

Summary

The History of the Architecture of Iran

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The history of the architecture of Iran is such a comprehensive topic, that when taking it into regard a certain restriction must be made to examples found within the present-day national borders as well as within the timespan from the 6th century B.C. until 1979. The architectural examples presented here were always contingent on different topographic and climatic conditions in addition to diverse cultural influences.

In the subtropical lowlands of the Caspian Sea wood was used to construct post-and-frame work houses, whereas in central Iran wood was used only as a support for the roof construction of mud-brick structures.

On rocky terrain walls built of mud-brick as well as stone were founded upon a stepped base in the native rock, as long as there was no need for a coating of lime to protect against dampness. Yet, the format of mud-bricks and wall systems varied over the course of time. Besides unworked stones, carefully hewn stone ashlar had to be prepared. For this purpose the iron pickaxe and – starting in Achaemenid times – the iron saw were utilised. Ever since this time blocks and components of columns were fixed together by means of swallow-tail-shaped metal clamps. Traces of rock quarries have been found in the surroundings of Persepolis and Nağš-e Rostam. At individual sites smaller and larger blocks of stone were quarried out of the rock wall; diverse steps in the work process can be observed on the quarry surfaces, such as at Nağš-e Rostam.

Rock-cut architecture was common as of Urartian times. Important examples to mention here are the royal grave chambers at Van Kalesi in eastern Turkey, which stood in close association with the Urartian fortress there and were accessed via steps hewn into the rock. A further example from Achaemenid times are royal rock-cut tombs at Nağš-e Rostam and Persepolis. The design of their facades provides elucidative information about built architecture. In addition to these large-scale burial complexes, smaller chamber- and shaft graves as well as trough graves and astodane (ossuaries) were used well into Sassanid times. The structures hewn out of the rock at Hossain Kuh in Nağš-e Rostam are probably grave monuments too. Further examples of rock-cut architecture are rock reliefs and inscriptions ranging in date from Urartian to Islamic

times. The niche of Urartian date at Ejn-e Rum carries inscriptions. Sassanid reliefs in the rock are located in front of a terrace, such as those at Tarāš-e Farhād in Bisotun.

This list of rock-cut architecture is concluded here with the Urartian stepped-tunnel, used for evacuating a fortress or for its water supply, and the Islamic sacred buildings, such as the Ilkhanid mosque at Šahr-e Iağ.

Aside from rock-cut necropolises, in northern and western Iran mounds of earth and stone were erected above burials, many of which however are in a severely disturbed or destroyed condition today.

In Islamic times burials were sometimes marked by anthropomorphic or cenotaph-like tombstones or by funerary lions or rams.

Built Architecture

Permanent buildings appear only first with a sedentary way of life, as represented by the early example of Tappe Ganğ Darreh, dated to the 8th–7th millennium B.C., where small rectangular rooms with rounded corners have been attested in the four main layers. As of the 6th millennium B.C. a constructed system with buttresses and risalit-like projections in the walls are evidenced in Tappe Zāgeh and in the large settlement at Čoğā Miš. Cell-like groups of rooms filled with earth form the first simple lines of defence. A further development with more appropriate defence constructions can be seen in the settlement of Godin VI/V (now VI.1), dated to the 4th millennium B.C., and in the “burned building” at Tappe Hesār III B of the 3rd millennium B.C. The latter had defence towers as well as an entrance defended by a tower. Also as of the 3rd millennium B.C. in northwestern Iran typical round houses of the “Early Caucasian Culture” appear, which in various large settlements are partially protected by fortification walls. At the close of the 2nd millennium B.C. there is a development in architecture not only to planned and large-roomed buildings, such as a courtyard complex with surrounding corridor in Tal-i Malyān, but also to the construction of fortifications around settlements. The effectiveness of these measures was enhanced through the optimal use of the terrain, with projecting and receding sections in the walls as well as with simple gate

complexes. Consequently, fortified settlements could be divided into lower, middle and upper areas, or into settlement and citadel. Furthermore, extensive constructions upon high terraces and likely of cultic character emerged in Haft Tappe and Čoġā Zanbil. The ziggurat in Čoġā Zanbil was built inside a 105 × 104-m large courtyard, which was enclosed by rows of rooms. A palace was located in the immediate vicinity; this is assumed in Haft Tappe as well. In this association mention should be made of the bastion-like structures at Kordlār Tappe Tappe und Kiz Ġa'fe Rujān Dujāx.

