East Africa

Muslim areas of East Africa have traditionally been the coastal strip which extends for over a thousand miles and includes the coasts of Somalia, Kenya, Tanzania (including Zanzibar) and northern Mozambique. This area has a homogeneous culture, known as Swahili, which is distinct from but related to both the Arabic Islamic world and the Bantu-speaking peoples of the interior.

Historical Background

The first documentary evidence concerning the East African coast comes from the first-century CE Periplus of the Erythraen Sea and the fourth-century geography of Ptolemy. The origins and history of Islam on the East African coast are obscure, although historical sources have been supplemented recently by information from archaeological excavations to produce at least an outline picture. Historically the earliest Islamic settlements on the coast took place during the eighth century and this has been confirmed recently by excavations at Shanga in Kenya.

The Swahili culture has traditionally been based on Indian Ocean trade with Arabia, India and the Far East and it is probable that this is how Islam arrived in East Africa rather than by conquest or a policy of colonization. Although it is likely that some Arabs and Persians may have settled on the coast, the overwhelming majority of the population had African origins as is demonstrated by the Swahili language itself which is essentially a Bantu language with many Arabic loan words. There is little documentary evidence of the early period before the arrival of the Portuguese although there are several early buildings which are dated by inscriptions. The earliest of these is a Kufic inscription in the Kizimkazi Mosque in Zanzibar dated to 1107 CE, although the mosque was rebuilt in the eighteenth century according to another inscription in the building. Other early dated monuments are in Somalia, including the Great Mosque of Mogadishu built in 1258 and the mosque of Fakhr al-Din in 1269.

In addition to inscriptions there are also various early accounts by travellers. In 1331 the coast was visited by Ibn Battuta who travelled as far south as Kilwa in southern Tanzania and described the people and buildings of the coast, and also in the early fourteenth century a Chinese embassy visited and described the coast.

Through analysis of trade goods, architectural features and local artefacts, archaeology has provided a more detailed model of how Swahili culture developed in the centuries prior to the Portuguese. In the earliest phase of settlement (eighth–ninth century) the main trading partner seemed to be the Persian Gulf; later on with the collapse of the Abbasid caliphate trade seems to be more connected with the Red Sea and ultimately Egypt. During these two early periods the towns of the Lamu archipelago such Manda and Shanga seem to have risen in wealth and importance. Later in the thirteenth century the area around Kilwa in southern Tanzania seems to have risen rapidly in wealth and importance along with the city of Mogadishu in Somalia. This change can partly be explained through the history of local dynasties and partly through the growth of the gold trade which originated in Zimbabwe and made its way via Sofala, Kilwa, Mogadishu and Yemen to the Middle East.

In the sixteenth century the coast was opened to Europeans when the Portuguese established a base in Mombasa as part of the sea route India. For the next two hundred years until the mid-eighteenth century the Portuguese tried to control the trade of the coast against the rival claims of the Dutch and the Omanis. Whilst the rivalry of the maritime powers disrupted trade, the stability of the coastal towns was threatened by the Gall, a nomadic tribe from Somalia, who sacked and pillaged towns as far south as Mombasa. In the mid-eighteenth century the Omanis at last won the struggle for supremacy on the coast when
Principal Islamic sites of East Africa
they captured the Portuguese base of Fort Jesus in Mombasa. During the next century Omani power was extended inland and by 1832 their position was so secure that Sultan Sayyid Said moved his capital from Muscat to Zanzibar which remained the capital until the beginning of the twentieth century.

The coast of East Africa is fairly low-lying and is fringed with extensive tracts of mangrove forests intermittently punctuated by inlets and creeks. Occasionally there are groups of islands such as at Kilwa or Lamu forming small archipelagoes and a few larger offshore islands like Zanzibar, Pemba and Mafia. The coast is protected along most of its length by substantial coral reefs which also form the base of most of the coastal foreshore. It is important to note that all the Islamic settlements so far discovered in East Africa are within four miles of the coast and most are considerably nearer. Most sites are located slightly apart from the mainland either on peninsulas which are cut off at high tide or on islands, although many are also located on the shores of creeks or inlets. The main form of communication was by boats with a fairly shallow draught, which could be brought in close to the shore at high tide.

The main building materials were coral, mangrove poles (barriti), coconut thatch (barissti) and mud which were all easily available on the coast. In the absence of any other suitable form of stone on the coast coral was employed as the main building material for stone houses. Two main types were used, reef coral quarried live from the sea and fossil coral which formed the main rock underlying the coast. Usually reef coral was used for the finer decorative elements of a building whilst fossil coral was used for the walls, although there are certain variations on this. Coral was also burnt and used to make lime for plaster and mortar. Mangrove poles were the main type of timber used and were available in considerable quantities as any coastal settlement would involve the clearance of large areas of mangrove. The standard dimensions of mangrove poles are between 1.80 and 2.80 m long which imposes a maximum span on roofs without supports. Barissti or coconut palm was used as a thatch to roof mud-walled houses and to build temporary fishing shelters (bandas). Red mud earth was used either as a building material for walls in wattle-and-daub constructions or as floor make up within stone houses. In most places and at most periods throughout the coast mud wattle-and-daub constructions would have been the predominant form of construction whilst stone was only used for special purposes.

Architecture

Although East Africa has been Islamic for more than 1,000 years the towns or settlements do not contain all the elements usually found in a Muslim town. There are, for example, no public baths or hammams, presumably because of the hot moist climate (although the Omanis built baths on Zanzibar in the nineteenth century). Similarly there are no suqs or open-air markets and no caravanserais or khans. Before the Portuguese period (sixteenth century) there do not seem to have been significant attempts to fortify towns with walls and there are few examples of fortified buildings before this period with the enigmatic exception of Husuni Ndogo (see Kilwa). The reasons for this are presumably connected with the maritime nature of Swahili civilization and its relative remoteness from other Muslim areas. Nevertheless the East African coast does have some outstanding examples of other Islamic building types including mosques, palaces, houses and tombs.

The earliest mosques so far discovered have all been in excavations at Shanga in Kenya where a sequence of five superimposed mosques have been discovered dating from the ninth to the fourteenth centuries. The first three of these mosques (Shanga I-III) are dated to before 900 CE and the earliest appears to have been a small open-air structure surrounded by an enclosure made out of wattle and daub. The structure was rectangular, measuring approximately 5 m north–south by 3.5 m east–west, with rounded corners, an entrance on the south side and a floor made of stamped green earth. No mihrab could be detected in the structure and may not have been thought necessary at this early date in such a small structure, where the orientation of the building and the position of the door opposite the qibla were enough to indicate the direction of Mecca (in East Africa the qibla is due north). The second mosque (Shanga II) was of a similar size and design although it had a more substantial structure with a plaster floor and roof supported on a
single central timber post and ten external posts. In the centre of the north wall was a large semi-circular post hole which may have been for a wooden mihrab. The next (Shanga III) to be built on the site was largely destroyed by subsequent rebuilding but was of similar dimensions to the two earlier mosques and had a roof supported by at least eight large posts. The first stone mosque (Shanga IV), dated to between 850 and 890, was built directly on top of the previous wooden building (Shanga III) and consisted of a rectangular structure built out of reef coral (also called porites) with a rectangular antechamber at the south end. The latest mosque on the site (Shanga V) is still standing to roof height and is dated to around 1000 CE. It is also a rectangular structure built out of fossil coral (coral rag) with an antechamber at the south end and four large posts to support the roof in the centre. There are entrances to this building on the east and west sides and no traces of a mihrab in the first phase, although this may have been a portable wooden structure.

Unfortunately there are few examples of early mosques to compare with those at Shanga so it is not possible to say how typical they are. However, comparison shows that many of the features at Shanga were developed in later mosques, in particular the absence of an external courtyard with arcades, the rectangular longitudinal alignment of the plan, the use of side rooms, the arrangement of doors either at the south end or from the sides and the gradual introduction of more permanent materials.

Other early mosques include the Kizimkazi Mosque on Zanzibar, the mosque at Manda, the three thirteenth-century mosques in Mogadishu, and the Great Mosque at Kilwa. The Kizimkazi Mosque on Zanzibar was rebuilt in the eighteenth century but has a twelfth-century foundation inscription confirmed by excavations. The plan consists of a narrow rectangular structure with a row of central columns supporting a roof two aisles wide and four bays deep. Excavations at Manda in Kenya have revealed a mosque with a similar plan which may date to the tenth century. Although more complex, the Great Mosque in Mogadishu (1238) is built around the same basic plan and consists of a simple rectangular structure two aisles wide and five bays deep. This building is also unusual for having a minaret, a feature which does not occur elsewhere in the architecture of East Africa until the nineteenth century.

Of all the mosques on the East African coast the Great Mosque at Kilwa is the most impressive because of its size and antiquity. The mosque basically consists of two parts, an earlier northern part and a much larger southern extension. Beneath the floors of the northern part of the building remains of an earlier mosque have been found which was initially dated to the twelfth century but may well be earlier. Although this mosque was not fully excavated it seems to have had the same design as the twelfth-century mosque which was later built over it. This mosque has a rectangular plan measuring approximately 6 m east–west by 12 m north–south with nine columns arranged in three rows. There is a large deeply recessed mihrab in the centre of the north wall and doorways on the west and east sides. In general this plan conforms to the general type of mosque on the coast although it is much larger than its contemporaries. Sometime in the sixteenth century a massive southern extension (20 m north–south by 15 m east–west) was added with alternating domed and barrel-vaulted chambers supported first on timber columns and later on composite octagonal masonry columns. The whole area was five aisles wide and six bays deep and had entrances on the west and east sides. Attached to the south-east corner of this area was a large masonry dome used as a prayer room by the sultan of Kilwa. The island of Kilwa also contains a nine-domed mosque known as the Small Domed Mosque which is one of the few examples of a Middle Eastern type of mosque in East Africa.

Before the sixteenth century most mosques were rectangular with a single row of columns aligned with the mihrab and a separate room for ablutions to the south. After this time, however, new forms were introduced, including the square-plan mosque as seen in the small mosques at Kua and the main mosque at Songo Mnara. From the fifteenth century onwards it is also possible to see a development of mihrabs from simple recessed niches into much more complex forms with multi-lobed arches recessed several times. From the late eighteenth century onwards carved plaster is used in place of reef coral to decorate the mihrab. Another feature which becomes popular at this period (except in the Lamu
area) is the recessed minbar which is set into the north wall of the mosque and is entered either through the mihrab itself or through a separate opening in the wall. Later on, in the nineteenth century, minarets become a feature of mosques for the first time. Previously some mosques had a form of staircase minaret which provided access to the roof from which the call to prayer could be made. The reason for the absence of minarets until this relatively late date is not known, although it is likely that it may have had a religious basis connected with Ibadiism. Certainly the technology for building towers was present as can be seen in the numerous pillar tombs of the coast and structures such as the Mbraaki pillar in Mombasa built in the fourteenth century. Some of the earliest minarets in East Africa were built on the Kenya coast such as at Shella near Lamu and several mosques in Mombasa town.

After the mosques palaces represent some of the best examples of Islamic architecture on the coast. Although not many have survived from the earliest period it is likely that most settlements had some form of palace or great house located next to the main mosque. Excavations at Shanga and Manda (both in Kenya) have revealed early monumental buildings which date to before 1000 CE near the congregational mosque of the settlement. The island of Kilwa contains several palaces, the most famous of which is Husuni Kubwa which may date from the thirteenth century. This is a massive complex over 100 m long which occupies a projecting headland away from the main settlement. The palace has a monumental entrance at the south end which leads into the south court, roughly 40 m square with arcades and rooms arranged on each side. A doorway in the north wall leads on to the central palace area which is in turn divided into four courtyards which have been interpreted as an audience court, a domestic court, a palace court and a courtyard around an octagonal pool. Other palaces on Kilwa include the Makuwani Palace (eighteenth century), the Great House next to the Great Mosque (fifteenth century) and Songo Mnara on a nearby island (also fifteenth century).

Husuni Kubwa is certainly the largest pre-eighteenth-century palace on the coast and most subsequent palaces were more like large houses. The fifteenth-century palace at Gedi appears as the largest house amongst several large houses each with similar arrangements of courtyards, storage areas and public and private rooms. The palace was built by the Sheikh of Malindi and was distinguished from other buildings in the town by a royal tomb adjacent to the entrance. The palace consists of a high-walled rectangular enclosure (approximately 35 by 25 m) with a monumental entrance on the east side. The main area of the building is the north courtyard which has been interpreted as an audience hall for the ruler who would have conducted his official business from there. This courtyard leads on to the private quarters of the sultan to the south. The harem courtyard is on the west side of the audience courtyard but separated from it by a wall, and is only accessible by going through the private apartments or by a separate entrance to the palace on the west side which opens directly into the harem area.

At the beginning of the nineteenth century the Omanis introduced a new concept of palace architecture with large multi-storey buildings enclosed within gardens. The earliest of these is the Mtoni Palace built in 1830 around a large square courtyard and with a Persian bath house attached. The largest of the Omani palaces is the Maruhubi Palace which also had a bath house and fort within the gardens which covered 50 hectares.

Houses of the East African coast represent a continuous development of domestic architecture that can be traced back over 1,000 years. Unfortunately most houses were built of impermanent materials such as wattle and daub, so that the surviving stone houses only represent a small proportion of the dwellings in even the wealthiest towns. However, from the available evidence it seems likely that the basic wattle-and-daub house retained a fairly conservative plan through history; thus remains of wattle-and-daub houses at Shanga, Manda and Kilwa seem to be fairly consistent with present-day houses. These consist of a rectangular structure with a pitched roof supported on rafters and posts sunk into the ground. The roofs would be covered in coconut palm thatch (barissti) and the walls made of wattle and daub (thin stakes dug into the ground, interwoven with palm leaves and covered with a protective layer of mud). Wattle-and-daub constructions appear to be the earliest form of
housing in Swahili settlements and predate the first stone houses by 200 years.

The earliest coral stone buildings on the coast seem to have been public buildings such as mosques and administrative centres, and the first domestic stone buildings appear to have been palaces. Only in the fifteenth and sixteenth centuries did stone houses become common in the settlements of the coast at places like Songo Mnara and Gedi. At Takwa, a settlement inhabited between the sixteenth and seventeenth centuries, there were over 150 stone houses and one mosque, indicating that stone houses were the norm. However, it was not until the eighteenth and nineteenth centuries that stone houses became common in most of the major settlements. The town of Lamu probably contains the best examples of eighteenth-century domestic architecture on the coast: the typical Swahili house of the period consists of a stone enclosure wall with no outward-facing windows. The entrance to the building is usually a porch with benches either side which forms the only generally accessible part of the house. The porch opens on to a small ante-room which in turn leads out into a courtyard which contains a small bathroom and a well. There is a guest room on one side of the courtyard (usually the north) which is separate from the rest of the house, whilst the private quarters are on the other (south) side of the courtyard. These usually consist of a series of long narrow rooms arranged side by side and opening successively one on to the other. The outer two rooms are the outer and inner living rooms which are both open to receive light from the courtyard. There are usually raised areas at either end of each room which can be curtained off and used for sleeping areas. Behind the inner living room is the harem which is another narrow longitudinal room with wooden doors separating it from the living rooms. Behind this room there is an inner bathroom on one side and a larger room usually with a small blocked doorway to the outside which is used for laying out the dead. The houses are usually decorated with stucco work in the form of niches and large decorative friezes which are mostly concentrated around the harem. Either side of the doorway to the harem are niches, and within the harem itself, set into the wall facing the door, are a large array of niches. The niches were used for displaying valuable imported pottery although their precise significance is a matter for discussion.

Most houses were single storey and if another level was built this was usually for another house or family unit for the children of the family on the ground floor. When an upper storey was added there was usually an extra single room with a thatched roof added at a higher level which functioned as a kitchen (kitchens were usually in the courtyard so that the smoke could escape). Stone houses were only built by people of high status within the community and could not be bought or sold to outsiders.

Monumental stone tombs are one of the characteristic features of Swahili architecture. Like stone houses tombs made of stone were not available to everyone and were probably reserved for people of wealth or rank; the precise status required is not known, although it has been pointed out that the tomb of the Lamu saint Habib Salih bin Alwi was built of wood as he may have been considered an outsider and therefore not eligible for a stone tomb.

Most tombs consist of a rectangular enclosure of varying dimensions with the east side of the tomb decorated in various ways. Monumental tombs are usually built either next to a mosque (usually the north end) or isolated in the open country. Often they are used as shrines where offerings are left and prayers said on specific days. In Somalia and northern Kenya there is a group of tombs consisting of large enclosures with an average size of 30 m square and a maximum of over 75 m square.

Decoration takes several forms, the best known of which is the pillar; other forms include panelled decoration, stepped ends, and a domed or pitched roof. Pillar tombs consist of a cylindrical or square shafted pillar rising out of the wall of the tomb which is usually decorated with panels. The pillars are sometimes decorated with fluting and Chinese bowls set into the top of the pillar. Pillar tombs are widely distributed and the earliest examples are dated to the fourteenth century. Although most tombs have some form of panelled decoration, in some structures this becomes quite complex and is the main form of decoration as in the Ishakani tomb of north Kenya which is decorated with more than thirty panels with various forms of geometric designs consisting of triangles, diamonds, squares, rectangles and
chevrons. Other panelled tombs are decorated with plain panels alternating with niches. Many tombs are decorated with stepped corners as a main feature of their decoration; this was the predominant form of tomb until the nineteenth century. Although most tombs are open enclosures, occasionally they are covered over either with a dome or a pitched roof. The earliest examples of covered tombs are from Ungwana, where three tombs covered with gabled roofs are dated to the mid-thirteenth century. Domed tombs seem to be much later and only occur after the sixteenth century.

See also: coral, Gedi, Kenya, Kilwa, Lamu, minaret, Somalia, Sudan, Tanzania, Zanzibar

Further reading:

Edirne (Byzantine: Adrianople)
Major Ottoman city in European Turkey on the main route between the Middle East and Europe.

Edirne was captured in 1362 and rapidly rose to replace Bursa as the Ottoman capital in 1366. During the fifteenth century the city was developed as a major Turkish city with caravanserais, khans and mosques and a royal palace. The capture of Constantinople (later Istanbul) in 1453 meant that Edirne was no longer the capital, although it continued to be one of the first cities of the empire and a country residence for the Ottoman sultans until the nineteenth century. Unfortunately the royal palace which was located on the banks of the Tunca river has disappeared, but photographs and plans show an ancient building considerably altered
by nineteenth-century additions when it again was used as a residence of the sultans. The best-preserved part of the palace seems to have been the kitchens which provided a model for those of the Topkapisarai.

The oldest surviving mosque in Edirne is known as the Yildirim Cami which is built on the ruins of a church. The date of construction is debated but is believed to be between 1360 and 1390. Other early mosques include the Muradiye Tekke and Mosque built in 1421 which includes both green tiles of the Yeşil Cami (Bursa) type and blue and white Chinese style tiles. Unfortunately the building was heavily damaged in an earthquake of 1751 and much of the original appearance of the mosque has been lost in the eighteenth-century restoration. The largest early mosque at Edirne is the Eski Cami completed during the reign of Mehmet I in 1413. This is a nine-domed building with a portico of five bays on the north side and a minaret at the northwest corner (the second minaret was added twenty years later). The six side domes are hemispherical whilst the central domes on the line of the mihrab are a variety of shapes (polygonal, octagonal, and star-shaped vaults).

Of a similar period but very different style is the Üç Şerefeli Cami begun in 1437. Where the Eski Cami was the last great Ottoman mosque to be built in the multi-domed fashion the Üç Şerefeli was the first of the new type of imperial mosque. It consists of a rectangular courtyard and smaller rectangular prayer area covered by one large dome and four subsidiary domes (two either side). The main dome rests on a hexagonal drum supported by two large octagonal piers. This was a revolutionary design when mosques were either a collection of single-domed units or a large area covered by multiple domes of equal size like the Eski Cami. The Üç Şerefeli was also unique for its time because of its four minarets decorated in a variety of patterns; they were placed at the corners of the courtyard and arranged so that the two smallest were at the front and the tallest minarets were at the back. The tallest minaret is in the north-west corner and is distinguished by its three balconies which give the building its name.
In 1484 Beyazit ordered the construction of a major new mosque and hospital by the side of the Tunca river. The complex covers a large area (approx. 300 by 200 m) and includes the mosque, a hospital, sanatorium and medical school. There is a stone bridge next to the complex which was probably built at the same time. The mosque at the centre of the complex consists of a single-domed unit, flanked by two tabhanes (dervish hostels) and approached via a rectangular arcaded courtyard. The most significant architectural feature of the complex is the hexagonal hospital hall which encloses a central domed hexagonal court leading off to vaulted iwans.

Edirne's continued importance during the sixteenth century is proved by Selim II's choice of the city for his imperial mosque the Selimiye, whose central dome was the largest Ottoman dome and was equal to that of Hagia Sophia with a diameter of 32 m. The mosque forms part of a complex which includes a covered market, a madrassa and primary school. Like the Üç Şerefeli Mosque the Selimiye has four minarets although here one is placed at each corner of the domed prayer hall rather than the courtyard.

See also: Ottomans, Selimiye, tekke

Further reading:
R. Meyer-Riefstahl, 'Early Turkish tile revetments in Turkey', Ars Islamica, 4: 1937.

Egypt (excluding Cairo)

Located at the north-eastern tip of Africa forming a bridge between Africa and Asia. The population of the Arab Republic of Egypt is 90 per cent Muslim and 10 per cent Coptic Christian. Despite its vast size (1 million square kilometres) most of the population lives in the region of the Nile Delta between Cairo and Alexandria. The other inhabited area is the Nile valley which runs the whole length of the country from Sudan in the south to the Mediterranean in the north. The rest of Egypt is inhospitable desert with a sparse population.

Egypt is fortunate in having a wealth of building materials at its disposal. The main materials are stone, baked brick, mud brick and wood. In the Delta region (which includes Cairo and Alexandria) suitable building stone is not naturally available, although Ancient Egyptian monuments containing stone imported from Upper Egypt provided a plentiful quarry for many Islamic buildings. Even in Upper Egypt ancient structures were often the most accessible source of building stone. Nevertheless, baked brick was often the preferred material because of its relative cheapness (i.e. transport costs), its versatility and standard size. Mud brick is obviously cheaper than baked brick, can be quickly produced and provides excellent thermal insulation. In pre-modern times mud brick formed the basic building material for most of the country but more recently it is confined to southern Egypt. Date palms form the main natural source of wood and palm wood is used for most traditional architecture. More exotic wood could be imported from Europe or Africa for use in the wealthier houses of Cairo.

