesopotamia, on Hagmatana Hill (Tappe-ye Hagmatāna). Its strategic location and resources probably made it a popular site even before the 1st millennium BC. It is identified with the current city of Hamadan<sup>1</sup>.

It contains a great collection of antiquities and is located near the city of Hamadan, on the slopes of Mount Alvand, one of the peaks of the Zagros Mountains in the northern part of Media. It contains a magnificent palace built by Cyaxares as the seat of his king Ecbatana after he defeated the Assyrians and captured their capital, Nineveh (608 BC). Herodotus, Polybius, and Athanasius described this palace at length, describing its grandeur and magnificence.

In the late 6th century BC, Persian civilization spread south, where Cyrus, Cambyses, Darius, and the Xerxes dynasty resided. Despite the Persian defeat at Marathon and Salamis, Persian civilization continued to flourish until Alexander invaded Persia (324 BC).

## **2. Pasargade**

After King Cyrus conquered Ecbatana (550 BC) and Babylon (538 BC), he established his royal seat at Pasargade in the region now called Fars, in the plain of the Bulwar Valley, in the area the locals call Mashhad-e-Marghab, north of Shiraz.

Pasargade was the capital of the Achaemenid Empire under Cyrus the Great (559–530 BC), located just north of the town of Madar-e-Soleyman and about 90 kilometres (56 mi) to the northeast of the city of Shiraz. It is considered to be the location of the Tomb of Cyrus, a tomb previously attributed to Madar-e-Soleyman, the "Mother of Solomon"<sup>2</sup>.

Pasargadae was founded in the 6th century BCE as the first capital of the Achaemenid Empire by Cyrus the Great, near the site of his victory over the Median king Astyages in 550 BCE. The city remained the Achaemenid capital until Darius moved it to Persepolis.

The archaeological site includes a structure commonly believed to be the mausoleum of Cyrus, the fortress of Toll-e Takht sitting on top of a nearby hill, and the remains of two

<sup>1</sup> Stausberg, Michael & others (2015). *The Wiley Blackwell Companion to Zoroastrianism*. John Wiley & Sons, Ltd., p. 394.

Nardo, Don. (2007). "Ecbatana." *The Greenhaven Encyclopedia of Ancient Mesopotamia*, edited by Robert B. Kebric, Greenhaven Press, pp. 97-98.

Brown, Stuart C. (1997). "Ecbatana". *Encyclopaedia Iranica*, Vol. VIII, Fasc. 1, pp. 80–84.

<sup>2</sup> Gershevitch, Ilya, (1969-1970). "Iranian Nouns and Names in Elamite Garb", *Transactions of the Philological Society* 68 (1), pp.167–200.





royal palaces and gardens. Pasargadae Persian Gardens provide the earliest known example of the Persian chahar bagh, or fourfold garden design. The remains of the tomb of Cyrus' son and successor Cambyses II have been found in Pasargadae, near the fortress of Toll-e Takht.

The Gate R, located at the eastern edge of the palace area, is the oldest known freestanding propylaeum. It may have been the architectural predecessor of the Gate of All Nations at Persepolis.

### **Tomb of Cyrus the Great**

The most important monument in Pasargadae is the tomb of Cyrus the Great (pls. 1-2). It has six broad steps leading to the sepulchre, the chamber of which measures 3.17 metres long by 2.11 metres wide by (2.11 m) high and has a low and narrow entrance. Though there is no firm evidence identifying the tomb as that of Cyrus, Greek historians say that Alexander believed it was. When Alexander looted and destroyed Persepolis, he paid a visit to the tomb of Cyrus. Arrian recorded in the second century CE that Alexander commanded Aristobulus, one of his warriors, to enter the monument. Inside he found a golden bed, a table set with drinking vessels, a gold coffin, some ornaments studded with precious stones and an inscription on the tomb. No trace of any such inscription survives, and there is considerable disagreement about the exact wording of the text. According to Strabo and Arrian report it said: Passer-by, I am Cyrus, who gave the Persians an empire, and was king of Asia. Grudge me not therefore this monument<sup>1</sup>.

The design of Cyrus' tomb is credited to Mesopotamian or Elamite ziggurats, but the cella is usually attributed to Urartu tombs of an earlier period. In particular, the tomb at Pasargadae has almost exactly the same dimensions as the tomb of Alyattes, father of the Lydian King Croesus; however, some have refused the claim (according to Herodotus, Croesus was spared by Cyrus during the conquest of Lydia, and became a member of Cyrus' court). The main decoration on the tomb is a rosette design over the door within the gable. In general, the art and architecture found at Pasargadae exemplified the Persian synthesis of various traditions, drawing on precedents from Elam, Babylon, Assyria, and ancient Egypt, with the

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<sup>1</sup> Stronach, David (1978), *Pasargadae: A Report on the Excavations Conducted by the British Institute of Persian Studies from 1961–63*, Oxford University Press.



addition of some Anatolian influences<sup>1</sup>.

The first capital of the Achaemenid Empire, Pasargadae lies in ruins 40 kilometers from Persepolis, in present-day Fars province of Iran. Gardens were of great significance in Persian culture, and the palace complex was constituted by an extensive pattern of gardens stretching from the Tomb of Cyrus to a fortress known as the Tall-i Takht, about three kilometres away, and containing various palaces and other buildings<sup>2</sup>. The architecture showed elements of Elamite and Egyptian or Phoenician decoration<sup>3</sup> as well as Ionian Greek building techniques, suggesting a desire by Cyrus to reflect his imperial rather than simply national kingship.

### **3. Persepolis**

Important monuments (pls. 3:11) also exist in the city of Persepolis (Estakhr) on a square formed by the flattening of a hill, filling the space between it and the retaining walls built to surround it. This hill is called "Takht-e Jamshid," (figs. 1:5) and on one of the walls of these monuments are inscriptions glorifying Darius I. This monumental complex is very magnificent and consists of three large halls and three palaces. The most famous of the large halls is the hall known as the Hundred-Columned Apadana.

Persepolis was the ceremonial capital of the Achaemenid Empire (c. 550–330 BC). It is situated in the plains of Marvdasht, encircled by the southern Zagros mountains, Fars province of Iran. It is one of the key Iranian cultural heritage sites and a UNESCO World Heritage Site.

The earliest remains of Persepolis date back to 515 BC. The city, acting as a major center for the empire, housed a palace complex and citadel designed to serve as the focal point for governance and ceremonial activities. It exemplifies the Achaemenid style of architecture. The complex was taken by the army of Alexander the Great in 330 BC, and soon after, its wooden parts were completely destroyed by fire, likely deliberately<sup>4</sup>.

<sup>1</sup> Ferrier, Ronald W (1989), *The Arts of Persia*, Yale University Press,

<sup>2</sup> Herzfeld, E (1929), *Bericht über die Ausgrabungen von Pasargadae 1928* (in German), vol. 1, *Archäologische Mitteilungen aus Iran*, pp. 4–16,

<sup>3</sup> Stronach, David (1978), *Pasargadae: A Report on the Excavations Conducted by the British Institute of Persian Studies from 1961–63*, Oxford University Press.

<sup>4</sup> Gates, Charles (2011). *Ancient cities: the archaeology of urban life in the ancient Near East and Egypt, Greece and Rome* (2<sup>nd</sup> ed.). London: Routledge. pp. 186–187.



