

18

ARCHITECTURE*

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* See Map 1, pp. 921–2.

Part One

ARCHITECTURE IN TRANSOXANIA AND KHURASAN

(G. A. Pugachenkova)

The region comprising Turkistan, Khwarazm and Khurasan has preserved a rich architectural heritage dating from the sixteenth to the early nineteenth century. Having absorbed the considerable achievements of the Timurid era, architecture flourished at the beginning of the period but went into a decline in the eighteenth century, only to bloom once more in modern times. Common trends and local differences were exhibited throughout the region, making it possible to offer a connected description of the architecture and decorative treatment of buildings within these large territories.

As in earlier days, the construction of monumental buildings was seen as a matter of prestige, emphasizing the power of the ruling dynasty, representatives of leading families and senior clergy. Such buildings still belonged to the same categories: secular architecture, such as palaces and residences; civic architecture, such as trading edifices, baths, *ribāts* (caravanserais), bridges and *sardābas* (reservoirs); and religious architecture, such as mosques, *madrasas* (colleges for higher instruction in the religious and other sciences), *khānaqāhs* (hospices; dervish convents) and memorial complexes usually at the burial places of members of the Muslim clergy.

Urban planning

Urban planning activity was limited in most towns to the renovation of fortified walls (for instance, there was substantial fortification work in Bukhara in the sixteenth century and in Khiva in the late eighteenth century) and the construction of main thoroughfares and

public and religious centres. However, there were no major innovations in the towns, and new building work continued in accordance with the earlier traditions.

The external appearance of towns was largely determined by their fortifications, which even from a distance looked forbidding. The walls were flanked at regular distances by semicircular towers. The entrances to a town were marked by solid *darwāzas* (gates), the number of which corresponded to the number of significant trading and strategic routes leading to the town. The gate was usually of monumental construction with a high vault, flanked by two mighty towers and with a lookout gallery above. Its massive doors were locked at night and in troubled times; most town gateways had a drawbridge thrown across a ditch. Behind the doors lay an entrance hall where guards were stationed and which gave directly on to the built-up main street. The walls surrounding the towns were punctuated by towers placed between the impressive gateways. Behind the walls, portals, domes, monumental buildings and minarets rose skywards.

Along the main streets there were rows of shops and stalls specializing in different kinds of goods and often skilled craft workers had their workshops there. The most important covered markets were known as *tāqs*, *tīms*, *bāzārs* (shopping arcades or passages) and *chārsūs* (lit. 'four directions', i.e. crossroads, and thus, buildings at the intersection of two streets), many of which are still in use today. (See the section on market buildings below.)

In big cities there was an administrative and government hub, usually inherited from previous eras but containing new buildings. Such citadels include the Qal'ā in Samarkand, the Ikhtiyāru'ddīn fortress in Herat and the Ark¹ of Bukhara. They contained the government palace, chancellery, treasury, arsenal and jail for high-ranking prisoners. However, the rulers and members of the ruling dynasty lived their private lives in their own personal palaces and out-of-town residences.

An important part in the formation of towns was played by public centres of activity, widening out at intervals along the main thoroughfares or else situated in specially designated parts of the town or on its outskirts. Such centres comprised a *maydān* (open square) surrounded by large buildings used for civil or religious purposes.

Most of the space inside towns was taken up by built-up residential quarters (*mahalls*). Their historically formed contours were irregular, encompassing private properties, separated by blind fences, narrow alleyways and impasses. Residential and service buildings in such areas were built around a small interior courtyard, sometimes with two or three fruit trees and vines, and varied according to the size of the plot and the owner's rank.

¹ The reader is reminded that this is not the English 'ark', but the Persian *ark*, meaning a small citadel, or a citadel within a larger one.

Architectural design and methods

Although the public buildings and architectural aesthetics of the sixteenth and seventeenth centuries followed on from those of the Timurid era, the period was marked by the further development of architectural design. Building materials remained the same as before – clay for ordinary buildings (*pisé*, or sun-dried brick and mortar), and baked bricks with *gach* (gypsum) mortar for monumental architecture. Both categories of buildings had beamed and arched and domed ceilings – the latter exhibited several interesting innovations. Particularly remarkable was the development of complex domes and systems of vaults and arches filling the space beneath. Tiling (glazed brick, majolica and decorative carved mosaics), carved gypsum, and wood and occasionally stone fretwork were used for architectural decor, as they had been earlier; the interiors also contained carved gypsum as well as ornamental painting. The ornamentation featured multiform geometric, epigraphic and stylized vegetal motifs.

In the latter half of the sixteenth century there was a trend towards lowercost building methods. Thus walls were often not solid but made of ‘camouflage brickwork’: two rows of baked brick filled in with rubble taken from building sites together with a filler-binder mortar. Large painted (dark blue, sky blue, black and white) and glazed revetment slabs were used for decorating purposes instead of labour-intensive polychrome mosaics. Interiors of the period were mostly ornamented with a bichrome incrustation of *chaspak* (carved gypsum). However, in seventeenth-century Samarkand and Bukhara there was a return to refined polychrome decor, comprising decorative carved mosaics and, in the interiors, bas-reliefs in ochre clay, covered with polychrome paint and abundant gold.

The architects had a thoroughly worked-out system of standard designs which could, however, be varied in a number of ways. The Institute of Eastern Studies of the Uzbekistan Academy of Sciences holds four sixteenth-century blueprints by an architect from Bukhara on sheets of the famous Samarkand paper. They show plans for *khānaqāhs*, caravanserais, a *ribāt* and a *sardāba*. Each plan is drawn on a fine grid of squares, which function as architectural modules, determining the contours of the site and the dimensions of the walls and apertures. The practicability of such plans is borne out by the almost total correspondence between the plan for the caravanserai and the ruins of the caravanserai at the Qaraul Bāzār in Uzbekistan. Indeed, the other three blueprints are also similar to monuments built in the sixteenth and seventeenth centuries.²

To this day traditional craft workers have preserved the designs for *gereh* (geometric calligraphic decoration; ‘knot’ decorations) and stalactite work handed down over many

² See Necipoglu, 1995, pp. 8–14.

generations. The designs for the latter transform the system of construction into a horizontal projection for subsequent translation into the three-dimensional.

Studies of the actual monuments and further graphic analysis have established the presence of clear proportions, expressed in plans, dimensions and façades. Developed in the Middle Ages, when the mathematical sciences were flourishing, the methods of geometric harmonization were widely used over the following centuries.

In monumental architecture the architects followed the basic schemas for layout, area and volume developed in the immediate past. There was no standard, however: in each case they created a variation on the schema. Typical forms of monumental buildings included those built around a central courtyard (Friday mosques, *madrasas*, caravanserais and some palaces); those with a portal, a dome and a single central hall (mausoleums); and multi-domed buildings with a central hall and rooms in the corners and surrounding space (*khānaqāhs*, some palaces, public markets and baths). We will now review these basic types, referring to the most characteristic examples that have survived to the present day.

Religious architecture

THE FRIDAY MOSQUE (*MASJID –I JUM* ^CA)

The congregational or Friday mosque was located in the town, the most prestigious examples being built in capital cities. Such mosques were often built on earlier foundations that had fallen into disrepair and required reconstruction or at times of general expansion. The Friday mosque possessed a spacious courtyard with a surrounding gallery, and a *maqsūra* (screened-off enclosure) on the main axis, which worshippers faced. A typical example is the Kalan mosque in Bukhara (Fig. 1). Khwarazm with its hard winters had another type, represented by the mosque in Khiva, which consists of an enclosed multi-columned hall and a small, light courtyard.

THE *NAMĀZGĀH* (ORATORY MOSQUE)

Such mosques were situated in an area outside town where prayers connected with two important Muslim festivals, the ^CĪds, were conducted in public. The worshippers gathered in a vast open space in front of the building where the *minbar* (imam's pulpit) stood. The Bukhara *namāzghāh* is of this type, built as early as the twelfth century in the form of a long *mihṛāb* (prayer niche) wall; it was reconstructed in the sixteenth century, when an open arched and domed gallery with a central portal was erected in front of it.

The *namāzghāh* in Karshi (Qarshi) (1590–1), which is known as the Kōk-Gumbaz (Gok-Gombad) because of its pale blue dome (*kōk* meaning blue), has a portal and a dome,



Fig. 1. Bukhara. Kalan mosque. (Photo: © UNESCO/A. Garde.)

from either side of which extends a four-domed gallery on pillars (Fig. 2). A variation on this schema is the *namāzgāh* in Samarkand built in the first half of the seventeenth century. It resembles a *maqsūra* with a portal and a domed roof, and has galleries on massive pillars along both sides. Monumental form and rich decor are characteristics of Friday and *namāzgāh* mosques.

THE NEIGHBOURHOOD MOSQUE

The neighbourhood mosque was small in size and usually consisted of a covered hall with a *mihṛāb* and a columned exterior gallery. This latter area also had a *mihṛāb* set in the wall and it was there that prayers were conducted in the warm season of the year. Built from generous donations by the inhabitants of the neighbourhood, such mosques were often richly decorated. One example of this type is the Baland (Boland) mosque in Bukhara, which was built at the turn of the fifteenth and sixteenth centuries and features nineteenth-century accretions. It has a unique suspended ceiling, covered with geometric ornamentation and rich wall paintings, and a mosaic *mihṛāb* (Fig. 3).



Fig. 2. Karshi. K k-Gumbaz mosque-*nam zg h*. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 97.)

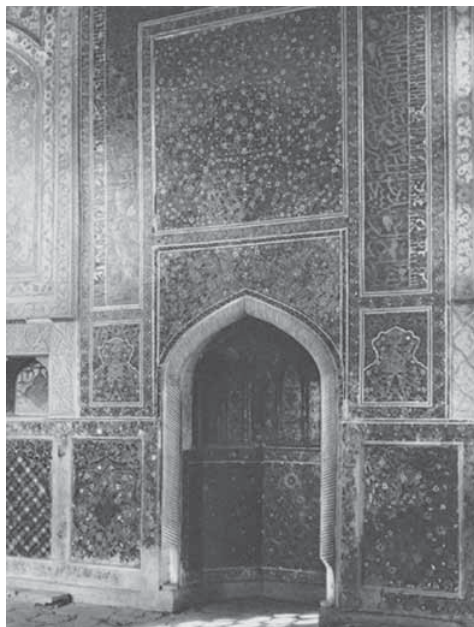


Fig. 3. Bukhara. Baland mosque. *Mihr b*. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 45.)



Fig. 4. Bukhara. Chār-Minār. (Photo: Courtesy of I. Iskender-Mochiri.)

THE MADRASA

The layout of the *madrasa*, which had been developed in the preceding period, was determined by its function as a closed higher-education institution where the *‘ulamā’* (Islamic scholars) were trained. As a rule, the *madrasa* had a courtyard with two or four *aywāns* (arched portals) on the axes which were used for classes in the warm season, a tier of cells on one or two floors and *dars-khānas* (lecture rooms, auditoria) in two or four corners; there was also a mosque for the daily *namāz* (prayer). The main façade had a high portal and there were two or four minaret-style towers at the corners of the building, which were not however true minarets, but simply architectural forms (Fig. 4).

This plan is to be found in a number of variations in *madrāsas* built during the sixteenth to the nineteenth centuries. From the second half of the sixteenth century, however, the general layout grew more complex as special units were added on the axes and in corners. The *madrāsas* had varied, often very ornate, tiled decoration. Among the sixteenth- and seventeenth-century *madrāsas* that have been preserved until the present day are those of Mādar-i Khān, ‘Abdullāh Khān, Kukeldāsh, Nādir Dīvān-Begī and ‘Abdu’l ‘Azīz Khān in Bukhara; Shir-Dor (Shir-Dar) and Tilla-kari in Samarkand (Fig. 5); Kukeldāsh and Barāq Khān in Tashkent; Sa‘īd Atāliq in Denau (Deh-i nau); and Mīr Rajab Dothāin Kanibadam (Kānibādām). The *madrāsas* built at the end of the eighteenth and the beginning of the nineteenth centuries include those of Nārbūta Bī in Kokand (Khoqand), and Qutlugh Murād Ināq, Khojamberdybii (Khwāja Mohammad-Verdi Beg), Khoja Moharram, Musā Tura and



Fig. 5. Samarkand. Tilla-kari *madrasa* on the Registan square. (Photo: © UNESCO/T. Molenaar.)

Allāh-Qulī Khān in Khiva (Fig. 6), all of them built on the traditional plan, though varying in details and decor.

THE KHĀNAQĀH

In the Middle Ages *khānaqāhs* were primarily guest-houses for travelling Sufis, situated close to the residence of their *pīr* (spiritual master). However, under the Timurids, when they were places for the meetings and rites of the adherents of one or another Sufi order, attended by representatives of the ruling elite alongside the travellers, a specific architectural plan for *khānaqāhs* evolved: it has a *zīkr-khāna* – a room for exposition and Sufi rites – in the centre, and a few additional cells in corners and along the sides. In the sixteenth and seventeenth centuries, the construction of *khānaqāhs* was particularly intensive in the Bukhara region. Among the above-mentioned architectural blueprints of this time was one for a *khānaqāh* where the central hall was surrounded by whole groups of additional rooms or cells.

There were variations on the *khānaqāh* plan in the sixteenth and seventeenth centuries – examples include Zaynu’ddīn, Fayzābād, Bahāu’ddīn and Nādir Dīvān-Begī (Fig. 7) in Bukhara, Mullā Mīr near Ramitan, Qāsim Shaykh in Karmana and Imām Bahrā near Khatirchi. They characteristically include a central dome, often raised on a very high drum, various kinds of scutellate and reticular pendentives underneath the dome, and



Fig. 6. Khiva. Allāh-Qulī Khān *madrasa*. (Photo: © UNESCO/A. Garde.)

decoration for the most part inside the *zīkr-khāna*: polychromatic wall paintings and dichromatic carved gypsum inlay.

MEMORIAL BUILDINGS

Fewer mausoleums were built in the sixteenth and seventeenth centuries than in the preceding periods. Holy tombs of saints or simply of the higher clergy were placed in public burial grounds, where they were distinguished by a symbolic headstone (*sagan*) often raised slightly on a plinth (*dakhma*), and sometimes by a stele inscribed with a eulogy to the deceased. One of the few burial vaults of this time was the Qafāl Shāshī mausoleum in Tashkent, built by the architect Ghulām Husayn in 1541–2. This was a portal-dome building standing on a high platform. The sixteenth-century mausoleums of Muslihu'ddīn in Khujand and Makhdūm-i A^czam in Isfara are variations on the plan. They had a *ziyārat-khāna* (room for funeral rites) and a *gūr-khāna* (shrine, tomb) and sometimes additional cells, and the overall plan included a portal and raised dome above the *gūr-khāna*. The mausoleum of Hājī A^ckkāsh in Balkh was built with a mighty portal and a vast octagonal *gūr-khāna*. The ruins of the mausoleum of Imām-i Bajgokha are also preserved in



Fig. 7. Bukhara. Lab-i Hauz and the *Khānaqāh* of Nādir Dīvān-Begī. (Photo: © UNESCO/E. Eichenberger.)

Balkh: it is octagonally laid out with a projecting section which includes a deep arched *aywān* and a *ziyārat-khāna*.

More often, however, monumental buildings were constructed near holy tombs. For instance, a monumental *khānaqāh* was constructed in Bukhara in the sixteenth century near the grave of the head of the Naqshbandi order, Bahāu'ddīn; and at Chār-Bakr, the family necropolis of the powerful Juybārī *shaykhs* (Fig. 8), there was an architectural ensemble of three adjoining buildings, viz., mosque, *khānaqāh* and *madrasa*.

Unlike Transoxania, architectural activity in Khurasan entered a decline during our period, the latter territory being the object of dispute in the sixteenth and seventeenth centuries between Persian shahs and Uzbek khans. Herat, the splendid Timurid capital, lost its significance and its skilled craft workers deserted it. Nevertheless, there was still some construction in Khurasan. For example, not far from Balkh a centre of pilgrimage grew up at Mazār-i Sharif (Fig. 9) on the site of the supposed burial place of °Alī, the cousin and son-in-law of the Prophet. As early as the end of the fifteenth century, the Timurid Sultān Husayn Bāyqarā (1469–1506) ordered a ceremonial mausoleum built above it, with a *ziyārat-khāna* and a *gūr-khāna*, whose dome and interior were completely covered with the richest architectural decor. Gradually, over a period of centuries the shrine acquired



Fig. 8. Bukhara. Chār-Bakr *khanāqāh* and interior courtyard. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 56.)

additional constructions, overlaid with tiled decor, which clustered in a rather disorderly way around the main place of worship, almost concealing it from view.

Memorial construction was carried out on a modest scale in the sixteenth century in northern Khurasan (now southern Turkmenistan) at the burial places of Sufi saints. Examples include a pilgrim's mosque near the tomb of Yūsuf Hamadānī in Merv with a three-stepped façade, whose central arch served as its frame (Fig. 10); Mazār Kizil-Imām (1513) near Durun (Darūn) where, judging by the layout, there was clearly a *khānaqāh* next to the tomb; and the mausoleums of Kumbet-Yaila and Aq-Imām in the Gok-tepe region. These provincial buildings were not decorated.