Several factors have combined to make the Islamic architecture of Egypt outside Cairo virtually unknown: first, the overwhelming wealth of Cairo's architectural heritage; second, the monuments outside Cairo are often made of mud brick and have survived less well; third, monuments of Egypt's pharaonic past have tended to overshadow those of later periods. In this discussion I have concentrated on the architecture of Upper Egypt which generally receives less attention.

The most important monuments of Upper Egypt are the necropolises of Aswan, the al-'Amri Mosque at Qus and a group of five Fatimid minarets. The necropolis of Aswan is located outside the town of Aswan in Upper Egypt. The necropolis consists of a long strip 500 m wide stretching along the side of the road for nearly 2 km. Within the necropolis there are more than 1000 tombs built which originally had inscriptions dating them to the eleventh or early twelfth century. The tombs represent one of the best examples of medieval funerary architecture in the Middle East. There are several forms of tomb, from simple rectangular enclosures open to the sky to elaborate domed structures with mihrabs and a variety of vaults. Mud brick is the main material of construction although baked brick was used for the domes and some of the arches. The outer surfaces of the tombs were originally covered in lime plaster although
in most cases this has now worn off. A characteristic feature of the domed tombs were projecting horns at the angles of the drum which supported the dome. The tombs are also significant as some of the earliest examples of muqarnas squinches.

The city of Qus is located on the east bank of the Nile more than 950 km south of Cairo. Qus replaced Qift as the dominant city of Upper Egypt during the ninth to tenth centuries. The city's main role was as a Nile port for goods coming overland from the Red Sea port of Qusayr. The main monument in the city is the al-Amri Mosque which is a Fatimid building founded in 1083 although it has later Mamluk and Ottoman additions. The only Fatimid remains are part of the qibla wall which includes the original round-arched mihrab. The most famous part of the complex is the tomb from the Ayyubid period built for Mubarak ibn Maqlid in 1172. The mausoleum stands on a square base and is similar to some of the later tombs at Aswan with projecting horns on the drum. However, the design is more advanced and includes developed muqarnas niches and a slightly fluted dome pierced with star- and tear-shaped openings.

The five minarets of Upper Egypt which are usually included in any discussion of Fatimid minarets are also dated to the eleventh century. The mosque of Abu al-Hajjaj in Luxor is the most famous because of its position on the roof of the Temple of Luxor. The mosque is mostly a nineteenth-century construction but one of the two minarets dates to the eleventh century. The minaret is built of mud brick and has a square base 5 m high surmounted by a tapering cylindrical shaft which reaches a height of nearly 15 m. The top of the minaret is a tall domed pavilion with two tiers of windows. The square base is reinforced with three layers of wooden beams and the staircase inside is also made of wood. Eighty kilometres south of Luxor is the small market town of Esna. In the centre of the town is the Ottoman mosque of al-Amri with a Fatimid minaret similar to those of Aswan and Luxor. The square base of the minaret is built out of baked brick with layers of wood inserted every nine courses. The tapering cylindrical shaft is white-washed and may be built of mud brick. The minaret at Aswan is similar with a square base and a tapering shaft, but lacks the domed chamber on the top, although the remains of brackets indicate that there was once a superstructure. Externally this building is built of baked brick although the interior is made of unbaked mud brick. Its notable feature is the two bands of brickwork inscription at the top. This is one of the earliest examples of this type of inscription (hazarbaf) which was later to become a common feature in Islamic architecture. To the south of Aswan near the village of Shellal are two minarets of similar style to the minaret of Aswan and the mosque of Abu al-Hajjaj in Luxor. One of the minarets known as Mashad al-Bahri has a brick inscription similar to that of the minaret in Aswan. The other minaret known as al-Mashad al-Qibli is of interest as it stands next to a mosque of approximately the same date. The mosque is built on to a slope so that at one end it rests on a vaulted substructure which overlooks the valley below. The sanctuary of the mosque is covered by six domes and has three minarets in the qibla wall.
See also: Cairo, Fathy, Fustat, Hassan, mud brick

Further reading:


Fatehpur Sikri
Abandoned city in northern India founded by the Mughal emperor Akbar in 1571.

Fatehpur Sikri derives its name from the village of Sikri which occupied the spot before, the prefix Fatehpur, City of Victory, was added in 1573 after Akbar's conquest of Gujerat in that year. Akbar chose this site for a city out of reverence for Sheikh Salim, a religious mystic of the Chisti order who prophesied that he would have three sons. In order to ensure the efficacy of the prophecy Akbar moved his pregnant wife to Sikri where she had two sons. In response Akbar decided to build an imperial mosque and palace at the village of Sikri. The location of the palace and mosque at the site encouraged further settlement by courtiers, noblemen and their attendants so that within a few years a city had grown up which was enclosed by a defensive wall. The city is built on the ridge of a hill next to a lake which has now dried up, giving rise to the theory that the city was abandoned because its water supply had failed. The centre of the city was the palace and mosque, which are located on the top of the ridge overlooking the lake, while the rest of the city was located on the sides of the ridge away from the lake. The city occupies an area of 5 km square with a wall on three sides and a fourth side open to the lake. There are three main gateways in the city wall between which there are semi-circular buttress towers.

The rise of the city from 1571 was very rapid so that after 1573 it was regarded as the capital of the Mughal Empire. However, after the city was abandoned by Akbar in 1585 to fight a campaign in the Punjab, the city seems to have declined just as rapidly so that by 1610 it was completely abandoned. The reason for the sudden decline of the city is usually given as the failure of the water supply, however the real reason may have been the emperor's loss of interest in the place. As the sole reason for the city's existence seems to have been a whim of the emperor, the fact that he was no longer in residence meant that there was no longer any incentive for anybody else to stay. The effect of the emperor's presence on the place may be gauged from an early description of the town which described the road from Agra to Fatehpur Sikri as completely filled with merchants' shops and stalls as if the two cities were one. A useful analogy may be with the Abbasid capital of Samarra which flourished for fifty years until the caliphs moved back to Baghdad when it declined to the level of a market town.

The first major structure built at the site was Jami Masjid (congregational mosque) which was completed in 1571 the year of Sheikh Salim's death. At the time of its construction it was the biggest mosque in India measuring 160 m east-west by 130 m north-south. The central courtyard is dominated by the sanctuary which has a huge central iwan leading on to a domed area in front of the main mihrab. Either side of the central dome are two smaller domes each covering the area in front of a smaller mihrab. As elsewhere at Fatehpur Sikri the building is covered with Hindu architectural features, thus the arcade of the sanctuary and the central iwan are capped by lines of chатris and internally the roofs are supported on Hindu-style carved columns, whilst the domes are supported on corbels in the tradition of Indian temple architecture. Approximately in the centre of the north side of the courtyard are two tombs, one belonging to Sheikh Salim and another to his grandson Islam Khan. The tomb of Sheikh Salim consists of a square domed chamber with an outer veranda filled in with a pierced marble screen (jali). The outside of the tomb is protected by a sloping canopy (chajja) supported on snake-like brackets. There are two main entrances to the mosque, a small private entrance from the palace on the east side and a monumental public entrance on the south side. The public
The entrance is known as the Buland Darwaza and was built in 1576 to commemorate Akbar's victory over Gujarat. The gate's name Buland Darwaza, 'Tall Gate', refers to the gate's outstanding height of 40 m. Like most Mughal mosques this building is raised up on a terrace so that the entrances are approached by flights of steps; in the case of the Buland Darwaza the stairs rise up another 12 m from ground level. The gate has an iwan plan with a large, deep central iwan flanked by two pairs of side iwans. In the middle of the back wall is a smaller gateway leading into the mosque also flanked by two blind arches of equal size. The frame of the central iwan is surrounded by a monumental inscription and is capped by domed chattris.

The largest building complex at Fatehpur Sikri is the palace, covering an area approximately 250 m square. The layout is similar to that of other imperial Mughal palaces with three main areas, the public area, the mardana or men's area, and the zenana or women's area. Visitors approaching the palace first enter through a gateway to a large arcaded courtyard with the Diwan-i Amm (public audience hall) in the centre of the west side. In other Mughal palaces this is usually a grand, highly decorated building, but in this case it is a small rectangular pavilion with a central bay at the front to accommodate the emperor. There is no direct access from the courtyard to the pavilion which is raised at least 2 m above the level of the courtyard. This arrangement suggests a greater degree of security than at other palaces, a theme which is repeated throughout the palace particularly in the women's quarters.

The overwhelming impression within is of a Hindu palace, with few indications of Islamic design. Immediately behind the Diwan-i Amm is a large courtyard in the centre of which a cross is marked out; this is a giant version of a Pachisi board which is an ancient Indian game. To the north of this courtyard is the most intriguing section of the palace, called the Diwan-i Khass. This is a square two-storey building with a balcony supported on heavy corbels above which is a chaaja also supported on heavy corbels. On the roof there are domed chattris at each corner. Inside the building consists of a two-storey hall with a gallery at first-floor level. Bridges which run diagonally from the corners of the gallery connect to a balcony supported by a central pillar. The pillar is richly carved in the Hindu tradition with a mass of heavy corbels supporting the circular balcony above. This arrangement does not correspond to any other private audience room in a Mughal palace, nor is it encountered elsewhere in Mughal architecture. However, the arrangement of a square building with a central pillar may reflect some Hindu mandala whereby the central column represents the axis of the world; in this, if this was also the place where the emperor sat, he would be identifying himself as the axis of the world. In the context of his conquest of Gujarat Akbar may have been wishing to describe himself in Hindu terms of power.

The arrangement of a central column approached by four bridges is repeated in a less formal setting in the courtyard known as the Anup Talao where there is a square pool with a central island approached by bridges from each of the four sides. The Anup Talao forms the central area of the private residence of the emperor and the main part of the mardana, or men's area. To the south of the pool is a pavilion known as the khwabagh or bedroom although its exact use is not known.

The area to the east of the Anup Talao is the zenana, or women's area, separated from the rest of the complex by a long wall. This is the most magnificent part of the palace and was decorated with painting and rich carvings. One of the most highly decorated buildings of the palace is the Sunahra Makan which is decorated with both geometric and figurative wall paintings. The most visible building in this area is the Panch Mahal, a five-storey pavilion crowned with a domed chatri which overlooks the men's area. The heart of the women's area, however, is known as Jodh Bai's Palace, a rectangular courtyard enclosure separate from the rest of the palace. The enclosure is entered through a single fortified gateway on the east side which leads into the rectangular courtyard. The courtyard is surrounded by arcades on all four sides and in the middle of each is a two-storey house with staircases to the upper floors and apartments. To the north of Jodh Bai's Palace is the Hawa Mahal or wind palace, which is a raised pavilion designed to catch the breeze. Another of the residential areas for women is a structure known as Birbal's House which is located to the west of Jodh Bai's Palace and is thought to be one of the earliest parts of the palace (it is dated by an inscription to 1571).
Although the palace and city of Fatehpur Sikri are remarkably well preserved, the design and decoration present a problem of interpretation. First it should be pointed out that, although the city was not inhabited for very long, at least two phases of construction can be discerned. The period during which Fatehpur Sikri was built coincided with two important events, the conquest of Gujarat in 1573 and the convening of an inter-faith conference in 1575. The conquest of Gujarat was one of Akbar's major achievements marking the Mughal domination of all northern India; it is commemorated in the gate of the mosque and in the name of the city. It seems likely that this victory may have been the impetus which changed the city from religious shrine to imperial capital. The conference of 1575 involved participants from the major religions in India at the time and included several Muslim sects, Hindus, Jains, Zoroastrians and Catholic Christians from Goa (Jesuits). The debates took place in a part of the palace known as the Ibadat Khana which is now thought to have disappeared. The end result of the conference was the formulation of a controversial new religion called Din Ilahi of which Akbar was the head. Akbar's interest in other religions may explain why he was prepared to have so much Hindu-style architecture in his palace, in particular the enigmatic form of the Diwan-i-Khass. The design of Fatehpur Sikri is unusual in Mughal architecture as a whole but may be regarded as characteristic of Akbar's reign. Other examples of Akbar's Hindu-style architecture are the Jahangari Mahal in Agra fort, the Ajmer fort in Rajasthan and Akbar's tomb at Sikandara near Agra.

See also: Mughals

Further reading:
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Fathy, Hassan

Egyptian architect noted for his use of traditional materials to build modern Islamic structures.

Born in 1900 the son of a wealthy landowner Hassan Fathy was brought up in Cairo, Alexandria and Europe. He studied architecture at the University of Cairo whence he graduated in 1926. In 1927, on his first visit to one of the family estates, he was shocked by the terrible living conditions of the poor and resolved to find a way to house the poor reasonably. He also conceived a love for the Egyptian countryside which was to motivate him for the rest of his life. He realized that imported western material and technology was too expensive and inappropriate for rural housing in Egypt. Instead Fathy thought that mud brick, the traditional building material of Egypt, should be used in modern constructions. Although he realized that traditional designs were sometimes too cramped and dark for modern housing, Fathy argued that this was not the fault of the material.
In 1937 Fathy held exhibitions of his work at Mansoura and Cairo which resulted in several commissions from wealthy patrons. However, these buildings were quite expensive and relied on timber for their flat roofs. With the outbreak of the Second World War and the resulting shortage of timber, he had to find a new method of roofing his houses. On a visit to Upper Egypt Fathy noticed that the Nubian villages were roofed with mud brick vaults produced without wooden centring. The method used was to lean the bricks against an end wall so that all the bricks leant against each other. Fathy employed the local Nubian builders and undertook several projects using these workers. The most important of these projects was the Nasr House in Fayyum and the tourist rest-house at Safaga.

In 1946 Fathy was approached by the Department of Antiquities who wanted to move the people of Gurna in western Luxor out of the ruins of ancient Thebes where they had been living. The Gurnis had been living in the ancient Necropolis for several generations and some lived in the tombs themselves. Nevertheless, the Department of Antiquities issued a decree stating that they wanted the 7,000 people moved to a new settlement which was to be designed by Fathy. The settlement was to contain homes for 1,000 families and include public buildings like a mosque, a covered market, schools and a theatre. The houses were built around courtyards and arranged in neighbourhood groups which had access to the main streets. Although built with traditional materials Fathy made use of earth scientists and structural and mechanical engineers to improve his designs and ensure that they worked. Part of the project was to involve the future inhabitants in the construction, both as a cost-saving measure and so that they were not alienated from their new housing.

However, the project faced considerable difficulties in implementation through the opposition of some of the Gurni Sheikhs and the slow-moving bureaucracy of the Egyptian Antiquities Department.
Fatimids

In addition there was general suspicion of a project which involved traditional materials at a time when Modernism was seen as the only way to build. In the end only one-fifth of the project was completed and some parts of the village like the khan and the craft centre remain unused. Nevertheless, the mosque is well used and maintained and the Department of Antiquities has restored the theatre, belatedly realizing the value of Fathy's work. Despite the difficulties New Gurna showed the potential of mud-brick architecture and the value of training people in traditional techniques.

Other important projects carried out by Fathy in the 1950s were at Lu'lat al-Sahara in the Nile Delta and the village schools project. At Lu'lat al-Sahara houses were built in pairs, together with a mosque and a school. The village schools project involved Fathy in designing a school which was to be the prototype for village schools throughout Egypt. The design consisted of domed rooms opening on to courtyards with ventilation shafts to cool the interior during the summer. Unfortunately only two of the schools were built, one at Fares and the other at Edfu.

In 1957 Fathy left Egypt for several years to work for an architectural firm in Athens specializing in the Middle East, and during this time he designed a traditional housing scheme in Iraq. In the early 1960s Fathy returned to Egypt where he undertook two further major projects, a training centre in the Nile Valley and a new town in the Kharga oasis. Unfortunately the training centre was subsequently destroyed because of its bad location and the town known as New Bariz was abandoned because of the 1967 war.

In the 1970s Fathy began writing books about his work which were highly successful in universities throughout the world where the appeal of Modernism was wearing off. He showed that it was possible to design and build desirable residences and functional buildings which respected the traditional values of a culture and were also cheap. Since the 1970s Fathy's work in Egypt was concentrated on private houses and commissions. These buildings were constructed with increasingly sophisticated designs based on harmonic units of measurement derived from the dimensions of the human body. Probably the most important recent commission was for a Muslim community in New Mexico known as Dar al-Salam and built in 1981.

Further reading:

Fatimids

Caliphs who ruled North Africa, Egypt and Palestine from the tenth to the twelfth century.

The Fatimids were a religious dynasty who claimed descent from the prophet's daughter Fatima. In historical terms the Fatimids belonged to an extreme sect of Shi'a known as Ismailis who emerged as rivals to both the Umayyads of Spain and the Abbasid caliphate in Baghdad. The Fatimids' first successes were amongst the Berber tribes of North Africa who adopted the Fatimids as leaders. Their first conquest destroyed the Aghlabid rulers of Ifriqiyya (Tunisia) in 909 and replaced them with the Fatimid caliph the Mahdi Ubaid Allah. In the following years the Fatimids pursued an aggressive expansionist policy, conquering Tripoli and making raids on the French and Italian coasts. During the reign of the Caliph al-Mu'izz the empire was expanded westwards to include the whole of North Africa to the Atlantic Ocean and eastwards to Egypt and Palestine in 969. The conquest of Egypt began a new phase in Fatimid history with the foundation of Cairo as the imperial capital.

The architecture of the Fatimids can be divided into two periods, the North African period from 909 to 969 and the Egyptian period from 969 to 1171. The North African period was a time of expansion and religious extremism which can be seen in the architecture of the mosques. Examples of early Fatimid mosques are at Ajdabiya in Libya and Mahdiya in Tunisia. The first of these was the mosque of Mahdiya, which was built like a fortress with two square corner towers flanking a single projecting monumental entrance. The mosque at Ajdabiya had a similar plan but lacks the monumental entrance façade. For ideological
reasons neither of these mosques had a minaret, a feature which remained absent until the last years of Fatimid rule in Egypt.

See also: Ajdabiya, Cairo (The Fatimid Period), Libiya, Mahdiya, Tunisia

Fez

Moroccan city noted for its Islamic architecture.

Fez is located in the north-east of Morocco on either side of the Wadi Fez. The city was founded in the late eighth and early ninth century by Moulay Idris the Younger. It was divided into two halves, the east bank representing the late eighth-century city and the west bank representing the city of Moulay Idris. Each of the districts had its own congregational mosque, that on the west bank is known as the Qarawiyyin Mosque and that on the east is known as the mosque of the Andalusians.

The Qarawiyyin Mosque, founded in 859, is the most famous mosque of Morocco and attracted continuous investment by Muslim rulers. There were extensive renovations in 956 by the Umayyad caliph of Spain who also added the minaret. The building did not reach its present form and size (85 by 44 m) until 1135. The prayer hall comprises ten aisles running parallel to the qibla wall and a raised transverse aisle leading to the mihrab. The aisles are covered with gabled wooden roofs covered with roof tiles. There is a dome over the mihrab and the entrance porch in addition to the seven domes which cover the north arcade of the courtyard. The domes are made of elaborate muqarnas vaulting with zig-zag ribbing on the exterior. Inside the mosque is decorated with stucco, the most elaborate being reserved for the area in front of the mihrab. The mosque preserves its twelfth-century minbar which is regarded as one of the finest in the world. The courtyard is decorated with tile mosaic (zilij) dadoes and has a magnificent ablutions pavilion at the west. The pavilion, built in the sixteenth century, rests on eight marble columns and has a tile-covered wooden roof with overhanging eaves. The woodwork of the eaves is of exceptional quality with carved muqarnas mouldings and miniature engaged piers forming blind niches decorated with geometric interlace.

The mosque of the Andalusians has a similar plan to the Qarawiyyin Mosque although it is less well endowed. Like its twin this mosque had a minaret added by the Umayyad caliph Abd al-Rahman, although subsequent restorations were less successful. The other Great Mosque of Fez, the Jama‘ al-Hamra, was built in 1276 and has aisles aligned perpendicular to the qibla wall in the typical North African style.

From the thirteenth to the seventeenth centuries the madrassa became the principal form of religious architecture. The madrasas of Fez have a standard form of a two-storey courtyard building, with students' cells above and a mosque and teaching rooms below. The courtyards were usually decorated with tile mosaic and had a central pool. The most famous examples are the Saffarin, the Sahrij, the 'Attarin and the Bu 'Inaniya each of which has special features to distinguish it from its neighbours. The Bu 'Inaniya is the most unusual as it has a minaret and an early mechanical clock with gongs.

Most of the houses in Fez date from the seventeenth century or later although they preserve earlier plans. The standard construction material is either rubble stone or baked brick, with wood used for the roofs and decorative details. The usual plan is similar to the madrasas, with a rectangular courtyard and two storeys although the houses are usually less spacious.

See also: Morocco

Further reading:
—- La Mosquée des Andalous à Fes, Paris (n.d.).

Firuzabad (India)

Deserted fifteenth-century palace city in the Deccan, southern India.

The city was founded in 1400 by the Bahmani ruler Taj-al-Din Firuz Shah. The site is located on the banks of the Bhima river and consists of massive fortification walls which enclose the city on three sides. In the centre of each side are huge vaulted gateways which lead into the ruined central area. There are several buildings still standing within the city, the most impressive being the Jami
Firuzabad (Iran)

Masjid which includes a huge rectangular courtyard entered via a domed gateway. Next to the Jami Masjid is the main palace area which comprises a series of interconnecting courtyards enclosed within high walls. Other standing monuments include several vaulted chambers, bath houses and a small mosque. The buildings are built in the local Sultanate style with flattened domes, bulbous finials and tapering bartered walls. There is also a notable Central Asian influence in the layout and architecture of the city.

See also: Deccan, India

Further reading:

Firuzabad (Iran)

Sassanian capital of Iran near the modern Iranian capital of Tehran. Famous for its royal palace.

fortification

The earliest forms of fortification in Islam were probably towers of a type still seen in Arabia today, of mud brick or dry stone wall, with a tapering profile, built on a circular plan. City walls do not appear to have been common in Muhammad's time and Ta'if is the only city known to have had a wall. The conquest of Syria in the first decades of Islam brought the Arabs into contact with the forts and fortresses of the Roman limes (desert border). Many of these fortresses were adapted for residential or official uses, thus Qasr al-Hallabat, Udruh, and Azraq were all remodelled during the Umayyad period. This form was also adapted for new constructions, thus the palaces of Mshatta, Khirbet al-Mafjar and Qasr al-Tuba are all built in the form of fortresses with a square or rectangular enclosure protected with corner and interval towers. The palace of Qasr al-Hayr West was built around the tower of an existing (sixth-century) Byzantine monastery which included a
machicolation above the gateway. This feature was later included in the gate of the palace at Qasr al-Hayr East 40 km east of the earlier one.