The function of Persepolis remains unclear. It was not one of the largest cities in ancient Iran, let alone the rest of the empire, but appears to have been a grand ceremonial complex that was only occupied seasonally; the complex was raised high on a walled platform, with five "palaces" or halls of varying size, and grand entrances. It is still not entirely clear where the king's private quarters actually were. Until recently, most archaeologists held that it was primarily used for celebrating Nowruz, the Persian New Year, held at the spring equinox, which is still an important annual festivity in Iran. The Iranian nobility and the tributary parts of the empire came to present gifts to the king, as represented in the stairway reliefs. It is also unclear what permanent structures there were outside the palace complex; it may be better to think of Persepolis as only one complex rather than a "city" in the usual sense<sup>1</sup>.

Archaeological evidence shows that the earliest remains of Persepolis date back to 515 BC. André Godard, the French archaeologist who excavated Persepolis in the early 1930s, believed that it was Cyrus the Great who chose the site of Persepolis, but that it was Darius I who built the terrace and the palaces. Inscriptions on these buildings support the belief that they were constructed by Darius. With Darius I, the sceptre passed to a new branch of the royal house. The country's true capitals were Susa, Babylon and Ecbatana. This may be why the Greeks were not acquainted with the city until Alexander the Great took and plundered it.

Darius I's construction of Persepolis was carried out parallel to that of the Palace of Susa<sup>2</sup>. According to Gene R. Garthwaite, the Susa Palace served as Darius' model for Persepolis<sup>3</sup>. Darius I ordered the construction of the Apadana and the Council Hall (Tripylon or the "Triple Gate"), as well as the main imperial Treasury and its surroundings. These were completed during the reign of his son, Xerxes I. Further construction of the buildings on the terrace continued until the downfall of the Achaemenid Empire<sup>4</sup>. According to the Encyclopædia Britannica, the Greek historian Ctesias mentioned that Darius I's grave was in

<sup>1</sup> Mousavi, Ali (2012). Persepolis: Discovery and Afterlife of a World Wonder, Walter de Gruyter, p. 53.

<sup>2</sup> Perrot, Jean (2013). The Palace of Darius at Susa: The Great Royal Residence of Achaemenid Persia. I.B.Tauris. p. 423.

<sup>3</sup> Garthwaite, Gene R. (2008). The Persians. John Wiley & Sons. p. 50.

<sup>4</sup> Guaitoli, M.T., & Rambaldi, S. (2002). Lost Cities from the Ancient World. White Star, spa. (2006) version published by Barnes & Noble. Darius I founded Persepolis in 500 BC as the residence and ceremonial center of his dynasty. p. 164

a cliff face that could be reached with an apparatus of ropes

Around 519 BC, construction of a broad stairway was begun. Grey limestone was the main building material used at Persepolis. The uneven plan of the terrace, including the foundation, acted like a castle, whose angled walls enabled its defenders to target any section of the external front.

#### **4. Behistun**

The name Behistun is derived from usage in Ancient Greek and Arabic sources, particularly Diodorus Siculus and Ya'qubi, transliterated into English in the 19th century by Henry Rawlinson. The modern Persian version name is Bisotun<sup>1</sup>.

The mountain overlooking the road connecting Ecbatana to Babylon features reliefs depicting Darius's victory over the various states. Above these reliefs, we see the god Ahura Mazda blessing the victorious king. Beneath them, there are cuneiform inscriptions glorifying the Persian Shah, whose symbols were deciphered by the English scholar Rawlinson.

The Behistun Inscription (pls. 12-13) is a multilingual Achaemenid royal inscription and large rock relief on a cliff at Mount Behistun in the Kermanshah Province of Iran, near the city of Kermanshah in western Iran, established by Darius the Great (r. 522–486 BC). It was important to the decipherment of cuneiform, as it is the longest known trilingual cuneiform inscription, written in Old Persian, Elamite, and Babylonian (a variety of Akkadian)<sup>2</sup>.

Authored by Darius the Great sometime between his coronation as king of the Persian Empire in the summer of 522 BC and his death in autumn of 486 BC, the inscription begins with a brief autobiography of Darius, including his ancestry and lineage. Later in the inscription, Darius provides a lengthy sequence of events following the death of Cambyses

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<sup>1</sup> The name of the Rock is derived from that of the small village of Bīsūtūn or Bīsūtūn, which lies near its foot. The form of the name "Behistūn" is not used by the modern inhabitants of the country, although it is that by which the Rock is best known among European scholars.

Tavernier, Jan. "An Achaemenid Royal Inscription: The Text of Paragraph 13 of the Aramaic Version of the Bisutun Inscription", *Journal of Near Eastern Studies*, vol. 60, no. 3, 2021, pp. 161–76.

King, L.W.; Thompson, R.C.; Budge, E.A.W. (1907). *The Sculptures and Inscription of Darius the Great: On the Rock of Behistūn in Persia*. British museum. p. XI .

<sup>2</sup> Bramwell, Neil D. (1932). "Behistun Inscription is a cuneiform text in three ancient languages", *Ancient Persia*, NJ Berkeley Heights, p. 6.



II in which he fought nineteen battles in a period of one year (ending in December 521 BC) to put down multiple rebellions throughout the Persian Empire. The inscription states in detail that the rebellions were orchestrated by several impostors and their co-conspirators in various cities throughout the empire, each of whom falsely proclaimed himself king during the upheaval following Cambyses II's death. Darius the Great proclaimed himself victorious in all battles during the period of upheaval, attributing his success to the "grace of Ahura Mazda."

The inscription is approximately 15 m high by 25 m wide and 100 m (330 ft) up a limestone cliff from an ancient road connecting the capitals of Babylonia and Media (Babylon and Ecbatana, respectively). The Old Persian text contains 414 lines in five columns; the Elamite text includes 260 lines in eight columns, and the Babylonian text is in 112 lines<sup>1</sup>.

A copy of the text in Aramaic, written during the reign of Darius II, was found in Egypt. The inscription was illustrated by a life-sized bas-relief of Darius I, the Great, holding a bow as a sign of kingship, with his left foot on the chest of a figure lying supine before him. The supine figure is reputed to be the pretender Gaumata. Darius is attended to the left by two servants, and nine one-meter figures stand to the right, with hands tied and rope around their necks, representing conquered peoples. A Faravahar floats above, giving its blessing to the king. One figure appears to have been added after the others were completed, as was Darius's beard, which is a separate block of stone attached with iron pins and lead.

## **5. Suse (Shush)**

The Persian kings had another capital no less important than Persepolis<sup>2</sup>, if not more so. This was Susa, the capital of the ancient Elamite kingdom. The Persian kings resided there in the winter due to its mild climate, and they also received ambassadors from foreign kingdoms there.

is a city in the Central District of Shush County, Khuzestan province, Iran, The ancient sites such as the Tomb of Daniel, the tomb of the third-century poet Debel Khozaei, the ancient

<sup>1</sup> Tavernier, Jan (2021). "A list of the Achaemenid Royal Inscriptions by language". Phoenix (in French). 67 (2): 1–4. This tri-lingual inscription has 414 lines in Old Persian cuneiform, 260 in Elamite cuneiform, and 112 in Akkadian cuneiform.

<sup>2</sup> Ibn al-Athir (1938). *Al-Kamil fi al-Tarikh*, edited by Omar Abd al-Salam Tadmuri and corrected by Abd al-Wahhab al-Najjar, Cairo, Al-Munira Printing Administration, pp. 445-447.