From the sixteenth century on, mausoleums for rulers were no longer built, as members of the ruling houses were interred in *madrasas*, the burial vault taking the place of one of the *dars-khānas*. Thus in Samarkand the Shaybanids were buried in the Abū Saʿīd mausoleum on the Registan, and in Bukhara, ʿUbaydullāh Khān (d. 1539) was buried in the Mīr-i ʿArab *madrasa* and ʿAbdul ʿAzīz Khān (1645–80) in the *madrasa* bearing his name. In Tashkent in the early sixteenth century two mausoleums were built for the ruler Suyunj Khān and his relatives, but they were soon integrated into the body of the Barāq Khān *madrasa* which was built there.

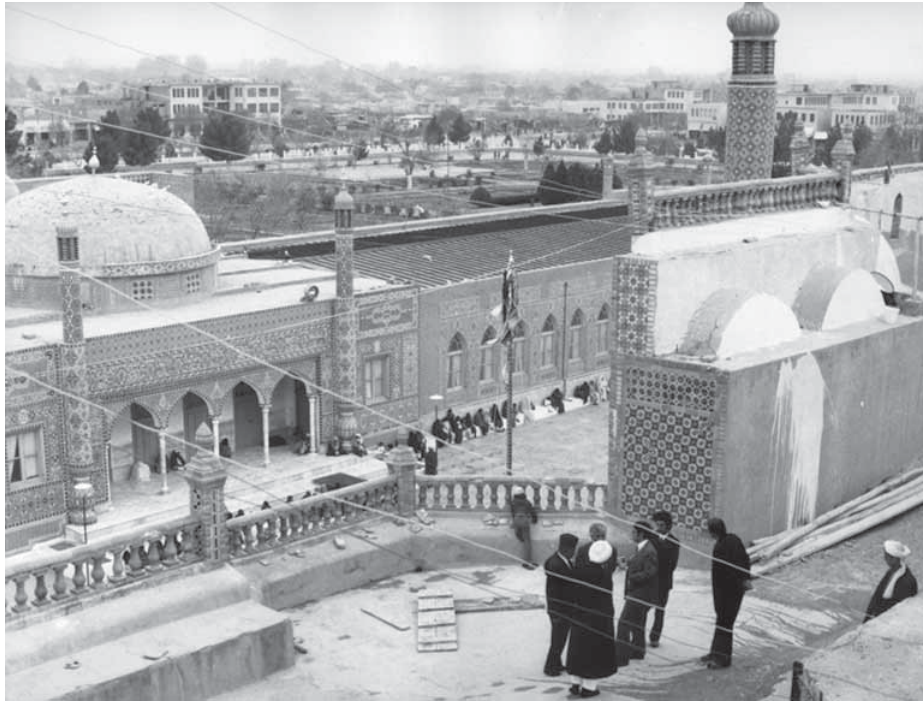


Fig. 9. Mazār-i Sharif mosque. (Photo: © Andrea Bruno, UNESCO Consultant, Turin, Italy.)



Fig. 10. Merv. Mosque of Yūsuf Hamadānī. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 149.)

Civic architecture

MARKET BUILDINGS (*CHĀRSŪ*, *TĪM*, *TĀQ*)

The *bāzār* (market) is still today the pulsating heart of the Eastern town. Alongside countless small shops, the town required more prestigious buildings, which were established at the main junctions. Among them were the *chārsū*, a building covered by a central dome, standing at a crossroads and surrounded by many shops and workshops covered by small domes; the *tīm*, which was a kind of trading passage; and the *tāq*, a kind of *chārsū* but on a smaller scale, usually built at the intersection of major thoroughfares (Fig. 11).

Among the market buildings of this type that were built in the sixteenth century and are still standing, four function to this day in Bukhara. One of them is from an earlier date but was completely rebuilt in 1569–70. It is called the *Tāq-i Zargarān* (Goldsmiths' Dome) and stands at the intersection of two streets. Its central space is octagonal and it is covered by a huge dome set on 32 intersecting arches, at the base of which are windows illuminating the interior. Around that space are workshops and shops topped by rows of small domes.

To the south of the *Tāq-i Zargarān* there is a section of a trading street that was once lined with rows of stalls, caravanserais and shops. They include a sizeable building, the *Tīm* °Abdullāh Khān (second half of the sixteenth century) – a place for merchants trading in silk cloth. Laid out on a square plan, it comprises a central octagonal core with a large



Fig. 11. Bukhara. Market. (Photo: © UNESCO/A. Garde.)

dome and surrounding gallery, along which there are shops. The central dome here, as in the Tāq-i Zargarān, is surrounded by rows of small domes.

The next site is the Tāq-i Tilpāq-Furūshān (Hat-sellers' Dome). The building is situated at the intersection of five streets, forming a complex urban junction. The streets meet at different angles but the architects managed to translate the external contours of the building and its entrances into an exact hexagon, where mighty pillars support a dome with window openings, on a dodecagonal base. Around the central core there is a gallery providing access to shops and storerooms.

Down one of the cross-streets is the Tāq-i Sarrāfān (Money-changers' Dome), which is square with four passages and groups of premises in four sections. The central dome rests on four intersecting arches, the structure of which is entirely visible to the naked eye. Alongside stood a bathhouse and a small mosque. These buildings even now grace three areas of Bukhara. Bazaar buildings of the above types existed in other towns too, but only a few have been preserved, for instance the seventeenth-century *chārsū* in Shahr-i Sabz.

CARAVANSERAIS

In towns, but especially on the trade routes, caravanserais played an important role. Some had survived from earlier times, but quite a few were of recent construction. A small number have survived until the present day, albeit in ruins, such as the caravanserai near the Qarāul Bāzār on the road from Bukhara to Karshi, the °Abdullāh Khān caravanserai in the Shirābād region on the road from Karshi to Termez and the caravanserai near Sankhās in Khurasan. They all repeat a traditional plan, which had evolved over centuries – a rectangular building with a large courtyard, galleries for beasts of burden and baggage, lodgings for travellers and a mosque. The outer walls were high and thick; there was just one well-guarded entrance and corner towers also formed part of the defences.

SARDĀBAS (WATER RESERVOIRS)

Sardābas were built in dry, semi-arid regions. They were located in low-lying places, fed by melted snow and rainwater, and took the form of large, brick cisterns sunk into the ground, with large domes which protected the water from wind drift. New reservoirs were built in the sixteenth and seventeenth centuries to complement those remaining from earlier times. Our sources record the zeal of the Shaybanid °Abdullāh Khān (1557–98), who built from scratch or restored hundreds of caravanserais and *sardābas* in his lands.



Fig. 12. Jarqurghān. Iskandar bridge. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 95.)

BRIDGES

Bridges across rivers and mountain gorges were also built at this time. The bridge at Karshi and the bridge to the north of Jarqurghān, commonly known as the Iskandar bridge (Fig. 12), belong to this period. Among the engineering works there is an outstanding bridge/channel-divider near Samarkand, erected under the Uzbek ruler Shaybānī Khān (1500–10) at the beginning of the sixteenth century. Two of its mighty slanting arches and its central pillar divided the current of the Zarafshan river into two streams, directing the water to irrigate the land north and south of its former course.

BATHHOUSES

Another type of civic structure was the public bath. Examples of sixteenth and seventeenth-century baths are preserved in Samarkand, Shahr-i Sabz, Bukhara and Tashkent, and a few of them are still in use today. They are heated by a system of under-floor channels, which spreads the heat uniformly throughout the premises. Some versions include rooms for disrobing, hot and cold rooms, a massage room and a water closet, and all are covered by the domes that give them such a characteristic external appearance.

Architectural ensembles

One noteworthy development during the period was the creation of groups of buildings, or ensembles. New buildings were designed to blend in with existing structures. In that respect, there is undoubtedly some continuity with the urban planning of the Timurid era. We look below at some of the most significant sites.

THE PĀY-I KALĀN

The Pāy-i Kalān (Pedestal of the Great) is the name of the central group of buildings in Bukhara that were erected in the sixteenth century around the Kalān minaret, which dates back to 1127. In the twelfth century a new Friday mosque was built in this area in place of the old one, which was situated by the walls of the citadel, the Ark. However, it fell into ruin under the Mongols and consequently new walls and galleries were built on parts of this site in the fifteenth century, a development that is reflected in the mosaic tiles of the *mihṛāb*, which also preserve the name of the skilled craftsman, Bāyazīd Purānī.

But even these works failed to satisfy the needs of the capital of the Shaybanids, under whom a grandiose new building was raised. The tiles of its main façade have preserved the date 920/1514. The Kalān mosque has the traditional composition of a Friday mosque. The entrance portal leads into a vast courtyard, with four arched *aywāns* on its axes and a surrounding gallery on 208 pillars. Arches springing from these pillars and the walls support 288 cupolas raised on scutellate pendentives. The monumental scale of the *maqṣūra* is emphasized by the double-shell dome, the outer shell of which, tiled with blue bricks, is positioned on a high cylindrical drum, creating one of Bukhara's major landmarks. The architectural appearance of the mosque is distinguished by a combination of common building bricks with patterned brickwork of coloured, glazed brick and by the fine carved mosaics in the tympanums of the portals and arches (Fig. 13).

In the 1520s the influential *shaykh* Mīr °Arab undertook the construction of a *madrasa*, opposite and on the axis of the mosque, which was completed in 1535–6 (Fig. 14). Its composition is wholly traditional: a courtyard with four *aywāns*, surrounded by two floors of cells, and a *dehliz* (vestibule) located centrally behind the façade with a large hall on either side. One of the halls was used as a *dars-khāna* (lecture room, auditorium), the other as a *gūr-khāna* (mortuary chamber). This is where Mīr °Arab himself was buried, as was the ruler of Bukhara, °Ubaydullāh Khān, whose burial place, in the middle of the chamber, is marked by a large wooden gravestone. This room has a remarkable ceiling system: there are 4 mighty intersecting arches, whose spandrels are filled with stalactite work, as is the area of transition rising to the 16-sided drum; higher still is a lantern beneath the double dome.

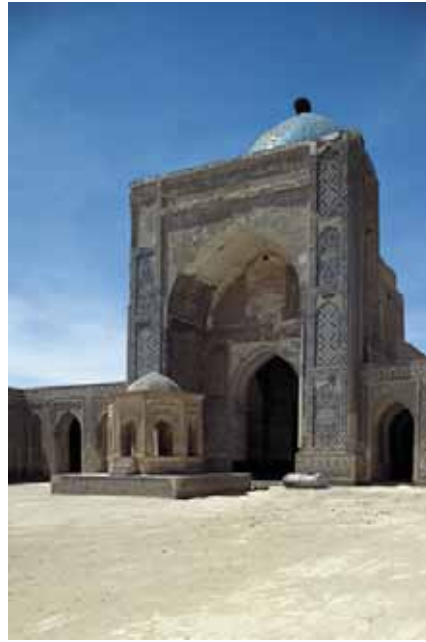


Fig. 13. Bukhara. Pāy-i Kalān mosque. (Photo: © UNESCO/A. Garde.)



Fig. 14. Bukhara. Pāy-i Kalān. Mir-i ʿArab *madrasa*. (Photo: © UNESCO/A. Garde.)

A portal marks the centre of the main façade of the *madrasa*; heavy turrets (*guldastas*) stand on the corners, and between them are two tiers of arched lodges behind which rise the domes of the *gūr-khāna* and the *dars-khāna* supported on drums (Fig. 15).

The architectural decor of the *madrasa* matches the splendour of other works from the late Timurid period. The entrance portal, the courtyard *aywāns*, the tympanums of



Fig. 15. Bukhara. Pāy-i Kalān. Mir-i 'Arab *madrasa* (detail). (Photo: © UNESCO/E. Eichenberger.)

the loggias, the panelling and the *panjara* (window lattice) of the *gūr-khāna* are covered in carved mosaics combining fine vegetal ornamentation with inscriptions in the sophisticated *suls* (or *thuluth*), a variety of Arabic script.

The minaret is the vertical dominant of the Pāy-i Kalān ensemble. It stands at a corner of the mosque, but precisely because it stands out from the side of the square it confirms its spatial importance as the main centre of Shaybanid Bukhara, a function that it has preserved down to the present day.

THE KOSH MADRASA

The simplest variety of group construction consists of two major buildings on either side of a thoroughfare on a single axis. Significant examples can be seen in Bukhara, for instance the Kosh (Qush) *madrasa*, built under 'Abdullāh Khān (Fig. 16). In 1556–7 his mother had the Mādar-i Khān *madrasa* built in her name, and in 1588–90 'Abdullāh Khān built a *madrasa* in his own name. The first is not very big and has a slanting façade in relation to the surrounding area with a modest tiled decor. The *madrasa* of 'Abdullāh Khān himself is twice as large in area, with a complex layout and rich decoration.

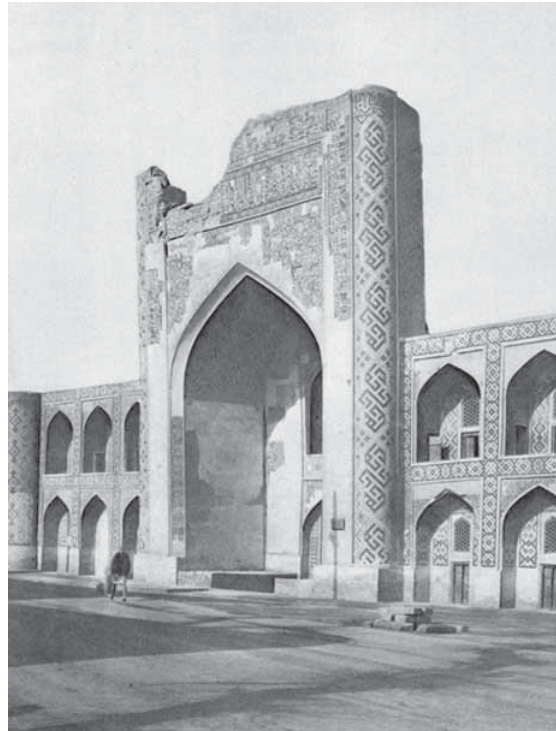


Fig. 16. Bukhara. Kosh *madrasa*. (Photo: Courtesy of G. A. Pugachenkova, after Pugachenkova, 1983, p. 59.)

Another group is formed by the *madrasa* of Ulugh Beg of 1417 and the *madrasa* of ʿAbdu'l ʿAzīz Khān built opposite to it in 1652, physically larger but balanced in the overall composition of the main façade.

THE LAB-I HAUZ

One of the main public places of Bukhara, the Lab-i Hauz derives its name from the *hauz* (pool) at its centre. The overall area is shaped by three monumental buildings (Figs. 7 and 17). It began to take form with the construction of the vast Kukeldāsh *madrasa* of 1568–9, which has a traditional layout around a courtyard – a portal entrance, with the large halls of the mosque on either side and the *dars-khāna*. Two floors of cells are distinguished by loggias. In the interiors of the entrance hall, the mosque and the *dars-khāna*, there is a stunning diversity of reticular pendentives and star-like domed ceilings, lined with bricks or carved out of gypsum. In the *dars-khāna* there is a lantern under the dome which seems to hover over the entire interior. The tiled decor on the external and courtyard façades is traditional and restrained. The entrance doors of the *madrasa* provide an example of the refined wood carving of Bukhara's skilled craft workers.

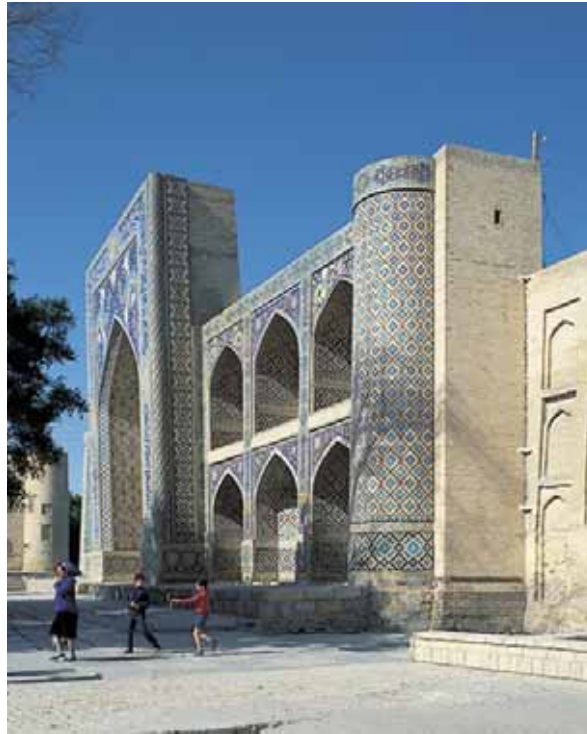


Fig. 17. Bukhara. Nādir Dīvān-Begī *madrasa*. (Photo: © UNESCO/A. Garde.)

In the 1620s the prominent grandee Nādir Dīvān-Begī paid for the construction of a *khānaqāh* and a caravanserai opposite to it, which Imām Qulī Khān (1611–41), the Janid (Astarkhanid) ruler of Bukhara, turned into a *madrasa*. Glazed brick and majolica were used in the decor which, in addition to traditional motifs, uses remarkable images of converging phoenixes (Fig. 18). The *khānaqāh* is a compact rectangular building with a central cruciform hall, crowned with a dome, and corner rooms. The main façade has an arched portal and towers at the corners.