In the 8th–7th century B.C. three high terraces were constructed in Ziwiġe, intended as the foundation for a fortress, whereas the terrace dated to the beginning of the 1st millennium B.C. on the Zendān-e Solaimān stood within a temenos. Together with the lake in the crater it formed a sanctuary, until a tectonic shift caused to the lake to dry up. The architecture during the following centuries' time exhibits an increasingly differentiated character. Buildings in Bābā Ġān Tappe possessed a long rectangular hall, enclosed by narrow rectangular rooms. In Hasanlu IV stood the "Chariot Gate" with a façade partitioned by risalits and associated with an elongate rectangular building, presumably a stable. The "burned buildings" in Hasanlu IV were public edifices, each three-aisled and whose main room had with wooden supports for the galleries on the long sides. In the 9th century B.C. with expansion of the Urartians these defensive constructions spread into northwestern Azerbaijan. The fortresses were located foremost on the periphery of cultivated land, some at steep heights; they varied greatly in size and function. As of the 7th century B.C. stone working was only conducted in those places where a wall with risalits was to be erected. Inside the walls a rectangular edifice in a yard served for military, economic or administrative purposes, as for example in Al-lāhwerdikand. Small and middle-sized fortresses grouped around a larger fortress should likely be viewed as farmyards or other service complexes. The appearance and construction of Urartian buildings and architectural forms are documented on stone reliefs and bone inlays as well as on bronze objects and belt plates.

One of the largest Urartian fortresses was Bas-tām in western Azerbaijan. Extending over an ever rising terrain were an open, unfortified settlement of craftsmen and traders, and a lower-, a middle- and an upper fortress. The lower fortress had an inturned with long outer corridor (*Zangentor*), stables and barracks. Inside the wall of the middle fortress were the temple place and temple tower, in addition to numerous storage rooms with pithoi. The upper fortress was the seat of the governor as well as the intermittent

residence of the ruler. In the 6th century B.C. begins a transitional phase to the architecture of the Medes, which can be observed in the two refuge fortresses of Ġal'e Hāġestān und Ilān Ġare II. Evidence of Mede architecture is present in the form of a fortress at the foot of the Bisotun Mountain and in a group of buildings on Nuši Ġān Tappe. The latter comprises a tower-like fire temple, a sacred structure with a partitioned hall, and a fort, whose construction was directive for advanced Achaemenid architecture. The same applies to the ruler's seat in Godin Tappe, which had a hall with 30 supportive pillars.

The oldest known Achaemenid residence is Pāsārgād in the Dašt-e Morgāb. It is constituted by the tomb of Cyrus, a complex of garden palaces, the Zendān-e Solaimān, the fortress Tal-e Taxt and the sanctuary. The last complex emerged in several building phases and three high terraces, upon which altars presumably stood. The buildings in the garden area, pavilions A and B, as well as gate building R and palaces P and S – outstanding in view of the perfection in stone masonry – had a representative function. The residential rooms of the ruler were part of Tal-e Taxt, where four settlement phases including an Islamic superimposed building could be confirmed. The function of the tower in Zendān-e Solaimān has not been clarified thus far. Aside from the palace terrace, the entire residence at Persepolis encompasses an upper and a middle fortress upon the Kuh-e Rahmat as well as individual sophisticated structures in the plain to the south of the terrace. Due to the increased construction of palaces, the treasury and the harem, the southern ascent was walled up with spolia, so that thereafter the terrace could be accessed solely via the western stairway. The incorporation of the Āpādānā terrace can still be recognized through the remaining joints. The different dimensions and heights of the edifices are reflective of their function and importance.

Achaemenid Šuš encompasses a palace precinct, the enwalled royal city Ville Royale, the Ville de Artisans – to be viewed as a separate entity – and the Šāwur palace. The way to the palace precinct leads through the royal city, including the propylon and the Darius gate.