The influence of Sassanian architecture in this early period should also be noted — thus Qasr Kharana in Jordan is purely Sassanian in form although it is certainly an Umayyad construction. Further east in Iraq is the palace of Ukhaidhir which is the most complete example of early Islamic fortification. The palace forms a large rectangular enclosure with round corner towers and semi-circular buttresses at regular intervals. The area between each buttress comprised two tall arches built flat against the wall, above the arches there is an enclosed parapet containing vertical arrow slits and downward openings between the arches. This is the first example of continuous machicolation, a feature which did not appear in Europe until the fourteenth century.

The eighth-century walls of Baghdad were one of the greatest feats of military engineering in the Islamic world. Although there are no physical remains, descriptions indicate that the city was a vast circle enclosed within a moat and double walls. There were four gates each approached through a bent entrance. The bent entrance and the circular shape of the city are both features which appear to be copied from Central Asian architecture and were not found in contemporary Byzantine architecture.

The best surviving examples of pre-Crusader city fortifications are the wall and gates of Fatimid Cairo built in the eleventh century. There are three gates — the Bab al-Futuh, the Bab Zuwayla and the Bab al-Nasr — each of which is supposed to have been built by a different architect. Each gate consists of two towers either side of a large archway which leads into a vaulted passageway 20 m long with concealed machicolation in the roof. The lower two thirds of each gateway is solid whilst the upper part contains a vaulted room with arrow slits. Another feature of the tenth and eleventh centuries is the development of coastal forts or ribats which were designed to protect the land of Islam from Byzantine attacks. These forts have a similar design to the early Islamic palaces comprising a square or rectangular enclosure with solid buttress towers.

The arrival of the Crusaders at the end of the eleventh century revolutionized military architecture. During this period there is a fusion of European, Byzantine and Islamic principles of fortification which produced castles of enormous size and strength. European introductions were the central keep, curtain walls which follow the contours of a site and massive masonry. Although the majority of castles of the period were built by the Crusaders there are some outstanding examples of twelfth-century Ayyubid castles such as Qal’at Nimrud (Suibeib) and Qal’at Rabad (Ajlun). This new sophistication was also applied to city fortifications, thus the gateway to the citadel of Aleppo has a bent entrance with five right-angle turns approached by a bridge carried on seven arches. Elsewhere in the Islamic world fortifications were also developed in response to the increased Christian threat, thus the Almohads developed sophisticated fortifications with elaborate bent entrances.

With the defeat of the Crusaders in the East the impetus for fortress-building declined and architecture of the Mamluk period was directed mainly to civil purposes. The castles and fortifications which were built tended to be archaic in their military design although elaborate in their decoration and

Plan of Ayyubid-period bent entrance to citadel, Aleppo
France

military imagery. With the introduction of firearms many of the older techniques of fortification were obsolete. From the eighteenth century onwards western techniques were adopted although these were sometimes modified to the local conditions.

See also: Aleppo, Almohads, Crusader architecture, Kharana, Qasr al-Hayr (East), Qasr al-Hayr (West), Ukhaidhir

Further reading:

France

France's first real contact with Islam was in the eighth century at the battle of Poitiers where the Arab forces were defeated by Charles Martel. The Arab raids into France were not part of a serious attempt to conquer the country and have left few archaeological or architectural remains. However, during the ninth century a series of Muslim Arab forts were established along the Mediterranean coast. The design of these buildings resembled the ribats of North Africa and were intended as bases for naval activity rather than as permanent settlements.

France's first modern encounter with Islam was in the late eighteenth century when Napoleon launched his expedition to Egypt. The military expedition was accompanied by a large team of scholars who introduced the concept of 'Orientalism' to Europe. Conversely, the expedition was also responsible for introducing European ideas and architecture into the region. The colonization of Algeria in the nineteenth century continued France's link with the Islamic world and was also responsible for the introduction of European architecture into North Africa.

Since the Algerian independence in the 1960s there has been a steady flow of North African immigrants to France, which thus now has a large ethnic North African population resident mostly in the larger cities (Paris, Marseilles and Lyons). The earliest mosques in France were converted churches and houses although more recently purpose-built mosques have been erected. The centre of Islamic life in Paris is the Islamic Centre which includes a mosque built in the North African style with horseshoe arches and geometric tile mosaic decoration. The mosque's minaret resembles those of Tlemcen and Marrakesh. The best-known Islamic building in Paris is the Institut du Monde Arabe built in the late 1980s in recognition of the prominent role of Arab culture in France. Although designed by Europeans the building is based on traditional Islamic principles modified for a twentieth-century European setting. The Institut is a rectangular glass building built over a steel frame and located next to the University on the banks of the Seine. One of the more unusual features of the building is the moving metal window grilles, which open and close according to the light. The movements of the window grilles are computer controlled and form geometric Islamic patterns.
Further reading:

Fulbe

*Name of West African people speaking Fulbe-related languages.*

The Fulbe originated as a nomadic people inhabiting the Sahara areas of West Africa. From the fifteenth century onwards groups of Fulbe began settling in the more fertile regions south of the Sahara and integrating with resident groups. Since the seventeenth century the Fulbe were associated with orthodox Islam and inaugurated jihads in several parts of West Africa. The main areas of Fulbe settlement were the Hausa region of northern Nigeria, the Adamawa region of Cameroon and the Futa-Djallon region of Guinea.

The architectural tradition of the Fulbe originated in the circular wooden-framed tents of their nomadic lifestyle. Elements of this nomadic style are said to have been incorporated into the Hausa architecture of northern Nigeria which is a mixture Fulbe and indigenous Hausa style.

See also: Fulbe-Djallon, Hausa, West Africa

funduq

North African term for a small, urban shop complex. A typical funduq is a square two-storey structure built around a central courtyard with shops on one floor and store rooms on the other. Equivalent to a khan in the Middle East.

Further reading:

Futa-Djallon

Islamic region in the highlands of north-west Guinea on border with the Ivory Coast in West Africa.

Before the fifteenth century the primary residents were the Djallonke people who were sedentary agriculturalists. During the fifteenth century various groups of nomadic Fulbe arrived in the area and form it dates to 827. The settlement was not fortified until 684 when a ditch was dug around the camp in order to defend it against the Umayyad army under Marwan. During the Abbasid period Fustat was no longer the centre of government, although it was still the main commercial centre. The Fatimid conquest and the establishment of Cairo did little to alter this situation and during the tenth century Fustat was known as one of the wealthiest cities of the world. A series ofplagues and fires during the eleventh and early twelfth century led to the decline of the city. The Crusader siege of 1168 dealt a further blow to the city and in later periods the area of Fustat was redeveloped as a suburb of Cairo within a new wall built on the orders of Salah aI-Din.

Excavations in Fustat have revealed complex street and house plans which indicate a high degree of sophistication. The basic unit appears to have been of rooms built around a square or rectangular central courtyard with a central basin. On one or two sides of the courtyard there was an open arcade of three arches, with a wide central arch and two side arches. Behind the central arch there was usually an open iwan flanked by two side rooms. On the other sides of the courtyard there was either an iwan opening directly on to the courtyard or a door to another room. In general there were few connections from one room to another and the courtyard remained the principal means of access.

See also: ‘Amr, Mosque of, Cairo, Egypt

Further reading:
and were absorbed into Djallonke society. During the seventeenth century more Fulbe groups with a strong attachment to Islam arrived from the Muslim state of Macina in the north-east. These newly arrived Fulbe organized themselves into a theocratic state under the direction of the religious leader Karamoko Alfa. During the nineteenth century a jihad was instigated against the non-believers of the area until the whole area was under Islamic control. The new state was divided into nine provinces each under a different leading family with a capital at Timbo.

Despite the strongly orthodox beliefs of the new state, the integration of previous generations of Fulbe into the resident pagan society meant that the architecture was essentially that of the Djallonke modified to fit the requirements of Islam. The essential architectural unit of the pre-Islamic Djallonke is the sudu, or roundhouse, a form which was also adopted for religious shrines and burials. The basic form of the sudu consists of a thatched roundhouse enclosed by concentric walls with two opposed entrances. Each entrance gives access to a semi-circular vestibule and the main central space of the building. Beds consist of moulded mud platforms set against the walls of the central inner space. Several sudu, or house units, form a family compound with a separate one for each wife. The entrance to a compound was through an entrance vestibule which was a round sudu-like construction with a doorway either side. Such vestibules were used to receive visitors in a similar manner to the more familiar entrance rooms of Islamic courtyard houses (compare for example the houses of Timbuktu). The houses of Timbo have the same basic form as traditional Djallonke housing except that the bed is placed opposite the entrance rather than to one side; they also have rectangular storage platforms supported on four posts in the centre of the room. During construction a piece of paper containing a verse of the Quran is buried under each post.

The mosques of Futa-Djallon have the same basic form as the houses although they are built on a larger scale. The earliest mosques were copies of the traditional village meeting-houses which consisted of a raised circular floor enclosed within a low mud wall above which is a steep conical thatched roof made of rafters supported by posts embedded into the wall. When a new mosque is built the older mosque is often converted into a women's area or a Quranic reading room and included within the compound of the new building. As elsewhere in the Islamic world mosques are often associated with the palace of the local ruler, thus at Fougoumba the royal audience hall was directly opposite the mosque. In the mid-nineteenth century a new concept in the architecture of mosques in the region was introduced by al-Hajj Umar who established himself as the ruler of Dingueraye. Educated as a strict Sufi, the new leader attracted a large following which transformed Dingueraye from a small village into a town of 8,000 people. As a result of this huge influx of people a city wall was built to enclose the entire settlement and a new mosque was erected. Although this mosque has not survived, its replacement built on the same site in 1883 is thought to have essentially the same design. Like earlier mosques in the region the Great Mosque at Dingueraye consists of a large thatched roundhouse with a diameter of 30 m and enclosed within a wooden fence. The thatch reaches down almost to the ground so that the ten entrances are only marked by gaps in the wooden fence. The outer wall of the mosque consists of a mud wall containing posts supporting the roof rafters. Immediately inside the outer wall there is circular arrangement of wooden pillars which also supports the roof rafters. The extraordinary arrangement of the interior consists of a square, mud-brick, box-like building in the middle which forms the sanctuary of the mosque. This mud-brick structure has three entrances on each side except for the qibla side where there is only one. The entrance on the qibla side is through an opening in the side of the mihrab and is reserved for the imam. The flat ceiling of the box is supported by rafters resting on sixteen wooden pillars arranged in four rows. In the centre there is a mud-brick pier which protrudes through the roof of the box to support a series of radiating rafters holding up the steep conical thatched roof. This design was later copied in other parts of Futa-Djallon and has now become the typical mosque form of the area. The rationale behind the Dingueraye Mosque design can be deduced from a drawing of the design by al-Hajj Umar. The drawing depicts a magic square and appears to refer only to the central square box and makes no reference to the outer circle of the thatched roof. Local religious leaders also believe that the mosque only consists of the central square
and that the conical thatched roof is merely for protection. This suggests the application of a standard Fulbe square mosque in a context where it was environmentally and culturally inappropriate. The thatched superstructure not only protected it from rain but also made it look like an important Djallonke building rather than an alien imposition.

See also: Fulbe, West Africa
Gao

West African empire, which flourished in the fifteenth and sixteenth centuries, referred to by contemporary Arabic writers as Kawkaw.

The empire was founded by the Songhay groups who inhabited the banks of the Niger river in the eastern part of the present-day state of Mali. As with the other empires in the region the origin of the kingdom is shrouded in myths and legends, although there seems to be some evidence that the original capital of Gao was 100 km further south. The earliest record of Gao is from the eighth century when it is mentioned as one of the towns in contact with the Algerian city of Tahert. A tenth-century description describes the capital as composed of twin cities like the contemporary capital of Ghana and also describes the ruler as a Muslim.

Despite its strategic position on the trade routes Gao did not achieve imperial status until the fifteenth century when the empire of Mali was in decline. The first ruler to begin the expansion was Ali (1464–92) who conquered Timbuktu from the Berbers and Djenné from the disintegrating empire of Mali. Ali was followed by the most famous ruler of Gao, Askia Muhammad, who usurped the throne from Ali’s son. Askia Muhammad consolidated the conquests of Ali and centralized the administration of the empire. He was a more convinced Muslim than Ali and made Islam the state religion as well as promoting Timbuktu as a centre of learning. In 1528 at the age of 85 Askia was deposed by his son and died ten years later in 1538. Following Askia there were a succession of short reigns between 1528 and 1591 which ended with the Moroccan invasion and the destruction of the Songhay Empire of Gao.

Fortunately the ancient capital of Gao has survived to provide some of the best examples of medieval architecture in West Africa. Three main groups of remains can be identified, Gao, Old Gao and Gao-Sané. It has been suggested that the twin-city configuration referred to in early accounts of Gao may be confirmed by the location of Gao-Sané 6 km east of the rest of the city. It is believed that Gao-Sané represents the Muslim quarter of the town due to its position facing the trade routes to North Africa. Old Gao probably represents the remains of the fourteenth-century city during the period when it was ruled by the empire of Mali. Excavations in Old Gao have revealed a large rectangular mosque (approximately 40 m wide) built of mud brick which was dated to 1325. In the centre of the west side is a deep circular mihrab (about 3 m in diameter) built of baked brick with a small doorway (a half-metre wide) on the north side. Behind the mihrab on the outside are three rectangular tombs one of which contains a headstone dated 1364. South of Old Gao is the main town which was the city of Askia Muhammad with its famous mausoleum contained within the courtyard of the Great Mosque. The Great Mosque is located within an area of cemeteries containing Kufic-inscribed tombstones dating from the early twelfth century. Some of the oldest tombstones were found within a subterranean vault made of baked brick similar to that used in the mihrab of the excavated mosque at Old Gao. The use of baked brick is significant in a context where they would have been very difficult to produce.

Undoubtedly the most important monument in Gao is the Great Mosque containing the tomb of Askia Muhammad. The mosque consists of a large rectangular enclosure (45 by 50 m) with a sanctuary four bays deep. In the middle of the east wall of the sanctuary is a pair of niches one of which is the mihrab whilst the other contains a fixed minbar. The centre of the courtyard is occupied by the tomb of Askia Muhammad, a huge pyramidal earth construction resting on a base measuring 14 by 18 m. The tomb consists of three steps or stages reaching a height of just over 10 m above ground level. A stair ramp made of split palms leads up the east side of the structure to reach the top. The appearance of the tomb is enhanced by
the many toron, or stakes, made of acacia wood which project from each side. A description of the monument from 1852 mentioned another eastern tower which was in ruins at the time; this may have been the mihrab tower which also functioned as a minaret. It seems likely that with the collapse of the eastern mihrab/minaret tower stairs were cut into the tomb of Askiya Muhammad so that this could function as the place for the call to prayer. In view of Askiya Muhammad’s strong attachment to Ibadi teachings it is thought that the architectural origins of this tomb may be found in various Ibadi zawiyas in the Mzab region of southern Algeria. The design of these three-tier constructions is said to derive ultimately from the minaret of the Great Mosque at Qairawan. One of the best examples is at Tidikelt in southern Algeria and consists of three superimposed stages each with a crenellated parapet. In addition to the orthodox Muslim influences on the design of the tomb, it should be noted that it also resembles the ancestral tumuli of the pre-Islamic Songhay past. This connection is reinforced by the toron projecting from the sides of the tomb.

In addition to Gao itself, there are a number of towns which contain monumental remains of the Songhay Empire. One of the best examples is the city of Tendirma in Mali built for Amar-Komdiago
gardens

the brother of Askiya Muhammad in 1497. The construction of the city was carried out by Manding craftsmen under the direction of Ouahab Bari. Standing remains at Tendirma include the massive palace walls and the Great Mosque which is substantially unchanged since the Moroccan invasion of the sixteenth century. The mosque is built out of spherical mud bricks with the use of split palm and acacia wood for roof timbers. The most remarkable feature of the mosque is the mihrab tower which consists of a sloping cone with a flat surface on the side facing the mosque. Like the mausoleum of Askiya Muhammad the outer surface of the minaret is covered with projecting toron made of acacia wood. Other examples of Songhay imperial architecture can be seen in the mosques of Katsina and Birni in northern Nigeria. The Katsina minaret is particularly unusual and consists of a central square shaft with stair ramps ascending around the four sides. The minaret bears a striking similarity to the Malwiyya in Samarra although stylistically it is more closely related to the minaret of the Great Mosque in Qairawan.

See also: Songhay, West Africa

Further reading:

gardens

Gardens have often been an integral feature of Islamic architectural design, particularly for palaces.

Several Umayyad palaces seem to have incorporated gardens as part of their design. At Khirbet al-Mafjar in the Jordan valley there is a large square pool with a central pavilion on columns which would have formed the centrepiece of a garden. At Qasr al-Hayr West it is likely that the immediate vicinity of the palace had a garden whilst there was a large walled garden enclosure to the west of the main building. The exact function of some of the early Islamic gardens is not always clear and some may have been purely for producing vegetables. In Islamic Spain the garden was an integral part of the palatial design of Madinat al-Zahra and reached its peak in the gardens of Granada. The development of formal gardens became an art form in Iran from at least the fourteenth century as can be seen from their frequent depiction in miniature paintings of the period. Under the Timurids gardens became a priority for royal residences which were often no more than pavilions in large formal gardens. The Mughals of India acquired their interest in gardens from the Timurids and developed the idea of a memorial garden which would surround a tomb.

From the sixteenth century garden cities became fashionable throughout the Islamic world with cities such as Isfahan in Iran or Meknes in Morocco. Further east in Java and Indonesia gardens were an essential part of the pre-Islamic Hindu tradition and continued to be built by the Muslim sultans.

Further reading:

Gedi

Ruined Islamic city near Malindi in Kenya, one of the first Islamic settlements in East Africa to be systematically investigated by archaeologists starting in 1945.

Gedi is unusual as it is the only major settlement on the East African coast not to be built directly on the sea-shore — instead it is located 6 km inland and 3 km from the nearest navigable creek. The city seems to have been founded in the thirteenth century although most of the standing remains date from the fifteenth century. By the sixteenth century the city seems to have been abandoned, although it was briefly resettled in the seventeenth only to be finally abandoned after the attacks of the migrating Galla tribesmen.

The site stands on a rocky spur which dominates the surrounding countryside. The city covers an area of 45 acres and was contained within a town wall which enclosed a Great Mosque, seven smaller mosques, a palace and several private mansions, in addition to many smaller houses which must have been made of wattle and daub. The ruins also contain the remains of substantial coral stone tombs one of which carries an inscription dated to 1399.
The Great Mosque is one of the best-preserved examples of its type in East Africa. It is constructed in the typical East African style with a flat concrete roof supported on rectangular stone piers and doorways on the west and east sides. There are three rows of six piers with the middle row aligned on the central axis in line with the mihrab. The mosque has a fairly wide plan achieved by placing transverse beams between piers and spanning the distance between beams by longitudinally placed rafters. This differs from the more usual technique of placing beams longitudinally with transverse rafters as was used in the smaller mosques at Gedi and elsewhere on the coast. The mihrab is a fine example of the developed form of the early type of coastal mihrab. It is built out of dressed undersea or reef coral and set in a rectangular panel surrounded with an architrave carved in a cable pattern. The mihrab is decorated with eleven inset blue and white porcelain bowls, five in the spandrel above the niche, two in the pilasters and six in the niche itself. The edge of the mihrab is recessed five times before the niche itself which is a plain, undecorated semi-circular apse. Immediately to the east is a built-in stone minbar.

Sometime in the sixteenth century a separate area for women was screened off at the back of the mosque. To the east of the prayer hall is a veranda opening onto the ablutions court which contains a tank fed by a well, footscrapers, a latrine and a staircase to the roof. The other mosques at Gedi are all much smaller, narrower structures consisting of a simple prayer room and ablutions area to the east.

The palace of Gedi is a large complex probably built for the Sultan of Malindi. It stands amongst several other grand houses which probably housed ministers or other members of the royal family. The palace essentially consists of two main areas, the original palace and the northern annexe. It has a monumental entrance leading via a small courtyard into the main reception area, which is a long open courtyard aligned east–west. The sultan’s private residence was to the south of this whilst the harem was located on the west side, although it only connects with the main palace via a small doorway from a courtyard at the back of the sultan’s quarters.

The houses at Gedi are of interest because they show a development in form from the fourteenth to the sixteenth centuries and are the prototype for the more famous Swahili houses of the eighteenth century. The earliest houses consist of entrances into a long, narrow sunken courtyard from which a single entrance would lead into a reception room behind which were bedrooms and a store room. In later houses the courtyards became bigger and often an extra ‘domestic’ courtyard was added at the back.

See also: coral, East Africa, Kenya, Lamu

Further reading:

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**Germany**

Before the Second World War there were few Muslims in Germany although during the nineteenth century the Ottoman ambassador in Berlin established a mosque and cemetery. There were, however, a number of Islamic-type buildings in Germany influenced by the growing interest in Orientalism. The most famous example is the water-pumping station at Potsdam (1841–5) built in the form of an Egyptian Mamluk mosque. Perhaps a more surprising example is the tobacco factory at Dresden where the minarets are used as factory chimneys.

After the Second World War the German government made an arrangement with Turkey for Turks to come to Germany as temporary ‘Guest workers’. By the 1970s many of these Turkish workers had become established as permanent residents although with no official status. Present estimates suggest that Germany has a Turkish minority of two to three million, many of whom live in the industrial towns of the Ruhr valley. The first mosques were usually converted houses and were architecturally indistinct from the surrounding buildings. More recently purpose-built mosques have been erected, usually in a modern Turkish style.

See also: France, Great Britain, USA

Further reading:

Ghana

Medieval West African kingdom heavily influenced by Islam which flourished between the eighth and eleventh centuries.

Like other medieval West African kingdoms the empire of Ghana was not so much a centralized territorial entity as a network of different kinship groups, castes and age sets owing allegiance to the ruler of a powerful dynasty. Despite its rather diffuse nature the empire was well known in North Africa by the end of the eighth century and was marked on a map made before 833. The fame of the city derived from its role as the major supplier of gold which during the eighth and ninth centuries was sent via Sijilmasa and Tahert to North Africa.

Although the empire never became Muslim the ruler had a high degree of respect for Islam and many of the more important positions of government were filled by Muslims.