Elamite Chogha Zanbil ziggurat from the 14th or 13th century BCE, and the ruins and archaeological site of the ancient city of Susa (pls. 14:18).

Excavations conducted by the French scholar Dieulafoy have revealed traces of forts and the remains of the palace of Darius I, which burned down in 440 BC, the throne room of Artaxerxes II Miammun (404-358 BC), and some decorated walls. All of these remains are of great importance for the study of Achaemenid art.

### **Second: Achaemenid buildings<sup>1</sup>**

Achaemenid architecture includes all architectural achievements of the Achaemenid Persians manifesting in construction of spectacular cities used for governance and inhabitation (Persepolis, Susa, Ecbatana), temples made for worship and social gatherings (such as Zoroastrian temples), and mausoleums erected in honor of fallen kings (such as the burial tomb of Cyrus the Great). Achaemenid architecture was influenced by Mesopotamian, Assyrian, Egyptian, Elamite, Lydian, Greek and Median architecture. The quintessential feature of Persian architecture was its eclectic nature with foreign elements, yet producing a unique Persian identity seen in the finished product. Achaemenid architecture is academically classified under Persian architecture in terms of its style and design<sup>2</sup>.

Achaemenid architectural heritage, beginning with the expansion of the empire around 550 B.C., was a period of artistic growth that left an extraordinary architectural legacy ranging from Cyrus the Great's solemn tomb in Pasargadae to the splendid structures of the opulent city of Persepolis. With the advent of the second Persian Empire, the Sassanid dynasty (224–624), revived Achaemenid tradition by construction of temples dedicated to fire, and monumental palaces.

Perhaps the most striking extant structures to date are the ruins of Persepolis, a once opulent city established by the Achaemenid king, Darius the Great for governmental and ceremonial functions, and also acting as one of the empire's four capitals. Persepolis would take 100

<sup>1</sup> Morabet, Mahmoud Fouad. Fine Arts, pp. 146-148.

<sup>2</sup> Charles Henry Caffin (1917). How to study architecture. Dodd, Mead and Company. p. 80. Boardman J. (2000). Persia and the West: An Archaeological Investigation of the Genesis of Achaemenid Art. Thames & Hudson, p. 102-122.

André-Salvini B. (2005). Forgotten Empire: The World of Ancient Persia. University of California Press. p. 54.



years to complete and would finally be ransacked and burnt by the troops of Alexander the Great in 330 B.C. Similar architectural infrastructures were also erected at Susa and Ecbatana by Darius the Great, serving similar functions as Persepolis, such as reception of foreign dignitaries and delegates, performance of imperial ceremonies and duties, and also housing the kings<sup>1</sup>.

### **1. Religious Buildings**

Persian architecture did not build any type of temple. We find only a few cemeteries. The reason for this is clear: Persian religious beliefs required the destruction of dead bodies by exposing them to birds of prey to devour, thus preventing the earth, water, or fire from being contaminated. Therefore, the Persians had no need to build cemeteries to bury their dead. They were content with constructing these tall, circular towers in which to bury the bodies of the dead. They would build these towers on mountains far from cities. The Persians made an exception for kings, given their high status. They carved out very simple tombs for them, consisting of a chamber atop a stepped tower.

Similarly, with regard to temples, the Persian religious faith, the religion preached by Zoroaster, did not require temples for religious rites. Worship was limited to the priests lighting a fire on a base built on a raised surface of the ground and protecting the flames from any impurity or contamination. During this time, people chanted prayers and offered sacrifices of horses, bulls, and other animals. The architectural plan of the fire temple consisted of a rectangular building with an entrance on one of the short sides. This entrance led to an open courtyard, which opened into the second section of the building, a square. This was entered through a door leading to a gallery surrounding the fire house, the center of which was a base on which was placed a huge vessel containing the ever-burning fire. The gallery was reserved for the public, who circled the fire house, while the inner square surrounding the fire house was reserved for the priests.

#### **A. Temples**

We mentioned that Persian architecture did not build temples, as the Persian religious faith did not require buildings in which to practice it. However, Persian architecture nevertheless excelled in constructing the House of Fire to protect it from any impurity. Excavations in

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<sup>1</sup> Charles Gates (2003). Ancient cities: the archaeology of urban life in the Ancient Near East and Egypt, Greece and Rome. Psychology Press. p. 186.

Susa revealed the existence of the Holy House, which the Persians called Ayadana. The square-shaped building stood on a flat, two-meter-high plateau. Within this building was another square, separated from the first square by a corridor on each of its four sides. These corridors were connected to each other by doors. In the center of the inner building was the place for lighting the sacred fire, called the House of Fire. (Atash means fire, and kah means place.) This building had a square entrance with four columns arranged in two rows. Most of the houses of fire were built on high mounds in the open air, as shown above. The only structure that could be reached was a two-meter-high table, which was accessed by a staircase built into one of its sides. There is also a cavity on its upper surface where aromatic wood is burned.

## **B. Tombs**

There are three types of tombs for the Persian kings:

The tomb of Cyrus in Bazarkadeh, which is a structure in the shape of an incomplete stepped pyramid with six steps of unequal height. Above it is a rectangular room topped by a gable and with a single, low door. The area of the room is six square meters. This tomb stands in the middle of a courtyard surrounded on three sides by a canopy with a single row of columns. Behind the canopy is a second wall consisting of a vestibule that also surrounds these buildings on three sides. The tomb lacks any decoration other than a Greek-style cornice in the shape of a tolan that adorns the bottom of the gable. All of the buildings on this monument, including the gable roof above it, are made of stone.

### **2. Structural details<sup>1</sup>**

After his death, Cyrus the Great's remains were interred in his capital city of Pasargadae, where today his limestone tomb (built around 540–530) still exists. The translated ancient accounts give a vivid description of the tomb both geometrically and aesthetically; "With its massive stonework and smooth surfaces relieved by the minimum of decorative detail, the tomb creates an impression of dignity, simplicity, and strength. In design it combines two distinct elements: a high plinth composed of six receding tiers and a modest, gabled tomb chamber. In its original state the tomb probably measured 11,1 m from the once hidden foundation level to the apex of the roof. Of the six tiers of the plinth, the lowest has an

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<sup>1</sup> Stronach, D. (1978). Pasargadae, A Report of the Excavations Conducted by the British Institute of Persian Studies from 1961 to 1963, Oxford, (the basic reference for the tomb of Cyrus), pp. 26-39, pls. 19-39.





average height of 1,65 m, the second and third have a height of 1,05 m, and the last three each have a uniform height of 57,5 cm. The base of the plinth measures c. 13,35×12,30 m, while the base of the tomb chamber measures c. 6,40 × 5,35 m. As for the cella's other measurements, the narrow doorway, in its present condition without its original doorsills, is 1,39 m high and 78 cm wide; the passage is 1,20 long; and the chamber is 3,17 m in length with a uniform width and height of 2,11 m. The walls of the chamber are up to 1,50 m thick. Above the chamber, a hollow compartment in the roof, almost divided in two for structural reasons, measures 4,75 m in length and 85 cm in height. The capstone of the roof is missing." Arrian's direct testimony indicates that Cyrus the Great was indeed buried in the chamber inside the edifice, as he describes Alexander seeing it during his visit to Pasargadae, but it is also a possibility that the body of Cyrus the Great had been interred below the structure, and that the tomb seen on the top is in fact a cenotaph or a false tomb.