All of the structures upon the Āpādānā hill were built of mud-brick. The palace with its arrangement of three courtyards and representative rooms in between is reminiscent of Mesopotamian ground plans. The Āpādānā hall corresponds in detail with the hall in Persepolis. Only parts of the Šāwur palace have been investigated until now. Similar residences were enhanced by garden complexes as well, which were watered by means of channels.

The Achaemenids constructed protective dams for water conservation and water supply and for flood prevention. Some of these dams near Didegān display overflow channels and overflow channels upon the crown of the dam. Further examples of damworks are present in Pāsārgād, at Rud-e Kor and near Doridzan. In addition, Achaemenid building levels have been identified in Hamedān, in the sanctuary on the Kuh-e Xāḡe, in Dahāne-e Ġolāmān, near Borāzḡān and on the Torang Tappe.

It is often difficult to distinguish Parthian architecture from Seleucid and provincial Achaemenid architecture. In contrast, in the Alexander wall-system the influence of the Chinese wall and the Roman limes are recognizable. Still visible in places today, this system built of brick divides the cultivated land and steppe between the Caspian Sea and the Kopet mountains. Forts are positioned along this line in regular intervals.

Located in Ġal'e Gābri was a comparable, strongly fortified complex with semi-circular towers and casemate walls. The extensive ruins at Ġal'e Zohāk exhibit a Parthian palatial complex on the northern plateau, including a vaulted pavilion. Particularly striking in the Parthian capital of Šahr-e Qumis is an elongate rectangular edifice with corner- and intermittent towers as well as long chambers. In addition there are three central sacred structures of almost square ground plan with two to three storeys. In Parthian times terraces were constructed as well. In Masḡed-e Solaimān two large and four small terraces were created at varying heights. The complex at Bard-e Nešāndeh, by contrast, founds upon only three terraces. The circular construction at Naḡḡāreh Xāneh is unusual, with a boundary and a circular structure upon a terrace, which was likely used as a burial place in Seljuk times. The stone tower at Mil-e Aždahān seems to be related to the towers at Pāsārgād and Naḡš-e Rostam.

Sasanid complexes, such as those in Kangāwar, Sarmaḡ and Tāḡ-e Gireh, followed the tradition of Achaemenid and Parthian terraces. Towering above at the last site is an arched construction, in which the anchorings for statues are still preserved. The layout of Sasanid town displays superordinate planning: accordingly, Ejwān-e Karwe was laid out in four rectangular divisions; Ġondi Šāpur was oriented along a middle axis; and the city of Bišāpur was divided in square to rectangular living areas, based on western prototypes. Aside from the section along the river, Bišāpur was protected by walls and a fortress in the northeast. The fortress was fortified on three levels with massive semi-circular towers positioned close to one another. The palace is distinguished by a mosaic floor in a courtyard enclosed by four iwans. From there the palatial

residence and the temple of Anāhitā, among others, could be accessed. Located in the immediate vicinity of the city is the so-called Šāpur cave, in which a statue of Šāpur was hewn into the rock. The early Sasanid city foundations of Ardašir Dārābgerd and Ardašir Xurreh are circular in plan with a citadel or the tower of Gur in the centre. In Firuzābād Ardašir ordered the construction of two more palatial buildings: the large palace of Firuzābād, whose appearance is still marked today by the domes of the transverse wing, and the fortress Ġal'e Doxtar, which was erected on three levels in the steep rock.

Taxt-e Solaimān, in contrast, reveals a relationship between fortress and sanctuary. This complex was initially enclosed by a Parthian—clearly Sasanid brick wall, in front of which a strong wall was later erected in Sasanid times. The wall with its parabolic cross-section was interrupted in several places by gates. The centre of the complex was the site of the fire temple with its auxiliary rooms. This complex included the entrance area, a cruciform room for “preserving” the fire, two double-cruciform rooms – presumably the treasury – and a structure with four arches – the Čāhār Tāḡ, in whose centre stood the altar with the fire. To the west and separate a second sanctuary was built, which was presumably reserved for the ruling family. A component of this second complex was a three-aisled columned hall, with the columns typically positioned densely along the outer wall of the room.