THE REGISTAN

In the sixteenth and seventeenth centuries the central square of Samarkand, the Registan, underwent a thorough transformation (see Fig. 5 above). Radical changes were made here to the magnificent group of buildings which had been erected in the first half of the fifteenth century under Ulugh Beg (1394–1449). At that time, positioned around the square were the *madrasa* of Ulugh Beg on the western side; opposite it a *khānaqāh* (with an unusually large dome', in the words of Zahīru'ddīn Bābur, writing in the early sixteenth century; on the northern side, the Mīrzā caravanserai; and on the southern side, a restored pre-Mongol Friday mosque and the small, elegant *muqatta*^c (carved) mosque, covered with sophisticated wood carvings.

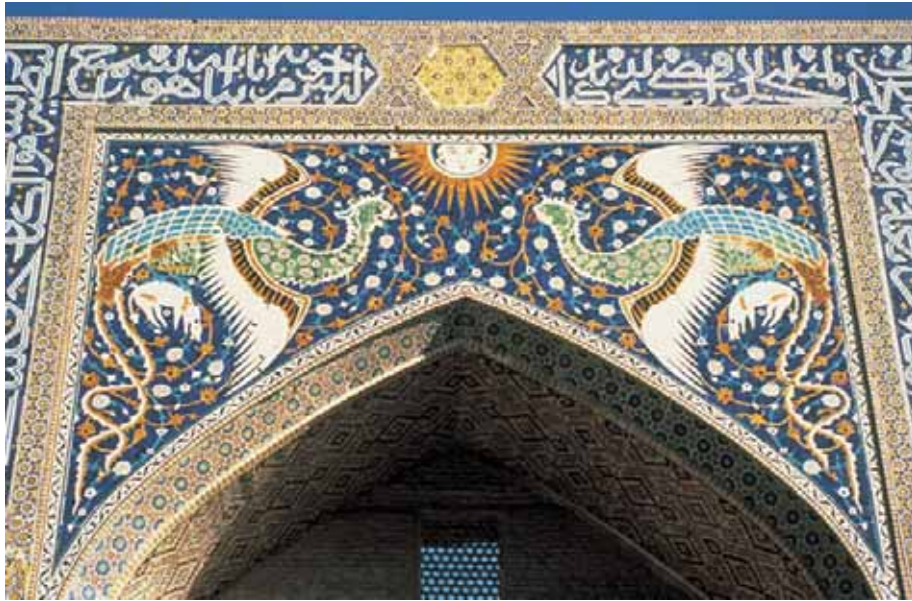


Fig. 18. Bukhara. Detail of the Nādir Dīvān-Begī *Khānaqāh*. (Photo: © UNESCO/E. Eichenberger.)

In the sixteenth century the Ulugh Beg *khānaqāh* was dismantled, probably after one of Samarkand's fairly frequent earthquakes. In the 1520s, on the south side of the square of the Timurid Abū Sa'īd (d. 1469), was built a *madrasa* which included a tomb for members of the Shaybanid dynasty. The *madrasa* was dismantled in the eighteenth century for its bricks, and the tomb, commonly known as the Chihal Dukhtarān (the 'Forty Maidens' of the Central Asian epic), lay in ruins until the twentieth century. Its hall, which contained a great number of gravestones, was decorated with refined mosaic panels, above which were ornamental wall paintings. In the 1930s, however, the ruins of the Chihal Dukhtarān were demolished and the gravestones transferred to a high square *dakhma* at the corner of the square.

In the seventeenth century Yalangtūsh Bahādur (d. 1655–6), the ruler of the Samarkand appanage and head of the Uzbek Alchin clan, undertook major alterations to the architectural appearance of the Registan. The *madrasa* was the only one of Ulugh Beg's buildings to have survived to that time, and its façade appeared to have sunk 2 m into the ground owing to the accumulation of layers of deposit over two centuries on the square itself.

The new construction work took almost 30 years. Opposite the Ulugh Beg *madrasa*, and on the same axis, another *madrasa*, the Shir-Dor, was built, which closely copied the composition of its façade (Fig. 19). The layout is different though: here on one side of the portal and entrance hall is a *dars-khāna* and on the other side is the tomb attributed to the Imām Muhammad b. Ja'far Sādiq. Both these rooms have ribbed domes on high drums. The *madrasa*'s decor is lavish and varied, with an abundance of glazed brick and



Fig. 19. Samarkand. Shir-Dor *madrasa*. (Photo: Courtesy of E. Broncard.)

bright carved mosaics. Particularly noteworthy are the tympanums of the entrance portal where, on a finely coloured background, the following composition is repeated: an enormous striped tiger pursuing a small, running doe, and behind the tiger a large radiant sun with a human face. This is the source of the name by which the *madrasa* is known, the Shir-Dor (the *madrasa* ‘of the tiger’, lit. *sher-dār*, ‘the one which has tigers’). The ornamentation of the *madrasa* is exceptionally varied: there are geometric *gerehs* inscribed with formulaic tributes to Allāh and many-lined inscriptions in the Kufic and *suls* scripts, and plant motifs (shoots, leaves, fine flowers and buds), the flowers in a fancy vase being especially well drawn. The names of three of its creators are preserved in inscriptions – the *mi^cmār* (architect), ^cAbdu’l Ja^cfar, and two *ustāds* (master craftsmen), Muhammad ^cAbbās and Hasan.

In 1641 Yalangtūsh Bahādur undertook the construction of one more important building, on the site of the old Mīrzā caravanserai. It combined a *madrasa* with a Friday mosque, since by that time Timur’s congregational mosque (Bībī Khānum) and the pre-Mongol Friday mosque were in a state of collapse. After Yalangtūsh’s death in 1655–6 his wife continued the building work for a further four years, but the outer dome of the mosque was not finished and only in our time has it been entirely reconstructed.

The layout of the building in part repeats the plan of the old caravanserai: a square courtyard surrounded on three sides by a single floor of cells, but by two floors of cells along the main façade with the portal and corner turrets. On the western side of the courtyard is the



Fig. 20. Samarkand. Tilla-kari: the *mihrāb*. (Photo: Courtesy of I. Iskender-Mochiri.)

mosque's vast *maqsūra*, on either side of which is a many-domed gallery. The tiled decor on the main and courtyard façades is traditional. The interior of the *maqsūra* has rich, ornamental wall paintings with a lavish use of gold – hence the name Tilla-kari ('Covered with Gold') (Fig. 20).

THE CHĀR-BAKR COMPLEX

Outside the walls of Bukhara, near the village of Sumitan, lies the memorial complex of Chār-Bakr. It has taken shape over the centuries around the tomb of the saint Abū Bakr Sa[°]ad and has served as a burial place for members of the Khwājagān order. It acquired particular importance in the sixteenth century owing to the authority of the head of that order, Shaykh Khwāja Islām Juybārī, who supported the rule of [°]Abdullāh Khān. The necropolis grew up in the form of fenced-in family burials on raised *dakhmas*, crowded with the gravestones of the newly buried. As a mark of gratitude and respect for the *shaykhs*, [°]Abdullāh Khān rewarded Khwāja Islām with a large part of Juybār in the southwest part of Bukhara, from where a well-equipped avenue (*khiyābān*) lined with trees was laid leading to the necropolis. In the centre of the necropolis itself, a group of three monumental buildings was constructed in 1560–3. Here the three types of Islamic religious building – mosque, *madrasa* and *khānaqāh* – were conceived as an ensemble. They rose on a common

platform, the mosque and *khānaqāh* projecting and the *madrasa* closing the construction at the rear.

There was a most unusual ceiling system in these buildings – a further development of the techniques which had been devised in the Timurid era. In the vast rectangular space of the mosque the builders raised 2 mighty transverse arches, reducing the space between them to a square, with lengthwise arches, and on the intersection placed a high drum crowned with a dome. A different scheme was employed in the *khānaqāh*: the starting-point here was the construction of 4 intersecting strengthened arches, between which was a system of reticular pendentives, the whole creating a 16-sided base for a lantern with 4 doorways, through which the light entered, and 4 blind arches; higher up a complex system of reticular pendentives was put in place under the bowl of the dome.

MASHHAD

The splendid architectural group around the shrine of Imām Rizā, one of the two main Shi'ite shrines of Iran, which had taken shape in Mashhad in the fifteenth century, was completed under the Safavids (Fig. 21). It contains the Gauhar Shād mosque, two *madrasas* (Parīzād and Do-Dar) and a caravanserai. Between 1601 and 1606 a vast courtyard was enclosed with three high *aywāns*, with a pool and a fountain in the centre. The dome of the burial vault was gilded and under Shāh 'Abbās I (1587–1629) two mausoleums were built – for the vizier Khātām Khān and the governor of Fars, 'Allāhverdī Khān. Later, the *madrasa* of Mīrzā Ja'far was built (around 1650), with an adjacent caravanserai and a bazaar.³

The eighteenth and nineteenth centuries

From around the end of the eighteenth century, there was a marked revival in building activity in Transoxania and the adjoining lands. In the Bukhara khanate particular attention was paid to reconstructing the centre of government – the Ark of Bukhara (Fig. 22). Behind its walls there appeared a new palace, a treasury and a *zindān* (prison); every conceivable kind of service was established and above an entrance gate a *naqqāra-khāna* (drum-house) was erected, from which a drum heralded the arrival of the emir. A fine square was laid out in front of the Ark, on the opposite side of which a large mosque had been built in 1712. A colonnaded *aywān* was added to the mosque in the nineteenth century and the Bālā Hauz pool was built adjacent to it.

³ Hillenbrand, 1986, pp. 789–92.

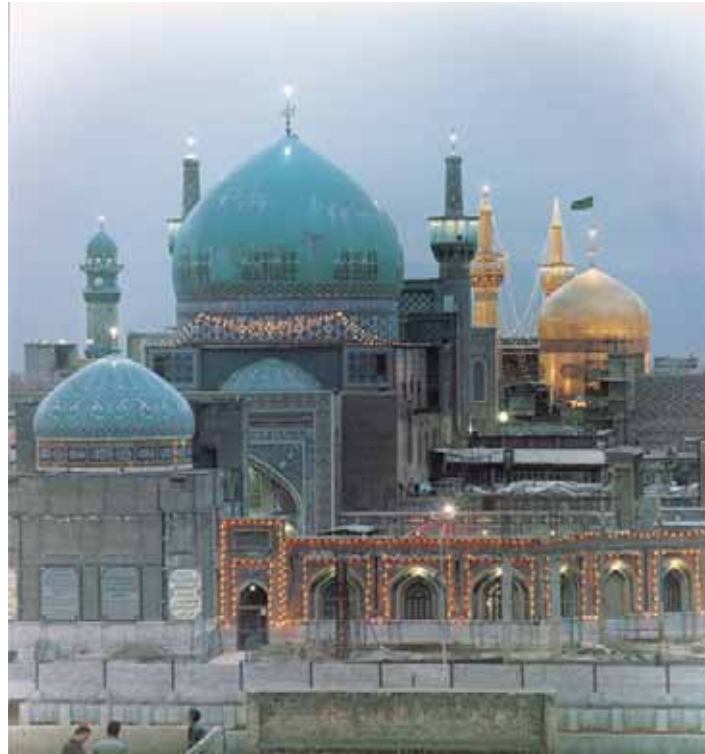


Fig. 21. Mashhad. Friday mosque. (Photo: Courtesy of H. R. Zohoorian.)



Fig. 22. Bukhara. The Ark. (Photo: © UNESCO/E. Bailby.)

KOKAND

In the Kokand khanate, which had been established by the beginning of the nineteenth century, substantial work was carried out to develop the capital, Kokand. In 1794 a vast *madrassa* was built, the Norbut Bī (of Nārbūta Beg); the architect was Muhammad Sālīh of Bukhara. In 1815 a Friday mosque was built – an elongated building in the form of a large, many-domed *aywān* with a central winter room. The ceilings and stalactitic capitals were lavishly decorated with a stylized plant motif. A cylindrical minaret was raised alongside. In the 1820s and 1830s dynastic mausoleums were built – the Dakhma-i Shāhān for male members of the ruling dynasty, and the Mādar-i Khān for women. Resembling the tombs of the Timurids, they were domed structures with entrance portals, faced with glazed brick. The portal domed tomb of Khāwjam-Qabrī (Khwāja Amīr Qabrī), designed by the skilled craftsman Muhammad Ibrāhīm, was built in Namangān at the end of the eighteenth century. Its decor employed the ancient technique of carved terracotta (in places unpolished, elsewhere covered in a blue glaze), with the introduction of geometric, plant and epigraphic motifs.

BALKH

There was also a revival in monumental architecture in the northern part of Khurasan. In 1762–3, for example, a mosque called the Khānaqāh-i Kalān was built in the large settlement of Dehdadi in Balkh province. It comprised an elongated winter section and before it a summer one, opening on to the courtyard through an arcade on thick pillars. The design of the interior was lavish – its ceiling was encrusted with fantastical lattices of pendentives and stalactite work; walls and, in places, vaults were covered by ornamental carving in painted gypsum; the ornamental painting has preserved the name of the master artisan, Ustād Muhammad. Another village mosque halfway between Balkh and Mazār-i Sharif near the Turtqol (Dortqol) fortifications, built of sun-dried brick, also has summer and winter sections, the latter with ornamental wall paintings executed by a craftsman from Bukhara.

KHIVA

Construction in Khiva, the capital of the khanate, was particularly active during the nineteenth century. Its central core, the Ichān-Qala, which had fallen into ruins, was surrounded by mighty new walls and the Kunya (Kuhna) Ark (Old Citadel) was restored; the outer town, the Dishān-Qala, was also surrounded by walls and the old Friday mosque was restored. In the city and beyond its limits, monumental structures were raised and other

large-scale construction work was carried out. The architecture of the main buildings – mosques, minarets, *madrasas* and memorials – followed traditional schemas of layout and volume. They displayed a rich tiled decor, especially in the Khivan and, more broadly, the Khwarazmian styles. The craft workers came near to perfection in the manufacture of decorative majolica tiles, which were dark blue, white and light blue with slightly raised plant and flower designs. The names of some of these artisans have come down to us: they include Asadullāh, Nūr Muhammad, Muhammad Nakā (Naqqāsh) and a particularly wellrespected craft worker, praised for his extraordinary skill, °Abdullāh Jin, whose works could have only been accomplished by a genie!

The greatest achievement of the Khivan architects was their creation of architectural complexes and groups where new buildings blended in with existing ones. The rectangular Ichān-Qala was bisected by two main thoroughfares perpendicular to each other; and it was along those axes, beginning at the city gates, that government, religious, public and important trading buildings were erected.

Dozens of outstanding monuments have been preserved in Khiva: space does not allow us to list them all. Let us just note two of the main ensembles, which took shape mainly between the end of the eighteenth century and the 1830s. The first and one of the most impressive complexes in Khiva lies in the centre of the Ichān-Qala at the mausoleum of the professional wrestler and poet Pahlavān Mahmūd, who was canonized as a patron saint of the Kongrat (Qonqrāt) dynasty. Its main focus is the sepulchre of the khans, next to Pahlavān Mahmūd's *gūr-khāna*; in front there is a small courtyard, which was built between the end of the eighteenth century and the beginning of the twentieth. The mausoleum was built by Mullā-Beg (Mawlā-Bek). Its dome hovers over Khiva and the main group of buildings is distinguished by a rich tiled decor, created by the above-mentioned °Abdullāh Jin (Fig. 23).

An important group of buildings grew up between the end of the eighteenth century and the first third of the nineteenth near the Palvān Darwāza gate. Next to the gate on both sides of the street, lanes of covered shops (*tīms*) and a restored bathhouse appeared; further on are three *madrasas*, all typical of the traditional Central Asian style, the Allāh Qulī Khān *madrasa* standing out by virtue of its rich décor (Fig. 24).

Within the Kuhna Ark itself stands the governor's palace, the Kurnesh-khāna; faced with majolica tiles, it is the work of two craftsmen, °Ibādullāh and °Abdullāh. The palace has richly carved wooden columns and doors. Another palace of a more intimate nature, the Tāsh-Qaul, stands at the centre of the Ichān-Qala: it also has extremely lavish architectural decor.



Fig. 23. Khiva. Dome of the complex of Pahlavān Mahmūd. (Photo: © UNESCO/A. Garde.)



Fig. 24. Khiva. Detail of the portal of the Allāh Qulī Khān *madrasa*. (Photo: © UNESCO/A. Garde.)

From a distance one's attention is drawn to Khiva's minarets, which, to a large extent, define the silhouette of the town (Fig. 25). They include the minaret of the eighteenth-century Friday mosque, the Sayyid Sheliker Beg minaret and the Palvān-kari minaret of the first third of the nineteenth century, but others were built later (Fig. 26). Khiva's minarets



Fig. 25. Khiva. Ichān-Qala and the minaret of Islām Khoja. (Photo: © UNESCO/Liu-Wen-Min.)