In 990 disruption of the trade routes led the ruler of Ghana to launch an expedition to capture the oasis city of Awdaghast from the Berbers and impose a black governor. However, in 1077 the capital of Ghana was attacked by the Berber Almoravids who massacred many of the inhabitants and forced the remainder to convert to Islam. Whilst this conquest destroyed Ghana as an empire, a reduced kingdom of this name continued to survive into the twelfth century; al-Idrisi writing in 1154 described the capital as the most extensive and thickly populated town of the blacks with the
most widespread commerce. However, in 1204 there was another disaster when the town was sacked by the Soninke ruler Sumaguru Kante. This led to the dispersion of a large number of Ghana's inhabitants and the foundation of a new settlement known as Oualata which replaced Ghana as the main caravan terminal. However, Ghana recovered and continued to function as an important trade centre until 1240 when it was conquered and incorporated into the empire of Mali. Nevertheless, Ghana continued to function as a semi-independent state within the Mali Empire and its ruler even retained the title of king.

An eleventh-century description by the Andalusian writer al-Bakri describes the capital as divided into two cities, a Muslim city and a royal city. The Muslim city had twelve mosques including a Friday mosque each with its own imam and muezzin (one who announces the call to prayer). The royal city was a pagan city containing the palace of the king within a sacred grove or wood. The houses in the city are described as being built with stone and acacia wood. The exact location of the capital is not known and there is some dispute about whether the state had a fixed capital in the modern sense. However, the site of Koumbi Saleh in Mauritania is regarded as one of the principal capitals if not the main capital.

Excavations at Koumbi Saleh, begun in 1914, have revealed a vast set of stone ruins which are still in need of full interpretation although the evidence suggests a period of occupation from the seventh to the seventeenth century. One of the most interesting discoveries is a square tomb chamber measuring just over 5 m on each side with a column recessed into each of the external corners. There were originally four openings into the chamber but three of these were subsequently blocked up leaving a single entrance on the east side. Just inside the entrance are a set of steps made of fired brick which lead down into a subterranean chamber containing spaces for three sarcophagi. Parallels have been suggested with Ibadi tombs in North Africa and the Bab Lalla Rayhana entrance to the Great Mosque of Qairawan which also employs engaged corner columns. Elsewhere excavation has revealed a row of shops connected to houses. The shops are open onto the street front whilst every other unit opens at the back onto an entrance vestibule lined with triangular niches. These vestibules consist of long narrow rooms with a bed platform at one end and stairs to another floor at the opposite end. The rooms (7 to 8 m long and 1.5 to 2 m wide) are placed side by side with two doorways in each side either side of a central pillar. The other Ghanaian city which has been excavated is the oasis city of Awdaghast also in Mauritania. The architecture here is similar to that at Koumbi Saleh with triangular niches and long narrow rooms. Although the evidence from archaeology is limited it appears that Awdaghast was inhabited from the seventh to the thirteenth century.

See also: West Africa

Gok Madrassa

The Gok Madrassa is one of the most famous buildings in the north-east Anatolian city of Sivas. Built in 1271 the building has a cruciform plan with a central open court opening onto two-storey cloisters. The most significant part of the design is the façade which comprises two corner buttress towers with a central entrance flanked by two tall minaret towers. The portal itself is recessed within a tall muqarnas niche which itself is set within a carved stone frame. Both the entrance portal and the corner buttress towers are decorated in deep relief stone carving which is characteristic of the thirteenth-century architecture of the city. The twin minarets above the entrance are built of baked brick with vertical flutes and large muqarnas corbelled balconies.

Gol Gumbaz

Mausoleum of Muhammad Adil Shah II (1627-57), one of the major Islamic monuments of India.

The tomb, located in the city of Bijapur, southern India, was built in 1659 by the famous architect, Yaqut of Dabul. The structure consists of a massive square chamber measuring nearly 50 m on each side and covered by a huge dome 37.9 m in diameter making it the largest dome in the Islamic world. The dome is supported on giant squinches supported by groined pendentives whilst outside the building is supported by domed octagonal corner towers. Each tower consists of seven storeys and the upper floor of each opens on to a round gallery which surrounds the dome.

In the centre of the chamber is a square raised podium approached by steps in the centre of each
Granada

side. In the centre of the podium are the tombs of Muhammad Adil Shah II and his relations. To the west of the podium in a large apse-like projection is the mosque, also raised slightly above the floor level of the chamber.

See also: Bijapur, Deccan, India

Granada

City in south-west Spain famous as the capital of the last Muslim state in Spain.

Granada is located high up in the mountains near the Sierra Nevada and rose to prominence after the other Muslim states were defeated in the thirteenth century. During this time from 1231 to 1492 Granada was ruled by the Nasirid dynasty who survived by maintaining alliances with Christian dynasties.

Undoubtedly the most famous building in the city is the Alhambra which has a claim to being one of the most beautiful buildings of the Islamic world. The palace is located on a rocky spur which dominates the rest of the city. Although contained within a single enclosure the Alhambra is not a single palace but a complex of palaces built over hundreds of years. The earliest parts of the complex date from the twelfth century although most of the buildings were erected in the fourteenth or fifteenth centuries. On the opposite side of the valley from the Alhambra is the Generalife palace which is sometimes erroneously thought to be part of the Alhambra. Although now covered with gardens the Generalife was originally a country estate for the Nasirids.

Some remains of the eleventh-century walls are still standing together with five of the city gates, the Puerta Nueva, the Puerta de Elvira, the Puerta de Fajalauza and the Puerta Hizna Roman. Architecturally the most interesting of these gates is the Puerta Nueva which combines a bent entrance with an upward sloping ramp to slow down potential attackers. Within the walls several public buildings survive including the hammam (Banuelo Carrera del Darro) which is one of the best examples remaining in Spain. Also within the city is the Casa del Carbón (coal exchange) formerly known as the Funduq al-Yadida (new market) which is one of the few surviving khans in Spain. It has a monumental portico decorated with plaster and decorative brickwork within which the entrance is set below a set of paired windows. The interior of the building consists of a square courtyard with three storeys of arcades on each of the four sides containing sixty rooms. In addition to public buildings several Muslim houses survive in the Albaicín Quarter of the city.

With the exception of the one in the Alhambra there are few remains of Granada's many mosques, although traces can be found in some of the churches. The church of San Salvador is built over a tenth-century mosque and remains of the ablutions court and the minaret can still be seen. The church of San Sebastián is a converted rabita, or hermitage, and is the only example of its type in Spain. It consists of a square courtyard covered with a ribbed dome supported on squinches.

See also: Alhambra, Spain

Further reading:


Great Britain (United Kingdom)

Britain's main source of contact with the Islamic world has been through the British Empire and in particular the Indian subcontinent. India was acquired by Britain in the eighteenth century and was one of Britain's earliest colonial acquisitions. As with most colonial encounters each side was influenced by the culture and architecture of the other. In India the British built the city of Calcutta as capital complete with Anglo-Indian mosques. In Britain the architecture of India was evoked in several buildings, the most famous of which is the Royal Pavilion at Brighton. Externally the building resembles a late Mughal palace with bulbous domes, chajjas and chatris, although internally it is decorated like a Chinese palace.

With the Independence of India in 1948 and the division of the subcontinent into Pakistan and Bangladesh a large number of immigrants came to Britain. Indians now make up the majority of Britain's Muslim population although they are mostly concentrated in cities and the larger towns. The first mosques in Britain were converted churches or houses although more recently (since 1980) many new mosques have been built, financed partly by British Muslim communities and partly by donations from oil-rich Arab countries. The best-known mosque in Britain is in Regents Park in London although other cities like Bradford also

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have prominent new mosques. In the typical modern British mosque there is usually an emphasis on the dome which is often covered in metal. Minarets are usually quite small and are often non-functional (i.e. not used for the call to prayer).

**Greece**

*Mountainous country in south-eastern Europe which for over 400 years formed a part of the Ottoman Empire.*

The position of Greece opposite Libya and Egypt and its exposure to the east Mediterranean sea meant that it was exposed to Muslim raids from the beginnings of Islam. Crete in particular was open to attack and was briefly occupied by Muslim forces as early as 674. Between 827 and 961 Crete was again captured by Muslim forces who used the island as a base for pirate raids against the rest of Greece. At some time during the tenth century Athens seems to have had an Arabic settlement with its own mosque, traces of which have been excavated.

It was not, however, until the rise of the Ottomans that Greece was fully brought under Islamic rule. Different parts of Greece were incorporated into the Ottoman Empire at different times and for varying degrees of time. Thus the south and central part of the country (Peleponnesus and Ionnia) were conquered in 1460 but lost to the Venetians between 1687 and 1715 after which they were recaptured and remained part of the empire for another 100 years until the Greek War of Independence in 1821–9. Parts of northern Greece, however, were conquered by the Ottomans as early as 1360 and by 1430 the whole of the northern part of the country was under Turkish rule which lasted until 1912. There was little Turkish settlement in Greece with the exception of Thrace where colonists were brought in soon after the conquest.

There are comparatively few remains of Turkish rule in central and southern Greece although Athens contains a few notable examples. The

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*Fethie Cami, Athens © Cherry Pickles*
oldest standing mosque in Athens is the Fethie Cami built in the late fifteenth century; the building is unusual because in plan it closely resembles an Orthodox church. The last Ottoman mosque built in Athens is the Djisdaraki Cami erected in 1759, a building with a distinctive Ottoman form, consisting of a triple-domed portico and a square domed prayer hall. In addition to mosques the Ottomans also built baths and madrassas in Athens none of which has survived although remains of the city wall built in 1788 by Ali Hadeski can still be seen. The islands of Greece, in particular Crete and Rhodes, have traces of the Ottoman occupation although as with southern mainland Greece there was no substantial Turkish settlement.

Northern Greece can be divided into three main areas, Epirus in the west near Albania, Macedonia in the middle and Thrace on the east side bordering Turkey. The area of Epirus has few traces of Turkish rule outside its capital at Ioannina and the city of Arta. At the centre of Ioannina is the fortress of Frourion which was substantially repaired in the eighteenth century by the famous Ottoman governor Ali Pasha. Within the citadel is the mosque of Asian Pasha built in 1688 which, with its position overlooking the lake, is one of the most romantic Turkish buildings in the Balkans. Whilst Turkish settlement in Ioannina was limited to the governor and his garrison, the town of Arta had a new Muslim suburb added to it. This suburb, now in a state of disrepair, is one of the best examples of Ottoman town planning with its mosque, imaret and hammam.

Macedonia has the highest concentration of Ottoman monuments in Greece in the five cities of Thessaloniki, Seres, Kavalla, Yenice-i Vardar and Verria. In the regional capital, Thessaloniki, the most significant remains are the Hamsa Beg Cami and the Imaret Cami both of which date to the fifteenth century. In addition the city has three large hammams and a bedestan still standing. The other towns of Macedonia are less well known although each contains important monuments such as the aqueduct of Suleyman the Magnificent in Seres.

The oldest Ottoman monuments in Greece are to be found in the region of Thrace where there is still a significant Muslim population. One of the buildings still in use is the Komotini Mosque built in 1610 which is the only Balkan mosque to have large-scale Iznik tile decoration. Other monuments in the area include the Oruc Beg Hammam in Dimetoka built in 1598 and the Munschi Feridun Ahmed Pasha Hammam built in 1571.

See also: Ottomans

Further reading:
G. Soteriou, 'Arabic remains in Athens in Byzantine times', *Social Science Abstracts* 2 no. 2360: 1930.

Gujarat

Predominantly Hindu coastal region of western India with distinctive Islamic architecture.

Gujarat is a fertile low-lying region located between Pakistan, Rajasthan and the Indian Ocean. The position of the region on the Indian Ocean has meant that it has always had extensive trading contacts particularly with the Arabian peninsula. It is likely that the first Muslims in Gujarat arrived sometime in the eighth century although there is little published archaeological evidence of this. The oldest standing mosques in the area are located at the old seaport of Bhadresvar in western Gujarat and have been dated to the mid-twelfth century although they may stand on older foundations.

The first Muslim conquest of the area took place at the end of the thirteenth century under the Ala al-Din the Khaliji sultan of Delhi. The earliest monument from this period is the Jami Masjid at Cambay which includes columns taken from ruined Hindu and Jain temples. The form of the mosque resembles that of the Quwwat al-Islam Mosque in Delhi with a rectangular courtyard with gateways on three sides and an arched screen in front of the sanctuary on the west side. Other early mosques built in a similar style include those of Dholka Patan and Broach all of which are located close to the coast. During the fifteenth century many mosques, tombs and other monuments were built in the regional capital Ahmedabad, the most significant of which are the Jami Masjid and the tomb of Ahmad Shah. These buildings incorporate many features from Hindu temple architecture including projecting balconies, perfo-
rated jali screens and square decorated columns. Monuments of the sixteenth century contain the same Hindu and Islamic elements combined in a more developed fashion as can be seen in the Jami Masjid of Champaner built in 1550. The Mughal conquest in the mid-sixteenth century brought Gujarat into the mainstream of architectural development. However, the architecture of the region exerted a considerable influence on the Mughal emperor Akbar, who built the city of Fatehpur Sikri in Gujarati style.

The secular architecture of Gujarat is mostly built of wood and characterized by elaborately carved screens and overhanging balconies. Another characteristic feature of the region is the use of step wells, or vavs, which consist of deep vertical shafts, approached via recessed chambers and steps. Sometimes these were very elaborate structures with multiple tiers of steps.

See also: Ahmadabad, India, Mughals, Qutb Minar

Further reading:

guldasta
An ornamental pinnacle in the shape of flowers.

gunbad
An Iranian and Mughal term for dome, usually used for a domed tomb.
Hadramawt
A large wadi in Yemen with distinctive mud-brick architecture. It runs from west to east and meets the Indian Ocean at Qishn.

The wadi is exceptionally fertile and has been settled since ancient times. The tall mud-brick tower houses, which from a distance resemble skyscrapers are the most characteristic feature of the architecture. The form of these houses is probably derived from the stone-built tower houses of the highlands adapted into a mud-brick form for the plains at the bottom of the wadi. The best example of this architecture is the city of Shibam which has houses over eight storeys high. The exceptional height of the Shibam houses may partly be due to the wall which encloses the city, for whilst this provides protection it limits the available building land. The houses are usually built on stone foundations with mud-brick walls tapering from one metre at the bottom to a quarter of a metre at the top. The strongest part of the house is the stair-well which is often built of stone to the full height of the house. The exteriors have wooden window screens and ornamental relieving arches, and the upper parts of the houses are generally whitewashed.

The main door for each house has a wooden latch attached to a cord enabling the door to be opened from the apartments above. The ground floors of the houses are either storerooms or shops whilst the first-floor rooms may be used for animal stalls. The second floor was used a reception area for business, and the rooms above were private apartments; the lower parts of the private rooms were functional whilst those at the top were reception rooms and open-air terraces. The reception room or majlis is usually a tall room decorated with carved plaster designs which may include a mihrab niche. At the upper levels there are often doorways to neighbouring houses so that women may visit each other without having to go out on to the streets. There are efficient waste-disposal systems with separate chutes for water and sewage. The age of the houses is difficult to determine although locally they are thought to last 300 years or more after which they will be replaced with another house on the same spot.

See also: Yemen

Further reading:

Hagia Sophia (Aya Sophia; Church of Holy Wisdom)
Central church of Constantinople turned into a mosque after the Ottoman conquest and now a museum.

The first Hagia Sophia built in 360 by Constantine II had a timber roof and was burnt down in 404. This was replaced by a second building which was also burnt down a hundred years later. The present structure was founded in 537 although the huge central dome fell down and was replaced by the present construction in 558. The plan of the building consists of a large central dome (32 m diameter) flanked by two huge semi-domes supported by smaller subsidiary domes; the two aisles are separated from the main area by a marble colonnade.

In 1453 the building was converted into a mosque by the addition of a wooden minaret; by the end of the sixteenth century the building was adorned with four tall pointed stone minarets. During the sixteenth century Selim II had his tomb built next to the building and in the seventeenth century Sultan Ahmet added a madrasa. The cathedral is important to Islamic architecture because its grandeur inspired Ottoman architects. The huge dome in particular impressed the Ottomans who, during the sixteenth century, built a number of
mosques to rival the church of St Sophia, the most notable of which were the Suleymaniye and the Selimiye.

See also: Istanbul, Ottomans

Further reading:

Hajj routes

Special roads or routes which are taken by pilgrims on their way to Mecca.

Hajj, or pilgrimage, is one of the five pillars of Islam along with prayer five times a day, fasting, the giving of alms, and bearing witness that there is only one true God. Each Muslim is required to attempt at least once in a lifetime to visit the holy cities of Medina and Mecca. It is well known that Mecca was an important ritual centre before Islam and that it would have been visited as a shrine. Under Islam, however, the importance of visiting Mecca was greatly increased especially as the numbers of Muslims increased around the world.

Until the advent of rail and more recently air travel, the Hajj was a very arduous and risky undertaking requiring considerable preparation. Although coming from diverse locations, most pilgrims would have to make the last part of their journey through Arabia on one of several major Hajj routes. The main routes were Damascus to Mecca, Cairo to Mecca via the Sinai, Basra to Mecca, Sanca to Mecca coastal route, Sanca to Mecca inland route and Oman to Mecca via one of the Yemeni routes. Of these routes the most important were those that led from Damascus, Baghdad and Cairo. Over the centuries each of these routes developed various facilities for travellers which included wells, cisterns and dams, bridges, paved roads, markers and milestones, khans and forts. Of all the routes the Damascus route appears to be the oldest, following pre-Islamic trade routes. One of the most important stations on this route is the city of Humayma in southern Jordan where the Abbasids planned their revolution. Other early sites on this route are Khan al-Zabib, Jize and Macan, all of which contain remains of early Islamic structures associated with the Hajj. At Jise there is a huge Roman reservoir and nearby are the remains of the recently excavated Umayyad palace of Qastal which may have functioned as a royal caravanserai to receive important officials on the Hajj. Khan al-Zabib consists of a large square fortress-like building with a central courtyard and a mosque built to one side. At the oasis town of Macan there is also a huge Roman reservoir and there are signs that the nearby Roman fortress at Udruh was converted into an official Umayyad residence at this time. With the move of the caliphate from Syria to Iraq the Damascus route declined in importance, but the route was still used throughout the Ayyubid and Mamluk periods, as testified by the fourteenth-century pilgrimage itinerary of Ibn Battuta and the existence of several Mamluk forts on the route such as those at Jize and Zerka. With the Ottoman conquest of the Mamluk Empire in the sixteenth century the Hajj route was provided with new facilities and provided with fortified garrisons stationed in small forts along the route. The forts were built not only to protect the water cisterns and wells (which were repaired at the same time) but also to provide an efficient postal service for the Hajj. The forts had a simple square plan based around a central courtyard with a well in the centre. They were mostly two-storey structures with a crenellated parapet above and projecting machicolations (structures protecting openings through which to attack the enemy) on one or more sides. The forts were built to overlook the water reservoirs which were filled each year in preparation for the Hajj. It should, however, be remembered that the pilgrims would have stayed in vast encampments of tents next to the cisterns. By the eighteenth century the facilities had fallen into disrepair and the forts were inadequate protection against increased bedouin raids. In consequence the number of forts was augmented to cover most of the stops between Damascus and Mecca, and new wells, cisterns and bridges were provided. The design of the eighteenth-century forts was slightly different, with square projecting corner turrets and small gun slits. At the beginning of the twentieth century a narrow-gauge railway was built to replace the camel caravans; it used many of the same stops as the caravan route and forts were erected to protect the stations.

The decline of the Syria–Damascus Hajj route in the eighth century was largely a result of the development of a direct desert route between Baghdad and Mecca. The route was provided with
facilities paid for by Zubayda, wife of Caliph Harun al-Rashid. Over fifty stations have been identified on the route which is marked with milestones. The most important facilities were the cisterns which were either square structures in rocky ground or circular where they were built in sand. The route included a number of stops of varying size, the most important of which was al-Rabadah, which has recently been excavated to reveal a desert city in an area used to raise camels – probably for the Hajj. Facilities at the sites varied but usually included a mosque, a fort or palace and several unfortified residential units. The buildings were mostly built out of coursed stone rubble for foundations and had a mud-brick superstructure, although occasionally buildings were made of fired brick. Several of the mosques have been excavated (at Zubalah, al-Qac and al-Rabadah). They generally have a courtyard leading to the prayer hall which has a projecting mihrab and a fixed minbar, and there is also usually the remains of the base of a minaret. Palaces were found at several sites (al-‘Ashar, al-Shihiyat, Zubalah and al-Qac) and consist of large rectangular or square enclosures divided into separate inner courtyards, which in turn may be composed of several residential units. The outer walls of the palace enclosures are supported by solid semi-circular and circular buttresses. On a smaller scale are the small forts discovered on the northern part of the route which
are simple square structures built around a central courtyard with circular and semi-circular buttress towers on the outside. The houses on the route resemble the palaces in the variety of their internal arrangements; however, the basic unit seems to consist of a courtyard leading on to one or more groups of three rooms.

In more recent times the Hajj has been made by rail, sea and air and appropriate facilities have been built to accommodate modern pilgrims. One of the more famous recent buildings connected with the Hajj is the Hajj terminal at Jeddah which has won an award from the Aga Khan foundation.

Further reading:

al-Hakim, Mosque of

One of the principal mosques of Cairo named after the Fatimid Caliph al-Hakim bi Amr Allah.

This mosque, also known as al-Anwar, 'the illuminated', was begun in 990 under the Caliph al-Aziz but was not completed until 12 years later under the Caliph al-Hakim. At the time of its construction this mosque was outside the city but was later incorporated within the city walls of Badr al-Jamali.

In its general design the mosque resembles those of Ibn Tulun and al-Azhar. It has a central rectangular courtyard surrounded by an arcade of pointed arches resting on brick piers. A raised transept runs from the courtyard to the mihrab. There were three domes on the qibla side, one in front of the mihrab and one in either corner. The front façade has a projecting entrance flanked by two cylindrical minarets decorated with inscriptions and carved bands. Later in 1010 the minarets were enclosed by giant brick cubes possibly because the minarets contravened a long-established Fatimid rule that the call to prayer was not to be made from a place higher than the mosque roof. The present minarets on top of the brick cubes belong to the Mamluk period.

Some of the original decoration has survived, in particular the stucco work with bands of Kufic inscriptions and stylized tree motifs. In the 1020s a ziyada was added to the south side by the caliph al-Zahir. During the Ayyubid period this mosque was the only congregational mosque in the city as the Ayyubids did not permit more than one congregational mosque within the city.

Further reading:

hammam ('Turkish bath'; bath house)

General term used to describe both private and public bath houses. Public hammams are found throughout the Islamic world and together with the mosque are regarded as one of the essential features of an Islamic city. Private bath houses are less well known although it is known that they existed from the early Islamic period where they have been found in palaces such as Qasr al-Hayr and Ukhaidhir.