Likewise typical for Sasanid architecture are iwans, the most impressive of which is preserved in ruins at Parthian Ktesiphon. This form of iwan, or courtyard bordered by iwans, represents the principal part of a Sasanid palace. Examples thereof are the palace ruins in Hāḡiābād and Čal Tarxān. The largest Sasanid domed structure, however, is found in Čāhār Ġāpu in the form of a 18-m high Čāhār Tāḡ. The form of the actual fire altars inside the Čāhār Tāḡ is varied, but as a rule they have a threefold extended platform with a depression for holding a cult vessel. Larger empty, unbuilt enclosures from Sasanid times are found in Ġal'e Minižeh, on the plain before the Tāḡ-e Bostān and at Bisotun. These spaces likely served as a kind of hippodrome or hunting area. In concluding mention should be made of Sasanid-period capitals, which were discovered without any building context in the province of Kermānšāh and in the area of Bisotun.

Architecture of the Sasanids up to Islamic times brought forth not only the construction of channels and canals, but also techniques in constructing river crossings. The probably most well-known example of the latter is the Bridge of Valerian, the Band-e Ġejsar, a dam bridge that

crosses the River Karūn. The triangular river piers bore Roman arches or minimally pointed Sasanid arches. In Islamic times the bridge arches were developed from a parabolic to a pointed form. The form of bridge piers likewise varied. Accordingly, the Sasanid Pol-e Xosrow was constructed with river piers pointed on both sides (cutwaters) and erected upon a pavement. The Pol-e Doxtar did not base upon such a pavement, nor did its Sasanid execution include piers pointed on one side or as in early Islamic times with two-sided cutwaters. Instead ramps were necessary on both sides of the narrow valley, underneath which accommodating rooms could be arranged. Band-e Bahman was a Sasanid reservoir dam, but without the function of a bridge, which was modernised, that is, raised in height in Islamic times. Indeed, there was no radical break between Sasanid and Islamic architecture; instead, an advance in the development of building principles is recognisable.

This can be observed in Jewish, Zoroastrian and Christian monuments. Examples to mention here are the tomb of Esther in Hamedān underneath an Islamic domed tomb tower and the Zoroastrian towers near Tehrān for the exposure of the dead. Christian architecture dates back to the 4th–5th century. The important monasteries of Saint Thaddeus and of Saint Stephanus, however, differ distinctly in layout: in the case of the Thaddeus monastery the monks' cells surround the church, whereas in the Stephanus monastery the cells are concentrated in the southern part and the church stands north of the main entrance. Equally as striking are the domes of Armenian churches in Esfahān, which in place of the traditional pointed towers have lent uniformity to the townscape ever since Safavid times.

Western influences in architecture

Located on the island of Hormuz was a fortification complex, erected according to European models and built in four phases. At first, the complex with rectangular and semi-circular towers enclosed only one cistern, until it was expanded at the beginning of the 17th century into a massive fortress with bastions. Other fortifications with a square layout indicate corner bastions or semi-circular towers. Furthermore, fortifications in western and northwestern Iran display signs of French military architecture.

The necessity for defence in early Islamic times is also visible in settlements. Thus, in rural areas there are rectangular or circular village forts or strongholds, around which dwellings, stalls and economic structures are grouped. Settlements such as Izadxāst and Abarkuh, in contrast, show a combination of planned alleys and ditches.

Since medieval times town fortifications are distinguished by high mud-brick walls with towers and shooting slits, whose course was determined by already existing built structures. Examples to name here are in Jazd and Bam. In order to defend the residences round towers were sometimes expanded into round bastions. Gates were often improved, from simple openings in the walls to complex entrances with frontal façades. Many of these gates have fallen victim to modern-day urban expansion, yet not the Ġorān gate in Širāz. The entrances were not adjoined by fortified semi-circular towers as in Boruġerd, but by minaret-like narrow towers as in Tabriz. High narrow towers appeared on caravan routes as directory points for caravans, so-called 'mil', as well. The renowned tower Mil-e Nāderi is still preserved between Bam and Zāhedān.