Fig. 26. Khiva. Muhammad Amīn Khān *madrasa* and the Kalta minaret. (Photo: Courtesy of D. Gaüzère, University of Bordeaux III, France.)

have a distinctive round form which tapers sharply upwards to an arched lantern, crowned with a stalactite cornice and above it a small pinnacle. The column is decorated by ornamental bands of carved or glazed brick.

No less noteworthy than the monumental buildings are the residences of Khiva, which have been restored according to the old schema between the eighteenth century and the present day. In each case a small courtyard is surrounded by a two-storey construction with a projecting roof on carved wooden columns and an entrance door whose leaves are covered with decorative carvings.

KHURASAN

A spate of building activity occurred in Khurasan during the reign of the Persian conqueror Nādir Shāh (1736–47), whose homeland lay within the region. Near Kandahar (Qandahār) he built a new city, ‘complete with walls and citadel, bazaars, mosques, baths and rest-houses’; and in the Merv oasis he built yet another, named Khivqābād: a town with Delhi as its model and Indian craftsmen as the builders. Nādir Shāh lavished particular attention on the holy city of Mashhad, making substantial additions to the shrine of Imām Rizā (see Fig. 21 above), notably giving it its splendid Golden Gate. He built a mausoleum there too, where he was buried, but this was destroyed under the Qajars.⁴

Though Khurasan lost some of its importance under the Qajar dynasty (founded in 1795), it would be incorrect to say that there was no building activity. A nineteenth-century traveller found the routes marked, at approximately every 6–13 km, by masonry-roofed water cisterns, or *āb-ambārs*, which alone made travel in that arid region possible.⁵

⁴ Lockhart, 1938, pp. 115, 194, 264, 277. On the grave of Nādir Shāh, see also Burnes, 1834, Vol. 2, pp. 83–4.

⁵ Bellew, 1874, p. 298. Compare the *sardābas* of Transoxania.

Part Two

THE ARCHITECTURE OF THE MUGHAL EMPIRE
(NORTH-WESTERN REGIONS)

(A. H. Dani)

Early trends

In the fourteenth and fifteenth centuries the Tughlugh sultans of Delhi imported new architectural styles from Khwarazm, Khurasan and other parts of Central Asia.⁶ As a result grand fortifications, multi-domed and multi-columned mosques and a new form of octagonal tomb were built in India⁷ and Afghanistan.⁸ For the next two centuries this octagonal tomb type dominated the field, as seen in the tombs of Sayyid Mubārak Shāh (1444), Sikandar Lodī (1517), ʿĪsā Khān (1547) and Ādham Khān (1561), all in Delhi. In the Sabz Burj in Delhi (1530–40),⁹ a double dome was erected for the first time. Buildings with high domes resting on tall drums, such as the tomb of Sikandar Lodī Delhi, are other examples showing Timurid influences emanating from Transoxania and Khurasan. The Lodi dome is of a single shell,¹⁰ however, and its height is not as great as that known from the Timurid buildings. On the other hand, Sikandar Lodī's tomb initiates a new style of garden tomb (*rauzah*) although in the present example the garden is no longer extant.

Later, the first Mughal emperor, Zahīru'ddīn Muhammad Bābur (1483–1530), introduced to Agra a type of terraced garden of the *chār-bāgh* (enclosed, rectangular garden) style, so natural to the land of his birth, Ferghana.¹¹ *Chārbāgh* gardens were favoured by Amīr Timur in his new capital city at Samarkand and also in the city of his birth at Shahr-i Sabz. Bābur laid out several gardens in Kabul, such as the Bāgh-i Kalān, Bāgh-i Banafsha, Bāgh-i Padshāhi (Fig. 27) and Bāgh-i Chinār. At Agra Bābur laid out the Bāgh-i Gul-Afshān ('the Flower-scattering Garden'), also known as the Aram (Iram) Bāgh, and now remembered as the Ram Bāgh in popular tradition. It is situated on the left (eastern)

⁶ See *History of Civilizations of Central Asia*, 2000, Vol. IV, Part Two, Ch. 18, Part Two.

⁷ Dani et al., 1991, p. 33.

⁸ Cf. shrine of Memo Sharifan at Ghazni (Koch, 1991, p. 37).

⁹ Koch, 1991, pp. 36–7.

¹⁰ Brown, 1942, p. 28, in his description wrongly says that this tomb has a double dome.

¹¹ Nath, 1982, Vol. 1, pp. 87–94.



Fig. 27. Kabul. Bāgh-i Bābur. (Photo: © Andrea Bruno, UNESCO Consultant, Turin.)

bank of the River Jamuna, and has a system of water channels through which water flows from one terrace to another, enlivening the raised platforms at intervals. From this beginning, the Mughal garden developed stage by stage until it attained particular glory in the natural splendour of Kashmir. It culminated in the creation of the Shalimar garden, first in Srinagar and later in Lahore (Fig. 28), Wah and Peshawar in the time of Shāh Jahān.¹²

THE GARDEN TOMB (*RAUZH*)

Throughout the Mughal period, the garden tomb became the archetypal mausoleum in South Asia, as can be seen in examples from the time of Bābur to Shāh Jahān. Only the simple grave of the austere Mughal emperor Aurangzeb stands alone at Khuldabad near Aurangabad (Maharashtra, India). Generally the main grave (as in the case of Bābur at Kabul) or tomb (as in the examples of Humāyūn, Akbar and Jahāngīr) stands in the middle of a *chār-bāgh*-style garden. Only in the case of the Taj Mahal at Agra (see below) does the tomb complex, including a mosque and its *jawāb* (complementary building), stand on the bank of the Jamuna at the far end of the garden, which was redesigned by Sir John Marshall at the beginning of the twentieth century. In these examples the garden acts as a surrounding frame to the main central building. It is traditionally believed that this type of

¹² Kausar et al., 1990, Ch. 2. The garden at Peshawar was destroyed in the time of the Sikhs: see Dani, 1969.



Fig. 28. Lahore. Shalimar garden. (Photo: Courtesy of A. H. Dani.)

rauzaḥ is typical of Central Asia, where a garden is supposed to be a pleasure resort during one's lifetime and a permanent abode after one's death.

Monuments in Thatta

The development of tomb architecture itself is very instructive for an understanding of Central Asian influence and its integration into the local style. While the octagonal types of tombs continued to be erected in Delhi, we find another influence – introduced into Thatta by the Arghūn and Tarkhān rulers (1520–93) – coming from Khurasan. One sees it typically in the octagonal tomb of Sultān Ibrāhīm (d. 1550), with its tall pointed dome resting on a high drum, embellished with blue glazed tiles in the Timurid tradition. Each of the eight sides is pierced by half-alcoves, a method designed to reduce the mass of the brick structures. Similar workmanship is seen in the octagonal tomb of MīrzāJānī Beg, erected in 1601, although in this case the dome has collapsed. A slight variation is seen in the tomb of Dewān Shurfā Khān, dated 1638, where the plan is square but the four corners are marked by round towers. This new variety of buildings is entirely different from the earlier buildings at Thatta.¹³

¹³ All these tombs are described by Dani, 1982, Ch. 5.

Indian features

In Delhi, Agra and other places in northern India, further additions were made to the simple square or octagonal domed forms. In the tombs of Sayyid Muhammad, Sayyid Mubārak Shāh and ʿIsā Khān at Delhi, and that of Hasan Khān Sūr at Sasaram in Behar, we note the addition of *chhatris* (kiosks) around the main dome – an elegant addition that reached its climax in the terraced tomb of Sher Shāh Sūr (1540–5) at Sasaram. This last-mentioned building is a charming creation in the centre of a tank, recalling the worthy tradition of Indian temple architecture. The tomb itself represents a happy integration of a Muslim domed building erected in gradually reducing terraces with its dome balanced by side kiosks, the whole placed in a typical Indian setting as if floating in a pond.¹⁴

Early Mughal architecture

To these Indian features the Mughals introduced the new Timurid taste and style of architectural creation. The setting was changed from the Indian pond to the terraced garden of Ferghana. The colour and surface ornamentation became varied. To the blue tones of Samarkand and Bukhara were added red sandstone and white marble; and to the dexterity of geometric and floral designs the Indian love for filigree and highly intricate carving brought charm and new shades to the surface of the walls. The Gujarati delicacy in representing the slender branches of trees was imported by Akbar at Fatehpur Sikri, where it filled the tympanum of arches and served as mysterious screens to the windows. The slender wavy brackets held the beams supported on elephant backs.

Above all the tall drum and high bulbous dome were deliberately devised to accommodate and perfect the new technological device of a double shell – and this again was not left bare as in Central Asia, but was further balanced by subsidiary *chhatris*, a device that removed the impression of the drum's height. The terraced platforms at the end added grandeur, and the sheer mass of structural masonry was lightened by the introduction of niches, alcoves and half-domes. The interior was enlivened by high floral relief on the walls, several different designs and patterns on the floor of the graves, created by delicate hands and inset with multiple tessels of precious stones, leading finally to the wonderful *pietra dura* work, all glittering and shining under the low dome of the ceiling, with just the right light percolating through the various types of window screens.

¹⁴ Nath, 1978, Chs. 7, 8 and 9.



Fig. 29. Delhi. Tomb of Humāyūn. (Photo: Courtesy of O. Broncard.)

THE MAUSOLEUM OF HUMĀYŪN

The first extant example of the new type of tomb building is the mausoleum of the Mughal emperor Humāyūn (1530–56) built by his chief queen, Hājī Begam (Bega Begam), and originally standing on the bank of the River Jamuna, which has now shifted (Fig. 29). It occupies the middle of a *chār-bāgh*-style garden – the whole layout introduced to Delhi for the first time by the architect Mirak Mīrzā Ghiyās with the help of workers who lived in a neighbouring caravanserai called the Arab serai. The main tomb is of marble and red sandstone with inset designs on the façade; it rests on two reducing plinths, the second containing a series of rooms which were used later for subsidiary graves.

The building's chief innovation is its interior plan, which revolutionized the older octagonal type with surrounding verandas by introducing a central octagonal hall, set within a ring of corner rooms and interconnecting passages, so arranged as to produce a grand façade with a tall central arched portal and lowarched side alcoves with screens, each corner room topped by a low dome balancing the main high dome over the central grave chamber. The height of the drum is concealed by the tall portal, and the multiple arches and alcoves add variety to the façade. Although no towers are seen on the terraces, a series of pinnacles break the angles and straight lines, producing a soft effect on the horizon.

The entire design is unique, though the provision of extra rooms and passages is also seen in the mausoleum of Khwāja Ahmad Yasawī¹⁵ at Turkestan (Yasi) in Kazakhstan as

¹⁵ Pugachenkova, 1981a, p. 102.

well as in the Gūr-i Amīr¹⁶ at Samarkand. These rooms, which have screened doors and windows and were meant for the recital of the Qur'an, provided extra light to the interior. The building represents the first attempt in Delhi to create a structure that is essentially Central Asian in concept, but combines the architectural tradition as it evolved through the Sultanate period and the new features inherited from the Timurids.

THE TAJ MAHAL

Humāyūn's tomb is *sui generis* – it cannot be said to have achieved perfection as the proportion between the height of the dome and the breadth of the building lacks grandeur. This shortcoming was resolved in the tomb of °Abdu'l Rahīm Khān-i Khānān (d. 1626–7) at Delhi,¹⁷ which attains greater height in its bulbous double dome and thus stands midway between Humāyūn's tomb and the magnificent Taj Mahal. It is in the Taj Mahal that Mughal architecture reaches its greatest heights – in grandeur, proportion, balance, symmetry and ornamentation (Fig. 30)



Fig. 30. Agra. Taj Mahal. (Photo: Courtesy of A. H. Dani.)

¹⁶ Ibid., p. 112; Nath, 1978, pp. 263–5, mistakenly traces the origin of the plan to the Hemakuta temple, where the concept is entirely different.

¹⁷ Sharma, 1974, pp. 120–1; Koch, 1991, pp. 78–80; and also Nath, 1972, pp. 46–7.

The Taj Mahal is a perfect symmetrical building that stands on its north-south axis running straight through the centre of the outer and inner gateways of the outer court, right across the alignment of the fountains in the fore garden and leading exactly to the ornamented head of the grave of Mumtāz Mahal (d. 1631), the queen of the Mughal emperor Shāh Jahān (1628–58). The symmetry is carried to perfection even by placing a building to the east of the main structure to balance the mosque on the west. The rising platform is marked by round minarets at the four corners, tapering at each stage and topped by an attractive *chhatri* on pillars. The main structure is square, with the corners evenly chamfered and topped by *guldastas* (turrets) with a high arched portal in the middle, under which open the arched doors and screened windows; each leads to the interior, where the perfectly arranged passages, connecting with corner rooms for Qur'an-reciters, all converge on to the main grave chamber, now enclosed by a marble screen. The external white marble façade seems to bloom in the moonlight, its breadth in perfect proportion to the gradual rise, stage by stage, of its height on a tall drum, smoothly concealed by the portals, and its vertical softened by the curve of the kiosk domes that merge into the gradual curve of the main bulbous dome, topped by a golden finial. The Taj Mahal is the apotheosis of architectural perfection, presenting a majestic silhouette of its varied horizons in whatever light one looks at it. The whole building, with its massive masonry, is made to appear lighter and lighter by the insertion of niches, alcoves and half-domes.¹⁸

Other types of mausoleum

From the Taj Mahal we pass to a world of a different architectural tradition in the mausoleums of the emperors Akbar (1556–1605) and his son Jahāngīr (1605–27), and the latter's queen Nūr Jahān (d. 1645), the first at Agra and the last two at Lahore. All of them occupy the centre of a well-laid-out *chār-bāgh*-style garden, although in the case of Nūr Jahān's tomb, the original garden is not extant. The archetype is provided by Akbar's tomb at Sikandara near Agra, which is entered through a highly embellished gateway. The main structure, which rests on a high plinth, rises in several terraces, gradually becoming smaller as they go up; the corners are marked by domed kiosks and the face is varied by arched openings, until we reach the top where in a small square hall the sarcophagus of the monarch lies open to the sky. This is a type-model of a design met earlier in Akbar's Panch Mahal at Fatehpur Sikri (see below). It is the mixture of marble and red sandstone that gives the building its particular charm; the main arched portal in the centre of each side defines the height of the building. The central archway opens into a vestibule richly

¹⁸ Nath, 1972; Begley and Desai, 1989, pp. 46–123.



Fig. 31. Shahdara. Mausoleum of Jahāngīr. (Photo: Courtesy of A. H. Dani.)

ornamented with raised stucco-work and coloured in blue and gold. An inclined passage leads down to a high-vaulted chamber which contains the actual tomb of the monarch. Neither Jahāngīr's tomb at Shahdara,¹⁹ near Lahore (Fig. 31), nor the tomb of his queen Nūr Jahān have terraces; they have a flat top without a dome. The decoration in the tomb of Jahāngīr is highly intricate, with mosaics, paintings and also precious stones inset in flowers. The original decoration of Nūr Jahān's tomb has been destroyed.

There are other tombs built in Delhi, Lahore and Agra on a similar plan. One remarkable addition at Agra is the highly ornamented tomb of I^ctimād al-Daula (1626), the father of Nūr Jahān, which is crowned with an Indian type of domed canopy in the centre with kiosk-topped octagonal minarets at the four corners (Fig. 32). It introduced for the first time in India the *pietra dura* technique of decoration, which some scholars have traced to Florence and others to Iran.²⁰ Another tomb is that of Aurangzeb's wife, Rabi^cā Daurānī (1660–1),²¹ at Aurangabad, which is a poor copy of the Taj Mahal. The mausoleum of Safdar Jang (1753),²² built in Delhi, despite being a not inconsiderable piece of architecture, still shows an unmistakable decline in the level of art and design.

¹⁹ Koch, 1991, p. 97.

²⁰ A European origin is argued by Koch, 2001, pp. 81–104.

²¹ Koch, 1991, p. 127.

²² Brown, 1942, Pl. XCI.

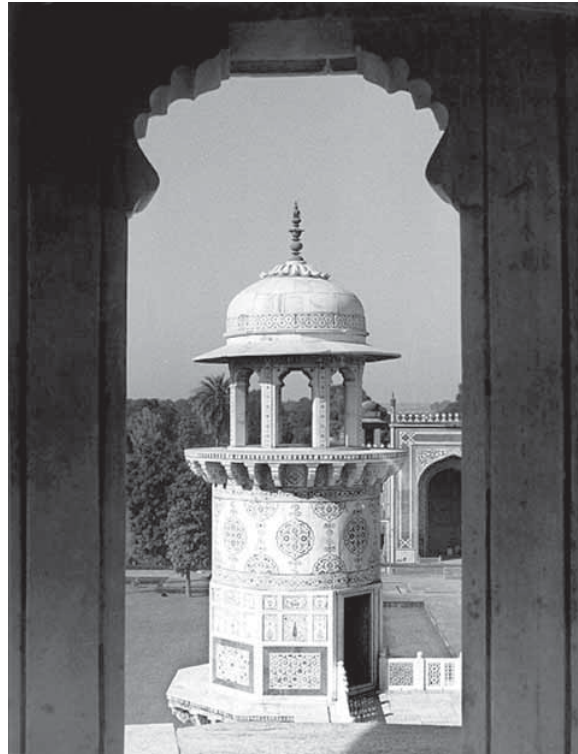


Fig. 32. Agra. Minaret of the tomb of I^ctimād al-Daula. (Photo: © UNESCO/Cart.)