Hammams developed directly out of Byzantine bath houses such as those discovered at Avdat, and Yotvata in the Negev. One of the earliest and certainly the most famous early Islamic bath house is Qusayr Amra located in the north-eastern Jordanian desert. The building was heated by a hypocaust system supported on short brick pillars and supplied with water raised from a deep well by an animal-powered mechanism. Like other early Islamic baths Qusayr Amra does not have the frigidarium common in Roman baths although it does have an enlarged reception room, or apodyterium, decorated with frescoes in late Antique style. Other early Islamic bath houses such as Hammam al-Sarakh, ‘Ayn al-Sinu and Jabal Usays have the same arrangement as Qusayr Amra with no frigidarium. The one exception to this pattern is the bath house at Khirbet al-Mafjar where the heated rooms are approached via a large hall (30 m square) resembling the classical frigidarium, with a long pool approached by steps and a mosaic floor.

There are few remains of bath houses from the period between the ninth and twelfth centuries although excavations at Nishapur have uncovered
haram

a bath house with hypocaust heating dated to the tenth/eleventh century. Sometime after the tenth century hypocausts seem to have been abandoned (in Syria at least) in favour of a system where the chimney of the furnace runs under the floor of the rooms to be heated. The effect of this innovation was that the layout of rooms was dictated by the axis of the chimney flue, and led to the warm room becoming the central room of the hammam. The typical Ayyubid hammam as it is known from Syria consists of an entrance room leading to the warm room via an intermediate unheated room. The warm room is usually octagonal with smaller hot rooms leading off at the sides. In baths built after the fifteenth century there is no intermediate room between the warm room and the changing room. As a corollary of this the size of the warm room is increased in later baths, until in eighteenth-century baths it becomes the main room. The octagonal warm room often has a central octagonal platform for massages whilst the smaller warm rooms have stone basins for washing. The warm and hot rooms never have windows but are lit instead by thick glass roundels set into the dome. A further development of the Ottoman period are twin hammams where a bath house for women and a bath house for men were set back to back to avoid the prohibition of mixed bathing. This problem is usually dealt with by having different bathing times for men and women.

See also: Khirbet al-Mafjar, Qusayr Amra

Further reading:

haremlik

Turkish term for the private part of an Ottoman house which is only open to members of the family (from Arabic hareem).

Harran

Ancient city in south-eastern Turkey important as a centre of learning and Umayyad capital.

Harran is located in the flat plain between the Tigris and Euphrates rivers. The city was famous in early Islamic times as the centre of the pagan Sabians who worshipped the stars and achieved protected (dhimini) status in return for their astrological and scientific advice. The last Sabian temples were destroyed by the Mongol invasion of the mid-twelfth century. In 744 Caliph Marwan II established himself at Harran and made it the Umayyad capital.

The site includes the remains of a city wall, a castle and a congregational mosque. The most important monument is the Great Mosque founded by Marwan II between 744 and 750. Major modifications were carried out during the twelfth century under Salah al-Din who also fortified the citadel. The building is badly ruined, so that only the rough outline of the plan can be traced and the date of different phases is not clear. The mosque is roughly square measuring approximately 100 m per side with a rectangular courtyard to the north and the sanctuary to the south. There are two main entrances to the complex, one on the east side and one in the centre of the north side. The façade of the sanctuary consisted of nineteen arches resting on piers with engaged columns. In the centre of the façade is a wide central arch approximately in line with the deeply recessed mihrab in the south wall. Roughly in the centre of the courtyard there is an octagonal basin, above which there may have been a domed chamber supported on columns which functioned as the treasury (bayt al-mal). To the east of the north entrance is a tall square tower or minaret built in two distinct phases, the lower part is built of stone whilst the upper part is made of brick. The destruction of the mosque can be attributed to the Mongol invasion in the mid-twelfth century.

Harran is also noted for its characteristic architecture which consists of houses and storerooms covered with conical mud-brick domes.

haram

The private quarters of a house, sanctuary of a mosque or more generally an area set apart.

Haramayn

Term used to refer to the two holy places of Mecca and Medina. In Mamluk and Ottoman times this term was sometimes also used to refer to Jerusalem and Hebron.
Hausa

West African people living in northern Nigeria with a long-established distinctive architectural tradition.

Modern Hausa society is a combination of two groups of people, the Hausa themselves and the Fulbe-speaking Fulani people. The Fulani first moved into the area in the fifteenth century although it was not until the nineteenth that large-scale migrations took place. The Fulani constitute a literate Muslim class attached to the ruling élite in Hausa society. In addition to the Muslim urban populations there is also a rural population of non-Muslim Hausa known as Maguzawa. The Hausa civilization is generally agreed to have formed in about 1000 CE and comprised the cities of Daura, Kano, Gobir, Katsina, Zaria, Biram and Rano. In the nineteenth century a Fulani-led jihad established a caliphate in Hausaland with the new city of Sokoto as its capital. The main materials of Hausa architecture are oval mud bricks (tubali) and palm wood (deleb). Walls are built out of mud brick whilst palm trunks split into beams (azarori) are used for roofing. Unlike most other areas of West Africa, Hausa architecture is in the hands of a hereditary group of trained masons who are organized into guilds. These trained masons have been responsible for some of the most celebrated architecture in West Africa.

The characteristic feature of Hausa architecture is the domed room formed by a number of intersecting arches projecting from the walls of the building. The arches are made of lengths of palm wood set into the wall and projecting at increasing angles until they are horizontal at the apex of the arch where they are joined to a similar construction projecting from the opposite wall. The palm-wood frame is then covered with mud to produce smooth free-standing arches which support a ceiling made of palm-wood panels and covered with rush mats and then with a water-resistant layer of plaster, like material made out of the residue of indigo dye pits. Two main types of arch configuration are used depending on the shape of the room to be covered. The simplest form, known as the kafin laima vault, is used for a circular room and has all the arches or ribs meeting at a central point which is often decorated with an inset metal or ceramic bowl. The more complex vault form, known as daurin guga, is used for rectangular or square rooms and consists of two sets of parallel arches or ribs which intersect at the centre to form square compartments. The soffits of the arches are often decorated with abstract designs which may either be relief mouldings or painted in bright, locally produced colours.

See also: Kano, West Africa

Further reading:


**hayr (ha’ir)**

Walled enclosures often associated with early Islamic palaces. Early examples are the enclosures at Qasr al-Hayr (East and West) and more significantly those of Samarra in Iraq. The exact function of these enclosures may vary; at Samarra they appear to be hunting reserves whereas at Qasr al-Hayr they may have a more utilitarian function.

**hazarbaf**

Iranian term for decorative brickwork.

**hazira**

A tomb contained within an enclosure which often includes a mosque. This form of tomb became popular in Timurid Iran.

**Heraqlah**

A square-shaped terrace-like structure with four corner towers enclosed within a small circular moat and circular wall.

This site is located in north-east Syria, 8 km west of the city of Raqqa near the Euphrates. On historical grounds this monument is reliably dated to the early ninth century, probably between 806 and 808 CE.

The monument is almost entirely built out of stone with the exception of the vaults and paving of the central structure, which are baked brick. The circular outer wall is supported by square buttresses at regular intervals and has gates at the four cardinal points (i.e. north, south, east and west). The entrances to the central building are aligned with those of the outer wall and each leads into a long vaulted hall. To the left of each entrance is a long ramp which gives access to the top of the monument. Although there are structures in the centre of the building, excavations have revealed that these cannot have been built as rooms as they have no doors or other means of access. Instead it is believed that the centre of the structure would have been filled in with earth to provide a monumental platform and that the structures must have fulfilled some symbolic or functional purpose.

The whole complex has been convincingly described as a victory monument to the Abbasid caliph Harun al-Rashid to commemorate his victory over the Byzantines at Herakleon. The size, date and geometric design is comparable with other Abbasid projects such as the octagon at Qadissiya and the Round City of Baghdad.

**See also:** Abbasids

**Further reading:**

Herat

City in north-west Afghanistan which became capital of the Timurid Empire in the fourteenth and fifteenth centuries.

Herat has existed since ancient times and was referred to in Greek as Aria. It was conquered by the Arabs in the seventh century but does not seem to have been fully subdued until the early eighth century. In the tenth century it was described as having four gates, a strong citadel and extensive suburbs. In the twelfth and early thirteenth century the city was developed by the Ghurids who established the Great Mosque. The city suffered under the Mongols in the thirteenth century although it began to be redeveloped by the fourteenth. In 1380 Timur entered Herat and later expelled the local ruler, this was the beginning of Herat's greatest period which lasted until the Uzbek conquest in 1508.

Timurid buildings in Herat include the Great Mosque, the madrassa and tomb of Gauhar Shad, the mausoleum of Sheikh Zadeh Abdallah and the famous shrine of Gazur Gah. The Great Mosque was established under the Ghurids in the twelfth century and contains the tomb of the Ghurid ruler Sultan Ghiyath al-Din. Although a few traces of twelfth-century stucco decoration remain, the design of the complex is mostly Timurid modified by more recent renovations. The mosque is built on a four-iwan plan with a central courtyard and an enlarged western iwan flanked with twin minarets which serves as the main prayer hall. The whole complex was decorated with polychrome tiles but these have mostly disappeared to be replaced by modern copies. The madrassa and tomb of Gauhar Shad form part of a large complex built around a musalla, or open air prayer area, measuring 106 by 64 m. The inner court had a two-storey arcade built around four iwans. The mausoleum of Gauhar Shad has a cruciform plan with the centre covered by a shallow convex dome supported by a network of pendentives and semi-domes. Above the inner dome there is a tall, ribbed outer dome resting on a cylindrical collar and covered with polychrome tiles on a blue background. Opposite the tomb of Gauhar Shad is the tomb of Sheikh Zadeh Abdallah which has a dome of similar design. The building has an octagonal plan with an large frontal iwan and side iwans added on to the south, west and east sides.

The most celebrated building in Herat is the shrine of Gazur Gah dedicated to an eleventh-century Sufi poet, Khwajeh ‘Abdallah Ansari. The complex is a high-walled enclosure with a large iwan, above which is an arcade of five arches capped with two domes. The brilliance of the shrine is its original tiled decoration which consists of square geometric panels, monumental calligraphy and abstract designs.

See also: Afghanistan, Timurids

Further reading:

hosh

The courtyard of a house in Egypt or, in Palestine, used to describe houses built around a courtyard.

hujra

Small chamber or cell.

Hungary

The earliest recorded presence of Muslims in Hungary is during the ninth century of Khazars. Some of these converted to Christianity during the reign of King Stephen in the tenth century although many remained Muslim. Another Muslim (Turkic) group known as the Pecheneg was also present from the tenth century onwards. Many of these were located on the western frontier of Hungary as a defensive force for the Magyar kingdom. During the thirteenth century the Pecheneg seem to have been prosperous with large settlements the size of towns but without walls as these were forbidden to Muslim communities to prevent rebellion. By the end of the fourteenth century most Pecheneg had been forced to convert to Christianity although some remained Muslim until the beginning of the sixteenth century.

The Ottoman victory at the battle of Mohacs in 1526 renewed the Muslim presence in Hungary.
For the next 150 years, until its reconquest at the end of the seventeenth century, Hungary was a province of the Ottoman Empire. There are few buildings remaining from the period of Turkish rule although the reasons for this are unclear. One of the best-known Ottoman monuments is the tomb of Gul Baba in Buda erected between 1543 and 1548. The building is an octagonal mausoleum with a shallow domed roof covered in lead. There was once a mosque associated with the tomb but this has now disappeared. This tomb is now to be the centrepiece of an Islamic cultural centre incorporating a mosque and library.

See also: Albania, Bosnia, Bulgaria, Ottomans

Further reading:

hunkar mahfil
A royal lodge or gallery in an Ottoman mosque.

**Hyderabad**

*Fifth largest city in India and capital of the second largest native state in British India.*

The state of Hyderabad was ruled over by the Nizams of Hyderabad who were Muslims although the majority of the population was Hindu. Although conquered by the Mughals in the late seventeenth century the Nizams managed to retain their independence until 1947 when the state was taken over by Indian government troops.

The city was founded in 1591 by the fifth ruler of Golconda, Quli Qutb Saha. The city was originally known as Baghnagar (city of gardens) and later acquired the name Hyderabad. It is located on the banks of the river Musi and was laid out on a plan with the two main roads intersecting at the Char Minar at the centre of the city. To the north of the Char Minar were the palaces of the Nizam rulers which were destroyed during the Mughal conquest of 1687. Between 1724 and 1740 Mubariz Khan, the Mughal governor, supervised the construction of the city walls with fourteen gates, only two of which have survived.

Several buildings survive from the pre-Mughal period. The most famous of which is the Char Minar which dominates the centre of the city. To the north-east of the Char Minar is the Mecca Masjid built out of local granite between 1614 and 1693. This is one of the largest mosques in India and the main entrance consists of five arches and four minars whilst the interior of the mosque contains two huge domes supported on monolithic columns. Directly to the north of the Char Minar is the Jami Masjid which was built in 1598 and is one of the oldest mosques in the city. This mosque forms part of a complex that included a bath house and madrasa which have survived as ruins. A better preserved complex is the Darush Shifa hospital and medical college (built in 1535) which consists of a two-storey square courtyard building with a mosque attached. Also from this early period is the Badshahi Ashurkhana which was built in 1592 as a royal house of mourning. The building is decorated with Persian-style tile mosaics and has an outer timber porch added in the late eighteenth century. Little remains of the original royal palaces although the Charkaman (Four arches) built in 1594 was originally a monumental gateway opening on to the palace grounds.

See also: Char Minar, Deccan, India

Further reading:

**hypostyle**

A flat-roofed structure supported by columns.

See also: appadana
Ibn Tulun Mosque

One of the oldest mosques in Egypt to have survived relatively intact. It was built by Ahmad ibn Tulun the semi-independent ruler of Egypt in 870.

The mosque formed part of the new suburb of al-Qata‘ic which ibn Tulun added on to the two towns of Fustat and al-‘Askar which were later incorporated into the city of Cairo. Ahmad ibn Tulun was born in Iraq and brought up at the caliph’s court in Samarra and the new city of al-Qata‘ic bore some resemblance to Samarra.

The mosque was begun in 876 and completed in 879. The building consists of a large rectangular enclosure with a central courtyard measuring 92 m square. Arcades two-aisles deep are ranged around three sides of the courtyard whilst on the qibla side (south-east) there are five rows of arcades. The central building is enclosed by an outer enclosure, or ziyada, on the three sides adjoining the qibla. Almost directly opposite the central mihrab is a minaret consisting of a square tower with a spiral section on the top. Access to the top of minaret is by an external staircase. At the top there is a two-storey octagonal kiosk. Whilst the octagonal kiosk and the windows on the side of the square shape appear to be of a later (thirteenth century) date there is some debate about whether the minaret is an original ninth-century structure or a later copy.

Due to its good state of preservation the Ibn Tulun Mosque provides an excellent example of ninth-century decoration and structural techniques. The most notable feature of the outer walls is the decorative openwork crenellations which resemble paper cut-outs. The courtyard façades consist of slightly pointed arches resting on rectangular piers with engaged colonettes, which is an unusual arrangement for Cairo where marble columns were usually used. Between the arches are rectangular arched niches also with engaged colonettes. Either side of each niche is a sunken rosette divided into eight lobes. A band of similar rosettes forms a cornice running around the four faces of the courtyard. Probably the most remarkable feature of the decoration is the carved stucco work which decorates the interior of the mosque. The best examples are in the soffits of the arches of the sanctuary where geometric interlace patterns are filled with stylized leaf ornament similar to Samarra stucco style B. The edges of the arches and the capitals are decorated with stucco resembling Samarra style A.

Many elements of the Ibn Tulun Mosque recall the architecture of Samarra, in particular the ziyadas, the rectangular piers and the stucco work. The minaret recalls the spiral minarets of the Great Mosque and the Abu Dulaf Mosque both because of the spiral shapes used and the positioning of the ziyada opposite the mihrab.

See also: stucco

Further reading:

idgah

Indian term for an open-air prayer area, particularly used during festivals.

See also: musalla, namazgah

Ilkhanids

Mongol dynasty which ruled much of the eastern Islamic world from the mid-thirteenth to the mid-fourteenth century.

In 1258 Hulagau ibn Kublai Khan sacked Baghdad and killed the last Abbasid caliph al-Mu’tassim making Iraq part of the great Mongol Empire. This empire was divided into four parts of which Hulagau ruled one. Hulagau’s dominions included Iran, Khurassan, Azerbayjan, Georgia, Armenia and Iraq.
Ilkhanids

Although the Ilkhanids rebuilt much of Baghdad, most imperial building was confined to Iran.

There are few Ilkhanid monuments which survive from before the fourteenth century. Characteristic features of Ilkhanid architecture are the massive size of monuments (which anticipates those of the Timurids), the extensive use of stucco work and the development of the transverse arch. The transverse arch was a method of covering large open areas without the use of piers or columns. The principle of the technique was to have a series of wide arches spanning the short axis of a room, these arches would then form the base for transverse vaults. Although the technique had been used before, this was the first time it was used in baked-brick architecture. One of the best examples is Khan Mirjan (1359) in Baghdad where a two-storey rectangular courtyard is covered with seven huge transverse arches.

The extant examples of imperial Ilkhanid architecture are few, although the ruins of the Mongol capital at Sultaniya give some idea of the scale of
their buildings. The city was founded in 1306 and contained a huge citadel surrounded by a stone wall. Little survives of the city with the exception of the massive tomb complex of Oljetu. This is a huge octagonal building with a diameter of more than 30 m, surmounted by a massive dome covered with blue tiles. Other imperial projects were the Great Mosques of Tabriz and Varamin. The Tabriz Mosque was based around a prayer hall consisting of a single massive iwan 40 m wide and more than 80 m deep. In front of the iwan there was a courtyard which contained a madrassa and a khanqa. The Varamin Mosque is equally huge and is dominated by the strict symmetry of its axial iwans.

See also: Iran, Iraq

**imamzadeh**

Iranian term for venerated tomb of holy man.

**imaret**

Ottoman Turkish term for a kitchen which dispenses soup and bread free to the poor, students and wandering mystics (dervishes). Imarets usually form part of a larger religious complex which normally includes a mosque, madrassa and bath house (hammam).

**India**

_The Republic of India is the largest country in south Asia and occupies the greater part of the Indian subcontinent which it shares with Pakistan and Bangladesh._

The present population of India is nearly 800 million of which almost 80 million (10 per cent) are Muslim, making it the second largest Muslim country in the world after Indonesia. Geographically India is fairly well defined, with the Himalayas to the north isolating it from the rest of Asia, whilst the Indian Ocean surrounds the country to the south. Within this vast area there are many regions each with its own languages, traditions, climate and environment, varying from the cool mountains of Kashmir to the tropical heat of the Deccan.

India differs from other parts of the Islamic world as it does not share the Roman and Sassanian traditions of the Middle East and North Africa, instead it has its own complex history which includes many different religions, cultures and ethnic groups. The most significant of these is the Hindu religion which was a highly developed culture well before the Muslim conquest and continues to be the major religion of the country. The effect of this on architecture means that Indian buildings have distinct design and building characteristics which distinguish them from Islamic buildings elsewhere. The most significant influence on architecture was the Hindu temple. Initially Hindu temples were destroyed and the remains were used to build mosques, such as the Quwwat al-Islam Mosque in Delhi which was built out of the remains of twenty-seven temples; later, however, Hindu features were copied for use in mosques and have now become characteristic of Indo-Islamic architecture. Examples of Hindu features incorporated into Islamic buildings include domed chatri, projecting chajjas and bulbous dome finials. Later on the influence of India can be seen in the mosques of south-east Asia, many of which are Indian in form.

Islam arrived in India by two routes, the overland route through Central Asia and the maritime coastal route. In general the overland route was used by Turkic and Afghan peoples who arrived in India as warriors and conquerors. These peoples established the first Muslim states in India starting in the north and later expanding to the south and east. The coastal route is less well documented and consists of the gradual development of independent Muslim trading communities along the coast in a similar manner to the establishment of Islam in East Africa. Some of the oldest established coastal communities are in Gujarat and the Malabar coast from where Islam eventually spread to south-east Asia as testified by the Gujarati gravestones found in Malaysia and Indonesia. The coastal communities were usually fairly small with no territorial or dynastic ambitions and consequently produced little monumental architecture apart from small local mosques. Occasionally there was some cooperation between the inland Muslim dynasties and the coastal Muslims as can be seen in Gujarat and the Deccan.

There are few documented remains of early Muslim coastal communities. This is partly because of the lack of archaeological work and partly because the monumental character of inland sites has taken up most of the attention of scholars. There is, however, significant historical information of Muslim coastal communities from as early as the ninth century at Quilon on the Malabar coast.
Principal sites and cities of the Islamic period in India
One of the few coastal sites with early standing remains is the old seaport of Bhadresvar which has two mid-twelfth-century mosques which pre-date the Muslim conquest of Gujarat.

The Muslim conquest of India started in the late twelfth century with the Afghan invasion led by Muhammad of Ghur who captured the Hindu stronghold of Rai Pithora, later known as Delhi (see below Pakistan for the early Islamic conquest of Sind). The death of Muhammad in 1206 left his lieutenant Qutb al-Din Aybak in control of the new Indian Muslim state. During the next 300 years much of northern India and the area of modern Pakistan was ruled by a succession of five dynasties based at Delhi. The first of these dynasties comprised the descendants of Qutb al-Din and collectively was known as the Slave dynasty. In 1290 power was seized by Jalal al-Din Firuz Shah II who was founder of the second dynasty known as the Khaliji sultans. In 1296 Jalal al-Din was murdered by his nephew who replaced him as sultan. The new sultan, Ala al-Din Muhammad Shah, reigned for seventeen years during which time he made extensive conquests in Gujarat, Rajasthan and the Deccan. However, the Khaliji dynasty was short-lived and in 1320 it was replaced by the Tughluq, named after its founder Ghiyath al-Din Tughluq. For a brief period in the mid-fourteenth century Ghiyath al-Din's successor moved the capital to Daulatabad in the Deccan, but famine and disease forced him to return to Delhi. The invasion of Timur at the end of the fourteenth century brought about the destruction of Delhi and dealt a deathly blow to the Tughluqid sultans. The last Tughluqid sultan died in 1414 leaving Delhi under the control of the Sayyid sultans who ruled as Timur's deputies. The Sayyid sultans ruled for less than forty years until 1451 when they were replaced by the Lodi kings. The end of the Delhi sultanate came in 1526 when the last Lodi king was defeated by Babur the first Mughal emperor.