There was originally a golden coffin inside the mausoleum, resting on a table with golden supports, inside of which the body of Cyrus the Great was interred. Upon his resting place, was a covering of tapestry and drapes made from the best available Babylonian materials, using fine Median workmanship; below his bed was a fine red carpet, covering the narrow rectangular base of his tomb.

Some scholars attribute this tomb to Cyrus's mother, while others attribute it to his wife. Their argument for this is that if a tomb is surmounted by a gable, it indicates that it was dedicated to a woman. Calling it the Tomb of Madraslimai further supports this claim. Some of these symbols have survived to this day in the form of Islamic burial mounds or the coffins in which the dead were carried. These symbols indicate whether the deceased was a man or a woman. Another type of tomb is found in Persepolis, consisting of a tall, square tower with a side length of 7.10 m and a height of 12.88 m. The burial chamber is located approximately halfway up the tomb, accessed by a staircase. The four walls are slightly inclined at the corners in a stepped pattern and are decorated with regular, rectangular niches. They have blocked windows framed with black basalt stone, making them clearly visible on the building's facades. In Persepolis, above the reliefs known as Naqsh-e Rostam, we find four tombs carved into the side of the mountain, 20 meters above its foot. Each tomb has a single door leading to a rectangular entrance parallel to the facade. Caves were carved into the wall at the front of the chamber for the placement of coffins. The facade from the outside looks like a cavity in the mountain, in the form of two rectangles intersecting at a right angle, in



the shape of a cross.

These monuments are located behind the Persepolis hill. We note that in the tomb dedicated to Darius, the lower part is left uninscribed, while the upper part contains reliefs depicting the Persian king standing on a platform supported by two rows of men, expressing the submission of the provinces under him. Above this figure is the god Ahura Mazda, blessing the king with a gesture of his arm. In front of Darius is the fire house. These reliefs resemble those of Behistun. The middle side of the facade has a local door with a cornice flanked on each side by two columns, spaced apart. Above these columns are four consoles bearing a cornice decorated with teeth. It is believed that the architect carved these tombs between the foot of the mountain and its summit as a symbol that the kings were demigods, and therefore their final residence was made between heaven and earth.

### **3. Civil Architecture**

As for civil architecture, Persian architecture flourished. Persian kings built magnificent palaces, competing in their decoration and embellishment. No sooner had each king ascended the throne than he built for himself a magnificent palace, one that surpassed the palace of his predecessor in splendor and beauty. Therefore, it can be said that the Persian kings were not exaggerating when they called themselves "Shahanshah," meaning "King of Kings," just as the Greeks called them "The Great King." They were indeed among the most famous kings on earth, the most powerful, the wealthiest, and the most extravagant and luxurious.

#### **A. Palaces**

Persian architecture employed special methods to showcase the magnificence of the palaces it built and the beauty of their inscriptions, making them archaeological treasures of which humanity is proud. The flourishing of Persian architecture was the result of several factors, including:

- Its presence in this mountainous country inspired it to choose locations and design buildings that combined grandeur and spaciousness.
- The instinct of this Aryan element, which quickly shifted from one state to another in its desire for development and advancement.
- The Persian kings' love of grandeur and extravagance.
- These kings' conquest of Babylon and Thebes, the capitals of the two countries where the greatest civilizations emerged.



These conquests had their impact, as the monuments of these lands inspired Persian architecture, which blended diverse tastes with its unique genius until it displayed its buildings in this attractive form, giving Persian monuments a profound impact. Persian architecture, by its very nature, possesses the virtues of balance, harmony, convenience, proportion, and rhythm.

The layout of the buildings designated for women's residences, or the so-called harem, is unknown, as no visible traces of them remain. They were built of mud brick, which exposed them to rapid destruction.

As for the palaces of the kings, some traces remain that allow us to trace their origins. For example, the foundation of Cyrus's palace in Pasargadae, which is considered a complete plan of this palace, remains. Some buildings also remain from the palace of Darius and the palace of Xerxes in Persepolis. The remaining walls of these palaces provide us with insight into the layout of the buildings, construction methods, and tools used.

The palace was built in a rectangular shape, with a columned hall in the center for receptions, surrounded on three sides by various rooms designated for the palace's senior officials. The palace entrance is on the fourth side, and contains a canopy with two rows of columns and doors leading to the central hall. Darius' palace had five gates, while Xerxes' palace had seven. If we look back at Hittite history, we find that they had a building similar in layout to the Persian palace, which they called Hilani.

### **The Apadana**

In addition to palaces, the Persians built a type of massive building called the apadana<sup>1</sup>. A. The apadana (Plates 19:24) is a large, square or rectangular hall with a roof supported by rows of columns. It houses the throne, on which the king sits during official functions. It is equivalent to what is now called the throne room. This type of building is one of the most creative creations of Persian architecture. At the entrance, we find a portico with two rows of columns, as in the Apadana of One Hundred Columns. Sometimes, we find two porticoes extending from the other two sides, as in the Apadana of Xerxes.

#### **B. Apadana Palace in Susa**

The Apadana Palace in Susa started construction during the reign of Darius after the overall

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<sup>1</sup> Cool Root, Margaret (1985). "The Parthenon Frieze and the Apadana Reliefs at Persepolis: Reassessing a Programmatic Relationship". *American Journal of Archaeology*. 89 (1): 103–122.



plan was chosen in 515 BC but it was finished during the reign of Xerxes I. The walls of this palace are made of clay with a brick facade and its columns are made of stone. Its inner walls were covered with glazed brick reliefs and featured soldiers of the Eternal Guard, a winged lion, and a lotus flower. Important parts of the Apadana Palace caught fire during the reign of Artaxerxes I (461 BC) and were rebuilt during the reign of Artaxerxes II (359 BC).

### **Apadana Palace, Persepolis**

The Apadana was the largest building on the Terrace at Persepolis and was excavated by the German archaeologist Ernst Herzfeld and his assistant Friedrich Krefter, and Erich Schmidt, between 1931 and 1939. Important material relevant to the excavations are today housed in the archives of the Freer Gallery of Art in Washington, DC<sup>1</sup>.

It is worth noting that in Persepolis, where the climate was extremely cold, the entrance portico was separated from the great hall by a wall with numerous doors. In Susa, where the climate was temperate, the hall opened directly to the outside. In this case, the space between the columns of the first row was closed with large curtains suspended from the upper part by rings in the ceiling, which opened and closed as needed. We find something similar in Islamic architecture. Islamic architects also took precautions against climatic conditions, building mosques in hot countries with porticoes open to the courtyard, as we see in the Mosque of Amr, Al-Azhar Mosque, and most other mosques in Cairo. In cold countries, architects separated the prayer areas from the courtyard by a wall, as we see in mosques in Turkey. An example of this is also found in the Mosque of Muhammad Ali Pasha in the Citadel, where only one door leads from the courtyard to the mosque itself. We note that the colonnade perfectly fulfilled the function for which it was built.