Secular buildings

The major secular works of the Mughal emperors were forts, bridges, palaces, residences and bazaars.²³ All these buildings introduce new architectural types, such as the Dīwān-i ^cĀm, the Dīwān-i Khās, public baths, private apartments, harems, residences and shopping places whose counterparts are found in Central Asia and Iran. Each major city, along with its inner fort, was surrounded by a great wall; entrance was by means of a monumental gateway, protected by huge pylon-like bastions.

The first fort was built by Akbar at Agra between 1565 and 1573 under the superintendence of Muhammad Qāsim Khān.²⁴ It has four gateways. The Delhi Gate on the west opens with a bent entrance to two passages, one leading through the Mīnā Bāzār to the Dīwān-i ^cĀm, with a pillared hall right in front of the royal seat. The other passage leads to the residential zone, containing the Akbarī Mahal, Jahāngīrī Mahal, Shāh Jahānī Mahal, Khās Mahal, Diwān-i Khās and Shish Mahal – all facing the Jamuna. Other buildings include the Moti Masjid and the Nagina Masjid.

²³ Koch, 1991, p. 75.

²⁴ Husain, 1956.



Fig. 33. Fatehpur Sikri. Tomb of Shaykh Salīm Chishtī. (Photo: Courtesy of I. Iskender-Mochiri.)

The city of Fatehpur Sikri had no fort, but an encircling wall. It was built by Akbar in honour of the saint Shaykh Salīm Chishtī (Fig. 33), with whose blessing Akbar's son, Salīm (later to be known as Emperor Jahāngīr) was born in 1569. Although the whole complex took nearly 15 years to complete, the buildings present a variety of individual types drawn from the architectural traditions of India. Besides the Dīwān-i ʿĀm, the Dīwān-i Khās (Fig. 34), with its highly ornate central pillar, and the Jami^c Masjid (Friday mosque), we have the so-called Jodha Bai's palace (or correctly Haram Sarā), with its own particular characteristics, the Sunahra Makan, the unique Panch Mahal with its five reducing tiers, and the Buland Darwāza (Fig. 35), built to mark Akbar's conquest of Gujarat in 1572–3.²⁵ This last, a tall entrance gate to the Jami^c Masjid, with its recessed interior, has a style of its own, but it reminds us of the monumental gate of Amīr Timur built at Shahr-i Sabz as the entrance to his Ak Saray palace.

The third Mughal fortress palace at Lahore, which originally stood on the bank of the River Ravi, occupies an older, pre-Muslim site. The present structures, which are contained within high fortified walls, include all the features of a Mughal palace and show the variety of styles patronized in the time of Akbar, Jahāngīr, Shāh Jahān and Aurangzeb and the Sikhs. The most enchanting is the gorgeously decorated Shish Mahal, with a Bengali type

²⁵ Brand and Lowry, 1987, Chs. 2 and 8.

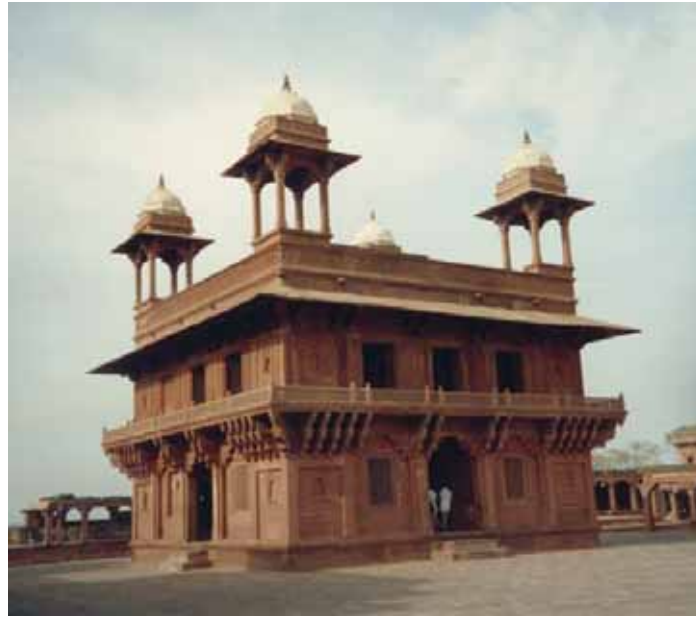


Fig. 34. Fatehpur Sikri. Dīwān-i Khās. (Photo: Courtesy of I. Iskender-Mochiri.)



Fig. 35. Fatehpur Sikri. Main gateway of the mosque (Buland Darwāza) from inside. (Photo: Courtesy of I. Iskender-Mochiri.)

of pavilion, known as the Naulakha pavilion (Fig. 36). The chief feature of the fort is the unique wall decoration with tile mosaics on the outer face of the palace wall. The whole technique and the theme of the decorations are derived from Central Asia and Iran.²⁶

²⁶ Vogel, 1920, Ch. 3.



Fig. 36. Lahore. Naulakha pavilion. (Photo: Courtesy of A. H. Dani.)

In contrast to Lahore, we have in Delhi a well-planned city adjacent to the Red Fort, known as Shāhjahānābād, which Shāh Jahān created as his capital next to Agra. This is a unique example of an individual emperor's resort to city-planning on a large scale during the Mughal period. The city, which was polygonal in plan, had houses in blocks, wide roads, mosques and bazaars, among which the Chandni Chowk, with a raised aqueduct in the centre, was one of the most enchanting markets in the East.²⁷ To its north-east stands the Red Fort, which was constructed in 1639. It is possible to discern the influence of Shāh Jahān in the highly decorated parts of the Mahal area, particularly the Dīwān-i Khās, the Khās Mahal and the Turkish-style bath, where the floral designs inset with precious stones are visually stunning. The entrance passage through the Mīnā Bāzār to the Dīwān-i Ām, with its Bengali bent-roof type of royal seat and with a variety of paintings high up on the wall, displays the new taste that had developed by this time. The Bengali bent roof was chosen by Shāh Jahān himself. This type is also seen at Agra Fort in the two pavilions of his daughters and at Lahore Fort in the Naulakha pavilion.

Besides these fortress palaces we have also caravanserais, *baolis* (stepped wells) and individual standing forts such as the Attock Fort, which are examples of buildings for common use and also for security. Following in the footsteps of the Sūr monarchs, the Mughals also constructed imperial highways. One of these crossed the River Indus, and

²⁷ Sharma, 1974, p. 142.

passing through the Khyber Pass, ran to Kabul. A number of caravanserais, *kos minārs* (towers marking distance) and *baolis* lie along this road, as along other Mughal highways.

The new mosque style

Another important change during the Mughal period is the introduction of a new mosque style, seen in the surviving mosques of Bābur at Panipat, though those of his reign at Ayo-dhya (destroyed in 1992) and Sambhal are in local styles. In the words of Ebba Koch, the Panipat mosque shows ‘an important innovative feature in the form of Timurid arch-netted transition zones in pseudo-structural plaster relief work applied for the pendentives’.²⁸ However in the Kachpura, Agra, mosque of Humāyūn (1530–1) the plan follows the design as seen in the Namāzgāh mosque at Karshi in the southern region of Uzbekistan. The typical three- or five-domed mosques are also seen in the time of Akbar and Jahāngīr. From the time of Jahāngīr, the high *peshṭāq* (portal) in the middle of the prayer-hall façade became a common feature.

However, the three-domed Friday mosque at Agra, Delhi, Lahore (Figs. 37 and 38) and Peshawar became the archetype from the time of Shāh Jahān onwards. They introduced a type with a central open courtyard, approached by monumental gateways from three directions and the main prayer hall with corner towers in the middle of the western side. Of all these religious buildings the most ornate is the mosque of Wazīr Khān (1634–5), built in Lahore. It is in the planning and the bulbous dome that the mosques come nearest to the design of Central Asian mosques, but in the tall minarets and the ornamentation the taste of the Mughal emperors leans more towards Isfahan and Europe.

The Mughal synthesis of styles

Architecture from the sixteenth to the nineteenth century as developed by the Mughals presents a variety of buildings that owe much in their style, design and decoration to Timurid architecture in Central Asia and Khurasan. At the same time the Mughals also tended to draw on the older provincial styles of India. These provincial architectural forms, as seen at Fatehpur Sikri and in other buildings within Agra and Lahore forts, speak of the new taste of the emperors and how they endeavoured to integrate various traditions into a unique architectural style of their own. It is precisely this integration that has given us outstanding monuments like the Taj Mahal.

²⁸ Koch, 1991, pp. 32–6.

RAJPUT ARCHITECTURE

An interesting aspect of the interaction between the Mughal style of architecture and traditional Indian trends can be seen in the contemporary monuments erected by the Rajput princes (incorporated into the Mughal nobility) in Rajasthan and the northern part of modern Madhya Pradesh. They have a character of their own, which is popularly referred to as the Rajput style of architecture.²⁹ To this tradition belongs a group of temples at Vrindaban near Mathura.³⁰ Outstanding among these is the Kachhwaha Rajput noble Mān Singh's temple of Govinda Deva (begun in 1590), which presents a giant sandstone version of the Khurasanian vault type. For earlier Rajput work, we may look at the palace within the fort of Gwalior, completed before the coming of the Mughals and appreciated by Bābur. Known as the Mān Mandir, after its builder, Raja Mān Singh of Gwalior, it shows the bright colours and spirited decorative forms so typical of Hindu taste.

On the other hand, the palaces built between the sixteenth and the eighteenth centuries by Rajput princes in other former state capitals in Rajasthan exhibit the new elaborate style of the time. The transition from one to the other can be appreciated by comparing the buildings at the old Kachhwaha capital of Amber and the new capital, Jaipur (established in 1728), which marks the climax of Rajput palatial architecture. Above all it is Akbar's Kachhwaha commander, the above-mentioned Mān Singh, who has left his name in several places of the Mughal empire by erecting different types of buildings, such as the *haveli*



Fig. 37. Lahore. Badshahi mosque, built by Aurangzeb, 1674. (Photo: © UNESCO/S. Haque, 1959.)

²⁹ For details, see Brown, 1942, Ch. 22; Koch, 1991, pp. 68–9.

³⁰ Koch, 1991, p. 69.



Fig. 38. Lahore. Interior of the Badshahi mosque. (Photo: © UNESCO/S. Haque, 1959.)

(residential building) within Rohtas Fort in Jhelam district (Pakistan) and two *shikhara*- (pinnacle- or spire-)type temples still standing at Attock on the Indus. These show that the Mughals' was not only a period of great architectural splendour but also of religious tolerance and amity among the different communities.³¹

SIKH ARCHITECTURE

In another part of the subcontinent, particularly in Punjab, where the Sikhs enjoyed political dominance during the late eighteenth and early nineteenth centuries, a late form of Mughal style is seen, but there is a degree of decadence in design and over-elaboration in decorative motifs.³² There is an emphasis on fluted domes, generally covered with brass or copper gilt, and kiosks that ornament the parapets, angles and prominences or projections. A type of multicuspied broad arch or simple curvilinear arch is used in the secular buildings.

³¹ Incidentally, Mān Singh (d. 1614) was in his final years Akbar's highest-ranking noble, the first to be raised to the rank of '7,000'. The essential facts of his life will be found in Blochmann, 1927, pp. 361–3. He is not, of course, to be confused with his earlier namesake, Mān Singh of Gwalior.

³² Brown, 1942, Ch. 21.



Fig. 39. Amritsar. Golden Temple. (Photo: © UNESCO/Ph. Leclaire.)

The most important Sikh monument is the Golden Temple (the *Darbār Sāheb* or *Har Mandir*) at Amritsar (Fig. 39). It is placed in the middle of a pool, to which an approach is provided through a causeway. The main building is a square, with a fluted dome in gilt metal and kiosks at each corner, and consists of a large hall in the interior, richly decorated with floral designs. Another important building is the mausoleum of Ranjit Singh himself at Lahore (Fig. 40), again presenting a brilliant display of decorative motifs. The *Huzūrī Bāgh*, with a marble pavilion in the middle, was built as a private garden replacing an older Mughal *serai*.

In the old Mughal city of Peshawar, the Sikhs rebuilt the *Bālā Hisār Fort* with mud walls (later given brick-facing by the British); the *Shalimar garden* to its north was turned into a Sikh army encampment, and the city wall was rebuilt with new gates; the *Qissa-Khwāni Bāzār* was relaid along a straight street with houses and *serais* rebuilt in the Sikh style; and the *Chowk Yādgār Bāzār* was remodelled on an octagonal plan. All these changes were undertaken when Hari Singh Nalwa and the French General Avitabile were Ranjit Singh's governors here. The general himself lived in the old *caravanserai*, called the *Gor Khutree*, in the middle of which was now built a temple of *Gorakhnath* – a tall spired structure with a covered passage leading to the *Nandi shrine*.³³

³³ Dani, 1969, pp. 172–3.



Fig. 40. Lahore. Ranjit Singh's tomb as seen from Shish Mahal. (Photo: Courtesy of A. H. Dani.)

THE LATE MUGHAL PERIOD

In Awadh (Oudh) (in the present Indian state of Uttar Pradesh), we encounter the last phase of the Mughal style, that of the latter half of the eighteenth and the first half of the nineteenth century: it presents several new features, first displaying much Iranian influence and then becoming increasingly integrated with elements from European sources. Here the builders discarded the use of stone and marble and reverted to a brick and rubble foundation faced with stucco. Nawāb Āsafu'l Daula (1775–95) was largely responsible for giving a new skyline to the city of Lucknow by undertaking large building enterprises, the best-known being the Great Imambara with its mosque, courts and gateways, an Imambara of imposing conception, notable for its grandiose proportions. The second trend came from European sources with the appointment of a French soldier and adventurer, Major-General Claude Martin, in the service of the nawabs of Awadh. It is from his country house that:

there developed in Lucknow a style of architecture of a pronounced hybrid character in which triangular pediments, Corinthian capitals and Roman round arches were combined with fluted domes, ogee arcades, and arabesque foliations, a medley of western and eastern forms.

The residential *manzils* (houses) and many *bāghs* (gardens) erected in the time of the succeeding nawabs illustrate the growing hybridization of architecture at Lucknow before the British annexed the principality in 1856.

Part Three

THE EASTERN REGION OF CENTRAL ASIA

(*Liu Zhengyin*)

The eastern region of Central Asia, with the exception of Mongolia, can be roughly divided into two parts with the Tian Shan mountain range as their boundary: Tian Shan Nanlu and Tian Shan Beilu (i.e. the regions to the south and north of the Tian Shan range). This nomenclature is derived from Chinese literature. Tian Shan Nanlu relies predominantly on oasis cultivation and suffers from frequent drought and low levels of precipitation, whereas in Tian Shan Beilu, a cool and damp region, the inhabitants lead a nomadic existence. The divergence in architectural culture found in these two regions is largely determined by differences in ethnic composition and economic patterns.

Tian Shan Nanlu

This region consists of the Tarim basin and the Turfan and Hami areas. As a region based upon the cultivation of oases, it has been populated by the Uighurs and other Muslim nationalities up to the present day. Thus it was also called Huijiang or Huihu ('territory populated by Muslims') in the Qingdynasty literature. The particular architectural characteristics of this region, whether religious or secular, are of the Islamic tradition.

Towards the end of the ninth century and the beginning of the tenth, Islamic teachings filtered into the region and prospered rapidly thereafter. At the time of the Mongol conquests of the thirteenth century, areas such as Kashghar, Yarkand (Yārquand) and Khotan in the Tarim basin had already largely adopted Islamic culture, which had made its influence felt in every facet of society. Architecture inherited from the earlier styles in the region influenced the emergent Islamic architecture of mosques, places of religious instruction and other religious buildings. Mosques and places of religious instruction at that time were

mainly built of wood – except for gateways, windows and *mīhrābs* (prayer niches), which were built of brick and in the style of tapered, pointed arches. *Mazār* (tomb, or mausoleum) architecture was comparatively simple, the roofs adorned with multicoloured banners or upright pendants; the lavish and grandiose style typical of the later *mazār* had yet to take shape.

From the sixteenth to the nineteenth century, Islamic architecture in this region underwent a transformation. Architectural design and use of materials underwent rapid and sustained development, with bricks and glazed tiles becoming the usual building materials, and buildings becoming much larger in size and scope and more sophisticated in decoration. In places such as Yarkand, Kashghar, Aksu and Khotan urban architecture matured considerably, with lofty towers and buildings and domestic neighbourhoods crowding together.

According to an account by the celebrated historian of Moghulistan, Mīrzā Muhammad Haydar Dughlāt, a citadel was constructed at the beginning of the sixteenth century in Yarkand, most of which reached a height of 30 *sharʿi* (legal) *gazs* (1 *gaz* = 76.2 cm). The citadel had 6 gates, which were designed for great strength. The gates were located within the citadel walls, about 100 *gazs* away from each other, and on either side of each gate stood two towers. Anyone who wished to enter the citadel had to do so through one of these gates, passing through the passage between the two towers. An enemy who attempted to attack the citadel would be met with a flurry of arrows and stones coming from all directions. Magnificent buildings were constructed within the fort inside the citadel; surrounding the citadel on all sides were some ten gardens, each having ‘lofty edifices containing about a hundred rooms each’. The ceilings of these rooms were plastered with a coat of mortar and the walls were decorated with dados of glazed tiles and frescos. The rooms were furnished with shelves and recesses in the walls.³⁴

From the sixteenth century, following the cumulative influence of Sufism, the phenomenon of ‘saint-reverence’ increased among believers and the sect of Naqshbandi *khwājas* (*khojas*) assumed particular importance. This not only led to great strides in mosque building but also to the construction of impressive mausoleums. There was also significant progress in the plastic arts, building techniques and the use of carved patterns as a form of decoration, as well as in the workmanship and technology needed to produce coloured decorative patterns, coloured glazed bricks and tiles, wooden carvings and plaster patterns (with use of gypsum).

³⁴ Haydar Dughlāt, 1898, pp. 296–7.



Fig. 41. Kashghar. Idgāh mosque. (Photo: Courtesy of Liu Zhengyin.)

THE IDGĀH MOSQUE

The outstanding example of Islamic architecture of this period is the Idgāh mosque in Kashghar (Fig. 41). The initial construction of the mosque dates back to the early fifteenth century, when it was only small in size. In the early sixteenth century, the mosque was enlarged; it was subsequently renovated and gradually extended, finally reaching its present shape and size in the midnineteenth century. The mosque consists of a gate tower, a prayer hall, a hall for religious and doctrinal instruction and other auxiliary structures. The gate tower is located in the south-eastern corner of the complex. It is square in shape, with vertically level walls, and is built throughout of yellow bricks decorated with plaster. In the middle of the front wall is a huge arched gateway with a large, square gate at its centre. To highlight the beautiful shape of the arched gateway, the upper part is gently tapered and decorated with flower patterns on a blue background. Surrounding the arched gateway are five shallow recesses with tapered arches lining the left, right and upper sides of the front wall.

On either side of the gate tower are two brick towers or minarets (called ‘*bāng* towers’, *bāng* meaning the *muezzin*’s call to prayer). These *bāng* towers are in the shape of round columns half embedded in the wall. The towers are over 18 m high with small, domed enclosures atop each one. Each tower lessens in diameter towards its peak, and the bricks used are arranged to form multifarious flower patterns. The two towers are not symmetrical,

the one on the left of the gate being relatively thicker and closer to the gate, while the one on the right is thinner and farther away. There are also shallow recesses with tapered arches set in the wall. Entering through the great gateway, one comes into a polygonal entrance hall covered with a white dome and a small tower on top.

Arched gateways on either side of the entrance hall lead to a very large inner courtyard. In this tree-lined courtyard there are two ponds and a brick path stretching from the entrance hall directly across the courtyard to the prayer hall on the western side of the enclosure. On either side of the path is a brick tower, which makes the yard look both neat and symmetrical. The prayer hall is a wooden construction with a flat roof. The building is 160 m long and 16 m wide and includes both an outer and inner hall. Each aspect of the hall boasts porticoes supported by columns; and the entire hall is supported by these tall, narrow, octagonal columns. The top of each column is simple but lower down it is adorned with arched recesses and set upon a concave plinth; the base of the column is of a straightforward, square design. The columns are delineated with oils, green in the outer hall and blue in the inner.

The outer hall in its front aspect is completely open to the outside and its whitewashed ceiling is supported by 140 carved wooden columns, which stand in a net-like pattern. The caisson ceiling is decorated with patterns of flowers and trees and geometric designs. The inner hall lies at the centre of the outer one, with three sides surrounded by the outer chamber. The walls of the inner hall stand high and have a *mihṛāb* placed in the centre of the rear wall (the west wall); there is also an arched gateway in the very middle of the front wall. Around the edges of the gateway are decorative geometric plaster patterns. On the southern and northern sides of the courtyard are the hall for religious instruction and auxiliary structures such as bedrooms and bathrooms.

THE ĀFĀQ KHOJA MAZĀR

The Āfāq Khoja *mazār*, located in the north-eastern suburbs of the city of Kashghar, is a complex of magnificent buildings. It is also called the Hazrat Mazār (meaning the ‘saint’s tomb’). According to tradition, Xiangfei (‘Fragrant Imperial Concubine’ in Chinese), the Uighur concubine of the Qingdynasty Emperor Qianlong (1735–96), was buried here. The tomb was begun in the mid-seventeenth century as a tomb for Khoja Muhammad Yūsuf, the father of Āfāq Khoja, and was relatively small at first. It was extended when Āfāq Khoja was buried there at the end of the seventeenth century. He was the leader of the Aq-taghlyq faction and enjoyed a very high social status and reputation in Tian Shan Nanlu. It was not until the mid-nineteenth century that the original *mazār* reached its present size after continuous expansion and renovation. The present complex of *mazār* buildings includes

the mausoleum, four prayer halls, a hall for religious instruction, two gate towers, lodgings for imams, water closets and other auxiliary rooms.

The mausoleum is the central structure of the complex and is situated on the eastern side of the *mazār* enclosure, surrounded by brick walls. The base of the mausoleum is roughly square in shape, the four surrounding walls are each about 40 m long. A high wall with gates, square in shape, stands at the very centre of the front wall of the mausoleum, with a tapered and pointed arched gate opening outwards in the middle. On either side of the wall stands a decorated column with a domed top for a roof, half embedded in the wall, emphasizing its function as an entrance. At each of the four corners of the mausoleum building stand four huge brick *bāng* towers each in the shape of a rounded column, wide at the base and narrow at the top, and half embedded in the wall; a spiral stairway is built inside each tower, by which one can climb to the top; at the top of each tower stands a crescent moon. The centre of the mausoleum is covered by a huge brick dome, 17 m in diameter, which also has a small, simple tower with a crescent moon on the top. The mausoleum's grand dome is the largest in Tian Shan Nanlu. Under the grand dome is a spacious tomb chamber in which the arched tombs of the Āfāq Khoja family are arranged in rows. The whitewashed interior of the hall is permeated by a solemn atmosphere while the gradual gradient and height of the grand dome lend an aura of majesty.

The exterior of the mausoleum is 26 m high and is faced with light green glazed tiles from top to bottom; in some areas these are mixed with yellow and blue glazed tiles to create all manner of geometric and floral designs, together with prayers in Persian and Arabic. The gated wall and *bāng* towers are decorated with geometric designs, and the interior of the tapered arched passageway through the gated wall is especially noteworthy for its decoration of plaster patterns and multicoloured paintings. The cream-coloured plaster flowers delicately carved on the walls of the mausoleum contrast sharply with the large, whitewashed, tapered and shallow recesses set in the walls (Fig. 42).

In addition to the mausoleum, the prayer halls are also an important component of the complex of *mazār* buildings. Four prayer halls have survived to the present day: the green-roofed hall, the great hall, the lower hall and the upper hall. The upper hall was constructed after the mid-nineteenth century, whereas the other three were built in the nineteenth century or earlier. The green-roofed hall, one of the oldest structures in the complex of *mazār* buildings, is adjacent to the right side of the mausoleum. It includes an inner and outer hall. The outer hall, with three sides open to the outside, is covered by a flat roof supported by columns to form a veranda or portico. It has four rooms in length and three rooms in width, with its roof beams and wooden doors adorned with elaborate, decorative patterns and carvings. The columns are designed to bear a substantial load and



Fig. 42. Kashgar. Mausoleum of Āfāq Khoja. (Photo: Courtesy of Liu Zhengyin.)

are painted green. The floor of the inner hall is square in shape, while above rises a brick dome 11.6 m in diameter and roughly 16 m from the ground. In this inner hall, the space between the square walls and the base of the dome contains 4 storeys of recesses, with 4 at the bottom, 8 above, 16 on the third storey above that and 32 at the very top; these are surmounted by the great dome, which is both magnificent and exquisite in design.

The great prayer hall, built in the mid-nineteenth century, is located at the west end of the complex of *mazār* buildings, opposite the mausoleum. This prayer hall is made up of an open space at the front and an enclosed, brick hall at the rear. The open space boasts a structure of columns and beams with an open walkway to the front and two covered walkways to either side. The carvings on the columns are simple and elegant. The eye is drawn towards the decoration on the caisson ceiling, which is resplendent with patterns depicting mountains, flowers, trees and also calligraphy. The rear hall possesses an enclosed dome that is not decorated with patterns, but uses brick arches as the sole form of decoration, giving an impression of space and majesty.

The lower hall is built on low-lying ground and follows an older design which did not employ either decorative effects or carvings. It was constructed before the mid-nineteenth century. The other buildings such as the halls for religious instruction, the great gateway and the cells for the imams have styles of their own which complement one another in brilliance and make the whole complex a rationally distributed and coherent whole.



Fig. 43. Turfan. Amīn minaret. (Photo: © UNESCO/Sun Yifu.)

THE AMĪN MINARET

The Amīn minaret, also called the Tower of Sulaymān (in Chinese, ‘Sugong Ta’) and situated 2 km south-east of the city of Turfan, was built around 1777 to commemorate Amīn Khoja, the ruler of Turfan, by his son Hakīm Beg Sulaymān, at a cost of 7,000 *liangs* (32 *liangs* = 1 kg) of silver. The complete structure consists of the tower, the main prayer hall and the gate tower. The tower is situated at the south-eastern corner of the prayer hall. Beside the passageway under the tower stands a stone tablet upon which is recorded, in both the Uighur and Chinese scripts (now much eroded), the reasons for building the tower.

The tower, which stands 44 m high, is in the shape of a round column that gradually tapers skywards (Fig. 43). The base is 11 m in diameter and the rooftop a mere 2.8 m. A 72-step staircase spirals upwards from the base to the top and takes the whole weight of the tower, which is made entirely of brick without any stone or wooden additions. Built into the body of the tower are 14 open casements designed to let in air and light, each at a different height and facing in a different direction. On the flat tower roof stands a round brick pavilion with 4 open arched gateways, each leading to a platform from which one can survey the environs.

The way in which the yellowish-brown bricks are built into the body of the tower brings into sharp focus the 15 patterns with which it is decorated: rhomboids, triangles, ripples,

twilled trellises, six-petalled flowers, etc. As the tower tapers sharply upwards, the patterns on it contract gradually while remaining in proportion, each brick being shaped accordingly to fit the rounded nature of the body of the tower and aid its gradually narrowing entity without leaving any cracks or crevices, thus preserving the integrity of the patterns. The whole tower is designed to be simple yet elegant, using one colour throughout. The patterns vary enormously through the use of refined hues and tints, a style that is typical of Uighur Islamic architecture.

This tower adjoins a mosque, thus serving as a *bāng* tower as well. It differs from other mosques in the area in not possessing a courtyard, so the prayer hall is linked directly to the tower. The prayer hall, 9 rooms wide at the front and 11 rooms deep, is roughly square. It includes a central hall, a rear hall and several side rooms. The central hall, located at the epicentre of the prayer hall, has a very high ceiling. It is 5 rooms wide at the front and 9 rooms deep, with a skylight above to let in air and light. To the west of the central hall is the rear hall, which includes a recessed chamber and is topped by a large dome. On the left and right sides of the rear hall, as well as on the northern and southern sides of the whole construction, are domed side rooms with arched doorways leading to the central hall. At the entrance to the prayer hall stands a tall rectangular gate tower. In the middle of the front wall of this gate tower is a huge tapered and pointed gateway with a large, square gate at the centre. Passing through this large gate, one enters a sizeable entrance hall with a domed ceiling. From this, one proceeds into the great prayer hall. Through another passage on the left one reaches the entrance to the tower. The tower, the prayer hall and the gate tower complement each other and form a coherent whole.

ARCHITECTURE INFLUENCED BY THE HAN (CHINESE) STYLE IN HAMI

While the architecture of Tian Shan Nanlu was undergoing a process of Islamization during this period, it also came under the influence of the Han (Chinese) style of architecture prevalent in inland China. In particular, notable traces of the Han style of classical architecture can be found in buildings in the Hami area in the eastern part of Xinjiang. This could perhaps be explained by the fact that the Uighur prince in Hami who pledged allegiance to the Qing dynasty invited Han craftsmen to come and build palaces for him at the beginning of the eighteenth century. Later on, the Han style became more prominent when these palaces were expanded by subsequent generations of Uighur princes. According to sources of the time, there was hardly any difference between the Uighur palaces in Hami

and traditional Han garden architecture in inland China in the mid-nineteenth century.³⁵ Unfortunately, these Hami palaces are no longer extant.

The mausoleums of the Uighur royal family of Hami, situated to the west of the modern-day city of Hami, are a group of tombs where nine generations of princes and royal family members were interred. Of these, the Boshir tomb, which was constructed in the mid-nineteenth century, is the tallest and most magnificent. Boshir, the seventh Uighur chief of Hami, was promoted by the Qing dynasty to be a vassal lord of the prefecture with the title of 'prince' because of the great service he had rendered to the dynasty. He was killed in battle while helping the Qing to suppress an uprising of the people of Hami in 1867. To commemorate Boshir, the Qing ordered a special memorial temple to be built in Hami.

The Boshir tomb is 19.6 m long, 15 m wide and 17.8 m high, the base in the shape of a rectangle, and the vaulted ceiling arched. At each of the four corners is a round column with an arched top. The central door of the tomb chamber faces west. In the brick walls on either side of the triangular, arched gate are four symmetrical pairs of small, shallow recesses mirroring the triangular, arched gateway. In comparison with the tapered and pointed arches of buildings found in the western part of Tian Shan Nanlu, the lines of the triangular arches in the building are both straighter and sharper, apparently influenced by the traditional classical architecture of inland China. Inside the tomb chamber the caisson ceilings display multicoloured patterns, whereas the four external walls and the dome above them are adorned with every manner of decorative, glazed tile in a variety of patterns, the whole structure appearing both extravagant and solemn. Although the Boshir tomb has clearly been influenced by the architecture of inland China, with its fierce, straight lines as opposed to the more graceful curves found elsewhere, this complex is nevertheless largely typical of the Islamic architectural style prevalent in Xinjiang.

The greater influence of the architectural style of inland China on the construction of the tombs of subsequent generations of princes of Hami is further reflected in the transition to wooden pavilion-like structures. Originally, there were five tombs with wooden pavilion-like structures to the south of the Boshir tomb, but only two have survived intact to the present day, one of these being the tomb of the last prince of Hami. The inner chambers of the two tombs are built of mud-brick but the wooden towers on the outside make use of wooden columns and beams. The domes on top of the square tomb chambers are complemented by additional wooden pavilions. The use of tapered ceilings, domed to distribute the weight of the roof, derives from the Islamic tradition, but at the same time the

³⁵ Xiao Xiong, 1895, Vol. 2.

octagonal, sloping roofs of the wooden pavilions take as their guide the wood-based architecture of the Han style of inland China, a unique style in its own right.

This complex of Hami royal tombs also contains a large *idgāh* (congregational mosque). It was first constructed at the beginning of the eighteenth century and gradually reached its present size after countless later renovations and expansions. This complex of tombs, diverse in style yet at the same time forming a coherent whole, represents the most advanced level of mausoleum architecture in the Hami area from the time of the Qing. They are a good example of a successful synthesis between different cultures and styles of art.

It must be pointed out that the area still had non-Islamic buildings, including those in the traditional Han style. More particularly, after the Qing conquered the Western Territories in the mid-eighteenth century, new cities, also called Manchu cities, where Manchu troops and officials were stationed, were constructed throughout Tian Shan Nanlu and a large number of buildings, designed in the Han style, were built. But since these buildings do not represent the mainstream, no further account of them will be provided here.

Tian Shan Beilu

This region starts from the Altai mountains in the east and stretches as far as the River Talas in the west, Lake Balkhash in the north-west and the River Irtysh in the north. The region is rich in grassland and precipitation and is therefore an ideal area for nomads. After the seventeenth century, it gradually became the favoured area of the nomadic Oirat Mongols. Since the Oirat Mongols were followers of the Lamaist strain of Buddhism, Buddhist temples were constructed in some settlements. Apart from these structures, there were also quite a number of Islamic buildings in places such as Ili, where considerable populations of Muslims such as the Uighur and the Hui (Chinese Muslim) minority ethnic groupings still live today. What happened in Tian Shan Nanlu also happened here; namely, buildings constructed in accordance with architectural traditions from inland China were also built, more especially after the Qing conquests of the mid-eighteenth century. New cities and government buildings, such as those of the city of Huiyuan, were constructed, using the architectural traditions of inland China.

As early as the mid-fourteenth century, when Tughlugh Timur, leader of the Chaghatayid *ulūs*, who controlled the regions on both sides of the Tian Shan mountains, was converted to Islam along with his tribesmen, architecture in the Tian Shan region had already begun to show Islamic influences. When Tughlugh Timur died, he was buried in the present Huocheng county in the Ili region of Xinjiang. His mausoleum has been well preserved right up to the present day. It is a brick structure with a domed roof, 15.5 m high,

10.8 m wide and 15.8 m deep. At the very centre of the front wall of the mausoleum stands a large, tapered, arched gateway. The front wall and the inside walls of the gateway are all decorated with coloured, glazed bricks which are pieced together to form various decorative patterns. Around the perimeter of the gateway arch and on the walls on either side are inlaid inscriptions in Arabic. The walls on the remaining three sides as well as the dome are white. The mausoleum was partially renovated in the mid-nineteenth century, the only occasion upon which this was done, and so the original construction retains its basic appearance to the present day.

THE HUI GREAT MOSQUE IN YINING CITY

Following the sustained and sizeable immigration of the Hui Muslims from inland China into the area after the eighteenth century, many Hui mosques were built, particularly in places bordering the Tian Shan mountains, such as Urumqi and Ili. They were based on the traditional Han style of architecture from inland China. The Hui great mosque in the modern city of Yining is a typical example of such architecture. The original name of the mosque was the Ninggu mosque; it has also been called the Shaanxi or Shaan-Gan (Shaanxi and Gansu) great mosque. Construction was begun in 1760 and was funded by donations made by the Muslims of Shaanxi, Gansu, Ningxia and Qinghai provinces. It was repaired and extended in 1781 and renovated many times thereafter.

The mosque, originally 6,000 m² in size, is an imitation of the Xi'an great mosque (located in Huajue lane, Xi'an) in terms of both structure and layout; it makes use of the traditional Chinese style of brick-and-wood palaces and is decorated with Arabic calligraphy, the two combining in a pleasing fashion. There was a front-yard gate (the first gate) and also a main gate, in front of which are a pair of screen walls shaped like the Chinese character '8' (*ba*). The central gate tower is a three-storey pavilion built in a style all its own. It serves as both a gate tower and a *bāng* tower. The first and second floors of the gate tower are square in construction with four distinct corners, while the third storey consists of a six-cornered hexagonal pavilion. The tower narrows floor by floor, with upturned eaves extending in every direction. With its glazed-tile roofs and multicoloured *dou-gong* system of brackets and crossbeams, its broad main gate and its multitude of edges and corners, the gate tower stands out as a significant structure within the whole complex.³⁶

The mosque's tall and spacious prayer hall, a structure with a gable and hip roof (a traditional Chinese style of roof), consists of an outer hall, a middle hall and a rear hall

³⁶ *Dou-gong* indicates a system of brackets inserted between the top of a column and a crossbeam, each bracket being formed of a double-bow-shaped arm called a *gong* and supporting a block of wood called a *dou* on each side. The upper eaves are twice the thickness and projection of the lower eaves.

surrounded by three covered walkways. It is a spacious complex built in the form of inter-linked chambers and can hold more than 1,000 worshippers. The recessed space in the rear chamber of the prayer hall is inlaid with Islamic aphorisms inscribed in golden Arabic lettering on a green background as well as circular flower patterns, both carved from brick. The hall's external walls are also decorated with bricks carved into multicoloured designs of flowers and trees and antithetical couplets in the Chinese script. To the northern and eastern sides of the prayer hall are the halls for religious instruction.

In the courtyard, the flowers and trees are luxuriant but evenly spaced and a stream meanders through the complex. Between the front-yard gate and the prayer hall there used to be ponds and jade belt bridges, which are now in ruins. Within the mosque the main gate, the prayer hall and the halls for religious instruction on either side are built in a pavilioned style, giving a well-integrated, rationally planned and most imposing aspect to the whole complex. The decoration of the mosque makes excellent use of resplendent colours: red columns against green tiles and golden lettering on blue backgrounds. The bright, lively colours together with the smooth and graceful lines of the mosque combine to produce a luxurious atmosphere and a heightened impression of beauty.

THE SHAANXI GREAT MOSQUE

The Shaanxi great mosque (located in Yonghe lane, Heping street, at Urumqi city in Xinjiang), the largest mosque in the Urumqi region, was probably constructed during the Qianlong and Jiaqing reigns of the Qing dynasty (1736– 1820) and was funded by donations raised by Muslims from Shaanxi. It was largely rebuilt in 1906. The prayer hall, which uses a brick-and-wood structure, is of the palatial architectural type of inland China (Fig. 44). It is not further described here because it was rebuilt comparatively recently.

THE UIGHUR BAIDULA MOSQUE IN YINING CITY

The classical style of Hui mosque architecture, with its elastic mouldings and beautiful decorations, has had an influence on the architecture of local Uighur mosques, with the result that such mosques include elements of traditional Chinese architecture. One example is the Uighur Baidula mosque located in the city of Yining (Xinjiang). The mosque was first begun in 1790 and was extended in 1865. Originally there were 34 rooms holding up to 1,500 people for religious services, and a religious school and an Islamic court were affiliated to it. The existing mosque is 1,274 m² in extent and consists of a gate tower and the prayer hall. The gate tower is no different from those found in the above-mentioned Hui great mosque, functioning both as a gate tower and for the *muezzin's* call to prayer (*bāng*). It is a magnificent three-storey pagodalike structure with a base of great height and girth

but a body that is both narrow and exquisite, with painted beams and carved ridge-poles and soaring eaves on every side. The great hall is a beamed palatial building supported in its interior by 32 main columns; the external eaves and portico of the hall are carved with elaborate patterns of flowers.

THE ARCHITECTURE OF THE OIRAT MONGOLS

From the sixteenth century, as the Oirat Mongols gradually began to settle in the Tian Shan Beilu region, the Chaghatayid Moghuls, who had led a nomadic existence in this area, had to retreat to the districts south of the Tian Shan mountains. The Oirat Mongols lived in yurts, which could easily be taken apart and moved, and which thus suited their way of life as nomadic herdsmen. Moreover, they believed in shamanism which had no need of temples. At the beginning of the seventeenth century, however, following social and economic development, some permanent settlements did appear in the region. Meanwhile, the Oirat Mongols converted to the 'Yellow Hat' sect of Lamaism and began to erect Buddhist temples.

According to reports written by Russians who visited Tian Shan Beilu in the mid-seventeenth century, the Khobok Sari settlement of the Dzungar branch of the Oirat Mongols in the Khobok river valley was made up of three or more small townships, each township comprising one or two brick houses and usually one lamasery. Lamaseries were also built in the upper reaches of the Irtysh river valley in the locality inhabited by the Khoshots. The Buddhist temples were made of brick and were limewashed on the outside. Yet the



Fig. 44. Urumqi. Prayer hall of the Shaanxi great mosque. (Photo: Courtesy of Liu Zhengyin.)

places where the lamas lived were no more than earthen houses. At that time Ablai *taishi* (chief) of the Khoshots was building a small township and the craftsmen needed for the construction were all sent from the Chinese capital.³⁷ When the well-known Ablai temple (sponsored by Ablai Taishi), constructed in that period, held its inaugural ceremony of worship, the meeting was led by the eminent monk Zaya Pandita, with the participation of 1,000 lamas. The temple was one of the earliest ever constructed by the Oirat Mongols.

In the latter half of the seventeenth century, with the further progress of the Oirat Mongols, a unified Dzungar khanate was established in Tian Shan Beilu. Under Galdan Cering (Galdan Tseren) (1727–45) two great Buddhist temples were built, one in Kulja (within the limits of Yining city in Xinjiang) on the northern banks of the Ili river and the other in Hainuk (the present site in the Chabuchar Xibe Autonomous County in Xinjiang) on the southern banks of the same river. The Kulja temple (also called the Golden Top Temple) and the Hainuk temple (also known as the Silver Top Temple) faced each other across the Ili river, providing an impressive sight. Unfortunately, neither of the two temples has survived.

According to contemporary accounts, the temples were three-storey structures, some 0.5 km in circumference, and covered with glazed tiles. The lofty temples sliced into the very heavens and golden streamers blazed in the rays of the sun. Enveloped by a vast spread of roofs held aloft by beams and ridge-poles, the temples looked both solemn and dignified. Lamas from all corners of the land came to stay in these two temples. Buddhist melodies from shell trumpets could be heard at dawn and from drums at dusk.³⁸

The Kulja temple was later destroyed in war. In order to replicate it, the Qing emperor Qianlong had the Anyuan temple (which remains in good condition to this day) built in the Imperial Summer Palace Complex at Chengde. The Anyuan temple occupies a square plot of land about 0.5 km in circumference, with a gate on each of the four sides. The main structure, the Pudu hall, is a three-storey building with a double-eaved, gable-hip roof covered with black glazed tiles. The integral architectural appearance of this lofty temple conveys an impression of grandeur and majesty and it is therefore not difficult to imagine what the Kulja temple must have looked like.

THE ARCHITECTURE OF THE HAN (CHINESE) STYLE

After the Qing dynasty had established its authority in the area, the emperors began to build new towns to serve as military bases. On both banks of the Ili river, nine townships (among which were Ningyuan – Yining in Xinjiang, and Huiyuan, to the west of modern Yining

³⁷ Baddeley, 1919, Vol. 2, pp. 125–39.

³⁸ Fuheng et al., 1782, Vol. 39.

city) were built in quick succession. The buildings in these townships followed the Han style of architecture. The city of Huiyuan, the most important of the nine townships in the Ili area, was initially built during 1763 and subsequently expanded in 1793. Huiyuan was also the preferred location for the stationing of the Ili general (*yili jiangjun* in Chinese), the highest-ranking military government official who ruled the region on both sides of the Tian Shan mountains. As a result, the city became the administrative, military and economic centre of the whole Tian Shan region at that time.

When tsarist Russia invaded and subsequently occupied the Ili area in 1871, the city of Huiyuan was destroyed. In 1882, after the Qing forces had recaptured Ili, they began to build a new city to the north of the original site. All that remains of Huiyuan city today are its bell and drum tower and part of the official residence of the Ili general. The Huiyuan bell and drum tower is a tall, three-storey building, each storey approximately square in shape. It is 23.77 m high and three rooms deep and is surrounded by covered walkways. The tower and the perimeter walkways are roofed with multicoloured glazed tiles and decorated with carved lattice windows and painted beams and ridgepoles. The ground floor rests on a high brick platform, with a gate on each of the four sides facing east, west, south and north respectively. The official residence of the Ili general is heavily damaged and all that remains today of the original construction are the main hall, the east- and west-wing vestibules, the treasury and a pavilion.

Part Four

MONGOL ARCHITECTURE

(*E. Alexandre*)

The history of Mongol architecture does not begin in the sixteenth century, even though that period marked the beginning and development of sedentary architecture. Before giving a chronological account of developments, mention must be made of the role played with respect to architectonic constructions shaped by Mongolia's geological conditions and its continental climate.³⁹ The need to enable buildings to withstand frequent earthquakes⁴⁰

³⁹ Tkatchev et al., 1988.

⁴⁰ There have been 300 earthquakes in Mongolia since 1905, many of them violent.

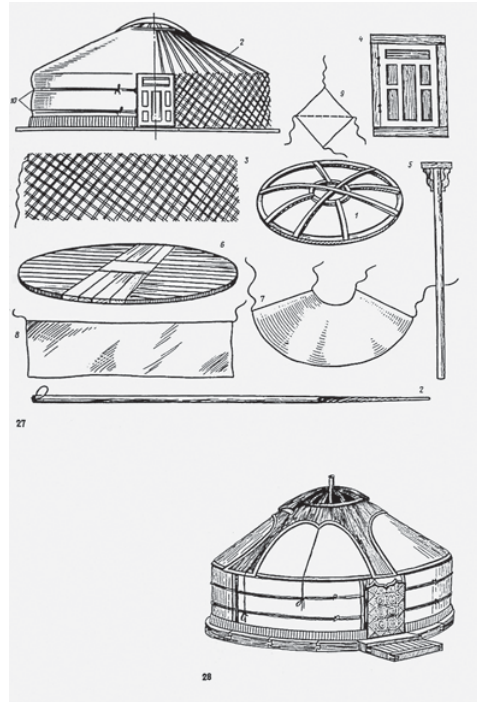


Fig. 45. Elements for setting up a yurt. (Photo: Courtesy of E. Alexandre, after Mairdar, 1972.)

may have been one of the determining factors in the development of Mongol architecture. Other factors must also be taken into account: ‘hard soil’, found practically everywhere in Mongolia, can be used for the foundations, even for monumental buildings; and finally, the freezing of the soil, down to depths of 2–3 m, has certainly influenced the traditional form of the national architecture, the yurt (*ger*), or nomads’ dwelling, which rests on the soil, with no foundations, and has for centuries proven to be highly earthquake-resistant.

The history of Mongol architecture must attach due importance to the yurt, examples of which are found depicted as long ago as in Neolithic rock carvings. Its evolution over the centuries gave rise to a fundamental architectonic form that was to be the basis of sedentary architecture (Fig. 45): surrounding the circular space of the tent, a latticed wall made of thin intertwined willow lamellas supports a kind of roof, the *tôno*, which rests on the ends of long poles, the whole structure forming a shell covered by layers of felt (Fig. 46). This portable, residential yurt became a place of worship when Buddhism first appeared in Mongolia in the thirteenth century. It developed into a fixed temple which could be transported on ox-drawn carts during nomadic migrations. It was already a real building made of thick intertwined wooden strips held together by mortise and tenon joints. Its plan evolved over a long period of time: at first circular, it then became polygonal and finally square.



Fig. 46. Construction of a yurt. (Photo: Courtesy of E. Alexandre.)

The yurt developed into a sedentary building with an area of approximately 20 m² and a height of 2–3 m. The structure then became bigger: the walls were pushed outwards, and between the 4 central support poles, other rows of ‘pole-columns’ were added to support a real roof: the *tôno* became a dome-shaped roof (Fig. 47). The poles were strengthened: originally covered with felt, they were later clad with clay. In the final stage, in the seventeenth century, the yurt became a square wooden building, with a roof, as can be seen at the Da Khüriye monastery (see below) (Fig. 48): this is the building on which the national sedentary architecture was based before it came under various foreign influences (Tibetan and Chinese).

In the sixteenth century, a genuine sedentary architecture came into being and developed widely; however, it was almost exclusively religious. The history of Mongol architecture was thus linked to the political, religious and economic aspects of the country’s history. Although there was no lack of palatial, and later on, urban architecture, it was religious architecture that predominated, fulfilling what were at one and the same time symbolic, social and political functions.

After a great era of conquests, the power of Chinggis Khan’s descendants declined considerably (see Volume IV, Part One, Chapter 13). This was the result both of fratricidal power struggles and of the deep economic crisis of the country as the Mongols, expelled from the countries they had conquered, returned to their homeland after two centuries of war. Mongolia itself was parcelled out among rival states: Khalkha (eastern

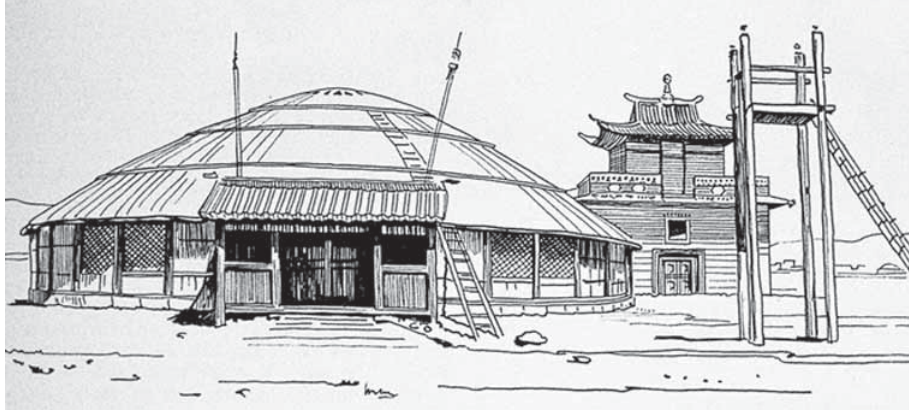


Fig. 47. Wooden yurt with a dome-shaped roof. (Photo: Courtesy of E. Alexandre, after Shepetilnikov, 1960.)



Fig. 48. Da Khüriye monastery, with a square plan. (Photo: Courtesy of E. Alexandre, after Tsultem, 1988.)

Mongolia), Oirat (western Mongolia) and southern Mongolia. Few architectural vestiges remain from this period, from the ruins of Karakorum, the famous thirteenth-century capital, and the fourteenth-century city of Kondui. At the end of the fifteenth century, Dayan Khan (1470–1504) managed to restore some unity to the country (see Chapter 6).

The sixteenth century was a period of renaissance which was to change the face of Mongolia: it saw the widespread adoption of Lamaism, a Tibetan form of later Buddhism. In 1578 one of Dayan Khan's grandsons, Altan Khan (1507–82), prince of the southern Tümeds, wished to increase his legitimacy in the eyes of the Mongol aristocracy. He

therefore invited the head of the Tibetan Ge-lug-pa (Yellow Hat) order to Mongolia and was converted to Buddhism at his hands. The entire population subsequently converted, and monastery buildings proliferated throughout the country; naturally, the Tibetan architectural style was introduced along with Lamaist Buddhism.

The sixteenth century, which thus saw the beginning of sedentary architecture, soon witnessed the widespread development of religious architecture. Altan Khan was to become the builder of the first monasteries in southern Mongolia and the first city of that era, Bai Xing, the future Köke-qota (Hühehot), in today's Inner Mongolia.

Shortly afterwards, in 1586 Abdai (Abtai) Khan (1554–88), the Khalkha khan, had the first great monastery, the Erdeni Dzuu, built in Mongolia in Khalkha territory. From then on the Lamaist Church played a predominant role, both spiritual and temporal. When the Manchu (Qing) emperor of China subjugated Mongolia in 1691, the Chinese style became dominant in Mongol monastic architecture.

Religious monuments

Before embarking on a brief description of the various religious monuments, it should be pointed out that there were initially three types of monasteries, whose names have become confused over time:⁴¹ *khüriyes*, circular in plan, and reminiscent of the ancient nomadic past, where the monks' dwellings used for worship, teaching and religious services were crowded together around the main temple; *sümes*, temples consecrated to a particular divinity, where nomadic monks gathered at specific times to worship that divinity; and *keyids*, the dwellings of hermit monks.

The monastic complexes were usually situated on high land, with the main temple on the summit. There were two types of plan: (a) based on the Tibetan model, with the main temple in the centre and the other buildings arranged asymmetrically within the sacred area; and (b) based on the Chinese model, in a north–south alignment, with buildings separated by successive yards. Since within a given monastic complex, buildings were erected in different periods, one of the characteristics of Mongol monasteries is the coexistence of temples in different styles: the Chinese, the Tibetan and the 'mixed' Sino-Mongol, Mongol-Tibetan or Sino-Tibetan style that are described below.

THE ERDENI DZUU MONASTERY

Erdeni Dzuu, the first monastery founded in Mongolia by Abdai Khan in 1586, marked a decisive stage in the establishment of Lamaism. The sacred area was surrounded by a brick

⁴¹ Pozdneyev, 1978, p. 26.



Fig. 49. Erdeni Dzuu. Brick wall with *suburgans* (stupas). (Photo: Courtesy of E. Alexandre.)

wall 400 m long on each side, lined by 108 *suburgans* (stupas) (Fig. 49). Over the next three centuries it was filled with numerous buildings in various styles, all cheek by jowl.

The first three temples (Fig. 50), erected in 1586 by Abdai Khan on a stone terrace in the Chinese style with turned-up roofs, are nonetheless evidence that Mongol architects had not forgotten their ancient tradition: they stand side by side, aligned on an east–west axis. Three buildings at the Kondui palace (fourteenth century) were already aligned in this way: in China only a north–south alignment is known to have been employed in temple-building.

In 1658 a huge wooden yurt (no longer extant), 20 m in diameter, was also constructed by Abdai Khan.

In 1675 the Dalai Lama’s small temple was erected in the ‘mixed’ Sino- Mongol architectural style (Fig. 51). Here on top of the square building, evocative of the Mongol style, a flat roof is crowned by a pavilion with a turned-up roof, in the Chinese style.

In 1780 a new building was added – the Labrang temple (Fig. 52), which was both a place of worship and the Khutughtu’s residence. It was the only monument with all the characteristics of the Tibetan style: massive, with stone walls painted white, three storeys high, a batter architecture with a flat terraced roof, a tripartite façade and high narrow windows.

In 1799 the 10-m-high Golden Stupa (Fig. 53), a direct heir of the Tibetan *chörten* (stupa), was erected.

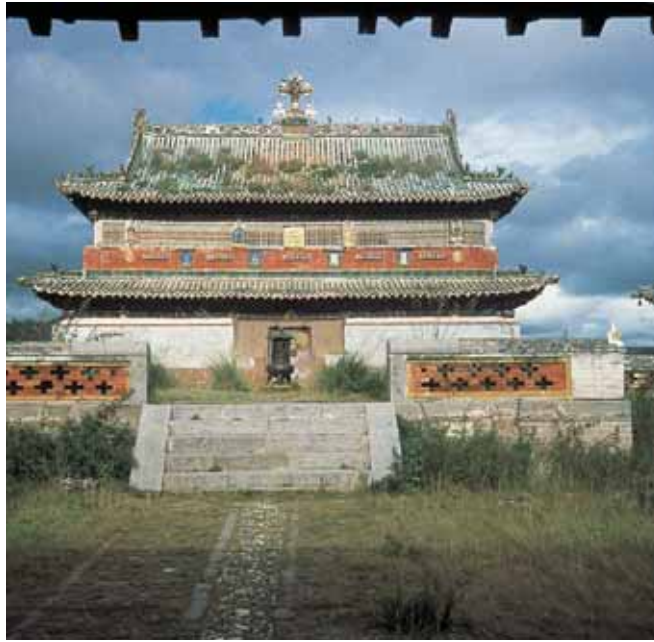


Fig. 50. Erdeni Dzuu. Brick wall with *suburgans* (stupas). (Photo: Courtesy of E. Alexandre.)



Fig. 51. Erdeni Dzuu. The Dalai Lama's temple, 1675. (Photo: Courtesy of E. Alexandre.)

Lastly, the design of the two *suburgans* opposite the three temples, the tombs of Abdai Khan and his son, may originate from certain buildings of the Tang era in China.



Fig. 52. Erdeni Dzuu. Labrang temple, 1780. (Photo: Courtesy of E. Alexandre.)



Fig. 53. Erdeni Dzuu. Golden Stupa, 1799. (Photo: Courtesy of E. Alexandre.)

THE DA KHÜRIYE MONASTERY

Mongol tradition dates the construction of this monastery to 1648. It was erected by Abdai Khan's grandson, who was to become the first Jebtsündamba-Khutugtu, the first

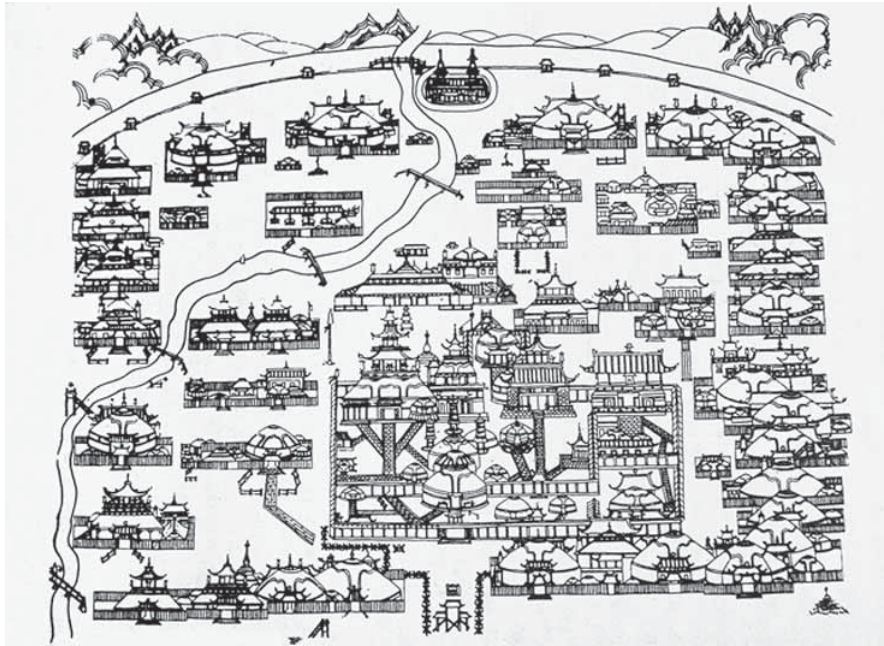


Fig. 54. Da Khüriye monastery. Plan, 1799. (Photo: Courtesy of V. Tkatchev, after Tkatchev, 1988, p. 72.)

reincarnate head of the Lamaist Church, later known as Zanabazar (Dzanabadzar).⁴² The plan (Fig. 54), which he chose himself, is essentially that used by the ancient nomads: buildings surrounding a main temple. Zanabazar is also said to have established in 1665 the plan of the *chogchin*, the monks' main assembly temple, 42 m square. Its gently sloping hipped roof was supported by four columns. This mobile monastery (later called Ikh-Khüriye) was moved 20 times between 1719 and 1779 before finding a permanent home on the banks of the Tuul river. Having an extraordinary destiny, this monastery was to become over the centuries a 'city' called Urga, and then the capital of Mongolia (Ulaanbaatar) in the twentieth century (see below).

THE AMURBAYASGALANT MONASTERY

Financed by the Manchu (Qing) emperor of China, Kang Xi (1661–1722), this monastery was reportedly intended to house the mummy of Zanabazar, the instigator of Mongolia's submission to the Manchus in 1691. Work was completed in 1763. The overall plan of this Chinese-style monastery is ellipsoidal, divided into four sections. The buildings are aligned on a north–south axis, following the Chinese tradition (Fig. 55). According to Corneille Jest, who took part in the monastery's restoration:

⁴² He was then 13 years old; he was to become an architect, a famous sculptor and a painter.

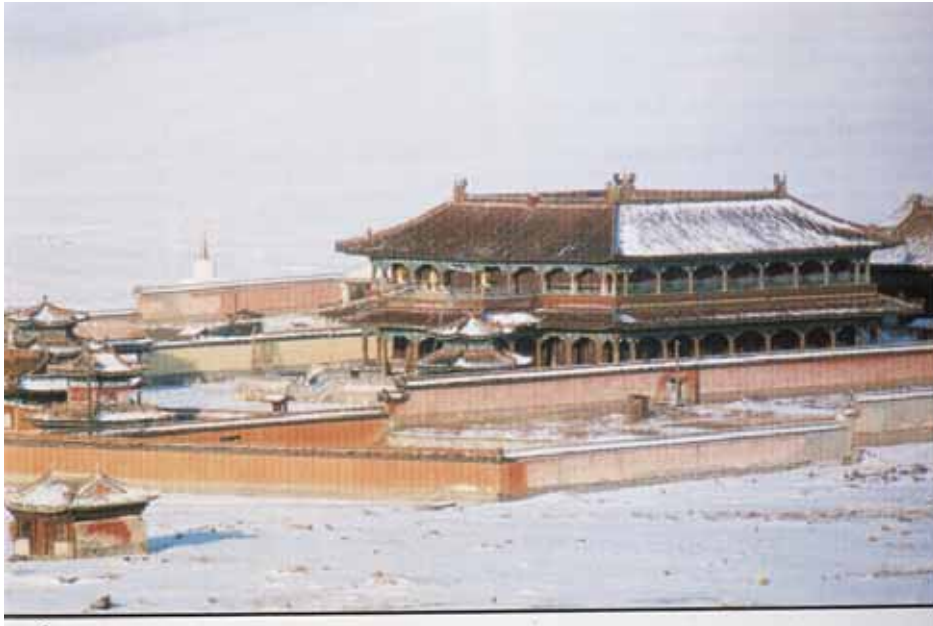


Fig. 55. Amurbayasgalant monastery. Temple of Chogchin, 1763. General view. (Photo: Courtesy of E. Alexandre.)

the monument is generally considered to be in the Chinese style, and this is true with regard to its technical solutions, its secondary buildings and the appearance of the façade of its *chogchin*. However, the plan of this building, its elevation and certain construction details reflect rather an attempt at synthesis on the part of the Mongol architects, who combined certain elements of national architecture derived from the yurt model with Chinese and Tibetan elements.⁴³

THE MAIDAR TEMPLE

The Maidar temple in Urga, built in 1838 in the Tibetan style, was a typical example of ‘mixed Mongol-Tibetan architecture’ (Fig. 56). Its massive body was of wooden beams, white-painted to look like stone offering a batter architecture, but its flat roof was surmounted by a yurt-shaped painted wooden superstructure. This temple, which was a witness to the synthesis with traditional Mongol forms, has now disappeared.⁴⁴

⁴³ Jest and Chayet, 1991, Vol. 46, pp. 72–9.

⁴⁴ It was destroyed in 1938 during the great political troubles and religious persecution.

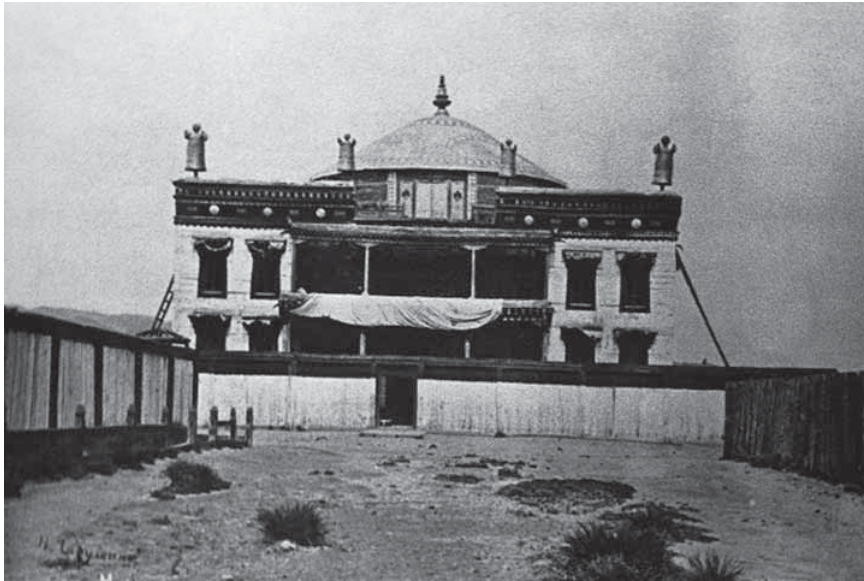


Fig. 56. Uрга. Maidar temple. (Photo: Courtesy of N. Tsultem.)

Urban development

Although much less developed than religious architecture, urban buildings were known as early as the times of the Uighurs (seventh-eighth centuries), as can still be seen today in the ruins of Karabalghasun. (See Volume IV, Part One).

During the days of the Mongol empire, the capital Karakorum⁴⁵ (midthirteenth century) survived down the centuries as a great city. According to Tkatchev:

this was the period of initial experimentation with stationary architecture and urban development, which constituted a synthesis of the skills the nomads had acquired in this field and determined the general direction of architectural development among the Mongols.⁴⁶

The religious architecture of the sixteenth century saw the birth and development of the most important city of Mongolia. The itinerant Da Khüriye monastery, established in 1648, found its permanent home in 1779, after its final migration, at the current site of Ulaanbaatar;⁴⁷ the monastic settlement grew into a real ‘city’ with sedentary architecture, and was named Uрга (from *örgöö*, ‘palace’ in Mongolian). When the Lamaist Church allied with the Manchus, Uрга became the country’s administrative and religious centre. The city was divided into three sections: the Da Khüriye, where the Khutughtu resided; the commercial area of the city; and, a little way off, the Gandan, a refuge monastery for monks,

⁴⁵ Liu Yingshen, 2000, pp. 582–3.

⁴⁶ Tkatchev, 1988.

⁴⁷ Alexandre, 1994, pp. 205–14.

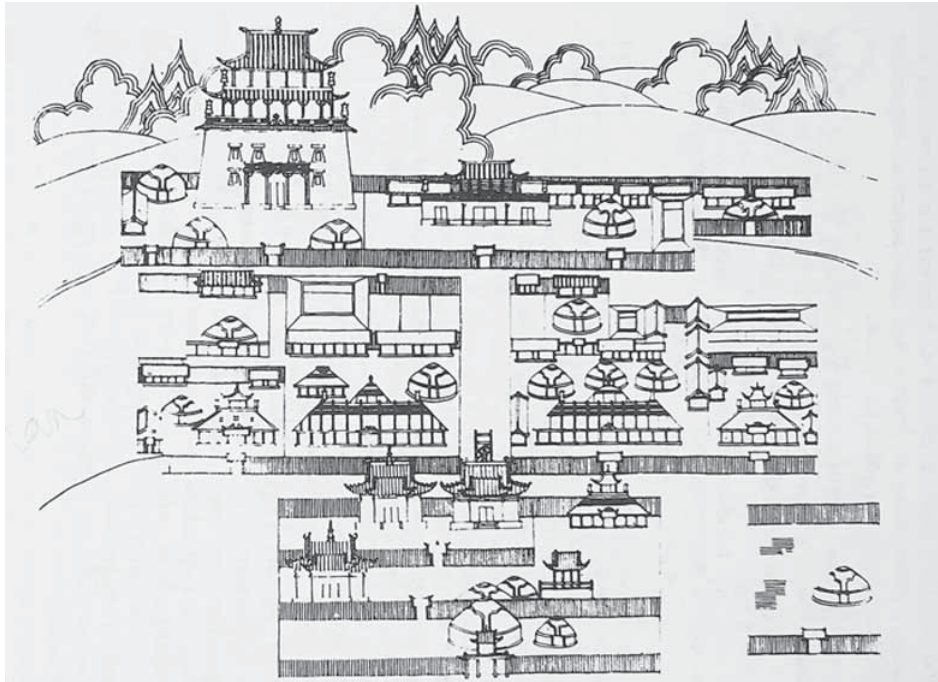


Fig. 57. Plan of the Gandan (religious and administrative centre). (Photo: Courtesy of E. Alexandre, after Tkatchev, 1988)

today's Gandangtechinling monastery (Fig. 57), where temples continued to be erected up to the end of the nineteenth century. Within the city, the homes of the *ambans* (Chinese administrators), shops and craft workshops were built.

Over the centuries Urga thus became an intellectual, political and commercial centre before becoming the capital of present-day Mongolia. The large number of monasteries, most of which no longer exist but of which we have accounts and photographs, attest to an architectural revival in the nineteenth and early twentieth centuries.