Caravanserais

Numerous trade routes pass through Iran, surmounting mountains and crossing deserts. In olden days these sparsely settled areas provided accommodations for larger and smaller caravans, pilgrims and members of the Safavid court.

The mountain type of caravanserai consisted of smaller structures located on mountain passes. The houses are completely vaulted and some embedded in the slope. Examples are found in Xāne Sorx und Ġal'e Sardāb.

Larger structures were laid out in the court type of caravanserais. Their main characteristic is a courtyard surrounded by four iwans, whereby the iwan opposite the entrance was reserved for upper-class guests. The caravanserai in Dejr is a strikingly large structure with a separate dwelling, sanitary installations, stalls and a room serving as a mosque. Some of the few buildings of this type were octagonal to round in plan.

The pavilion type of caravanserai is open on all sides and developed in coastal regions due to the climate. By contrast, in the foothills are small irregular complexes with a courtyard, so-called small caravanserais.

Aside from post stations and the Čāpār Xāneh providing accommodations and stalls, the auxiliary buildings include most importantly cisterns. These elongate rectangular structures were embedded in the ground and some covered with a pointed dome. Ventilation and pleasant temperatures were maintained by means of entrances or additional cooling towers, the Bādġir.

The urban type of caravanserai is distinctive in that associated with the town bazar it is more

of a place for the exchange and transfer of goods, rather than accommodating people and animals. New structures in the courtyard were adapted to existent buildings and space; stalls were scarce in any case or there were none at all.

Individual buildings

Climatic conditions in Iran require various forms of water installations for a secure supply of water, for irrigation and for protection against floods. One such system of age is the *ganāte*, which can conduct water over great distances. Well complexes, oppositely, are quite rare. Just like an underground tunnel to conduct water, the construction of aqueducts and/or channel bridges demanded a high degree of skill in order to attain an appropriate tempo in the water flow. One example to mention here is the Safavid Pol-e Ġubi.

The numerous bridges and dams constructed during Islamic time followed in Sasanid tradition, like building a dam pavement to prevent the current from undermining the river bed. In contrast, the hollow spaces in the piers and bridge heads were new measures to lessen the weight. As was the case in Pol-e Gaw Mišan, these spaces could be used as accommodations. Openings as seen in the Pol-e Kašgān and the Rud-e Kul bridges were intended less for travellers and more for channelling off flood water. Among the early modern-day dam complexes, the Band-e Amir should be underscored. It has a bridge and supplies countless water mills with water by means of channels. Installations like the Band-e Axlamand have drop shafts in the form of projections on the outer side that were meant to regulate the water level.

Religious concepts, above all those of Islam, led to a marked bath culture, which was cultivated in bath complexes, the *hammām*. These baths were sunken in the ground and covered by vaults. The strict sequence of rooms was followed even in the smallest bath complex. Urban constructions, moreover, could dispose over additional auxiliary rooms. Extravagant bath complexes in larger towns were part of a bazar or – as in the case of a palace bath – stood in a park at a distance from the palace.

Water mills made use of water for grinding, often in so-called chains of mills. One example are the ruins at Rāwand with individual ground plans. The core rooms were added as stalls and storage.

A bazar forms the traditional economic and social centre of a town. It lies inside the city walls

near the main gate and in the immediate vicinity of the mosque. It is a mixture of storage, transfer and exchange of goods. One building dated to the 8th–10th century in Sirāf can be designated at its origin. The appearance of the bazar is varied: it can be a structure that was gradually built along a street; also an existent building pressed into the bazar, such as Sa'dije north in Ġazwin.

Pigeon towers are a category of their own. They served for collecting pigeon dung, an activity that has disappeared since the introduction of modern fertilizers. The famous pigeon towers of Esfāhan are round or cloverleaf-shaped.

Buildings in subtropical lowlands of the Caspian Sea must reckon with heavy rainfall and humidity. Therefore, until the introduction of modern building materials, massive mud-brick structures were built with a protective reed or brushwood roof.