The graceful design of the Persian columns created a spacious space between them, allowing everyone in the hall to see the king sitting on his throne. The throne was placed at the front of the room, at the end of the central corridor. Persian architecture surpassed ancient Egyptian architecture in this respect. We saw in Egyptian architecture that the hypostyle hall

<sup>1</sup> Schmidt, Erich F. (1953), *Persepolis I: Structures, Reliefs, Inscriptions*, Oriental Institute Publications, vol. 68. University of Chicago Press, pp. 80-90.

Henkelman, Wouter F. M. (2008). *The Other Gods Who Are: Studies in Elamite-Iranian Acculturation Based on the Persepolis Fortification Text* (Achaemenid History, vol. 14, Nederlands Instituut voor het Nabije Oosten, pp. 65-70.



of the Great Temple of Amun, although its buildings were magnificent, had thick columns, so that the space was almost as large as the columns. Standing anywhere in it, one would find themselves surrounded by these columns, which resembled massive, circular towers, obstructing their view of the vastness of the hall.

### **Third: Analytical Study**

#### **1. Military Architecture**

As for military architecture, they built fortresses and castles to suit their vast armies and vast empire.

##### **The Citadel**

Research by the French scholar Dieulafoy, who spent many years excavating Persian antiquities, revealed that the fortifications were extremely robust and precise. They were also derived from the architecture of Mesopotamia and Syria. The architects created a number of obstacles to the attacking army:

- A water-filled moat flanked on the side of the citadel by a wall as high as the ground behind it, which led to the citadel.
- A wall 18 meters high and 21.5 meters thick.
- A wall surrounding the citadel 9 meters high and 10 meters thick.
- A second moat.
- A third wall as high as the first.
- The citadel, which contained a massive tower, served as a last resort for its defenders in the event that the fortifications surrounding the citadel were overrun. This tower is called a donjon.

The architect also employed various defense methods throughout the buildings, such as the ramparts on the walls, as well as the hourdis, which are roofed openings located at the top of the towers, surrounding them on all sides. They are also sometimes found at the top of the walls and gates. These openings are located in the floor for pouring boiling oil on the attacking enemy and throwing stones at them. These openings are called machicoulis.

The architect also dug underground tunnels, with only a small part of the buildings visible above ground level. These tunnels have narrow, ground-level windows used for throwing arrows, striking both near and far.

In addition, the architect dug a trench between the second and third walls to thwart the enemy's attempts to dig underground tunnels to enter the castle and to break their attacks



should they succeed in breaching the first two walls. Ancient fortifications were characterized by ascending walls connecting the walls surrounding the castle, interspersed with towers. This was done to track the enemy as they ascended and to fight them from the tops of the walls and towers. The castle gates were built in a way that facilitated the entry and exit of soldiers into and out of the castle. We can see an example of this in one of the gates that remained from the ruins of a castle near the city of Istahiz.

## **2. The Courtyard**

Persian architecture was inclined toward material grandeur, i.e., the grandeur of its buildings. This was not surprising, as the environment dictated that it befit the Persian Shahanshah to live within its walls. He had to build his buildings on spacious courtyards elevated above the city's buildings. The courtyard on which the palaces of Persepolis were built is 473 meters long, 286 meters wide, and 11 meters above the plain.

The buildings of the Apadana of Akzargis have an area of 7,300 square meters, and their largest side is approximately 100 meters. The dimensions of the Hundred-Column Apadana are 91 x 76 meters, while the Apadana of Artaksergis in Sousse covers 8,500 square meters. The architect also considered displaying grandeur by creating space between and within the buildings, rather than focusing on the grandeur of the buildings themselves. Anyone who views this monument will find that the breadth of this layout, i.e. the horizontal sector, as well as the breadth in the vertical sector (coupe vertical) containing the tall, slender columns, is what makes these places appear to be extremely spacious. In addition, each palace is built on a base higher than the main square. The architect decorated the square with gardens and water basins, and dug underground channels to drain used water so that the runoff would not damage the buildings on the square.

## **3. Staircases and Steps**

Persian architecture combined grandeur and beauty in its buildings, and went to great lengths to highlight these buildings by constructing wide steps that ascended to these elevated courtyards. For example, if we contemplate the staircase ascending to the Pirespolis Square, we find it to be extremely magnificent and luxurious. It consists of two separate steps parallel to the retaining wall, each leading to a platform. From the two platforms, one ascends to two opposite steps, one facing the other.

These two steps reach a single platform at the level of the courtyard. The total number of steps taken by the ascender is (111), each of which is seven meters wide and ten centimeters



high.

#### **4. The Entrance**

Architects built great gates in the courtyards preceding the palaces. These were independent buildings, not connected to the palace buildings. They were called propylene (from the Greek pro, meaning "in front," and pule, meaning "door"), meaning the front door. Among the remaining monuments is the gate of the Persepolis courtyard, a square-planned building with a side length of 37 meters. It had three doors on each facade, while the fourth facade had no door. Each facade was six meters thick, the height of the door opening was 11 meters, and its width was 3.82 meters. The roof was supported by four columns 16.67 meters high. Despite the effort required to ascend (111) steps, anyone ascending to this courtyard could only marvel at this magnificent gate and the decorations adorning its interior walls, illuminated by a soft ray of reflected sunlight, which gave it a soothing color. Only two columns and the doorposts remain of this entrance. The doors and thresholds were built with huge stones, while the rest of the buildings were built with burnt bricks of different colours.

#### **5. Columns**

The genius of Persian architecture was particularly evident in the invention of columns, which combined their suitability for the function for which they were erected, their splendor of form, and their graceful proportions. They also combined simplicity and ornamentation. The Persian column is striking in its beautifully decorated form. Although some elements were derived from other foreign arts, such as Egyptian art, ancient Iraqi art, and Greek art, Persian architecture took into account good taste and freedom of thought, thus producing a unique, cohesive form that is easily appreciated and considered one of the most creative achievements of human thought.

The body is distinguished by its grace and proportion. If we look at the body of the Column of Apadana of Xerxes, we find that its length is 10.6 times its diameter, while the body of the column of the Palace of Cyrus in Pasargadae is 10 or 11 times its diameter. Its shape is almost cylindrical, meaning its conicity is less conic than that of the Ionic column. Sometimes the surface of the column is smooth, such as the columns of Cyrus's palace in Bazarkade and those on the facade of the mountain-carved tomb of Darius. However, the column body is more often lined with channels with sharp edges, like a Doric column, with between 32 and 52 channels. The lower end of the column ends in a collar, and there is no bulge.



Persian architecture used four forms for column bases:

- A simple, round, disc-shaped base, placed on the ground, upon which the column's body rests. These are found in Pasargadae and Ecbatana.
- A base resembling the base of an Ionic column, especially that found in the temple of Samos. This form is found on the facade of the Tomb of Cyrus in Pasargadae. It consists of a square base topped by a thick, rounded entablature adorned with horizontal channels running around it.
- A base resembling an Ionic column is also found in the Apadana Xerxes in Persepolis and the Artaxerxes of Myamon in Susa. It consists of two square pieces, one stacked on top of the other, with the upper one being smaller than the lower one. It is topped by a pediment and then a collar connected to the body, meaning it is carved at the bottom of the body where it rests on the base.
- A base typical of Achaemenid Persian art. It is bell-shaped and topped by two pediments, one above the other, with the upper one being smaller in diameter and thickness. The bell is engraved with vertical decorations, some of which are engravings of long plant leaves with a sharp edge or a tooth in the middle, some of which are arranged plant leaves, and others represent lotus stems bearing a flower, arranged vertically next to each other.