The architecture of the Delhi sultanate represents a gradual evolution from an imported Afghan style using unfamiliar materials to a developed Indo-Islamic style which formed the basis of later Mughal architecture. The first building of the Delhi sultanate was the Quwwat al-Islam Mosque complex built by Qutb al-Din Aybak out of the remains of twenty-seven destroyed Hindu temples. The arcades were supported by two tiers of Hindu temple pillars placed one on top of the other to achieve the desired height. They were built in a trabeate construction and in 1199 an arched façade was added to the east side of the sanctuary to give it the familiar appearance of a mosque. However, the arches of the screen were built out of corbels rather than voussoirs whilst the decoration consisted of Quranic inscriptions contained within dense Hindu-style foliage. In the same year Qutb al-Din began the famous Qutb Minar which has become one of the potent symbols of Islam in India. Other work carried out at this time was the construction of the Great Mosque of Ajmer which like the Delhi Minar employed re-used Hindu columns and later had an arched screen added to the front. Other notable monuments of the Slave dynasty include the tomb of Iltumish built in 1236 which includes the first use of squinches to support a dome.

Work on the Delhi Mosque continued under the Khaliji dynasty. Ala al-Din in particular devoted a great deal of attention to the mosque by extending the area of the sanctuary as well as beginning a new minaret on the same design as the Qutb Minar but more than twice the size. Unfortunately Ala al-Din was unable to finish his work and the only part completed is a monumental gateway. Other work carried out by Ala al-Din was the foundation of Siri, the second city of Delhi.

The real expansion of Sultanate architecture came during the rule of the Tughluqids in the fourteenth century. Several new cities were founded including Fathabad, Hissar and Jaunpaur as well as the third, fourth and fifth cities of Delhi. Also at this time the influence of Sultanate architecture was felt in the Deccan when Muhammad Tughluq II moved his capital to Daulatabad. Characteristic features of this architecture are massive sloping fortification walls with pointed crenellations and the development of the tomb as the focus of architectural design. One of the more important tombs is that of Khan Jahan built in 1369 which incorporates Hindu features into an Islamic form. The tomb has an octagonal domed form with chajjas, or projecting eaves, on each side and domed chatris on the roof. Another notable feature of Tughluqid architecture is the restrained use of epigraphy unlike earlier Sultanate architecture.

The monuments of the Sayyid and Lodi sultans are distinguished by their severity and lack of decoration. Nevertheless, many of the buildings are
Indonesia

sophisticated structures like the tomb of Sikander Lodi which uses a double dome form so that the dome may have a significant form on the outside without disrupting the proportions of the interior (a technique later used in the Taj Mahal). The tomb is also the first Indian tomb to form part of a formal garden which became the established format under the Mughals. In addition to the centralized architectural styles developed during the Delhi sultanate several vigorous regional traditions also developed. The four most significant styles are those of Gujarat, Kashmir, the Deccan and Bengal. The style of Gujarat developed independently for over 200 years from its conquest by the Khalji sultan Ala al-Din Shah in the early fourteenth century to its incorporation in the Mughal empire in the late sixteenth century. Characteristic features of Gujarati architecture are the use of Hindu methods of decoration and construction for mosques long after they had ceased to be fashionable in Delhi. After the conquest of Gujarat, the Mughal emperor Akbar adopted this style for his most ambitious architectural project, Fatehpur Sikri. Less well known but equally distinctive is the architecture of Kashmir where the first Islamic conquest was in the mid-fourteenth century to its incorporation in the Mughal empire. The significant features of Kashmiri architecture are the use of wood as the main building material and tall pyramid-shaped roofs on mosques. The third major regional style is the architecture of the Deccan in southern India. Deccani architecture is characterized by massive monumental stonework, bulbous onion-shaped domes and elaborate stone carving, including vegetal forms, arched niches and medallions. Far to the east, in the region of Bengal and modern Bangladesh, a distinctive architecture developed using baked brick as the main building material. Other characteristic features of Bengal include the use of the curved do-chala and char-chala roofs which were later incorporated into imperial Mughal architecture under Shah Jahan.

See also: Bengal, Deccan, Delhi, Gujarat, Mughals

Further reading:


Indonesia

Large country in south-east Asia comprising an archipelago of over 17,000 islands stretching for over 5,000 km along the equator. The country has a large population of over 180 million of whom more than 80 per cent are Muslim, making it the most populous country in the Islamic world.

Islam reached separate parts of Indonesia at different times; it arrived in Sumatra in the thirteenth century; in the fourteenth century it was established in Java, southern Celebes, northern Moluccas and southern Borneo (Kalimantan). By the fifteenth century; it had reached the smaller islands to the east of Bali (this remained Hindu) including Lombok, Sumbawa and the northern coast of Flores.

With the exception of the mosque at Demak there are few examples of early mosques in Indonesia because they were mostly wooden and were replaced by brick or stone structures in the nineteenth century. What the wooden mosques do demonstrate is a continuity with the pre-Islamic Hindu and Buddhist past and it seems likely that for this reason they were later replaced with buildings which look more traditionally Islamic. The modern Islamic buildings of Indonesia often have more in common with India and Europe than with any indigenous Indonesian architecture. Recently, however, there have been attempts to revive traditional mosque forms by the ‘Amal Bakti Muslim Pancasila’ foundation which builds wooden mosques similar to the historical mosque at Demak.

See also: Java, Sumatra
Principal Islamic sites of south-east Asia and Indonesia
Further reading:

Iran (Islamic Republic of Iran, formerly Persia)

Large Middle-Eastern country containing some of the most celebrated examples of Islamic architecture.

Iran is bordered on the west by Iraq and Turkey, on the east by Pakistan and Afghanistan and on the north by the former Soviet Republics of Turkmeniya and Azerbaycan. To the south the country is open to the Persian/Arabian Gulf and the Indian Ocean. The centre of the country comprises a high plateau surrounded by mountains, to the south and west are the Zagros mountains whilst to the north along the shores of the Caspian Sea are the Elbruz mountains. The majority of the population lives on the edges of the central plateau as much of the interior is fairly barren, consisting of kavir (salt marsh) and dasht (stony desert). Most of the country is fairly arid except for the north-west on the borders of the Caspian Sea where there are forests.

In addition to the present state of Iran, Iranian culture has traditionally extended into the neighbouring regions comprising the modern states of Afghanistan, Turkmeniya, Uzbekistan and Tajikistan.

History

Iran has a long history as a unified state starting with the conquests of Cyrus the Great, founder of the Achaemenid Empire in the sixth century BCE. By 525 BCE Cyrus’s successor Cambyses had captured Egypt and was in control of most of the Middle East. The Achaemenid Empire was eventually destroyed by Alexander the Great in 331 BCE after which Iran was ruled by his successors known as the Seleucids. The Seleucids were in turn overthrown by the Sassanians who ruled an empire which included most of modern Iran as well as Mesopotamia. The earliest Arab attacks on the Sassanian Empire took place in the 630s and by 637 CE the Arabs had won a major victory at the battle of Qadisiyya. Although the Sassanians were decisively defeated at the battle of Nihavand in 642 the Arab conquest was not completed until 651 when the last Sassanian emperor, Yazidigrad, was killed near Murghab in Transoxiana. However, even after the emperor’s death, resistance continued whilst many parts of the country conquered by the Arabs remained under the control of Persian princes. The Arab conquest was carried out mostly by troops from the Iraqi garrison cities of Basra and Kufa, a factor which subsequently had profound influence on the politics and religion of early Islamic Iran.

For the next hundred years Iran was ruled by a series of governors appointed by the Umayyad caliphs based in Syria. The rule of the Umayyads was resented by many of the Arab troops in Iran, many of whom were influenced by the emerging Kharjirism (opposition to religious claims of the caliphate) and Shi(ism (supporters of ‘Ali) of Basra and Kufa. In addition a large number of Iranian converts to Islam were unhappy about their status in relation to the Arab rulers. The result of the growing opposition to the Umayyads was the Abbasid revolution which began in eastern Iran and eventually spread to most of the Islamic world. One of the consequences of the Abbasid revolution was increased Iranian influence in both the culture and administration of the caliphate. During the ninth century independent local dynasties began to emerge as rulers in several parts of Iran, the most significant of which were the Buwaihids. The Buwaihids were a Shi’a group originating from the Caspian region who eventually dominated even the Abbasid caliphs. In the ninth century eastern Iran (including the modern states of Afghanistan and Uzbekistan) was under the control of the Samanids based at Bukhara and Samarkand. In 1040 the Seljuk Turks conquered the whole of Iran and established the great Seljuk Empire. For a short period in the eleventh century a huge area from Syria to eastern Iran was nominally under the control of the Seljuks who as a Sunni group were endorsed by the religious orthodoxy and the caliphate in Baghdad. However, the unity of the
Seljuks was short lived and by the end of the eleventh century the empire was divided into a number of independent principalities. In the mid-thirteenth century Iran was conquered by the Mongols who dominated the country for the next hundred years. In the late thirteenth century the Mongol leader Ghazan Khan converted to Islam and broke away from central Mongol control. Between 1281 and 1295 Iran was subjected to another devastating Mongol invasion under the legendary Timur. The Timurid state in western Iran did not last long after Timur's death in 1405 and was replaced by the Turkoman dynasties who ruled until 1501 when they were defeated by the forces of the Saffavids under Shah Isma'il. However, in eastern Iran Timurid rule continued until 1510 when the last Timurid sultan was defeated by the Saffavids.

The Saffavids ruled Iran for more than 200 years establishing it as a unified modern state. Unlike their predecessors, the Saffavids were Shi'a and converted most of Iran to this form of Islam. By the 1730s the Saffavids were no longer able to control large areas of the country which was subjected to increasing Afghan attacks. In the 1740s the Afghans were repulsed by a Nadir Shah, ruler of a local north-eastern dynasty known as the Zands. Nadir Shah's success against the Afghans enabled him to take control of the whole of Iran, though the Saffavids remained nominally in control. In 1779 the Zands were overthrown by the leader of a Turkish dynasty known as the Qajars who ruled the country until 1924 when they were replaced by the modernizing Pahlavi dynasty. In 1979 the last Pahlavi ruler was overthrown and Iran became an Islamic republic.

Architecture

The building materials vary from place to place and according to the period although certain materials and techniques tend to remain predominant. For most of the Islamic period the shortage of suitable stone has meant that brick (baked or unbaked) has been the main construction material. Unbaked mud brick or pisé is generally the cheapest building material and has been used for most Iranian houses since early times. In many buildings mud brick is used in conjunction with baked brick which is employed for the more important parts of the structure. Baked (or fired) bricks were used for more important monuments in the early Islamic period although later they were adopted for a wider range of building types. In the earliest monuments brickwork is undecorated with large expanses of plain wall in the Sassanian tradition. In later buildings decorative patterns are introduced which reach their culmination under the Seljuks with complex geometric patterns and inscriptions. Two techniques of brickwork decoration (hazarbaf) are used, one employing bricks of standard size arranged in simple patterns and the other using bricks specially cut or manufactured for the purpose. The latter technique was more suitable for inscriptions and complex motifs. Also during the Seljuk period buildings began to be decorated with glazed bricks and coloured ceramic tile inlays. During the Seljuk and Ilkhanid periods the preferred colours were turquoise, light blue and dark blue. In earlier buildings glazed tiles and bricks were set into the exterior walls of buildings to enliven the uniform earth colours of the brick and dark blue; however, during the fourteenth century the technique of tile mosaic was developed whereby large areas would be covered by tiles specially cut or shaped to form geometric and floral designs. Under the Timurids new colours were introduced including green, yellow and terracotta. The technique of tile mosaic was perfected in the fifteenth century under the Timurids who also introduced new colours including green and yellow. During the sixteenth century the Saffavids introduced overglaze painted panels using a technique known as haft-rangi (i.e. seven colours). The advantage of this technique was that it was possible to cover large areas fairly cheaply, although the quality of the colours was inferior to that produced in tile mosaics.

Cut stone architecture is rare in Iran which has no tradition of ashlar masonry to compare with that of the eastern Mediterranean. There are, however, several notable exceptions to this such as the Khuda Khana of the Friday mosque in Shiraz built in 1351. However, most stone buildings in Iran were made out of rubble stones set within a thick mortar and covered with plaster. The lack of a stone carving tradition in Iran led to the development of decorative plasterwork or stucco. The technique of stucco decoration was developed under the Sassanians, but achieved its definitive Islamic form at the Abbasid capital of Samarra in Iraq. Subsequently stucco decoration in Iran
developed its own form and was used in particular for decorating mihrabs. Wood is rarely used in Iran except in the northwest region on the borders of the Caspian Sea. Unfortunately few wooden structures survive from the earlier periods although there are several notable examples from the Saffavid period. The most famous example of wooden architecture is the porch of the Ali Qapu Palace in Isfahan which consists of a flat roof supported on huge wooden columns with muqarnas capitals. Although fairly unique because of its size the porch of the Ali Qapu Palace represents a traditional form in Iranian architecture.

Two types of building are particularly characteristic of Islamic architecture in Iran, these are mosques and tombs. In addition there is a range of secular buildings which gives some idea of the diversity of Iranian architecture. Unfortunately very little survives of Iran's Islamic architecture from before the Seljuk period so that it is difficult to trace the origin of particular building types and their relationship to Islamic architecture elsewhere.

The earliest Iranian mosques were hypostyle structures with the sanctuary located on the southwestern (qibla) side of an open courtyard which was lined by arcades on the other three sides. In the absence of the marble columns used in Syria and Egypt the roof was usually supported by baked-brick piers or wooden columns. Only a few early mosques have been discovered, the most important of which are Siraf, Susa, Isfahan, Fahraj, Damghan and Nayin. The first three buildings were covered by a flat wooden roofs whilst the latter three were roofed with a system of barrel vaults supported on squat octagonal or round brick piers. The walls of these structures were initially built out of mud brick or rubble stone set in mortar and decorated with stucco.

Sometime during the eleventh century a new mosque form was introduced based on the four-iwan plan. The advent of this new building type seems to be associated with the arrival of the Seljuks. Examples of this form are found mostly in western and central Iran and include Isfahan, Basian, Zavareh, Qazvin, Yazd, Kirman and Rayy. One of the clearest examples of this new form is the mosque of Zavareh (dated to 1136) which consists of a square central courtyard with iwans in the centre of each side, behind the qibla iwan is a square domed chamber containing the mihrab. From the Seljuk period onwards the four-iwan plan became the standard format for mosques and later developments took place within the context of this plan. Ilkhanid developments in mosque architecture were concerned with a refinement of the four-iwan plan and the increased use of decorative techniques. The problem of the four-iwan plan is that it detracts from the directional emphasis of the mihrab. One method used to strengthen this axis is the enlargement of the qibla iwan which can be seen in its most exaggerated form in the mosque of Ali Shah in Tabriz built between 1310 and 1320 where the qibla iwan was over 48 m deep and 30 m wide. Another method of strengthening the orientation is the decorative elaboration of the qibla iwan and façade (pishtaq). In the Great Mosque of Varamin built in 1322 the monumental qibla iwan is decorated with giant muqarnas, stucco inscriptions and decorative brickwork.

The collapse of Ilkhanid power in 1335 left Iran under the control of competing dynasties the most important of which was the Muzaffarids who ruled the area of Fars and Kirman. Several innovations in mosque architecture were introduced at this time which collectively have been called the Muzaffarid style. One of the most distinctive features is the use of large transverse arches which support transverse barrel vaults. This system was used in an extra prayer hall added to the Great Mosque at Yazd and the madrassa attached to the Masjid-i Jami at Isfahan. The advantage of this innovation is that large areas can be covered without intervening pillars. This period is also characterized by the growing use of tile mosaic as decoration both for the interior of mosques and for the portal façades.

In 1393 the conquests of Timur brought an abrupt end to Muzaffarid rule and marked the beginning of a period during which monumental building activity was confined to the eastern part of the Iranian world outside the borders of the present state of Iran. However, it is notable that many of the buildings erected by Timur and his successors in Samarkand and Bukhara resemble the earlier buildings of western Iran. One of the reasons for this situation is that Timurids employed craftsmen from western Iran, a fact which may also explain the comparative dearth of building activity in the west. The situation in western Iran later improved under the Qara Qoyunlu dynasty who established their capital at Tabriz. The most significant monument of the period is the Blue Mosque.
of Tabriz which consists of a domed central courtyard opening on to four iwans. The plan is similar to that of the early T-plan mosques of Bursa and was probably influenced by contemporary Ottoman architecture.

With the exception of Isfahan there were few major new mosques built during the Safavid period although extensive restorations were carried out to older mosques and shrines. In particular there was an increased emphasis on the shrines of Mashad and Ardabil which were adapted for large numbers of pilgrims. At Isfahan the Safavids built a new city based on a huge central maidan which functioned as the centre of the city. Opening on to the maidan are two mosques, the Masjid-i Shah and the Masjid-i Sheikh Luft ‘Allah, one on the east and one on the south side. The maidan is aligned north–south whilst the mosques are built on a qibla axis (i.e. north-east–south-west), thus the junction between the mosques and the maidan form entrances bent to an angle of 45 degrees. The Masjid-i Sheikh is the smaller and also the more unusual mosque and comprises a single-domed chamber approached via an L-shaped corridor. The plan of the building lacks the central courtyard found in most earlier mosques and has more in common with domed mausoleums than the typical Iranian mosque. The Masjid-i Shah with its four- iwan plan appears more conventional although it has several unusual features including minarets either side of the qibla iwan, domed halls leading off the side iwans and two eight-domed prayer halls either side of the domed sanctuary area. Perhaps more surprising are the twin madrasas which flank the central prayer area creating a unified religious complex. The architectural unity of the complex is cleverly reinforced by the bent axis which allows a person standing in the maidan to see the entrance portal, the qibla iwan and the large central dome at the same time. The impact of this view is reinforced by the blue and turquoise glazed tilework and the twin sets of minarets flanking the entrance portal and the qibla iwan. Other mosques built under the Safavids were generally less adventurous in their design and were built on the standard four- iwan plan.

Mosques built during the period of Zand and Qajar rule continued to be built in the classic Safavid style but with increased emphasis on decoration. The most famous building attributable to the Zands is the Vakil Mosque in Shiraz, which is characterized by its vivid yellow and pink tile decoration. Several nineteenth-century Qajar mosques begin to show variations in the standard format such as entrances placed to one side and multiple minarets.

The development of commemorative tomb structures mirrors that of mosques with few structures from before the eleventh century and a wide range of structures produced before the sixteenth century after which there is little innovation. Two distinct traditions of monumental tombs developed which may be described as domed mausoleums and tomb towers.

Tomb towers were generally reserved for rulers or prominent local princes and were probably a continuation of pre-Islamic Iranian practices. The degree of continuity can be seen in the tomb tower of Lajim where the commemorative inscription is in Arabic and Pahlavi. The earliest and probably the most famous commemorative tomb in Iran is the Gunbad-i Qabus built between 1006 and 1007. The tomb consists of a tall cylindrical tower 55 m high with ten angular buttresses and a conical roof. There is no decoration to relieve the stark simplicity of the brickwork except for two lines of inscription, one near the base and one below the roof. Although unusual, the monument is related to a group of Ghaznavid tomb towers produced further east in Afghanistan. During the Seljuk period the tomb tower became established as the principal type of funerary monument. Other important tomb towers include the Pir-i Alamdar tower (1026–7) and the Chihil Dukhtaran tower (1054–5) both in Damghan. The significance of the Damghan towers is their decorative brickwork which later became one of the standard decorative techniques on tomb towers. Also during the Seljuk period tile inlay and glazed bricks became increasingly popular as a form of decoration. During the Ilkhanid period the standard smooth round form of tomb towers was modified by the addition of semi-circular or angular flanges seen in buildings such as the ‘Ala al-Din tomb tower in Varamin (1289). In the ‘Aliabad Kishmar tomb tower semi-circular and angular flanges are combined creating a complex interplay of shadows. During the fourteenth and fifteenth century the smooth conical roof form is replaced by a pyramid form in which the conical form is made of a number of flat planes which meet at the apex.

Domed mausoleums are probably the earliest
form of commemorative tomb and can be traced back to structures such as the Qubbat al-Sulaybiyya at Samarra. These structures usually have a square or octagonal base and hemispherical dome, one of the earliest Iranian examples being the Arslan Jadhib tomb built in 1028. Another early example is the Davazdah Imam at Yazd (1036–7) which consists of a massive square chamber covered by a dome resting on an octagonal drum. During the Ilkhanid period the principle of the double dome developed with a tall outer dome concealing a lower inner dome. The purpose of the double dome arrangement was that a tall dome may attract attention to a building from the outside but is unsuitable for the smaller proportions of the interior. Under the Timurids a bulbous dome shape was developed which became characteristic of Iranian architecture and was used on many of the tombs built after the fifteenth century. In addition to the standard dome form a regional variant developed in western Iran which is linked to the Iraqi muqarnas domes.

As well as tomb towers and domed octagonal mausoleums, a third category of tomb is represented by the great shrines of Mashad, Qum and Mahan. Probably the greatest of these is the shrine of Imam Riza at Mashad which was built by the Timurids in 1418 and subsequently adorned by later Iranian dynasties. At the centre of the shrine is a great chamber covered by a bulbous glazed dome. Around the sides of the building are two tiers of glazed iwans and a monumental iwan flanked by twin minarets at the front.

Secular architecture in Iran is represented by a wide range of buildings including palaces, caravanserais, bridges, city walls, bazars, ice houses, pigeon towers and bath houses. Unfortunately most secular buildings date from the fairly recent past and there are few examples from before the Saffavid period. This is particularly true of palaces; thus the Ali Qapu Palace in Isfahan is one of the few imperial palaces to survive. Remains of earlier palaces have been found but these are mostly ruins of buildings destroyed by war or natural disasters. The Ali Qapu forms part of the imperial complex at Isfahan built by Shah Abbas in the seventeenth century. The palace is located on the west side of the central maidan and consists of a tall square building with a monumental porch at the front overlooking the maidan. The porch is more than two storeys high and is raised above the ground on a vaulted substructure so that it functions as a huge covered viewing platform. Behind the main building of the Ali Qapu there are a series of gardens and pavilions which recall the garden palaces depicted in Persian miniature painting. However, most secular buildings such as caravanserais or bazars tend to be of more utilitarian form although sometimes they are enriched by decorative details derived from religious architecture. This process can be seen very early on in Iranian architecture in buildings such as the Seljuk caravanserai of Robat Sharaf where the entrance is decorated with elaborate brickwork and incorporates a mihrab for the use of travellers. This process continued into the nineteenth century as can be seen in the bazar entrance at Yazd which consists of three-storey triple iwans flanked by twin minarets and covered with glazed tiles. However, most caravanserais and bazars contained very little decoration beyond a foundation inscription above the gateway.