Modern-day architecture

Settlements of Islamic settlements were protected by mud-brick walls, corner towers and gate complexes. Dwellings and stalls inside the village fortress – usually with a rectangular ground plan – often leaned against the walls, as can be clearly seen in Deh Namak. Positioned opposite these were round fortifications to secure the way. Dwellings in eastern Iran are designated 'iwan courtyard houses' and, therefore, represent planned structures. In rural areas the agglutinative manner of construction predominated. The thereby resulting maze of paths and alleyways is still found in parts of the town of Bam. In the vicinity of caravan routes were occasionally complexes of several courtyard houses with lodgings and stalls, such as in Kušk-e Nosrat. In addition there were complexes like farmyards with a central dwelling and surrounding economic rooms or stalls.

Excavation houses too had different appearances. The French mission erected its "Chateau de la Mission" like a small fortress after French examples upon the ruins mound at Šuš. English archaeologists in Šahr-e Qumis moved into the empty caravanserai at Ġušeḥ, whereas German excavators in Bisotun rented houses in nearby village. Other German archaeologists built their own excavation house throughout several field campaigns.

Residences and fortresses

The expansion of Islam led to the superimposition by structures of Sasanid architecture as well the use of it for foundations. Thus, the "Mongol-

lian Building” was erected upon a Sasanid terrace in Bisotun, while the sanctuary at Taxt-e Solaimān was changed into the hunting palace Satureq in the 13th century. For this the main entrance was moved from the North Gate and installed in the new South Gate. The palace complex was built upon existent older wall elements.

Six castles between Esfahān and Farah Ābād are also accounted for among the residences. Concerned here are courtyard or double court complexes, of which Sefid Āb is likely the most well-known. In the course of changing rulers city castles and palace complexes were built in and near the residence cities. The main axes of such a quarter in Safavid Ġazwin are still visible. The Āli Ġāpu gate, a two-storied building with a conspicuously covered balcony, is still preserved. The lower floor, which could be locked and offered rooms for administration and guards, was clearly also a reception place. Among the Safavid garden pavilions inside such a palace complex in Esfahān, particular mention should be made of Čehel Sotun, a columned hall, and Hašt Behešt, with iwans that open outwards. Safavid castles, oppositely, show a distribution of the axis with emphasis on the centre. Palatial structures were also built by high-standing persons and so take on the function of an economic court. The economic building adjoining the castle ‘Abbās Ābād bei Natanz could be designated as such. The castle itself corresponds to the axial distribution. During the time of the Qajar dynasty a number of castles emerged in and around Tehrān. In many cases they stood in close contact with garden terraces, and most were constructed as multi-storied central buildings. One preserved example, among others, is at Bāġ-e Taxt in Širāz. In front of the actual dwelling was the garden with fountain. The Qajar architecture, moreover, shows strong Western influence.

Strongholds along the roads were Qajar fortresses, whose purpose it was to protect caravan routes and accommodate guards and armed forces on the march. The mud-brick structures were architecturally associated with caravanserais, but some also stood alone with partially unbuilt interior. Later Islamic fortresses resemble strongly fortified courtyard buildings, so far as they were constructed entirely according to the model of European bastions, as in the case of Ġal’e Kohne.

In view of their masterful utilisation of the terrain, the fortresses of the Assassins of the 11th–13th centuries deserve special attention. Although they watched over areas of economic importance and safeguarded roads, Assassin fortresses were primarily for defending against

and suppressing sieges. Their centre was the fortress Alamut, whereby also the fortresses of Lamāsar and Gutinar were of greater importance for the Assassins.

Sacred architecture in Islamic times

Koran schools, the so-called ‘madrasa’, have a prayer niche and, therefore, are always considered sacred buildings. They can be inside an existing building and also as free-standing structure. The latter are, like the Koran schools in Xargerd and the Madreseh-je Mādar-e Šāh in Esfahān, architecturally most impressive. The Safavid Madreseh-je Xān in Širāz is free-standing and marked by its courtyard complex with monumental gate and four iwans.

Aside from the Christian monasteries mentioned above, Islamic monasteries existed as well. One example is the Dervish monastery at the tomb tower of Čalebi Oġlu.

The Hossajnijeh, a theatre in courtyard form, likewise had a sacred function: commemorating the martyrdom of Emām Hossajn. A large Qajar building with four iwans is present in Tehrān.

The minaret, structurally connected with a mosque or in erected in its proximity, serves the muezzin for the call to prayers and in corresponding regions also functions as an orientation tower.

Before addressing burial structures and tombs, it should be pointed out that domed structures were not necessarily always of sacred nature; as demonstrated for example by the four-pillared structure at Ābaglu or the tower without any windows at Kāx-e Xoršid. An important domed structure is the tomb of Soltān Olġajtu Xodābandeh, measuring 11.80 m in width and enframed by eight minarets. The dome in Sarwestān was erected upon Čāhār Tāġ. The burial complex for Šejx Safi was created over a garden courtyard, to which a funerary mosque and a mausoleum were connected.

The term ‘Emāmzādeh’ designates only a domed burial structure with a grave niche that is oriented towards Mekka. A tomb tower, in contrast, can display various forms. Lofty towers, such as Gonbad-e Ġābus, and those with a sugar-cone-shaped dome are relatively early. Also onion- and pointed helmet-shaped domes are present. Equally as multifaceted is the form of the ground plans, which can vacillate between round with structured outer walls, as in the Gonbad-e Čehel Doxtar in Dāmġān, and octagonal walls, independent of the multi-sided domes and comparable with Šāhzadeh Ahmad in Ġom.

Still to mention are the groups of tomb towers, with two towers in Xaraġān and five examples in Šamiran. Other examples, such as one in An-ġilawand, are difficult to assign basing on their appearance to the high tomb towers or to squat Emāmzādeh structures. Otherwise, there are special forms with multiple annexes, such as in Amir Ābād, or with a cubic form, as reconstructed for Ātaš Xātun. The Pir-e Baġrān is a mausoleum with two burial places, and is well known for the splendid design of its mihrab.

Islamic architecture

In 1598 Esfahān became the capital of the Safavid dynasty and, thus, was a planned city. This is clearly recognisable when comparing the naturally evolved bazar quarter and the axial direction of urban expansion on the Mejdān-e Šāh and the Čāhār Bāġ. One noteworthy component in the plan was the Pol-e Xāġu.

The mosque construction refers to the house of Mohammed with rectangular courtyard enclosed by walls. On the Qebleh side of the yard is a multi-aisled prayer room, the haram, while the other sides are formed by narrow columned halls. In Iran this form of hypostyle or support-mosque was encountered in non-Islamic sacred structures, above all the Iranian fire temple and the iwan. Nonetheless, the form of the court was continued and used, especially for the great Friday mosque. Early hypostyle mosques were present in Estaxr of the 7th century and in Sirāf in the 9th century. This court plan can still be recognised in mosques that were renovated in modern times, for example, in Ardestān and Es-

fahān. The latter mosque was expanded to include four iwans, the two domed structures Gonbad-e Xāki and Nezām-ol Molk, and connecting halls with pillars. Esfahān possesses in addition the magnificent Šāh mosque as well as the Masġed-e Šejx Lotfollāh. Further, the Masġed-e Gohar Šād encompasses a complex with Koran schools, accommodations for pilgrims, burial rooms and courtyards. Often middle-sized and small mosques have vaulted roofs. The vault of the Masġed-e Kuceh rests upon four pillars. Another architectural type is the domed mosque, as present in Ardebil and Pārsiān with a preceding iwan. Yet, the Friday mosque in Golpājġān demonstrates that this type can also be changed into a four-iwan mosque.

Modern architecture

Whereas sacred structures of today still fall back on Iranian architecture forms, an increasing influence from the West can be noted in non-religious structures. An example here is the opera house and the senate building in Tehrān. Contrasting with this is the recourse to caravanseraï architecture, as seen in some hotels.

The change in housing construction is visible, above all in the adaption of modern building materials, although traditional architectural forms are further employed for decorative façades. Districts on Tehrān's periphery are marked by row houses built of brick and with modern construction elements such as steel and concrete. Moreover, upper-class dwellings display the trend towards more expansive, multi-storied structures.