The capital was the most beautiful part of the Persian column, and it distinguished it from others, particularly the one carved in the shape of two bulls. This capital consisted of two bulls' heads facing each other, their bodies fused together. The bulls were crouching, their legs tucked under their bellies. On the bulls' shared backs and between their necks were roof blocks that connected the column capitals arranged in a single row. The shape of the bulls' heads supporting the beams, whether inside the hall or on the facade, revealed the function of these capitals. The bulls' strength, particularly in their heads and necks, gave one a sense of the solidity of the roof and the strength of its bearers. The sight of the bulls crouching in this manner perfectly complemented the facade's extension. Thus, buildings acquired a form that indicated their solidity and stability. Often, another form was added to the aforementioned capital, placed below it.

This additional element was three times the height of the bull-headed capital. The total length of the capital, that is, with the additional shape, amounts to one-fifth of the total height of the column including the base. This additional section consists of a bell-shaped cylinder slightly larger than the body of the column, i.e. its diameter is longer than the diameter of





the body. It bears a polygonal capital resembling the palm crown of Egyptian architecture. Above that is a square-shaped section. Each of its four faces is decorated with five vertical channels terminating in two coils at the top, turned downwards, and in two coils at the bottom, turned downwards. The coil is covered by a rosette, thus differing from the Ionic coil.

The bull-headed column capital is derived from the method used in peasant homes in Persia. The architect would place small wooden pieces on the tops of the columns supporting the entrance canopy. Placing them horizontally above the column would create a crown-like shape, serving both as an ornament and distributing the load on the roof. Sometimes the capital would consist of two pieces, one above the other, with the lower one shorter than the upper one. This method is still used today in Mazandaran. The idea of placing animal figures on column capitals was also known to the ancient Egyptians, but they were placed above the capital purely as an ornament, not intended to support the roof masses. In Egyptian art, we find the heads of lions or sheep emerging from a lotus flower, topped by another flower. There was also the Hathoric capital, engraved with the image of the cow Hathor. In any case, these columns, the shapes of which we see in carvings on the walls of tombs or in images drawn on papyrus, are not found in surviving buildings, such as temples and other places. They were probably made of wood and their features have disappeared. The local section, with its channels and arches, is thought to be derived from the Ionic column, which appeared in western Anatolia in Asia Minor. Some believe that this idea existed even earlier than the Greek era, during the time of the Assyrians and Phoenicians. This section, as a whole, with its channels and arches, resembles the ornaments found on the facades of some monuments in Phrygia, a stone imitation of wooden buildings.

Here, for comparison, we mention the different dimensions of columns in some Persian monuments:

- Perspolis (Entrance), column height (16.57 m) and diameter (1.56 m).
- Apadana of the Hundred Columns, column height (12 m) and diameter (0.94 m).
- Apadana of Xerxes, column height (19.50 m) and diameter (1.5 m).
- Apadana of Susa, column height (20 m) and diameter (1.59 m).

An important observation is that the distance between one column and the next is very wide, sometimes reaching 8.74 m between the axis of one column and the next. Thus, the void in relation to the buildings, that is, the space in relation to the columns, is in a ratio of five or



six to one, while the ratio in the hypostyle hall of the Temple of Amun at Karnak is (1:2), meaning that two-thirds is void and one-third is buildings. In Greek temples, the ratio is approximately (1:2.5). One of the reasons this proportion surpasses that of Egyptian and Greek buildings is that the ceilings of Achaemenid Persian buildings were made of wood.

## **6. Roofs**

Persian Achaemenid architecture did not use domes to cover buildings, but rather flat roofs. They also resorted to using wood to cover rooms and halls. They did so for the following reasons:

- The height of the columns, despite their thinness, meant they were too thin to support the masses of stones used for covering, as we saw in Egyptian temples.
- The wide spacing between the columns, making it difficult, if not impossible, to cut stones of this length.
- The vastness of the spaces to be covered.

All of these reasons led Persian architecture to use wood for covering, thus differentiating itself from its Egyptian counterpart, who used stone in all of the temple buildings they built, and from the Greeks in most parts of their buildings. Persian Achaemenid architecture dispensed with the construction of domes, vaults, and arches, using these methods that Chaldean and Assyrian architecture used to cover their buildings, and with which they succeeded.

Although we do not find remnants of the roofs, we have established that they were made of wood. The method used for covering is known. Evidence of this is provided by historical texts that Persian architects imported vast quantities of cedar wood from Lebanon and other wood from the forests of the Alborz Mountains for use in the construction of the Achaemenid palaces. Discoverers of these ruins found that their roofs had been destroyed by fires set by Alexander the Great's soldiers. They also found a layer of ash covering the tiles of the rooms in these palaces. This ash can only be explained by the fact that the roofs were made of wood. Evidence also includes the presence of a roof pattern carved on the facades of the royal tombs at Persepolis on the mountainside. The location of the roof blocks is also carved in the stone of the column capitals and in the stone of some of the niches, and we can still see it in Achaemenid Persian monuments. To understand the roofing method of the Achaemenid Persians, we take the hypostyle hall, or the apse, as a model. There we see parallel rows of columns at exactly equal distances, forming long rows perpendicular to the facade and wide

rows parallel to it. These columns have capitals, and their upper portions are decorated with statues of two bulls, separated and connected at the midsection, meaning they share a common back.

The roof consists of the following elements:

- Long blocks resting on the bulls' backs, meaning the ends of the blocks are interlocked with the capital stone.
- Wide blocks also resting on the capitals, but they are placed above the ends of the long blocks, perpendicular to them, touching the bulls' heads between the horns and the upper part of the neck. Above each block are two adjacent blocks, and above them are three adjacent blocks, creating three courses of blocks. The first course is a single block, above which are two blocks. The third course consists of three blocks, each one outside the other, forming a beautiful wooden cornice. These wide blocks are called beams.
- Veins are placed close together on the transverse blocks, i.e., on the beams. In other words, the ends of these veins rest on the beams. All of the above forms the skeleton of the Abadana roof. Fourth: Wooden planks are placed on the beams to cover the roof.
- The roof is covered with a layer (matelas) of mud mixed with straw, which is then compacted. This layer is approximately one meter thick. This method is still used today in Persia and other eastern countries. Mats are placed on the planks, topped with dirt, and then beaten with mortar. Sometimes, the mortar is mixed with gravel. The mat prevents rainwater from seeping into the wood. The mat is surrounded at the edges of the roof surface by wooden blocks stacked one on top of the other, and topped by a low brick wall, called a parapet by Egyptian builders.

In addition to this flat roof, there is another type of roof found in the Tomb of Cyrus in Pasargadae. It is gable-shaped, and it may also be a low pyramid, as seen in the funerary towers in Pasargadae and Persepolis. Tiles were placed on wooden roofs, as mentioned in the book of Polybius. His statement was confirmed by the discoveries of Ecbatana and Susa, as tiles with edges measuring 52 x 35 cm were found, as well as cylindrical pieces to cover the seams and edges of the roof, and other pieces for channels to drain rainwater, and gutters to allow the rainwater that accumulated on the roof to flow from.



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## References

- Ahmed, Sami Said (2018). Southern Mesopotamia in the time of Ashurbanipal. The Hague: Walter de Gruyter GmbH & Co KG.
- André-Salvini B. (2005). Forgotten Empire: The World of Ancient Persia. University of California Press.
- Bassett, Sherylee R. (1999). "The Death of Cyrus the Younger". The Classical Quarterly. 49 (2).
- Beckwith, Christopher I. (2009). Empires of the Silk Road. Princeton University Press.
- Boardman J. (2000). Persia and the West: An Archaeological Investigation of the Genesis of Achaemenid Art. Thames & Hudson.
- Boardman J. (2000). Persia and the West: An Archaeological Investigation of the Genesis of Achaemenid Art. Thames & Hudson.
- Bramwell, Neil D. (1932). "Behistun Inscription is a cuneiform text in three ancient languages", Ancient Persia, NJ Berkeley Heights.
- Brereton, Gareth (2018). Brereton, Gareth (ed.). I am Ashurbanipal, king of the World, king of Assyria. London: Thames & Hudson.
- Brown, Stuart C. (1997). "Ecbatana". Encyclopaedia Iranica, Vol. VIII, Fasc. 1.
- Chaliand, Gérard (2014). A Global History of War: From Assyria to the Twenty-First Century. Oakland: University of California Press.
- Charles Gates (2003). Ancient cities: the archaeology of urban life in the Ancient Near East and Egypt, Greece and Rome. Psychology Press.
- Charles Henry Caffin (1917). How to study architecture. Dodd, Mead and Company.
- Cline, Eric H. & Graham, Mark W. (2011). Ancient Empires: From Mesopotamia to the Rise of Islam. Cambridge: Cambridge University Press.
- Cool Root, Margaret (1985). "The Parthenon Frieze and the Apadana Reliefs at Persepolis: Reassessing a Programmatic Relationship". American Journal of Archaeology. 89 (1).
- Ferrier, Ronald W (1989), The Arts of Persia, Yale University Press,
- Finkel, Irving (2013). The Cyrus Cylinder: The Great Persian Edict from Babylon. New York: Bloomsbury Publishing.
- Frahm, Eckart (2017). "The Neo-Assyrian Period (ca. 1000–609 BCE)". In E. Frahm (ed.). A Companion to Assyria. Hoboken: John Wiley & Sons.
- Frahm, Eckart (2017). "The Neo-Assyrian Period (ca. 1000–609 BCE)".



- Garthwaite, Gene R. (2008). *The Persians*. John Wiley & Sons.
- Gates, Charles (2011). *Ancient cities: the archaeology of urban life in the ancient Near East and Egypt, Greece and Rome* (2<sup>nd</sup> ed.). London: Routledge.
- Gershevitch, Ilya, (1969-1970). "Iranian Nouns and Names in Elamite Garb", *Transactions of the Philological Society* 68 (1).
- Gobineau, Arthur de (1971). *The World of the Persians*, J. Gifford.
- Guaityoli. M.T., & Rambaldi, S. (2002). *Lost Cities from the Ancient World*.
- Henkelman, Wouter F. M. (2008). *The Other Gods Who Are: Studies in Elamite-Iranian Acculturation Based on the Persepolis Fortification Text* Achaemenid History, vol. 14, Nederlands Instituut voor het Nabije Oosten.
- Herzfeld, E (1929), *Bericht über die Ausgrabungen von Pasargadae 1928* (in German), vol. 1, *Archäologische Mitteilungen aus Iran*.
- Ibn al-Athir (1938). *Al-Kamil fi al-Tarikh*, edited by Omar Abd al-Salam Tadmuri and corrected by Abd al-Wahhab al-Najjar, Cairo, Al-Munira Printing Administration.
- King, L.W.; Thompson, R.C.; Budge, E.A.W. (1907). *The Sculptures and Inscription of Darius the Great: On the Rock of Behistûn in Persia*. British museum. .
- Lipschits, Oled (2005). *The Fall and Rise of Jerusalem: Judah under Babylonian Rule*. Winona Lake: Eisenbrauns..
- Morabet, Mahmoud Fouad (1953). *Fine Arts of the Ancients*, Cairo.
- Mousavi, Ali (2012). *Persepolis: Discovery and Afterlife of a World Wonder*, Walter de Gruyter.
- Na'aman, Nadav (1991). "Chronology and History in the Late Assyrian Empire (631–619 B.C.)". *Zeitschrift für Assyriologie*. 81 (1–2).
- Nardo, Don. (2007). "Ecbatana." *The Greenhaven Encyclopedia of Ancient Mesopotamia*, edited by Robert B. Kebric, Greenhaven Press.
- Novotny, Jamie (2018). "Ashurbanipal's campaigns". In Brereton, Gareth (ed.). *I am Ashurbanipal, king of the World, king of Assyria*. London: Thames & Hudson.
- Perrot, Jean (2013). *The Palace of Darius at Susa: The Great Royal Residence of Achaemenid Persia*. I.B.Tauris.
- Radner, Karen (2003). "The Trials of Esarhaddon: The Conspiracy of 670 BC". *ISIMU: Revista sobre Oriente Próximo y Egipto en la antigüedad*. 6. Universidad Autónoma de Madrid.



- Schmidt, Erich F. (1953), *Persepolis I: Structures, Reliefs, Inscriptions*, Oriental Institute Publications, vol. 68. University of Chicago Press.
- Stausberg, Michael & others (2015). *The Wiley Blackwell Companion to Zoroastrianism*. John Wiley & Sons, Ltd.
- Stronach, D. (1978). *Pasargadae, A Report of the Excavations Conducted by the British Institute of Persian Studies from 1961 to 1963*, Oxford, (the basic reference for the tomb of Cyrus).
- Stronach, David (1978), *Pasargadae: A Report on the Excavations Conducted by the British Institute of Persian Studies from 1961–63*, Oxford University Press.
- Tavernier, Jan (2021). "A list of the Achaemenid Royal Inscriptions by language". *Phoenix* (in French). 67 (2).
- Tavernier, Jan. "An Achaemenid Royal Inscription: The Text of Paragraph 13 of the Aramaic Version of the Bisitun Inscription", *Journal of Near Eastern Studies*, vol. 60, no. 3, 2021.
- White Star, spa. (2006) version published by Barnes & Noble. *Darius I founded Persepolis in 500 BC as the residence and ceremonial center of his dynasty*.

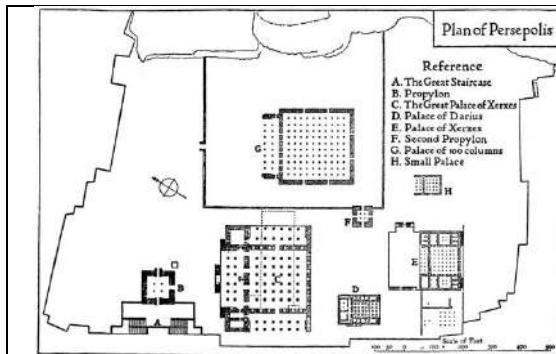


Fig. 1. Aerial architectural plan of Persepolis

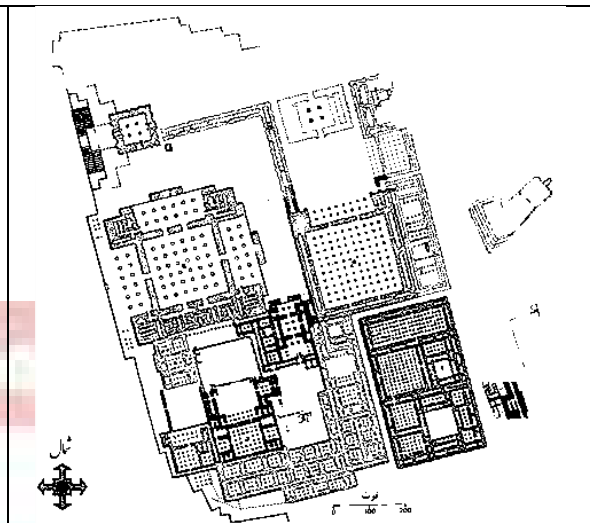


Fig. 2. Takht-e Jamshid

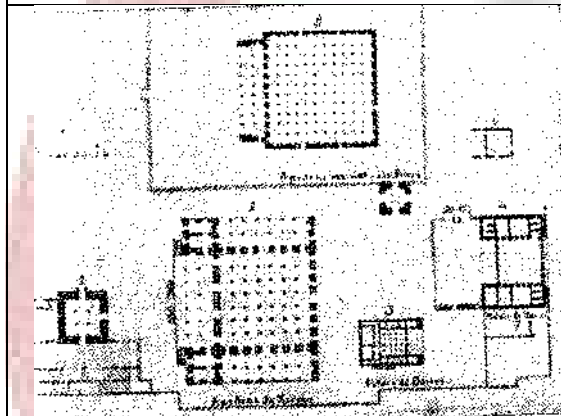


Fig. 3. Layout of palaces and temples

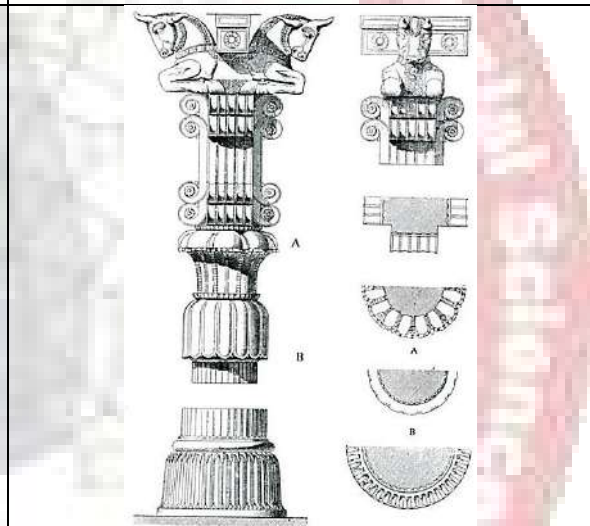


Fig. 4. The design and details of the columns of Persepolis

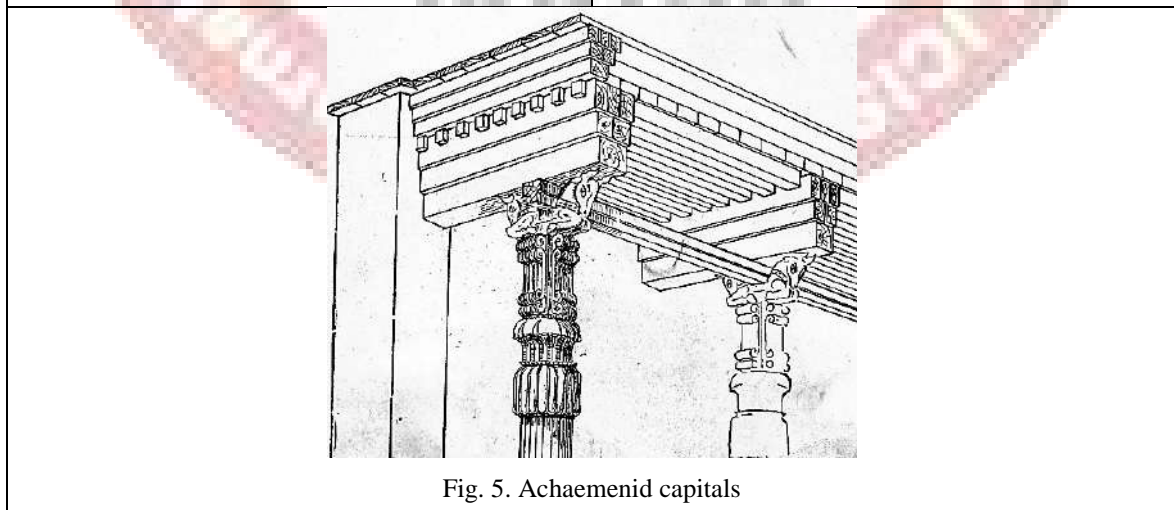


Fig. 5. Achaemenid capitals





pl. 1. The tomb of Cyrus the Great



pl. 2. The tomb of Cyrus the Great



pl. 3. Darius Palace in Persepolis



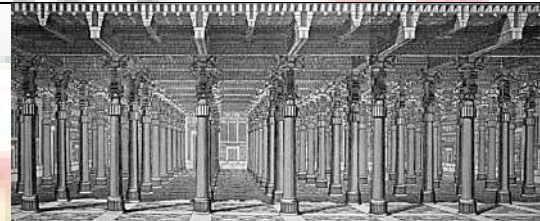
pl. 4. Gate of All Nations in Persepolis



Pl. 5. The entrance of Persepolis.



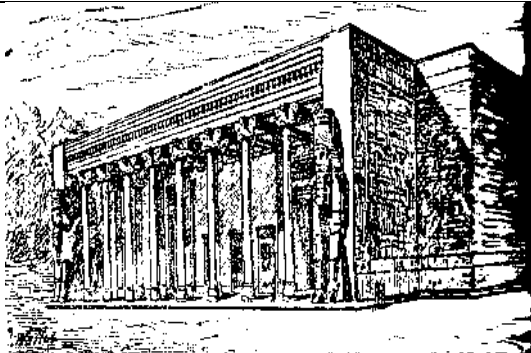
Pl. 6. The tomb of Artaxerxes II at Persepolis



Pl. 8. Interior view of the Hundred-Column  
Apadana



Pl. 7. Apadana detail by Charles Chipiez



Pl. 9. Persepolis, the Hundred-Column Apadana



Pl. 11. This is a photo of a monument in Iran identified by the ID



Pl. 13. Behistun Darius the Great



Pl. 10. Persepolis, the Hundred-Column Apadana



Pl. 12. The Behistun Inscription



Pl. 14. Double bull-capital from the Apadana (audience chamber) of Darius' palace at Susa



Pl. 15. The winged bull derived from the cherubim that decorated Assyrian gates



Pl. 16. Lancers, detail from the archers' frieze in Darius' palace in Susa. Glazed siliceous bricks, c. 510 BC., Louvre Museum is made of enameled brick.



Pl. 17. Winged sphinx from Darius' palace at Susa.



Pl. 18. Lion on a decorative panel made of molded bricks, Darius's palace at Susa. Terracotta, ca. 510 BC.



Pl. 19. Staircase of Apadana Xerxes



Pl. 20. Ruins of the Apadana Palace





Pl. 21. Reconstruction of the Apadana's roof by Chipiez



Pl. 22. Reconstruction of the Apadana by Chipiez



Pl. 23. Apadana of Susa, reconstruction



Pl. 24. Apadana Palace (East Side), Persepolis