See also: badgir, Isfahan, Saffavids, Seljuks, Timurids

Further reading:
O. Grabar, 'The visual arts from the Arab invasions to the Saljuks', in Cambridge History of Iran, 1993.
--- 'Safavid architecture', in Cambridge History of Iran 1993.
Iraq

Large country to the north-east of Arabia and west of Iran, dominated by the twin rivers of the Tigris and Euphrates.

The present state of Iraq more or less coincides with the historical term Mesopotamia which refers to the land between the two rivers. The country may be divided into three main geographical regions: the Kurdish areas of the north, the central area between Mosul and Baghdad and the desert areas to the south and west. The Kurdish areas of the north-east are dominated by high mountains which continue into Turkey and Iran. The central area between the rivers is extremely flat, especially the southern areas and it is here that the remains of the ancient civilizations (Sumerians, Babylonians, Assyrians) have been found. The desert areas to the west are sparsely populated and have connections with the Arabic countries to the west and south.

Before the Arab conquests in the seventh century Iraq was ruled by the Sassanians from their capital at al-Mada'in or Ctesiphon. In 633 CE the Muslim Arabs crossed the Euphrates and occupied Hira; four years later at the battle of Qadisiyya the Sassanians were defeated. Initially the Arabs ruled from the old Sassanian capital but later moved to the newly established garrison town of Kufa. Basra, the other garrison city, was later built to cope with the increasing number of immigrants. Under the Umayyads the Islamic empire continued to expand, which led to the continued development of the garrison cities. In order to retain order a third, Wasit, was established midway between Kufa and Basra.

With the Abbasid revolution of 750 Iraq was established as the home of the caliphate. This shift in political power is symbolized by the building of Baghdad as a new capital in 762. Conflict between the caliph's soldiers and the local population in Baghdad resulted in the al-Mu'tassim founding a new capital further north at Samarra. For a little over fifty years Samarra was capital of the Islamic world but in 889 Caliph Mut'amid moved back to Baghdad. Abbasid power in Iraq was smashed in 946 by the Buwaihids, a Sh'ite Persian dynasty who ruled in the name of the Abbasid caliphs. The Buwaihids spent considerable sums on building activity in Iraq, their most famous construction being the Bimaristan (hospital) built in 978 at a cost of 100,000 dinars. The Buwaihids were replaced as rulers by the Seljuks who ruled until 1154 when the long-dormant Abbasid caliphs were able to reassert their power over much of Iraq. In 1258 the Mongols sacked Baghdad putting an end to further hopes of Abbasid revival. Under the Ilkhanids Iraq was ruled by local governors, a situation which was changed when the Jalairids took over in the fourteenth century and ruled from Baghdad. In the sixteenth century Iraq was conquered by the Ottomans who incorporated it into the Ottoman Empire.

The principal building material of Iraq is mud brick whilst baked brick is used for more permanent or important structures. The absence of suitable wood led to the development of vaults, arches and domes that could be built without wood. In the Kurdish areas of the north hewn stone set into a thick limey mortar (gussa) is used as a building material. This method is also used in the desert areas of the west although mud brick is also used. The only form of wood available is the palm tree and split palm trunks are sometimes used for roofing. In the southern area near the entrance to the Gulf is a unique marshy environment where reeds are the main building material.

Architecturally the most significant time is the early Islamic period up until the tenth century. During this period five major cities were established (Kufa, Basra, Wasit, Baghdad and Samarra) which had an effect on the art and architecture of the whole Islamic world. During the medieval period Iraqi architecture generally follows that of Iran with few innovations or great monuments. One exception to this is the Harba bridge near Samarra which has a long brick inscription which is one of the finest examples of its type. Another exception is a building type known as the conical-domed mausoleum which has its origin in Iraq. The conical dome comprises a tall dome made of interlocking muqarnas vaults which has the...
appearance of a honeycomb. The earliest example is the tomb of Imam Dur north of Samarra, built by the Seljuk Sharif al-Daula between 1061 and 1065. Other examples in Iraq include the Zumurrud Khatun tomb in Baghdad and the tomb of the prophet Ezekiel in Kifl. From Iraq the form spread to Syria where it was used in Damascus at the tomb and hospital of Nur al-Din.

The main development during the Ottoman period was the development of the shrines at the Shi'a holy cities of Kerbala, Khadamiya, Najaf and Samarra. The architecture of these shrines is mostly Iranian and much of the work was either paid for or built by the Saffavid shahs of Iran. Saffavid influence can also be seen outside the immediate vicinity of the shrines in the pilgrim caravanserais between Kerbala and Najaf or in some of the bridges in the area.

See also: 'Atshan, Baghdad, Basra, Kufa, Samarra, Ukhaidhir, Wasit

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Isfahan

Capital city of Iran famous for its city planning under the Saffavids in the sixteenth century.

Isfahan is located in western Iran in an area surrounded by deserts. It is supplied with water by
the Zayandah-Rud which makes settlement in the area possible.

The main building in the city which survives from before the sixteenth century is the Great Mosque. This building was founded in 773 and comprised a prayer hall with a flat roof supported on wooden columns. Nothing remains of this structure, although large parts of the present building, including the north dome and the dome in front of the mihrab, date from the eleventh century. The north dome was built by Terkan Khatun, wife of the Seljuk ruler Malik Shah. Although now incorporated within the mosque it was originally a separate building, possibly another mosque. The most significant feature of the dome is the quality of the brickwork which is the best surviving example of Seljuk brick decoration. The dome in front of the mihrab is of similar quality although this is also decorated with stucco work. In the early twelfth century the Great Mosque was fundamentally redesigned by the creation of four axial iwans making this the earliest example of the four-iwan plan mosque which was later to be the characteristic form for Iranian mosques.

In the sixteenth century the city was completely replanned under the Saffavid ruler Shah Abbas. The centre of this new plan was the famous maidan which is a huge rectangular open space which could be used for recreation and public displays. The principal buildings of the new capital were built around this maidan. At the south end is the Shah Mosque and facing each other near the middle of the maidan are the Luft ‘Allah Mosque and the Ali Qapu or gate to the Shah’s palace. At the north end there is a caravanserai and the entrance on to the bazar. To the west of the maidan there was a park area with a long boulevard leading south across the river to a country palace known as the Hazar-Jarib.

See also: Iran

Israel
See Palestine.

Istanbul (Byzantine Constantinople)
Capital city of the Byzantine and Ottoman empires, now the largest city in the modern state of Turkey.

History
Constantinople was founded by the Roman emperor Constantine in 330 CE on the site of an earlier
town which traced its origins back to the Iron Age. At the centre of Constantine’s city was the hippodrome, the imperial palace and the first cathedral of St Sophia (Hagia Sophia). By the fifth century the population of the city had grown so fast that Theodosius expanded the circuit of the city wall to include a large area to the west; these walls remain the boundary of the city. In 1453 the city finally fell to the Ottoman Turks after centuries of gradual Turkish advances. By the time of the final conquest the Ottomans controlled the land on both sides of the city so that it was in effect under permanent siege. The Ottoman conquest was a well-ordered operation which took several years and involved the construction of two large fortresses (Rumeli and Anadolu Hisarlar) on either side of the Bosphorus and two either side of the Dardenelles (Sultan Kale and Kilidbahir Kale) to enforce a blockade of the besieged city. The city which the Ottomans took over was in a dilapidated state with a declining population and had little of the grandeur associated with the early Byzantine city. Much of the damage had been caused by the Fourth Crusade in the twelfth century which had been diverted from its objective and sacked Constantinople instead.

The city has a unique position on a peninsula at the point where the Bosphorus joins the Sea of Marmara. Surrounded by water on three sides, it has easy access to the Black Sea, the Aegean and the Mediterranean making it ideal as an imperial capital.

During the Ottoman period the city rapidly expanded to include the area of Galtan on the opposite side of the Golden Horn and the various towns on the Asian side like Üskudar. Also during this period the banks of the Bosphorus up towards the Black Sea were gradually developed as residential areas and during the eighteenth and nineteenth centuries this became the fashionable area.

After the conquest the hippodrome (Turkish: Atmeydan) and cathedral of St Sophia remained the centre of the city with the cathedral converted into a mosque by the addition of a wooden minaret to one of the turrets. The first Ottoman palace (Eski Sarai) begun in 1454 was built between the old forum and the market area overlooking the Golden Horn. The palace was located in the middle of a park surrounded by high walls and was later abandoned as imperial residence in favour of the Topkapisarai. The new palace built on the site of the former acropolis was completed in 1472 and
remained the centre of the empire until the twentieth century. In addition to the royal palace there were also a number of smaller palaces for notables, the most important of which is the palace of Ibrahim Pasha (now the Islamic Art Museum) located on the north side of the Atmeydan.

Architecture

The first major mosque, the Fatih Cami, was begun in 1463 although smaller mosques were built before that date and some date from before the conquest. Like the Hagia Sophia some of the earliest mosques were converted churches and those that were not (like the Yarhisar Cami) were mostly square domed units with a portico. Despite the conversion of churches in 1459 the Ottomans encouraged the former Christian inhabitants of the city to return and they were offered land grants as an incentive.

With the completion of the Fatih Cami in 1470 the city had its first imperial mosque which was followed forty years later by the Beyazit complex and sixty years later by Selim I's mosque. For nearly 100 years, until the completion of Sinan’s masterpiece, the mosque of Suleyman in 1557, the Fatih Cami remained the largest and most important mosque. The Suleymaniye became most important of the imperial mosques for the rest of the Ottoman period, although the Sultan Ahmet Cami (Blue Mosque) with its position next to the Atmeydan (Hippodrome) and its six minarets attracted a lot of attention. Each of the imperial mosques was accompanied by a complex consisting of madrassas (colleges), hospices, bath houses and shops. The revenue from the shops, hammams and any other endowments was used to pay for the upkeep of the mosque and its charitable dependencies. The revenue from the Suleymaniye foundation was still large enough to pay for the upkeep of over 300 people in 1900.

The key to Istanbul’s success was its many markets or bazars which continue to be some of the busiest in the Islamic world. Soon after the conquest the city was provided with two bedestans and later a third at Galata. These formed the center of commercial life in the city with bazars growing up around each bedestan. The commercial center of the city during the Byzantine period had been the area around Hagia Sophia but during the Ottoman period it moved to its present position near Eminönü and Sirkeci. The centre of this bazaar is the bedestan established by Mehmet II which consists of a central hall covered by fifteen domes. In 1701 the bazaar around this bedestan was roofed over to become the covered bazar.

Throughout its history most of the houses of Istanbul were built of wood with stone or brick foundations and tiled roofs. The houses were built out of a wooden frame and then covered with weather boarding on the outside with shallow double pitched roofs. Houses were usually two storeys high and often had cantilevered windows projecting out over the street. The predominant use of wood caused great danger from fires and there were frequent regulations which tried to make people build in brick or stone. Before the twentieth century the skyline of Istanbul was punctuated with frequent water towers which were to be used in the event of fire.

Since Byzantine times water had come into the city along a network of channels and aqueducts from the Belgrade forest. On taking over the city the Ottomans repaired the water system building
new aqueducts and dams. During his time as architect of Istanbul Sinan was in charge of the repairs to the water system and built great two-tier aqueducts, the longest of which is three-quarters of a kilometre. Later on during the eighteenth century the reservoirs were used as a place of recreation reflected in the elegant curved design of the dam known as the Valide Bend. Connected to the water system were a range of sebils (fountains) which from the eighteenth century had roofs with huge projecting eaves which came to be regarded as a characteristic feature of Turkish architecture.

See also: Ottomans

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O. Erdenen, İstanbul çarşılıarı ve kapalları, Istanbul 1965.

**iwans**

* A vaulted hall, walled on three sides, with one end entirely open.

Iwans were common in the Sassanian world before Islam and rapidly became incorporated into Islamic architecture. The greatest period of diffusion was under the Seljuks in the tenth century when iwans became established as one of the basic units of Islamic architecture. One of the most typical iwan arrangements is to have four iwans opening on to a central courtyard. The first occurrence of this plan is at the Assyrian site of Ashur in Iraq although this later became a typical arrangement for mosques, madrassas and palaces.

**Iznik tilework**

Ottoman tiles produced from the mid-sixteenth century will have a distinctive under-glaze blue colour and design.

Iznik is a town in north-west Anatolia famed for its pottery production during the Ottoman period. Under the Byzantines the town was known as Nicea and enclosed within a large circuit wall which still survives. The city was one of the first towns to be conquered by the Ottoman Turks and contains the earliest dated Ottoman mosque known as the Haci Özbek Cami.

Before 1550 the kilns of İznil seem to have been mostly concerned with making pottery rather than tiles. Sometime around 1550 there was a change to tile production which was induced by the tiling of three great monuments, the Dome of the Rock in Jerusalem, the Süleymaniye Mosque in Damascus and the Süleymaniye complex in Istanbul. Before 1550 Ottoman tiles were hexagonal with bold cuerda seca designs, the new İznil tiles were square and carried underglaze designs. The new shape and use of underglaze painting enabled large multi-tile compositions to be made. Another innovation of this period was the use of thick red slip as an underglaze colour which gave İznil pottery its distinctive appearance.

See also: Istanbul, Ottomans, Süleymaniye

Further reading:
jali
An Indian term for a perforated stone screen, usually with an ornamental pattern.

jami or jami masjid
A congregational mosque which can be used by all the community for Friday prayers.

jarokha
A Mughal term for a projecting covered balcony, often used for ceremonial appearances.

Java
Large island in south-east Indonesia located between Sumatra and Borneo, now forming the main island of the State of Indonesia.

The earliest traces of Islam in Java may be from as early as the eleventh century in the form of an inscribed tombstone found at Leran. However, it was not until the late fourteenth century that Islam became a major force in the politics of the island. Before the fourteenth century Islam had been a minority religion spread by Muslim sea traders from Malaysia and India. The predominant religion before the arrival of Islam was Hinduism, though some Buddhism also existed there. Central Java is covered with the remains of Hindu temples from this period, the most famous of which is Borabadi. The most important of the states in pre-Islamic Java was the kingdom of Majapahit (founded in 1293) which in the fourteenth century controlled the greater part of Indonesia and large parts of the Malay Peninsula. After the death of King Rajasanagara in 1380 the Majapahit declined rapidly mostly due to the rising power of the Malaysian state of Malacca which by this time had been converted to Islam. The Majapahit kingdom continued until the early sixteenth century when it was finally replaced by Islamic kingdoms.

Despite the political and religious defeat of the Old Javanese state, the culture of Java continued in the Islamic states that replaced it, including their architecture. The centre of Javanese cult life had always been the mountain, often surrounded by the sea. In architecture this was symbolized by artificial hills surrounded by moats, a feature found in the palaces and mosques of the new Islamic states. Three main types of monument have been identified from the Islamic period, these are palaces (kraton), mosques and gardens (taman).

Palaces
The palaces of the Islamic states developed from those of their Javanese predecessors although it is likely that the Islamic buildings also drew on some other traditions. The Javanese kratons have particular ritual significance and were built as symbolic representations of the cosmos with the king at the centre. The typical layout of the complexes reflects this symbolism with a central area surrounded by symmetrically arranged courtyards. The design of the palaces was fairly conservative and new palaces were built as copies of older palaces and were called ‘putra’, sons of the old palace. The palace of a particular dynasty formed the capital of a state – when the palace was abandoned and moved elsewhere the status of capital moved with it, and the former site reverted to the status of village. The Islamic palaces may be classified into two main groups: the six palaces of the Mataram dynasty, who replaced the Majapahit kings in the sixteenth century; and the palaces of the earlier Islamic kingdoms of Banten and Cirebon. In addition there were a few palaces and lesser palatial centres including the rebel palaces at Kediri and Pasuruan and the courts at Demak and Giri.

The oldest Islamic palace in Java is the Kraton Kasepuhan (Palace of the Senior Sultan) built in 1529 by the Cirebon dynasty. This palace has a circular outer enclosure (beteng) which together with its monumental gates and pillar bases shows a marked affinity with the palaces of the pre-Islamic
Java

Majapahit kings. Another early palace is that of the Banten dynasty known as the Kraton Sura­
sowan built between 1552 and 1570. The palace is
largely ruined, but remains of the rectangular outer
enclosure wall with four corner towers survive, as
well as a bathing fountain.

The most impressive palaces were those of the
Mataram dynasty built between the seventeenth
and eighteenth centuries. Not much survives of
the three earliest of these palaces known as Kutha
Gedhe, Kerta and Plered, although there are
substantial remains of the fourth capital
Kartasura abandoned in 1746. Remains at Kartasura
include the outer enclosure wall (beteng) and the
inner kraton wall both of which are made of baked
red brick. However, the earliest palace of which
there are extensive remains is the kraton of
Kasunanan Surakarta built in 1746. This palace
consists of an outer enclosure wall (beteng) 6 m high enclosing a rectangular area 1.8 km
long by 1 km wide. The enclosure contains the
inner palace in the centre and around it on either
side accommodation for the palace staff and
courtiers. The palace is arranged on a north-south
axis with a walled courtyard (alun-alun) projecting
on both the north and south sides. The north
courtyard measured 300 m per side and was the
main square of the town and centre of royal
events. It was entered via a gateway in its north
wall, guarded by two monster statues robbed from
a nearby Hindu temple; in the centre of the court­
yard were two sacred banyan trees. The south
courtyard was smaller and of less importance, it
contained the palace orchard and its main function
seems to have been to preserve the symmetry of
the north-south axis. A gateway at the back of the
north courtyard (alun-alun) led into a smaller court­
yard within the palace walls; this was the outer
audience hall where the king dealt with the public.
A further gateway led into two more courtyards
opening on to the central courtyard of the palace
which functioned as a private audience court. To
the west of this was a large building known as the
‘Dalem Prabasuyasa’, or inner palace, which con­
tained the ritual symbols of kingship. Either side of
the central axis were residential areas; to the west
the area for women and children (kaupufren), to the
east the residence of the crown prince and his
family.

The palace of Yogyakarta begun in 1756 was
built when the Mataram kingdom was divided in
two. The basic design is identical with Kasunanan
Surakarta although the east—west arrangement was
reversed and the southern courtyards were more
developed.

Gardens

One of the most sophisticated products of Islamic
architecture in Java is the pleasure gardens (taman).
Like Islamic gardens elsewhere the gardens of Java
were an extension of the royal palaces and included
architectural elements such as fountains and pavil­
ions besides the usual flowers and trees. However,
the symbolism of the Javanese gardens differs
from that elsewhere in the Islamic world and is
based on the dualist theme of mountain and sea
derived from pre-Islamic times. This theme is repre­
sented by pavilions standing in water and centrally
placed towers or artificial hills.

Although gardens were known in pre-Islamic
Java none have survived and the earliest example
is the Tasik Ardi in the grounds of the sixteenth-
century Surasowan Palace. The gardens, however,
are attributed to Sultan Agung who laid them out
in the mid-seventeenth century. The garden is
badly ruined, apart from the central part which has
survived; this consists of a square brick tank with a
two-storey stone pavilion in the centre. Other
early pleasure gardens dating from the beginning
of the eighteenth century can be found at the
palaces of Cirebon and are composed mostly of
artificial hills with caves set into them. One of the
caves at the Kasepuhan garden is guarded by two
lion statues and was used by the sultan as a place
of meditation. A more complex garden known as
Sunya Ragi is located on the outskirts of Cirebon
and dates from the 1730s. Like the other gardens
at Cirebon the gardens of Sunya Ragi are full of
artificial hills covered with small pavilions and
caves; however, here the gardens are linked by a
complex set of passageways and courtyards. To
the west of the mountain area was a large lake
known as ‘the sea’ which contained an island with
a central pavilion.

The most remarkable garden of Java is the
famous Tamam Sari built between 1758 and 1765
next to the palace of Yogyakarta. This is the
largest and most complex of all Javanese gardens,
containing some fifty buildings enclosed within
more than twelve walled gardens. One of the main
features of the gardens is the Pula Kenanga which
is a large three-storey building set in the middle of a huge basin. The building can only be reached by raft or sub-aquatic passages. One of the most remarkable buildings in the complex is the Sumur Gumulig which has been variously interpreted as a mosque and place of meditation for the sultan. The building consists of a tall two-storey structure set in the middle of the lake and it can only be reached by a sub-aquatic passage. There are two storeys inside the tower with an open central space; within this area four staircases rise from the ground floor to a central circular platform level with the second storey. A single staircase leads from the platform to the top floor which gives a view over the lake.

**Mosques**

The earliest mosques in Java were built from the mid-fifteenth century onwards, although there is an earlier reference to mosques in the fourteenth-century Majapahit capital. Unfortunately no early mosques have yet been discovered in Java and the oldest extant structures date from the sixteenth century.

The standard plan of a Javanese congregational mosque consists of a square enclosure with a central platform in the centre on which the main mosque building stands. The enclosure walls are usually fairly low and are decorated with inset bowls and plates from China and elsewhere and in the middle of the east side there is a monumental gate. In many of the early mosques which have survived, the central part of the mosque is further enclosed by a moat. In front of the mosque on the east side is a smaller subsidiary building called the surambi, used for social activities, study and the call to prayer. The sanctuary or central building of the mosque is a raised square wooden structure supported by four giant corner posts, between which small pillars take the weight of the wooden walls. The roofs are usually tiered structures made of thatch, with the number of tiers reflecting the importance of the mosque. The minimum number of tiers is two whilst the maximum is five, the top roof usually being crowned with a finial called a mustaka. The tiered roof structure is essential to keep these enclosed buildings cool and dry.

Sometimes the roof tiers represent a division into separate floors each of which is used for a different function; thus the lower floor may be used as the prayer room whilst the middle floor is used for study and the top floor for the call to prayer. Minarets were not introduced into Java until the end of the nineteenth century so that in mosques where there is only one storey the call to prayer is made from a veranda or from the attached surambi. The surambi was not present in the earliest mosques in Java and seems to have been introduced in the seventeenth century.

Inside the mosque there are one or two mihrabs in the west wall and a minbar made of wood, usually teak. The mihrab niches are made of brick or wood and are highly decorated with deep wood-carving derived from the pre-Islamic art of the area. In addition to the congregational mosques there are small neighbourhood mosques (langgar) which are small wooden structures raised up on four poles in the manner of typical Javanese houses.

Traditionally the Mesjid Agung at Demak is one of the oldest mosques in Java and is said to have been founded in 1506 although the present structure has been rebuilt and altered many times since, most recently in 1974–5. The mosque has a three-tiered roof and, unusually, a special women’s prayer area separated from the main mosque by a narrow corridor. Also of an early date (sixteenth century) is the congregational mosque at Banten which is located to the west of the main square (alun-alun lor). The mosque has a five-tiered roof, although within the building has only three storeys. To the south of the mosque is a rectangular structure used as a social centre or meeting place (surambi) which was built by the Dutchman Lucas Cardeel in the seventeenth century. Within the enclosure is a tall tower also built in the Dutch style which functions as a minaret for the mosque. Nearby are the remains of another sixteenth-century mosque, also with traces of a stone tower. Both towers date to the mid-sixteenth century, which raises several questions as they pre-date the supposed introduction of minarets into Java by 300 years.

A similar question is posed by the menara and mesjid at Kudus also dated to the mid-sixteenth century. The mosque itself has been rebuilt since its foundation and represents a fairly standard mosque design. The menara or minaret consists of a tower-like brick structure with a split gateway and pottery dishes inlaid into the sides. The design of the menara resembles the lower part of East
Jews and Christians.

-- 'The introduction of Islam and the growth of Muslim faith

Jerusalem (al Quds) is approximately the same as that of Jerusalem in the fourth century BCE, whilst the Christians know it as the place where Christ was crucified and resurrected.

The first walled town on the site dates from the Middle Bronze Age (1800 BCE). The earliest literary reference is also from the same period when the city is mentioned as one of the enemies of Egypt. The next mention of the city is from the Amarna letters in the fourteenth century BCE. The main source for the subsequent history of the city is the Bible which describes its capture from the Jebusites under David, and the building of the Temple under Solomon.

In 70 CE the Romans destroyed the city in response to the Jewish Revolt. The site lay uninhabited for the next seventy-five years until the emperor Hadrian founded a new city known as Aelia Capitolina. Jews were specifically excluded from this new city and the area of the Temple was left undeveloped (and remained so until the Arab conquest). The layout of the present Old City of Jerusalem is approximately the same as that of the Roman town. In 324 Palestine became part of the Christian Eastern Roman Empire (Byzantium) under Constantine who founded the Church of the Holy Sepulchre in 325–6 CE. Constantine's mother took an active part in promoting the building of Christian places of worship during this period. A depiction of the city in the Madaba Mosaic Map shows it in the sixth century before the Muslim conquest. From 614 to 629 the city was in the possession of the Sassanians under Chosroes II who destroyed many Christian buildings. In 629 the city was recaptured by the Byzantines under Heraclius only to be conquered by the Muslim Arab armies ten years later. For the following 1,200 years (with the exception of the Crusader occupation) Jerusalem developed as major Islamic city although it never developed into a great commercial or administrative centre.

The main building material used for Jerusalem was stone, as wood has always been fairly scarce. The main types of stone available were limestone and Dolomite. Four types of limestone can be found in the Jerusalem region, of which two were used for building in the Islamic period. (i) Mizzi, is a hard fine-grained stone sometimes known as 'Palestinian Marble'. This occurs in two varieties, a reddish type known as mizzi ahmar from near Bethlehem and a yellowish variety from Dayr Yasin 5 km east of the city. (ii) Malaki which is less hard than mizzi but is still hard and fine.

Jerusalem (al Quds)

Major religious city in Palestine sacred to Muslims, Jews and Christians.

Within the Muslim faith Jerusalem is regarded as the third holiest shrine and the second most important place of pilgrimage after Mecca. Muslims know Jerusalem as the city of the prophets and the place of Muhammad's night journey. The importance of the site to the Jews is that it was the site of the Temple built by Solomon in the 10th century BCE.
grained. Outcrops were quarried to the north of the city at Solomon’s Quarries and in the Kidron valley.

The development of Islamic Jerusalem can be divided into four main periods: (i) the early Islamic period from the Arab conquest to the first Crusade, (ii) the Crusader period, (iii) the Ayyubid and Mamluk periods and (iv) the Ottoman period.

**Early Islamic Period**

During the early Islamic period the area of the Temple Mount (Haram) was developed for the first time since Hadrian’s destruction in 70 CE. The first mosque known to have been built in Jerusalem was erected by the caliph Umar and was described by the Christian pilgrim Arculf as ‘a rectangular place of prayer … roughly built by setting big beams on the remains of some ruins’. However, nothing of this early structure remains so that the earliest surviving structure in the city is the Dome of the Rock built by Abd al-Malik in 691. This is a large, domed octagonal structure built over the bare rock of the Temple platform, below which is a cave. Related to the Dome of the Rock is the Qubbat al-Silsila which was probably built at the same time.

To the south of the Dome of the Rock is the Aqsa Mosque which may have been started under Abd al-Malik although most of the construction was carried out under al-Walid. The mosque has been rebuilt several times subsequently although it is believed that the present structure maintains the basic layout of al-Walid’s mosque. It has recently been demonstrated that the walls of the Haram were probably rebuilt at this time and provided with gateways, thus suggesting that the area was systematically developed by the Umayyads probably as a rival to the Church of the Holy Sepulchre. Further evidence for this comes from the excavations to the south of the Haram which have revealed a large Umayyad palace located at the back of the Aqsa Mosque. This follows the pattern established at other early Islamic cities such as Kufa, where the royal palace Dar al Imara is placed behind the mihrab.

Although it is known that many repairs and rebuildings were carried out during the Abbasid and Fatimid periods there was no major building programme similar to that carried out under the Umayyads.

**Crusader Period**

The capture of Jerusalem by the Crusaders marked an abrupt end to four and a half centuries of Muslim rule. The Crusader occupation completely changed the character of the city as the Muslim inhabitants had either been killed, fled or sold for ransom. Even most of the Christian inhabitants had fled and the Crusaders had problems repopulating the city with Europeans.

One of the first priorities of the Crusaders was to rebuild Christian churches and monuments and convert Islamic buildings to other uses. Thus the Church of the Holy Sepulchre was expanded by adding a Romanesque transept to the east side of the Rotunda. Elsewhere in the city over sixty churches were built or renovated, whilst mosques were converted into churches. The Dome of the Rock was given to the Augustinians who made it into a church whilst in 1104 Baldwin I made the Aqsa Mosque into a royal palace.

Some of the houses built during this period were similar to southern European town houses with two or three storeys above a shop or store room. However, other houses were built with courtyards in a style more familiar to the Middle East. Several suqs were built during this period and the main suq in the centre of the Old City was largely built during this period. This is a covered street with shop units either side and light openings in the roof.

The Crusades influenced the subsequent architecture of Jerusalem in several ways including the introduction of the folded cross vault and the use of cushion-shaped voussoirs.

**Ayyubid and Mamluk Period**

In 1188 Jerusalem was recaptured by Salah al-Din and reconverted into a Muslim city. The Haram was cleared of its Christian accretions and reconsecrated as Muslim sanctuary. The cross was removed from the top of the Dome of the Rock and replaced with a golden crescent and a wooden screen was placed around the rock below. Also at this time the famous wooden minbar of Salah al-Din was placed next to the new mihrab in the Aqsa Mosque. However, the major building projects of the Ayyubid period date mostly to the time of Salah al-Din’s nephew al-Malik al-Mu’azzam Isa. During this period the most important
Jerusalem (al Quds)

project was rebuilding the city walls. Within the Haram certain restorations were carried out and at least two madrasas were founded, the Nahawiyya and the Mu'azzamiyya. Also the porch of the Aqsa Mosque was built during this period.

In the later Ayyubid period (first half of the thirteenth century) Jerusalem was again subjected to invasions first by the Crusaders and later by the Khwazmian Turks so that no substantial building work was carried out.

The Mamluk period lasted from 1250 to 1516 and has provided Jerusalem with some of its most beautiful and distinctive architecture. Over sixty-four major monuments survive from this period and testify to the city’s wealth and confidence. The Haram in particular received a great deal of attention from the Mamluk sultans who regarded the patronage of building in this area as a royal prerogative. During this period the walls of the Haram were repaired and the interior of the west wall was provided with an arcaded portico. Several major buildings were built within the Haram, one of the more important of which is the Ashrafiyya Madrasa built on the west side. Several attempts were made to build this structure although the final attempt only took two years with masons sent from Cairo. The most impressive part is the open-sided porch, roofed with a complex folded cross vault, with alternate stones painted red to resemble ablaq.

Elsewhere within the Haram various sebils, tombs and monuments were erected. One of the most beautiful of these is the Sebil Qaitbay (built in 1482) which consists of a small three-tiered structure. The tallest part is the square base (about 5 m high), above which is a complex zone of transition (about 2 m), surmounted by a tall dome (about 3.5 m high). The exterior of the dome is carved in low relief with arabesque designs and resembles the carved masonry domes of mausoleums in Cairo, although the form of the carving suggests local workmanship.

One of the most productive reigns was that of Sultan al-Nasir Muhammad during which time the Suq al-Qattinin was built. This is the largest Mamluk complex in Jerusalem and consisted of over fifty shops with living quarters above, two bath houses and a khan.

Characteristic features of Mamluk architecture in Jerusalem include ablaq masonry in a variety of colours (black, yellow, white and red), muqarnas used in corbels, squinches and zones of transition, joggled voussoirs used for supporting arches, composite lintels and relieving arches.

Ottoman Period

One of the best-known buildings of Jerusalem is the Damascus Gate with its monumental bent entrance, crenellated parapet, machicolations, arrow slits and inscriptions. It forms part of the city wall erected by Suleyman the Magnificent between 1538 and 1541. This was one of the many building projects begun in Jerusalem at this time to renew the city’s infrastructure and demonstrate that Jerusalem was now part of the Ottoman Empire. By the end of Suleyman’s reign the population of Jerusalem had grown to three times its size at the beginning. Another project initiated during this period was the covering of the outside of the Dome of the Rock with Iznik tiles. This took a period of at least seven years during which several techniques of tiling were used, including cut tile-work, cuerda seca, polychrome underglaze, and blue and white underglaze. Also during this period the water system of the city was overhauled with repairs carried out to the Birket al-Sultan and Solomon’s pools. Within the city this was reflected in the erection of a series of sebils (drinking fountains).

The later Ottoman period in Jerusalem has not been studied in any detail although a number of inscriptions refer to repairs and rebuilding. During the nineteenth century new suburbs grew up around the old city and there was increased European influence in the architecture.

Further reading:


**joggled voussoirs**

Term used to describe a method of construction where stones in an arch or composite lintel are interlocked.

The earliest examples of joggled voussoirs are found in Roman architecture particularly in Spain and France where they are used in bridge construction. It seems that the purpose of this structural device was to strengthen lintels and arches during earthquakes, thus the arch could be pulled apart but would fall back to its original position afterwards.

The first use of joggled voussoirs in Islamic architecture is for the lintel above the entrance to the greater enclosure at Qasr al-Hayr East. Later on (twelfth century) they become characteristic of Ayyubid architecture and stones of alternating colours were used. Under the Mamluks (mid-thirteenth to early sixteenth century) they are one of the main decorative features in architecture and are cut into very complex patterns. At this stage the patterns become more important than the structural design thus the patterns are sometimes achieved by inlaying one type of stone into another or even painting the design on.

**Jordan (Hashemite Kingdom of Jordan)**

Small country (88,946 square km) located at the east end of the Mediterranean, bordering Palestine, Syria, Iraq and Saudi Arabia.

Jordan can be divided into four main zones, each of which extends into neighbouring countries. In the north of the country the landscape is dominated by black basalt rock which in places forms an almost impenetrable barrier to travel. The oasis of Azraq is located on the southern edge of this region and functions as a station for eastbound
traffic to Iraq. The western edge of the country lies within the Jordan valley where it borders Palestine; this area is known locally as the Ghor and includes both the area of the Dead Sea and the east side of the wadi Arabah. The highland area to the east of the Dead Sea and the Jordan river is the most densely populated area of the country and includes the main cities of Amman, Irbid and Zerka. To the south and east of this region is the desert known as the Badiyya; this includes a variety of landscapes ranging from dry steppe in the north to large expanses of sandy desert in the south around Wadi Rum.

Jordan was not a fully independent state until 1946; before this period it formed part of various empires, kingdoms and lordships. Nevertheless, Jordan has one of the longest and richest archaeological sequences in the Middle East, which is reflected in architecture such as the 9,000-year-old Neolithic houses of Beidha. Probably the best-known architecture of Jordan is that of the Nabataean city of Petra which dates mostly from the period between the first century BCE and the third century CE. Here a series of magnificent façades are carved into the rose-coloured rock reflecting the wealth and connections of the Nabataean kingdom. Further north a series of cities known as the Decapolis (including Jerash, Umm Qeis, Umm al-Jemal, Pella and Amman) testify to the prosperity of this area during the Classical and Byzantine period. During the Byzantine period numerous churches with mosaics were built, the most famous of which is one at Madaba which includes a mosaic map of Palestine.

In 631 the first Arab armies invaded the prosperous lands of the Byzantine Empire. After an initial defeat at Mu'tah the Arabs eventually triumphed over the Byzantines at the battle of Yarmouk near the city of Pella. During the next 120 years Jordan was enriched with some of the finest examples of early Islamic architecture found anywhere, including the painted bath house of Qusayr Amra and the palace of Mshatta. Subsequent periods in the history of Jordan are not so well known, with the exception of the Crusader period, when magnificent strongholds were built by both Arabs and Crusaders.

The main building materials in Jordan are basalt in the north, limestone and sandstone in the central highlands and mud brick in the Jordan valley and in areas of the desert. Occasionally in the early Islamic period baked brick was employed for vaulting, although this was not repeated in the later periods. The best examples of basalt construction can be seen at Umm al-Jemal where a system of corbels supporting basalt beams was employed. Limestone was used in some of the finer architecture of Roman and early Islamic Jordan because it can be dressed to a fine finish. Mud brick does not survive well, but representative examples of mud-brick architecture can be seen in the oasis town of Ma'an.

Umayyad architecture in Jordan contains a mixture of eastern and western influences with the result that the surviving buildings represent a variety of different architectural types some of which were never repeated (i.e. the use of baked brick and stone at Mshatta and Tuba). Generally buildings from this period may be grouped into three categories: (i) those which are purely developments of Roman Byzantine architecture, (ii) those which are heavily influenced by Persian (Sassanian) architectural concepts and (iii) buildings which combine both eastern and western traditions.

**Roman-Byzantine Influence**

Probably the most famous Islamic building in Jordan is the bath house of Qusayr Amra located in the desert approximately 60 km west of Amman. The building stands alone apart from a small fort or caravanserai several kilometres to the north. Inside the building the walls and ceilings are decorated with a remarkable series of frescoes, including depictions of bathing women, a series of royal portraits, a hunting scene and the zodiac. Although the choice of pictures is certainly Umayyad the style of painting and the design of the bath house is purely Byzantine.

Some of the best-known Umayyad castles are re-used Roman forts or fortresses, whilst others are built in the style of Roman forts with more luxurious fittings. Qasr Hallabat is a square Roman fort 44 m per side with square corner towers. It was originally built in the second century CE to protect the Via Nova Traiana and later expanded in 212-215 CE and restored in 529. Careful excavation and analysis of the fort show that it was subsequently changed into an Umayyad residence with mosaics, painted plaster (frescoes), carved and painted wood and finely carved stucco with geometric, floral and animal motifs. To the east of the
castle is a tall rectangular mosque with three entrances and a mihrab in the south wall; this building was also decorated with stucco work. Outside the forts, remains of an Umayyad agricultural settlement have been found including small houses. Approximately 3 km to the south of Hallabat is a bath house also of the Umayyad period which probably served Qasr Hallabat. The bath house is similar to that of Qasayr Amra and was decorated with painted plasterwork and stucco. Whilst the particular combination of structures and their design is characteristic of the Umayyad period (a fort converted to palace, bath house and mosque), the individual elements and building style at Hallabat are all Byzantine.

A similar structure to Hallabat is the Umayyad complex at Qastal (25 km south of Amman) which until recently was thought to have been built as a Roman or Byzantine fort. However, recent research has shown that all the main structures date from the Umayyad period. The main structure are a fort-like palace, a mosque, a bath house, reservoir, dams, cisterns, a cemetery and domestic houses. The central palace complex consists of a square fort-like building (about 68 m per side) with four round corner towers and intermediate semi-circular buttress towers. The decoration within the palace is similar to that found at Hallabat and includes mosaics, stucco work and carved stonework. Internally the building consists of a central courtyard opening on to six buyut (pl. of bayt) or houses. Probably the most impressive feature of the building was the large triple-apsed audience hall, located directly above the entrance.

Sassanian Influence (‘Eastern’)

Structures representing strong Sassanian or eastern influences are less numerous although perhaps more striking because of their obviously foreign derivation. Perhaps the best-known building of this type is Qasr Kharana (located 50 km east of Amman on the present Baghdad–Amman highway). Kharana consists of a two-storey square-plan structure, 35 m per side, with small projecting corner towers and a projecting rounded entrance. The building is remarkable for its superb state of preservation, which includes in situ plasterwork on the upper floor. The building is made out of roughly shaped blocks set in a mud-based mortar with decorative courses of flat stones placed in bands running around the outside of the building. There are also small slits set within the wall which were probably for ventilation (their size and positioning means that they could not have been used as arrow slits). Internally the building is decorated with pilasters, blind niches and medallions finished in plaster. The whole appearance of the building is so different from other Umayyad structures in Jordan that scholars have tried to attribute it to the period of Sassanian occupation of the area despite an eighth-century inscription. The best parallels for Kharana are to be found in early Islamic buildings in Iraq such as Khan Atshan (similar size and decoration) and Qasr Khubbaz which is built using the same materials (i.e. rough stone blocks set in mud mortar).

Another building erroneously attributed to the Sassanian period is the palace on the citadel in Amman. Like Kharana the Amman citadel building exhibits unmistakable eastern influence in its architecture and layout. The best preserved part of the palace is the building known as the kiosk. This is constructed on a four-iwan plan and decorated with blind niches lined with plaster, a common feature of Sassanian and Umayyad architecture in Iraq (e.g. Ctesiphon and Ukhaidhir). The layout of the palace was huge with at least twelve courtyards arranged on a linear plan. At the opposite end of the complex from the kiosk was a large iwan leading to a cruciform-plan audience hall. All of these features are reminiscent of Mesopotamian palace architecture, where palaces are like small
Jordan (Hashemite Kingdom of Jordan)

cities, containing both administrative and residential areas.

East-West Influence

Two buildings dated to the later Umayyad period (probably the reign of Walid II 743–4) represent a combination of eastern and western influences. The most obvious demonstration of these mixed influences is the use of baked brick for vaults and walls and dressed stone masonry for foundations and architectural details. The most famous of these buildings is Qasr Mshatta located 25 km to the south of Amman. This consists of a large square enclosure with four semi-circular buttress towers. The best-known feature of this palace is the southern façade which consists of a delicately carved stone frieze incorporating animals and plant motifs within a geometric scheme of giant triangles. Internally the building is divided into three longitudinal strips; only the central strip (running north–south) was developed and contains within it the entrance, the central courtyard and the audience hall. The audience hall consists of a triple-apsed room covered by a large brick dome. The layout of the palace immediately recalls that of the Abbasid palaces of Iraq such as Ukhaidhir and has led some scholars to suggest an Abbasid date for the structure. Byzantine elements are also present, however, most notably in the basilical arrangement of the approach to the triple-apsed room and in the motifs of the stonework.

Although Qasr al-Tuba is in many respects similar to Mshatta it is much simpler in its decoration and is generally thought to be closer to a caravanserai than a palace. Qasr al-Tuba is the largest of the desert castles and consists of two identical halves, the southern half of which appears never to have been built. Stacks of bricks on the floor testify to the unfinished nature of the building, although it is possible that some of the structure was originally built out of mud brick. Originally there were some fine carved stone lintels at Tuba but these have now disappeared.

Medieval Period

Standing remains of the Abbasid and Fatimid period in Jordan are rare and architectural remains are mostly limited to archaeological excavations. The reasons for this are complex and related to the fall of the Umayyads and Jordan’s peripheral position in relation to the Abbasid and Fatimid caliphates. The only place where significant architectural remains from this period have been uncovered are at Aqaba on Jordan’s Red Sea coast. This town seems to have reached its peak of prosperity during the Abbasid and Fatimid periods, when it was a trading port in contact with Iraq, Yemen, Egypt and China. Excavations at the site have revealed a walled town (160 by 120 m approximately) with rounded buttress towers and four gateways providing access to the two main streets. Sometime during the Fatimid period mud brick replaced cut stone as the building material for many of the houses.

The Ayyubid and Mamluk periods are marked by the intrusion of the Crusaders who built castles at Karak, Shawbak and Petra to control movement between Egypt and Syria. As a result of the Crusader presence most of the well-known buildings from this period are castles and forts. Examples of Islamic forts can be seen at Azraq, Ajlun, Jise and Qasr Shebib (the Crusader castles at Karak and Shawbak were also remodelled during this period). The best example of medieval fortification can be seen at Qal’at Rabad (Ajlun) built in 1184–5. This consists of several thick walled towers with V-shaped arrow slits linked by curtain walls. The masonry of the castle consists of large blocks similar to those used by the Crusaders at Karak and Shawbak.

In addition to the large castles several smaller forts survive from the medieval period. These
were either built to protect the road system or as signal posts. Probably the most important route in Jordan was the pilgrimage route from Damascus to Mecca; several forts on this route have survived, notably the forts at Jise and Qasr Shebib in Zerka. Related to these forts is the Mamluk fortified khan at Aqaba. This is a rectangular structure with circular corner towers and a deep protected entrance. The form of the arch above the entrance recalls the architecture of Mamluk Egypt with its ablaq masonry and horseshoe arch.

Later Islamic Architecture

The best-known examples of early Ottoman architecture in Jordan are the Hajj forts which were built to protect the pilgrimage route from Damascus to Mecca. The earliest of these forts were built in the sixteenth century during the reign of Suleyman the Magnificent. These were small square structures with large decorated arrow slits, projecting machicolations and large crenellated parapets. In the late eighteenth century the fort network was expanded to counter increased bedouin raids. Forts of this period are more functional and have small gun slits instead of large arrow slits, with projecting corner towers to increase the field of fire.

Other early Ottoman buildings in Jordan are difficult to date so precisely, although the fortified farmsteads at Yadudeh and Udruh probably both date from the eighteenth century.

The best examples of nineteenth-century architecture in Jordan can be seen at al-Salt west of Amman and at Umm Qeis north of Irbid. The architecture of both towns shows strong Palestinian influence. Salt in particular shares many features with Nablus. Amman, however, differs from the other cities in north Jordan as it was settled by Circassian refugees. Characteristic features of Circassian houses are the use of wood, the introduction of chimneys and small rooms.

Several mosques of the medieval period are known in Jordan, the finest of which was the twelfth-century structure at Mazar, near Mut’ah (this has now been destroyed). Mamluk mosques can also be seen at Pella and in the fort at Azraq; these are rectangular structures with flat roofs resting on arches supported by columns.

Further reading: