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URBAN DEVELOPMENT AND ARCHITECTURE

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Part One

TRANSOXANIA AND KHURASAN

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The arrival of the Arabs

When the Arabs arrived in Khurasan and Transoxania they found few towns. The population lived mainly in the countryside, where there were scattered estates with the fortified *kushks* (castles) of major and minor *dihqān* (land-owner)-suzerains and adjacent settlements. The ancient towns had either shrunk in size (Samarkand, Merv, Termez, Balkh) or been abandoned. The new towns were few in number, and small (Panjikent).

Warfare was rife in the seventh and eighth centuries and, as a consequence, there was a general decline in building activity. This situation only changed in the ninth century, when the sphere of influence of the caliphate finally took in the countries of Central Asia and Islam became solidly established. The ^cAbbasids relied on the local rulers, requiring only recognition of their supreme authority and the levying of the *kharāj* (land tax), and did not interfere in the internal affairs of the newly established states. One of the consequences of this policy was the rapid development of towns from the ninth to the twelfth century and the general extension of urban culture in Khurasan, Transoxania, Khwarazm and parts of the Turkish lands to the north.

TOWN-PLANNING AND THE GROWTH OF TOWNS

The following typology for towns throughout this region has been generally accepted by specialists. The original – pre-Islamic – nucleus of the settlement was transformed into an *arg* or *kuhandiz* (fortified citadel), next to which lay the actual town, the *shahristān*, which was also walled. Outside this wall lay the district of the tradesmen and craftsmen, the *rabad* (suburb). Some towns do actually follow this plan, but it is by no means in evidence everywhere and at all times. In Samarkand, for example, in addition to the *arg* and the *shahristān* (the site of Afrasiab), two other, adjoining, urban areas took shape, the

shahr-i darūn (inner town) and the *shahr-i bīrūn* (outer town), beyond which lay the *rabad*. Merv possessed an old *shahristān* (Gavur-Qalʿa) but a new one (Sultan-Qalʿa) was built, to which the main activities of urban life were transferred. A new fortified *shahriyār-arg* (town with a citadel) developed there. Immediately to the north and south lay two walled *rabads*, which extended beyond their enclosing walls. The towns in the northern regions of Central Asia, where the population was predominantly nomadic, were quite small, with an *arg* and a *shahristān*. The outer *rabads* were small and at times non-existent because of the danger of attacks by the nomads.

The *shahristāns* of the medieval towns of Central Asia which were established at that time were strictly rectangular in shape (e.g. Sultan-Qalʿa at Merv), but where the town had developed in an uncontrolled fashion around an earlier settlement (Balkh, Samarkand) their outline was irregular. They had several gates, located on the main roads into the town. In Merv there were four, in Samarkand six and in Bukhara seven.

One of the principal concerns of town-planners at this time was defence. The towns were surrounded by ditches and enclosed by walls, sometimes by a double wall (Mashhad-i Misriyan, the earlier Dihistan). The walls were flanked by rounded towers from which radial fire could be directed. Particular importance was attached to the defensive capability of the gates: towers rose on either side of the gates and on top of the towers were military and surveillance platforms. Often, a drawbridge was erected to span the ditch.

There was practically nothing regular about the internal planning of the towns. To a certain extent, it was determined by the main streets, which ran from one gate to another, forming intersections at the town centre. They did not run in straight lines and there were sharp bends. These arteries determined the location of the town's focal points with small squares here and there and the main bazaars stretching along the streets, either uncovered or with light awnings, and sometimes with an extensive covering of vaulted and domed roofs. Between these main streets lay *guzārs* (Persian, lanes) or *mahalls* (Arabic, quarters), criss-crossed by a tangled web of alleys, in which living accommodation, the local mosque, the *maktab* (elementary school) and the public water cistern were to be found and which preserved the communal life-style. The different trades and crafts had their own special quarters: those with harmful side-effects such as potteries and iron-foundries were located in the *rabads* whereas the 'clean' trades (sewing and embroidery, jewellery, etc.) were to be found inside the *shahristān*.

CONSTRUCTION MATERIALS

The architecture of the period reflected the advances which had been made, in particular in construction engineering. Unbaked brick and *pisé* (rammed earth) remained the basic

wall- building materials until the tenth century, with wooden roofing or else unbaked vaulting and domes. From the tenth century, baked brick with a high-strength *ganch* (gypsum) mortar was increasingly employed in monumental architecture. Its use as a building material for walls and vaulted, domed structures provided architects with new ways of putting their ideas into practice, enabling them to devise original solutions in terms of space and volume. As a more costly building material and one whose use required great skill, it was essentially employed in monumental, mainly religious, architecture and in certain structures which had to be waterproof (bridge piers and abutments, bathhouses). It is noteworthy that unbaked brick and reinforced *pisé* structures continued to be used, as in earlier times, in secular buildings, even in the palaces of the rulers, not to speak of the living accommodation and workshops for the general population. This is not just because they were easy and cheap to make, but because clay is a poorer conductor of heat than baked brick, providing protection from the heat in summer and the cold in winter. Baked brick was, however, used for Islamic religious structures, which were built to last.

ARCHITECTURAL ORNAMENTATION

The development and refinement of various forms of architectural ornament continued from the ninth to the twelfth century. Decorative brickwork made of regular or shaped bricks, wood and *ganch* carving, passed down from pre-Islamic times but with different ornamental motifs, carved terracotta and, from the twelfth century, the appearance of glazed brick and the use of glazes (pale blue, dark blue, white) to pick out decorative motifs on carved terracotta: such was the variety of decorative techniques which, in interiors, also included decorative painting. The decorative motifs were varied but *giriḥ* (geometric designs forming a knot) predominated. Their development was linked to the spectacular advances made in mathematical science in the medieval East, which were the basis for Central Asian architects' and decorative craftsmen's use of applied geometry. Stylized plant decoration was co-ordinated with *giriḥ*; and Arabic epigraphy also acquired a special significance, being used for Qur'anic texts and other inscriptions containing historical information relating to influential figures and to the period at which the building was constructed. These inscriptions, which were executed in the geometric Kufic or flowing, cursive *naskh* scripts, were an important decorative element in the design of the building.

The palaces of the rulers were distinguished by their large proportions and wealth of artistic decoration. In the Samanid palace in Samarkand (the site of Afrasiab), archaeologists have uncovered several halls in which the walls were decorated with carving in *ganch*. The motifs are large geometric figures enclosing fine plant decoration. The eleventh-twelfth-century palace in the *shahriyār-arg* at Merv is on a square plan with a

small interior courtyard surrounded by both large and small rooms, but only small decorative fragments have been found. The decoration is extremely rich, however, in the palace of the rulers of Termez at the same period. A courtyard is also the key to the organization of this palace's plan. There is a portal at the entrance to the courtyard, on both sides of which are a number of differentiated rooms. Along its axis runs a five-columned portico leading to an audience hall. Within the hall a central area was marked out, at the far end of which stood the throne. Surrounding the central area and separated from it by columns was an ambulatory. The roofs were vaulted. Walls, columns and vaults were covered in the most elaborate *ganch* carving in which *giriḥ*, in all its various forms, has pride of place, although there are also heraldic motifs – a pair of lions facing each other with jaws locked together. Carved *ganch* was also used in many decorative forms to embellish the residences of the rich; outstanding examples were discovered during the excavation of such houses at Merv, Nishapur and Samarkand.

BATHHOUSES

Among works of civil architecture, mention should be made of the public bathhouses. The remains of eleventh-century baths have been discovered in Taraz (a town in the area of northern Turkistan) and in Nasa (Khurasan). Premises have been found there with cisterns for hot and cold water and a system of underground flues for heating the floors with hot air. It is noteworthy that there are traces of ornamental painting, employing special water-resistant paints, on the walls of both bathhouses.

CARAVANSERAIS

Large market buildings were erected on the main streets in towns. The caravanserais formed a special category. They were to be found in towns, especially towns on the major caravan routes on which most of them were located. The builders' task was to construct a safe shelter for caravans which had been travelling for many days, providing protection from attack by robbers for the travellers and for the animals that had carried them and their wares, and pleasant conditions for their stay. Hence the solid defences of the caravanserais: high walls, reinforced entrance gates, corner watch-towers and, inside, a well-thought-out division of space to provide for sojourn and rest. Caravanserais were often also used as *ribāts* (defence posts) for the billeting *en route* of the ruler's forces.

Surviving eleventh- to twelfth-century caravanserais illustrate the different versions of the single design plan. Sometimes there is a central courtyard enclosed by a covered area for the summer quartering of pack animals and galleries for the winter, with separate living quarters and utility rooms for travellers and refectories and areas for the performance



Fig. 1. Aqcha-kala. Caravanserai. (Photo: Courtesy of G. A. Pugachenkova.)*

of devotions (Dayakhatyn on the road from Charjuy to Khwarazm). Sometimes the caravanserai is divided into two parts: in front, the courtyard and behind it the living quarters with a separate courtyard around which are *hujras* (cells), a guest room and a mosque (Ribat-i Malik on the road from Bukhara to Samarkand, Ribat-i Sharaf on the road from Nishapur to Sarakhs, Aqcha-kala in the Kara Kum between Merv and Charjuy) (Fig. 1).

On the outside, particular attention was devoted to the principal façade of the caravanserai, as if inviting the traveller to enter. A vaulted portal was opened in the centre of the façade with small towers on the corners, but the detail was worked out differently in every case. Thus the portal of the Ribat-i Malik caravanserai (1078) is set in a frame of geometric decoration while an inscription covers the intrados (Fig. 2). The walls are punctuated by serried ranks of fluted half-columns linked by arches: the architectural traditions of the pre-Islamic period have been preserved. At Dayakhatyn the walls are subdivided by arches with various forms of *giriḥ* and decorated brick (Figs. 3 and 4). A similar device is employed in a different decorative structure on the façade of Ribat-i Sharaf.

RELIGIOUS STRUCTURES

Particular attention was devoted in the eleventh and twelfth centuries to the construction of religious buildings, especially mosques. The first mosques appeared in Khurasan and Transoxania immediately after their conquest by the Arabs: direct evidence of this is provided by the Arab historians and geographers. The earliest surviving mosques date from the ninth and early tenth centuries. One of these is the Diggaron village mosque at the *qishlaq* (winter station) of Khazar in the Bukhara oasis (Fig. 5); two others are the local Naw Gunbad mosque on the outskirts of Balkh and the Chahar Sutun in Termez. Characteristic features of these mosques are their square plan and brick supporting pillars. The pillars are connected to the walls by arches and corner pendentives effect the transition to the small

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Fig. 2. Ribat-i Malik caravanserai, 1078. (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 3. Dayakhatyn. Caravanserai (beginning of twelfth century). (Photo: Courtesy of G. A. Pugachenkova.)

domes. The number of columns varies (four, six, nine), as does the number of domes, but the basic plan remains the same. The *mīhrāb* (prayer niche) is located on the *qibla* wall (which indicates the direction of worship towards Mecca).

These mosques were quite small, but life in large towns required the construction of spacious mosques, which were capable of accommodating large numbers of worshippers for Friday prayers. The Friday mosque (*masjid-i jum^ʿa*, or *jāmi^ʿ*) was therefore developed with a spacious courtyard surrounded by a covered area. The canopy was either supported



Fig. 4. Dayakhatyn. Detail of decorated brick and *girih* of the caravanserai. (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 5. Diggaron. Mosque (eleventh century). (Photo: Courtesy of G. A. Pugachenkova.)

by wooden columns, frequently decorated with elaborate carving (as at Khiva) and constructed with beams, or else consisted of a number of domes above brick pillars. There was



Fig. 6. Mashhad-i Misriyan. Mosque of Shir Kabir (ninth–tenth century). (Photo: Courtesy of G. A. Pugachenkova.)

a *maqsūra* (screen) in the main axis of the courtyard in the form of a vaulted *aiwān* (chamber open at the front). The remains of two large mosques of this type have been preserved at Dihistan (the site of Mashhad-i Misriyan). The name of the architect, ^ʿAlī b. Ziyād, is preserved on the minaret of one of the mosques, built in 1108 (Figs. 6 and 7). The other mosque was built at the beginning of the thirteenth century by the father-and-son architects, Muhammad al-Husayn al-Haqq and Abu 'l-Husayn al-Haqq (Fig. 8). The same courtyard plan is repeated in small towns (Bashan, Dandanqan in the Merv oasis): the dimensions are not large but the Dandanqan mosque, which was built at the end of the eleventh century by the architect Abū Bakr, is notable for the richness of its architectural decoration.

Another category of mosque was connected with the annual Muslim festival of Qurban and the fasting month of Ramadan, when the population of the surrounding districts joined the townspeople in worship. Such mosques were therefore built in rural areas. Known as *namāzghāhs*, ^ʿ*idgāhs* or *musallās*, they consisted of a vast, enclosed area at one end of which was the wall with the *mihṛāb*, protected by a canopy or domed gallery, and the *minbar* (stepped pulpit) of the imam. The surviving examples of the twelfth-century *namāzghāhs* at Bukhara and Nasa are on this model. A noteworthy feature of the Bukhara *namāzghāh* is the tall *mihṛāb*, decorated by shaped baked bricks with an inscription in the severe Kufic script. Small local mosques were built in the different *mahalls* for the local community to perform its daily devotions. As in more recent times, they were built of less resistant materials and so have not survived to the present day.

In a special category was the commemorative mosque, erected beside the tomb of a revered religious person such as a *sayyid* (descendant of the Prophet) or one of the ^ʿAlids, or the *pīrs* of Sufi orders, all of them figures who tended to become canonized with the



Fig. 7. Mashhad-i Misriyan. Ruins of minarets (eleventh and beginning of thirteenth century).
(Photo: Courtesy of G. A. Pugachenkova.)



Fig. 8. Mashhad-i Misriyan. Remains of the portal of the mosque (beginning of thirteenth century).
(Photo: Courtesy of G. A. Pugachenkova.)



Fig. 9. Talkhatan-Baba. Mosque (c. 1095). (Photo: Courtesy of G. A. Pugachenkova.)

passage of time. An example of this type is the mosque of Talkhatan-Baba near the settlement of the same name in the valley of the Murghab (Fig. 9). Providing something of an architectural setting for the tomb, it is a rectangular building divided into three sections. The central section is covered by a large dome, and all the façades are faced with shaped bricks.

An essential structure in any mosque is the minaret (*minār*) from which the faithful are called to ritual prayers. In this period it was a free-standing tower at the corner of the mosque, and the minarets of large Friday mosques were particularly tall. Minarets in Central Asia are typically round in section, tapering towards the top, but there are a number of variations (Fig. 10). At times it is simply a tall shaft, crowned by a multi-arched rotunda for the muez-zin pronouncing the *adhān* (call to prayer): the shaft itself is divided by concentric ornamental bands (the Kalyan mosque in Bukhara (Fig. 11), the minaret at Vabkent, the two minarets at Dihistan, ‘Būrān’s tower’ at Balasaghun, the minaret at Uzgend). Another version, with the shaft resting on an octagonal base, is divided vertically by close-set fluted half-columns and has a second section (the minaret at Jarkurgan by the architect °Ali b. Muhammad al-Sarakhsī) or an even more complex structure consisting of three sections, each of which culminates in a stalactite configuration (the minaret of Jam) (Fig. 12). They are built in baked brick, which is also used for decorative effect. These constructions stand as high as 48 m (Kalyan) or even 60 m (Jam).



Fig. 10. Herat. Minaret of the *madrasa* of Gawhar Shād (mid-fifteenth century). (Photo: Courtesy of C. Adle.)

MADRASAS AND MAUSOLEUMS

The Islamic period in the Middle East saw the appearance of the *madrasa* (college for higher religious studies), in which theology and law were studied (see above, Chapter 1, Part One). Information has been preserved about the Farjik *madrasa* in Samanid Bukhara, which was destroyed in a fire, an indication that it was constructed mainly of wood. But *madrasas* were built of durable materials as early as the eleventh and twelfth centuries. An example is provided by the ruins of the Nizamiyya *madrasa* at Khargird which reveal a square courtyard with four deep, arched *aiwāns* positioned on its axes and a *dars-khāna* (lecture room or hall); the *hujras* for the accommodation of the students were, naturally, located in the quarters between the *aiwāns*. Excavations have uncovered the plan of the Khwāja-Mashhad *madrasa* in Sayad (a district of Qubadiyan), on which the courtyard is surrounded by *hujras*, with two spacious, domed mausoleums on the side opposite the entrance (one of which was probably used, at first, as a *dars-khāna*). In north-western



Fig. 11. Bukhara. Minaret of the Kalyan mosque (twelfth century). (Photo: Courtesy of I. Iskender-Mochiri.)

Afghanistan, on the banks of the Murghab, stand the ruins of the Sar-i Mashhad *madrassa*, which dates from the Ghurid period: the outlines of the courtyard have been uncovered with arched *aiwāns* on the axes, the ruins of the walls and supporting structures. The striking beauty of the brick and *ganch* decoration has been preserved: shaped brickwork, complex *giriḥ* motifs and inscriptions with intricately interwoven lettering.

The monumental architecture of the period assigned great importance to the mausoleums erected over the graves of rulers and revered religious figures and even at *qadamgāhs* (places where prophets and saints had stayed and left their marks). The reverence accorded to them has enabled these monuments to survive the passage of the centuries largely intact. Many mausoleums built from the tenth to the twelfth century have survived, and here only their general architectural features will be mentioned, referring to the most outstanding examples.

In the first centuries of Islam, memorial structures were not erected in the countries of the Muslim world as the prescriptions of Islam required that the burial mound of the true believer should be characterized by ascetic simplicity. As early as the ninth century, this prohibition was broken by the mother of the recently deceased caliph al-Mutawakkil (847–61). Of Greek origin, she obtained permission for the construction of a dynastic tomb in which two later caliphs were subsequently laid to rest. This set an example which was swiftly followed in various regions of the caliphate. The first such mausoleum in Central



Fig. 12. Jam. Minaret (twelfth century). (Photo: Courtesy of Andrea Bruno.)

Asia was that of the Samanid dynasty in Bukhara, which was constructed at the start of the tenth century.

Architecturally, the mausoleums may be divided into the following main types. The central, open type (*chār-tāq*) is a square, domed structure with four or two arched doorways on the axes. The mausoleum of the Samanids in Bukhara is of this type (Fig. 13). Its cuboid volume is crowned by the hemisphere of the dome. The façades are of equal length, with centred arches, three-quarter columns on the corners and elegant overhead arching, richly faced with various forms of shaped, baked brick (Fig. 14). Another outstanding monument is the mausoleum of Sultan Sanjar in Merv (fifth decade of the twelfth century, architect Muhammad b. Atsikh al-Sarakhsī). Its scale is much larger and more majestic. The cuboid mass is surmounted by a gallery with scalloped arches divided by ornamental piers (Fig. 15). Above the gallery is an octagon which effects the transition to the calotte of the dome, once faced with turquoise brick (Fig. 16).

In the design of the central, open-plan plus façade type of mausoleum, we find a similar use of volumes, with more emphasis placed on the development of the elevated principal



Fig. 13. Bukhara. Mausoleum of the Samanids (tenth century). (Photo: Courtesy of I. Iskender-Mochiri.)

façade. An example of this type is the mausoleum of Fakhr al-Dīn al-Rāzī at Kunya-Urgench (Fig. 17). In this case the cuboid structure supports a faceted drum on which the pyramid-shaped dome is placed. The decoration is concentrated on the main façade, which is divided by three arches within a surrounding frame. A calligraphic inscription in cursive script decorates this frame while an elaborate foliated decoration adorns the tympana of the arches: all of this decoration is executed in carved terracotta tiles. Calligraphy also adorns the area below the dome, the facets of which are faced with glazed brick over the plain brick beneath. Mausoleums with faceted roofs are also common in parts of northern Turkistan (for example, the mausoleum of Babaji Khatūn near Taraz).

The early version of the portal-and-cupola type is represented by the mausoleum of °Arab-Atā in the region of Samarkand (978) (Fig. 18). The square mausoleum was crowned by a sphero-conical dome. The façades are executed in paired bricks and the main façade has a majestic portal with a broad central arch supporting a triple arching. A varied brick and *ganch* decoration adorns the portal. The Tekish mausoleum at Kunya-Urgench (c. 1200) illustrates a different portal-and-cupola design (Fig. 19). A cylindrical drum with trilobate niches rises above the square prism of the base and is crowned by a conical dome. The main façade features a projecting portal whose central arch is adorned with intricate stalactite modelling. In the decoration of the mausoleum, extensive use is made of glazed bricks, which form geometric patterns and the lettering of inscriptions. A distinctive group



Fig. 14. Bukhara. Detail of the façade of the mausoleum of the Samanids. (Photo: Courtesy of I. Iskender-Mochiri.)

of octagonal and circular mausoleums with hemispherical domes and projecting vaulted antechambers is peculiar to the Caspian Sea region of Dihistan.

Mausoleums of the eleventh and twelfth centuries are frequently combined with other buildings such as commemorative mosques and *khānaqāhs* (hospices or dervish convents). Examples include the mausoleums of Hakīm al-Tirmidhī (Fig. 20), Sultan Sa^cādat and Aral-Paygambar at Termez, and the mausoleums of Muhammad b. Zayd at Merv and of ^cUbayd and Zubayda at Astana-Baba.

The above-mentioned monuments illustrate the variety of designs used for mausoleums in Khurasan, Transoxania, Dihistan, Khwarazm and parts of northern Turkistan. Among the dozens of *khānaqāhs* dating from the tenth to the twelfth century and which have survived to the present, no two are exactly the same: the craftsmen managed to vary the form and proportions as well as the distribution and type of the decoration.

ARCHITECTURAL PROPORTIONS

It has been established from an analysis of medieval architectural monuments in Central Asia that their horizontal and vertical measurements and proportions are based on



Fig. 15. Merv. Mausoleum of Sultan Sanjar (twelfth century). (Photo: Courtesy of I. Iskender-Mochiri.)

mathematical laws. There are two variants. In some cases they are a multiple of a *gaz* (linear unit), which was a sort of architectural module. But geometric proportions were more frequently employed: ratios of the square and its diagonal were most common, although other ratios were also used, such as the sides of a triangle or the golden mean. Their use was due to mathematical progress in the Near and Middle East and, in particular, the development of the applied geometry techniques which were assimilated and widely employed by architects. These were responsible for the harmonious horizontal and vertical proportions of the buildings erected, both as composite units and as separate parts.

The Mongol conquests and their aftermath

Building activity throughout Central Asia was brought to a halt for almost a century by the Mongol conquests, which led to the destruction of towns and villages. A few buildings were nevertheless erected: for example, the Bukharan protégé of the Mongol Khans, Mas^cūd Yalavach, and his mother built two large *madrasas* in Bukhara. Overall, however, it was not until the fourteenth century that there was some recovery from the state of devastation, with a resumption of building activity.



Fig. 16. Merv. Mausoleum of Sultan Sanjar, detail of the dome from outside (left) and inside (right). (Photo: Courtesy of I. Iskender-Mochiri.)

Khwarazm developed particularly at that period. Its capital, Urgench, lay on one of the main trade routes, stretching from the Volga to Transoxania and Khurasan. Building proceeded at a vigorous rate under the rule of Kutlugh Timur (1321–33), actively assisted by his wife Tūra Beg Khānum, and thereafter under the local ruling Sufi dynasty. The town's development was only ended by Timur's predatory campaigns.

The architecture of the fourteenth century is characterized by new construction techniques and architectural approaches. Baked brick remained the material employed in monumental architecture but new techniques were evolved for the construction of vaults and domes: for example, the system of triple-shelled domes. Architectural decoration changed completely with the use of multicoloured glazed tiles, enamelled bricks and slabs and glazed, carved terracotta. Multicoloured majolica appears from the 1360s, sometimes with gold paint and *engobe* applied over the glaze and inlaid carved mosaics, made from a (silicate) slurry, in the most striking colours (dark blue, sky-blue, yellow, green and also black and white) (Fig. 21).



Fig. 17. Kunya-Urgench. Mausoleum of Fakhr al-Dīn al-Rāzī (twelfth century). (Photo: Courtesy of G. A. Pugachenkova.)

The structure of civil edifices remained as before but our only knowledge of the subject is obtained from the written sources (for example, a reference to a vast palace in Karshi). Only a few examples of religious and memorial architecture have survived.

Single-chamber domed mausoleums are now rare. Most have two or more chambers: the *gūr-khāna* (the actual tomb) and the *ziyārat-khāna* (oratory). Thus two mausoleums standing side by side in Bukhara, the Buyan Quli Khan mausoleum (1356) (Fig. 22) and the slightly later mausoleum of Sayf al-Dīn Bākharzī (Fig. 23), each have two chambers and the former also has lateral corridors. Even more elaborate is the design of the mausoleum of Muhammad Bashar (western Tajikistan), which, in addition to the central *ziyārat-khāna*, has a further seven chambers containing tombs or else fulfilling secondary functions. These and a number of other sepulchres are decorated with multicoloured tiles.

The Friday mosques of Samarkand and Herat, which had fallen into decay, were restored in the fourteenth century (Figs. 24 and 25). In Urgench, Tūra Beg Khānum rebuilt the Friday mosque and, next to it, the 60 m-high minaret named after her husband, Kutlugh Timur, which has survived to the present day. The *khānaqāh* of Shaykh Najm al-Dīn Kubrā, the



Fig. 18. Mausoleum of 'Arab-Atā (978). (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 19. Kunya-Urgench. Mausoleum of Tekish (c. 1200). (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 20. Termez. Mausoleum of Hakīm al-Tirmidhī (constructed between eleventh and fifteenth century). (Photo: Courtesy of G. A. Pugachenkova.)

founder of the Sufi Kubrawī order, was also built at that period. It has four rooms: the central chamber contains the tomb of the *shaykh* and the others were clearly used for dervish assemblies and rites. The main façade has a well-proportioned, projecting portal whose vaulting is set in a decorative frame and is surmounted by a stalactite cornice. Multicoloured majolica covered with elaborate, interwoven plant and flower patterns and inscriptions in the mannered *dīwānī* script decorate the facing of the portal as well as the *sagan* (stepped tombstone) and stela of the *shaykh*.]

The architectural masterpiece at Kunya-Urgench, referred to as the mausoleum of Tūra Beg Khānum, is actually the family mausoleum of the Sufi rulers (1360s) (Fig. 26). The elegant portal leads to a small vestibule beyond which lies the 10-sided prism of the *ziyārat-khāna*, occupying the dominant position in the overall design, and the small *gūr-khāna*. The system of domes is worthy of note: an inner decorative dome and an inner structural dome, both bowl-shaped, and an outer conical dome resting on a cylindrical drum (Fig. 27). Brick and carved inlaid mosaic are the principal elements in the decorative scheme and are employed in particular profusion on the inner dome, where a *giriḥ* star pattern is developed on the bowl.

One of the few buildings in Khurasan dating from that time is the mausoleum of Shaykh Muhammad Luqmān at Sarakhs. This is a structure of monumental proportions whose square mass is crowned by a huge dome. The entrance is delineated by a portal, and baked brick is the dominant element in the structure throughout. It is similar in type to the mausoleum of Sultan Sanjar in Merv, which was built by an architect from Sarakhs.



Fig. 21. Samarkand. Detail of decoration of an anonymous mausoleum (1385). (Photo: ©Reproduced from F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)



Fig. 22. Bukhara. Mausoleum of Buyan Quli Khan (1356). (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 23. Bukhara. Mausoleum of Sayf al-Dīn Bākharzī. (Photo: Courtesy of G. A. Pugachenkova.)

The traditional forms of pre-Mongol architecture were also used for buildings in parts of northern Turkistan where a nomadic population was dominant. One example is the Gumbez Manas (1334) in the valley of the Talas (Fig. 28). Its cuboid volume is surmounted by a faceted dome resting on a faceted drum. The principle façade is elevated and adorned with unglazed terracotta tiles; the motifs employed resemble *kāshī* (tile) ornament.



Fig. 24. Herat. General view of the Friday mosque. (Photo: Courtesy of C. Adle.)

TIMUR AND HIS SUCCESSORS

The unparalleled growth in architectural and engineering construction continued during the period of Timur's rule but was concentrated in Samarkand and his native town of Shahr-i Sabz. Only individual buildings were constructed in Bukhara (Chashma-Ayyub, see Fig. 29) and on the frontier of the nomadic world at Yasa (the mausoleum of Ahmad Yasawī, see Fig. 30), whereas, like the countries of the Near East which had been plundered during Timur's campaigns, Khwarazm and Khurasan had not regained sufficient strength during this period even to make good their losses. In his own capital Timur commissioned grandiose building projects, designed to demonstrate his power to contemporaries and descendants alike. Enormous resources extracted from the plunder seized in the course of his campaigns were invested in these projects, and the best architectural craftsmen and a mass labour force brought from subjugated countries were forcibly assigned to the task. Despite the context of conscription, the combined skills of the craftsmen and the fresh opportunities for creative fulfilment shaped a new style of architecture in which every element was required to be the epitome of grandeur, magnificence and beauty.

The situation changed after the death in 1405 of the Ruler of the World. Under his successor, Shāh Rukh (1405–47), the role of the major appanages became established; held by his sons and nephews, each had its own capital, court and patron for building projects. Thus in the Central Asian region, Khurasan with its capital, Herat, and Transoxania with



Fig. 25. Herat. One of the *aiwāns* of the Friday mosque. (Photo: Courtesy of C. Adle.)

its capital, Samarkand, were domains of this sort. In Samarkand, Ulugh Beg (prince in Transoxania 1409–47, ruler in Transoxania and Khurasan 1447–9) became the initiator of architectural projects, a role which was performed in Herat by his parents, Shāh Rukh and Gawhar Shād. Khwarazm did not recover, however, and remained a backwater for centuries. Building activity declined in Samarkand in the second half of the fifteenth century and by the end of the century had practically ceased. Herat at the same time experienced an unprecedented expansion in all areas of culture under the rule of Sultān Husayn Bayqara (1469–1506). This development is particularly evident in architecture.

TOWNS AND TOWN-PLANNING

During the reign of Timur and the Timurids, clear principles were developed in the area of town-planning. When a town was re-established it was given a proper geometric plan. That was true of the building under Shāh Rukh of the new town of Merv (the site of °Abd



Fig. 26. Kunya-Urgench. Mausoleum of Tūra Beg Khānum (1360s). (Photo: Courtesy of G. A. Pugachenkova.)

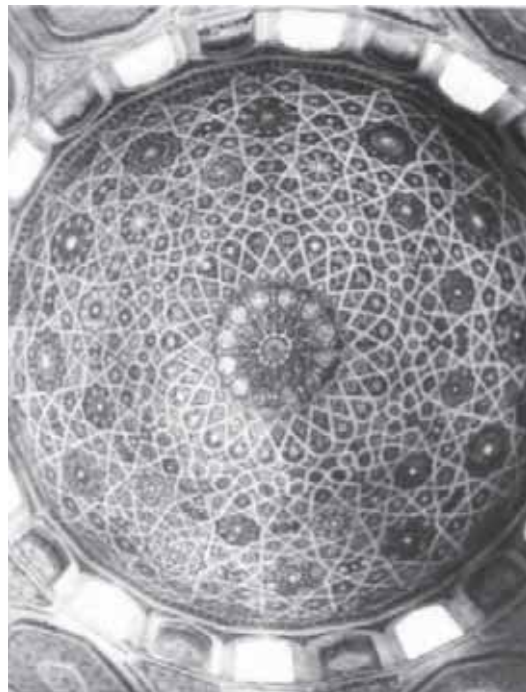


Fig. 27. Kunya-Urgench. Inner decorative dome of the mausoleum of Tūra Beg Khānum. (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 28. Talas. Mausoleum of Gumbes Manas (1334). (Photo: Courtesy of G. A. Pugachenkova.)



Fig. 29. Bukhara. Chashma-Ayyub. (Photo: Courtesy of I. Iskender-Mochiri.)

Allāh Khān Qalʿa) situated to the south of the pre-Mongol Sultan-Qalʿa. The square layout was bisected by the main street, which ran from one gate to the other, and both of the resulting halves were subdivided by streets leading off at right angles. There were *hawzs* (water cisterns) and an underground town-sewage system. The town was surrounded by a ditch and walls with regularly placed semicircular towers and the gates were fortified. In the middle of the fifteenth century, in response to the growth in population, the town was expanded to the south-west by order of the Timurid Mīrzā Sanjar with the construction of an adjoining new area, similarly fortified and rectangular in plan.



Fig. 30. Yasa. Mausoleum of Ahmad Yasawī. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)

Towns which had grown up at an earlier period continued to expand around their old core but certain changes occurred in their planning and development. In Samarkand, for example, the old *shahr-i darūn*, the *shahr-i bīrūn* and part of the *rabad* were grouped together in a *hisār* (inner city enclosed by walls). Within the *hisār*, a *qalʿa* (citadel) was set up in 1370 under Timur, containing the main government buildings, the arsenal, the armourers' workshops, two palaces and also premises where members of the nobility were detained. In 1404, on Timur's instructions, work began in the *hisār* to drive a straight road from one gate to the other. By his death it had reached the centre of the town, and work was then discontinued.

The *hisār* in Herat was also ringed by walls in 1405, and in 1415 a start was made on the transformation of the old citadel of Ikhtiyār al-Dīn: the fortifications were entirely rebuilt and new buildings were erected inside the walls (Fig. 31). Under Shāh Rukh, the town's main streets were straightened and the bazaars at their intersections reorganized. The main, walled rectangle of the town was divided into four parts with a regular internal plan in each part.

VAULTS AND DOMES

From Timur's day vigorous building activity and the grandiose nature of their assignments presented architects with problems demanding new engineering solutions. These are particularly evident in the systems of vaults and domes. If the transition from the square plan to the dome was initially effected by means of the traditional octagon of arched

pendentives, a system of shield-shaped pendentives subsequently made its appearance. Then, in the second third of the fifteenth century, a distinctive design of four intersecting, strengthened arches was developed, which reduced the diameter of the dome and at the same time expanded the total volume of the structure by means of the deep niches inserted between them. This design is combined with various types of shield-shaped pendentives and stalactite moulding, providing an effective plastic transition to the sloping bowl of the inner dome. An outer dome was usually raised above this on a high cylindrical drum: its weight and thrust were distributed by a system of internal ribs (Figs. 32 and 33).

ARCHITECTURAL ORNAMENTATION

Decoration at this period included a variety of facings made of glazed brick, majolica and carved, inlaid mosaic. Interiors were covered in polychrome painting, which made lavish use of gold; one particular variety known as *kundal* also features relief ornament. In the first half of the fifteenth century, dark-blue linear painting on a white background was used in imitation of Chinese porcelain. Wood continued to play an important role in the construction of everyday buildings; columns and ceilings were made of wood, frequently carved or painted (for example, the carved columns from Turkistan and Khiva). Aesthetic stone-working was brought from Azerbaijan and India; marble, jasper and onyx were used for panels, carved decorative slabs and even columns. Ornamental motifs were, as before, geometric, foliate and epigraphic; but they were given a new look. Thus a new style of writing, *thuluth*, came into fashion with its two- or three-tiered ligatures and harmoniously proportioned vertical letters.



Fig. 31. Herat. The old citadel of Ikhtiyār al-Dīn. (Photo: Courtesy of C. Adle)

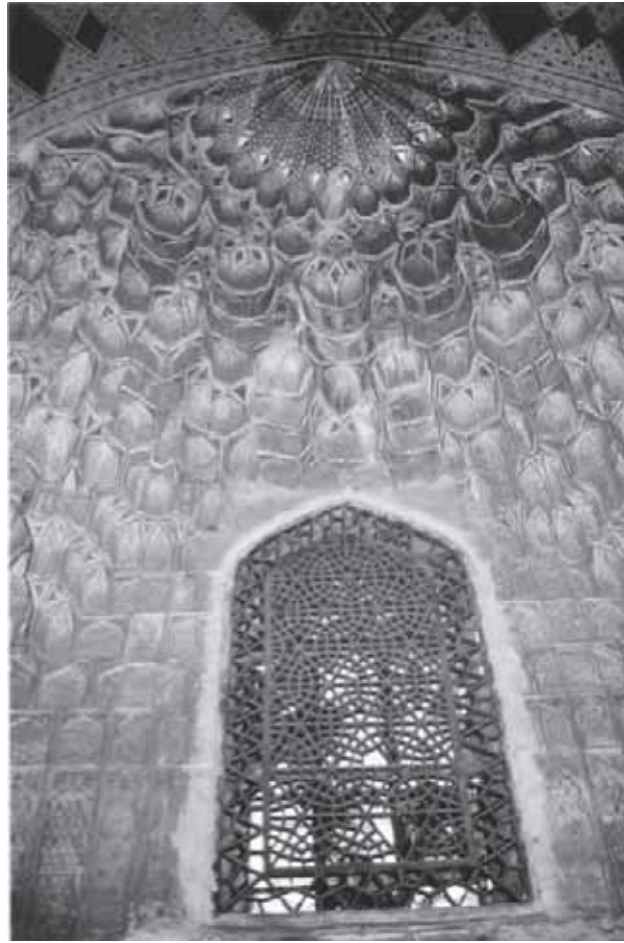


Fig. 32. Samarkand. Decoration of the inner dome of the Gur Amir mausoleum. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)

DEPICTION OF BUILDINGS

The form and layout of buildings underwent certain changes, their typology becoming more elaborate. Most of the buildings which have survived from this period, as from earlier times, are connected with the Muslim religion or else are memorial structures. Our knowledge of secular architecture is obtained from miniatures in books which often depict dwelling-houses, palaces, monasteries and bathhouses. The dwellings depicted in miniatures usually have two storeys; the entrance has an arched *aiwān* or simply a decoratively carved door; there are windows on both floors, covered by *panjaras* (shaped grilles); on the second floor there is a loggia or hanging balcony; the roof is flat and is used in summer as an upper terrace. In many instances, the house is fronted by a light, columned portico. The interior (in miniatures it is usually the reception room, or *mihmān-khāna*, which is shown) is decorated with tile panels and wall paintings.



Fig. 33. Samarkand. Decoration of one of the domes of the Bibi Khānum mosque. (Photo: © Reproduced from: F. Beauptuis-Bressand, *The Blue Gold of Samarkand*.)

PALACES

Palace architecture witnessed the development of two types. One was the official, ceremonial palace in the city, which was principally used for affairs of state. The other type (which constituted the majority) was the country residence, associated with private life, rest and diversions. Government palaces included the Kōk-Saray in Samarkand, the Bagh-i Shahr in Herat and the Aq-Saray in Shahr-i Sabz, but only the last-named has survived to the present day, albeit in ruins (Fig. 34). A detailed description was, however, provided by the Spanish envoy Ruy Gonzalez de Clavijo. At the entrance to the palace stood a vaulted portal with robust round towers. Beyond the portal was a spacious rectangular courtyard with a pool. Opposite the entrance rose a domed hall with a portal, the vault of which was adorned with the heraldic representation of a lion and the sun. Two lesser halls were positioned on the lateral axis and luxuriously appointed banqueting rooms, galleries, and chambers both large and small were to be found on two floors in each quadrant.

The residential palaces, dozens of which were built by rulers and members of the local aristocracy, have not survived, but some idea of what they looked like is provided by the memoirs of contemporaries, archaeological remains and painted miniatures. Large numbers of such residences were built around Samarkand and Herat and in the vicinity of other



Fig. 34. Shahr-i Sabz. Palace of Aq-Saray. (Photo: © Reproduced from: F. Beauptuis-Bressand, *The Blue Gold of Samarkand*.)

towns. According to the account by Nizām al-Dīn Shāmi in his *Zafar-nāma* [Book of Conquests], one of Timur's most sumptuous country palaces, Dil-gusha, was a three-floored building with a central, domed hall surrounded by a great number of richly decorated apartments. Around the outside was a gallery with marble columns and the façades were tiled. The palace of Baysunqur on the outskirts of Herat, a magnificent building, possessed a portal which 'reached to the vault of heaven'. Vaulted *aiwāns* were located on the axes; the floors of the interiors were paved with jasper and marble and the walls were embellished with ornament and thematic painting.

Such palaces were surrounded by a *chār-bagh*, which was laid out in accordance with specific rules. These are formulated in an agricultural treatise, the *Irshād al-zirā'c*, dedicated to °Alīshīr Nawā'ī, which states that a *chār-bāgh* is an enclosed, rectangular garden divided by two intersecting avenues. In the centre stands an °*imārāt* (palace or ceremonial building), in front of which is a pool. A system of irrigation canals delivers water to all parts of the garden. Bounded by the avenues, each quarter of the garden contains a *chār-chaman*, that is four lawns on which ornamental trees and fruit-trees, bushes and flowers



Fig. 35. Bukhara. Taq-i Zargaran (after restoration). (Photo: Courtesy of I. Iskender-Mochiri.)

listed in the treatise are planted in a specified order. The central part of the *chār-bāgh* and its *‘imārat* are frequently depicted in fifteenth-century miniatures.

CIVIL AND COMMERCIAL ARCHITECTURE

Works of civil architecture include the large numbers of caravanserais which were erected in towns and along busy trade routes. One caravanserai which has survived is the Qush-Ribat in the province of Herat. It was built on the traditional plan: courtyard, arcades for pack animals, warehouses, *hujras* for accommodation, mosque and refectory. There are no decorative structures at Qush-Ribat but some urban caravanserais such as the Mirzā’ī on the Registan in Samarkand are lavishly decorated.

Some new commercial buildings were erected in the towns. One such is the Taq-i Zargaran (Dome of the Jewellers) in Bukhara, which is basically Timurid but was extended in the sixteenth century (Fig. 35). It stands at the crossroads of two main streets and each quarter of the arcade for shoppers contains workshops and jewellers’ shops under many small domes, which surround a vast central dome. The three-dimensional design of the Taq-i Zargaran is striking but there is no decoration: the building is purely functional.

Many bathhouses were also built: ruins going back to the fifteenth century are to be found in Samarkand, Balkh, Shahr-i Sabz and Tashkent. All of these buildings had a central hall, domed adjoining rooms for hot and cold water and other rooms for massage and relaxation. There was, however, no standard plan: it varied from one district to another and according to the resources invested. The performance of daily ablutions was not the only function of the bathhouse which, as everywhere in the Orient, was also a meeting-place and a place of rest. As can be seen from the miniatures, the central chamber of the bathhouse was often adorned by painting. A luxurious bathhouse of this type was erected in Samarkand by Ulugh Beg, who enjoyed spending time there in the company of his friends.

Among the engineering structures of the fifteenth century mention should be made of the *sardābs* (water reservoirs) and *yakhtangs* (ice-houses), still preserved at Merv, Anau

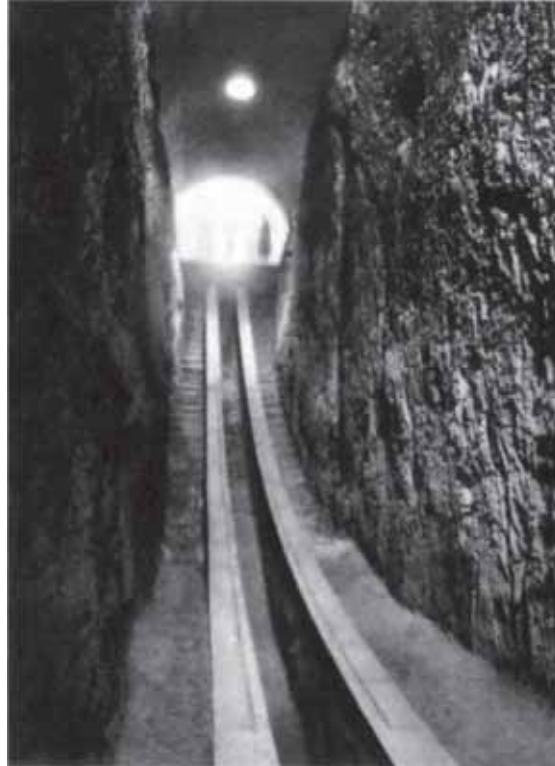


Fig. 36. Samarkand. Observatory of Ulugh Beg. (Photo: Courtesy of G. A. Pugachenkova.)

and on old trading routes, and also the bridges (on the Hari Rud and the Balkh-ab). A unique work of civil architecture was the observatory of Ulugh Beg in Samarkand. This was the architectural embodiment of a gigantic astronomical instrument: a circular, three-floored, multi-arched building cleft by the enormous curve of the sextant (Fig. 36).

MOSQUES

In the area of monumental architecture, as at earlier periods, a special position was accorded to religious structures, some masterpieces being preserved to the present day. Timur and, later, the wife of Shāh Rukh, Gawhar Shād, focused their attention on the construction or radical reconstruction of the Friday mosques in the large towns. In the year 1399, on returning from his Indian campaign, Timur undertook the construction in Samarkand of a new Friday mosque, for which purpose he earmarked his rich booty (including elephants, which transported the building materials). Impressed by the magnificent mosque which he had seen in Delhi, he decreed that the mosque in Samarkand should be even grander and more sumptuously decorated. In 1416–18 Gawhar Shād built the spacious Friday mosque in Mashhad beside the local shrine of Imām al-Ridā (Figs. 37, 38 and 39).



Fig. 37. Mashhad. View of the eastern *aiwān* of the Friday mosque. (Photo: Courtesy of H. R. Zohoorian.)

In 1433–4 the energetic royal builder undertook the construction of the *musallā* (open space for worship) of the mosque in Herat. At roughly the same time, Amir Jalāl al-Dīn Fīrūz Shāh completely reconstructed the Friday mosque in Herat which had fallen into decay (see above, Fig. 24). The building was badly damaged in an earthquake towards the end of that century but was restored in 1498–1500 on the initiative of and at the expense of °Alīshīr Nawā’ī. All these mosques were built on a grand scale and are remarkable for their size, the harmony of their form and the magnificence of their decoration. They are similar in design: a courtyard surrounded by arched and domed arcades on brick columns or (as in Samarkand) marble columns, a ceremonial entrance portal, vaulted *aiwāns* on the axes of the courtyard, a *maqsūra* located by a monumental dome and graceful, two- or three-stage minarets. None is a copy, however. Each mosque is different, each majestic and beautiful in its own way.

Friday mosques of more modest proportions were also constructed or rebuilt on old foundations in other towns (Merv and Ziyaratgah). The Friday mosque in Bukhara was also enlarged. Each quarter had its own mosque but most were built of perishable materials and have either completely disappeared or else been transformed over the centuries. The

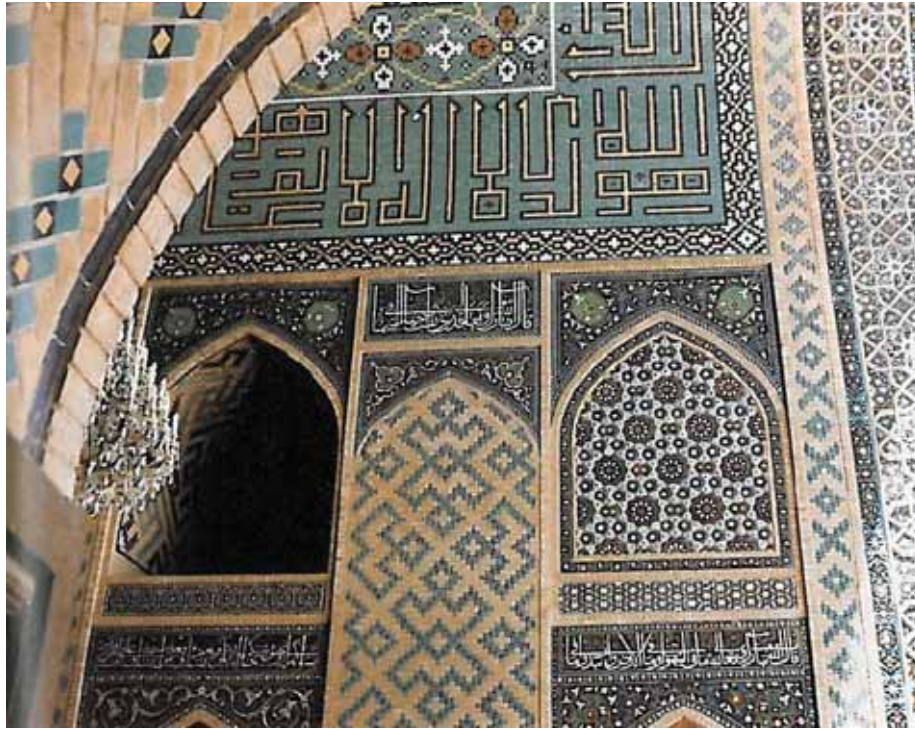


Fig. 38. Mashhad. View of the western *aiwān* of the Friday mosque. (Photo: Courtesy of H. R. Zohoorian.)

Baghbanli mosque in Khiva, for example, was reconstructed in the nineteenth century but it still has its fifteenth-century carved columns. The mosque of Hawz-i Qarboz in Herat (1441) is worthy of note: a small, delicate, triple-domed building with a columned, summer *aiwān*, it has an inscription bearing the name of Shāh Rukh.

Commemorative mosques built beside the graves of persons who had been held in high regard continued, as in earlier times, to play an important role. Some had a vaulted portal which seemed to shade the grave in front; others were separate structures with an adjoining mausoleum, an arrangement which allowed for variations in the overall plan and in the disposition of volume. Among the most outstanding examples dating from the fifteenth century are the mosque in Tayabad, and the mosques by the tombs of Shaykh Jamāl al-Dīn at Anau and the tomb of Abū Nasr Parsā at Balkh.

MADRASAS

The construction of *madrasas* proceeded apace throughout the fifteenth century. Starting in the year 1417, Ulugh Beg founded three *madrasas*, at Bukhara, Samarkand and Gijduvan. The one at Samarkand (Fig. 40) was not only a centre for the training of theologians, imams and religious lawyers, but also performed the function of a university, in which lectures



Fig. 39. Mashhad. View of a minaret from an *aiwān*. (Photo: Courtesy of H. R. Zohoorian.)

were delivered on mathematics, astronomy and philosophy. Between 1417 and 1439 three small *madrasas* – Parizad, Balasar and Dudar – were erected beside the shrine of Imām al-Ridā in Mashhad. The *madrasa* of Gawhar Shād, which contains the tombs of Herati Timurids, was built in the city of Herat; and the *madrasa* of Sultan Husayn Ni^cmātabādī was erected close by towards the end of the century. In 1444 a small mosque of perfect architectural form was also erected in the town of Khargird in Khurasan.

The design of the *madrasa* reached its zenith in the fifteenth century. The *dihliz* (entrance portal and vestibule) led to the courtyard; this was surrounded by, and separated by an arcade from, the *hujras*, usually on two floors. There were either two or four vaulted *aiwāns* on the axis of the courtyard, spacious *dars-khānas* at its corners, and a mosque. The principal façade was imposing with its raised portal and, at the corners, with turrets or



Fig. 40. Samarkand. *Madrasa* of Ulugh Beg. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)

graceful minarets, which had no practical function and whose sole purpose was aesthetic. A variety of decoration was employed on the outer and inner façades and, in the most important *madrasas*, also in the *dars-khānas*.

KHĀNAQĀHS

The Sufi orders played an important role in the intellectual life of the Timurid period, which explains the construction of *khānaqāhs* (dervish convents), whose spacious, domed central hall was used for meetings and religious ceremonies and which had smaller *hujras* at the corners. The *khānaqāh* of Ulugh Beg on the Registan, which has not survived, was of monumental proportions; according to Bābur, its dome was one of the tallest in the world. Among those fifteenth-century monuments which have survived are the *khānaqāh* near the mausoleum of Hakām al-Tirmidhī at Termez, the Zarnigār-khāna at Gazurgah (Fig. 41) and the *khānaqāhs* at Arman and Ziyaratgah in Herat province.

MAUSOLEUMS

The Timurids and their associates attached great importance to preserving the memory of members of their family, building tombs for them and for leading Muslim scholars. These structures show new features. Single-chamber mausoleums are a rarity (Rukhabad; the mausoleum of Burhān al-Dīn Saghārjī at Samarkand in the 1380s). Generally speaking,



Fig. 41. Herat. General view of Gazurgah. (Photo: Courtesy of C. Adle.)

memorial buildings of the Timurid period may have from three to ten rooms, including a subterranean burial vault, a *ziyārat-khāna*, a commemorative mosque and ancillary *hujras*. Their design varies: the architects intentionally avoided using a single plan. Sometimes the mausoleum forms part of a *madrasa* (the mausoleum of Bibi Khānum in Samarkand, the tomb of the Timurids in the *madrasa* of Gawhar Shād in Herat) (Figs. 42, 43 and 44). Elsewhere it may be part of a *hazīra*, an enclosed complex around a courtyard: for example, the Dar al-Siyadat, conceived as a dynastic tomb for Timur and his sons in Shahr-i Sabz, and the *hazīra* of ^cAbd Allāh Ansārī at Gazurgah (Figs. 45, 46, 47 and 48), where members of the house of Timur and the aristocracy lie alongside this spiritual protector of Herat. In certain cases, it is one of a number of separate but interrelated buildings (in the Gur Amir complex in Samarkand, together with the *madrasa* and the *khānaqāh* of Muhammad Sultan). It may also be part of a building with many rooms (the mausoleum of Ahmad Yasawī in Turkistan, the women's mausoleum of ^cIshrat-khāna in Samarkand). Unhindered by a traditional plan, the architects displayed great audacity, creating a variety of volumes, capped by domes, and marking the main entrance with a portal. These monuments reflect all the splendour of the external and internal decoration techniques developed up to the fifteenth century.

ARCHITECTURAL ENSEMBLES

The types of buildings representative of late-fourteenth- and fifteenth-century monumental architecture which have been described above never stood in isolation but almost always formed part of large ensembles. Architectural ensembles are one of the outstanding achievements of urban development during this period. Sometimes a plan was devised which incorporated pre-existing structures, but often the different components were virtually contemporary. The ensemble around the central square, or Registan, in Samarkand, for example, was erected on the instructions of Ulugh Beg. The old Friday mosque already stood on the site and a covered bazaar, the Tim Tūmān Aqa, which did not fit in with the architect's plans, was demolished and a similar structure built at another location. Starting in



Fig. 42. Herat. Mausoleum attributed to Gawhar Shād (now partly destroyed). (Photo: Courtesy of C. Adle.)

1417, monumental buildings were erected around the existing outline of the square: the *madrasa* of Ulugh Beg and the *khānaqāh* opposite it; on the north side, the Mirzā'ī caravanserai; and, on the south side, the Friday mosque, completely restored by the dignitary Alike Kūkaltash, and the small Muqatta^c ('carved') mosque, in which the columns, ceilings and other features are covered with delicate carving. Nearby lay a *hawz*. The harmonious combination of these varied buildings provided a magnificent setting for the square, which was used for military parades, government ceremonies and popular festivities.

A different type of group was erected in Herat in the fifteenth century. It included the *madrasa* and *musallā* of Gawhar Shād and the *madrasa* of Sultān Husayn Bayqara, which seem to follow on from each other along the main thoroughfare leading to the Malik Gate. Graceful two- and three-stage minarets, portals on external walls and around courtyards, domes, wall surfaces treated in a variety of fashions, all faced with polychrome tiles, created the impression of a magnificent, unique single entity. Another, more compact



Fig. 43. Herat. Mausoleum attributed to Gawhar Shād. (Photo: Courtesy of C. Adle.)

ensemble developed beside the tomb of Imam [°]Alī al-Ridā in Mashhad, where there is a vast mosque, together with three *madrasas*, dependencies and an outer courtyard.

Contemporaries have left enthusiastic accounts of the Ikhālāsiyya ensemble, which was founded in 1476–7 by [°]Alīshīr Nawā'ī on the outskirts of Herat but which has disappeared with the passage of time. In an enclosed area outside the city there stood a group of fine buildings serving a philanthropic purpose: the Qudsiyya mosque and the House of the Qur'an-reciters, the Dār al-Huffāz (later transformed into a mausoleum), the Ikhālāsiyya *madrasa*, the Khulāsiyya *khānaqāh* and the Gumbaz for Friday prayers, the Safā' iyyabath house and the Dār al-Shifā' (House of Healing), as well as the Unsiyya group of residences and dependencies. These structures were located on both sides of the Injil canal in the verdant setting of a well-planned park.

A picturesque type of funerary complex developed in the vicinity of the tombs of revered Muslims. The Shah-i Zinda, in Samarkand, for example, began to form around the supposed grave of Qutham b. [°]Abbās in the pre-Mongol period but most of the building work was carried out between the 1370s and the middle of the fifteenth century (Fig. 49).



Fig. 44. Herat. Inside view of the mausoleum of Gawhar Shād. (Photo: Courtesy of C. Adle.)



Fig. 45. Herat. Gazurgah complex. Main façade of the *hazra*, of °Abd Allāh Ansārī. (Photo: Courtesy of C. Adle.)

A path, divided into three by two domed *chār-tāqs*, runs down the slope on which stands the old defensive wall of the early medieval *shahristān* (the site of Afrasiab). Alongside the



Fig. 46. Herat. Gazurgah complex. *Hazīra* of ʿAbd Allāh Ansārī. Detail of the *aiwān*. (Photo: Courtesy of C. Adle.)

path, closely spaced, are the mausoleums of female members of the house of the Timurids and those of various dignitaries (Fig. 50). Nearly all of them are one-room portal-and-cupola structures; only two, the ‘sultans’ mothers’ and the mausoleum erected by Tūmān Aqa, have two rooms. Each is different in form and in its profuse ornamentation (Figs. 51, 52 and 53). The skill of the architects and the craftsmen responsible for its architectural decoration, especially that of the portals and the interiors, is amply demonstrated in the Shah-i Zinda. From whatever angle it is viewed, the ensemble offers new combinations of outline and perspective. A striking memorial ensemble of a different type is situated in the Khwāja Ahrār cemetery in Samarkand. It consists of a commemorative mosque, a *madrasa* and a nearby *hawz*; the cemetery where the influential *shaykh* is buried lies not far off. The fifteenth-century Shaykh al-Thawri and Zengi-Ata ensembles in Tashkent also have an open layout.

The architecture of Transoxania and Khurasan from the days of Timur and the Timurids is, at its best, the visual embodiment of the creative spirit of the age, satisfying both



Fig. 47. Herat. Gazurgah complex. Courtyard of the complex of the *hazīra* of °Abd Allāh Ansārī. (Photo: Courtesy of C. Adle.)



Fig. 48. Herat. Gazurgah complex. Main entrance to the *hazīra*, of °Abd Allāh Ansārī. (Photo: Courtesy of C. Adle.)

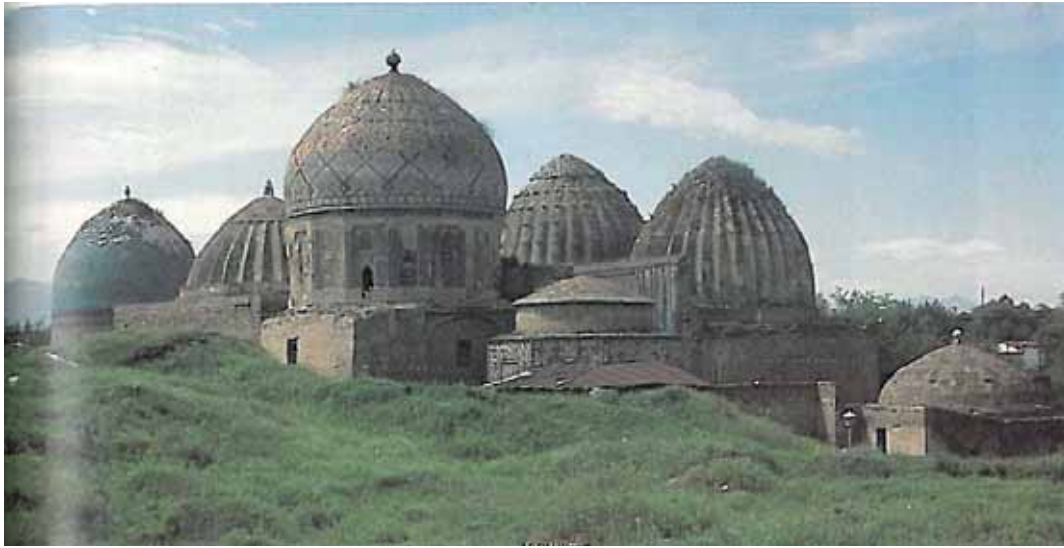


Fig. 49. Samarkand. General view of the Shah-i Zinda funerary complex (from south). (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)



Fig. 50. Samarkand. Shah-i Zinda complex. View of the mausoleums alongside the path. (Photo: Courtesy of I. Iskender-Mochiri.)

practical requirements and spiritual aspirations; small wonder that it is referred to as the Timurid Renaissance. These architectural masterpieces, whether amid the hurly-burly of

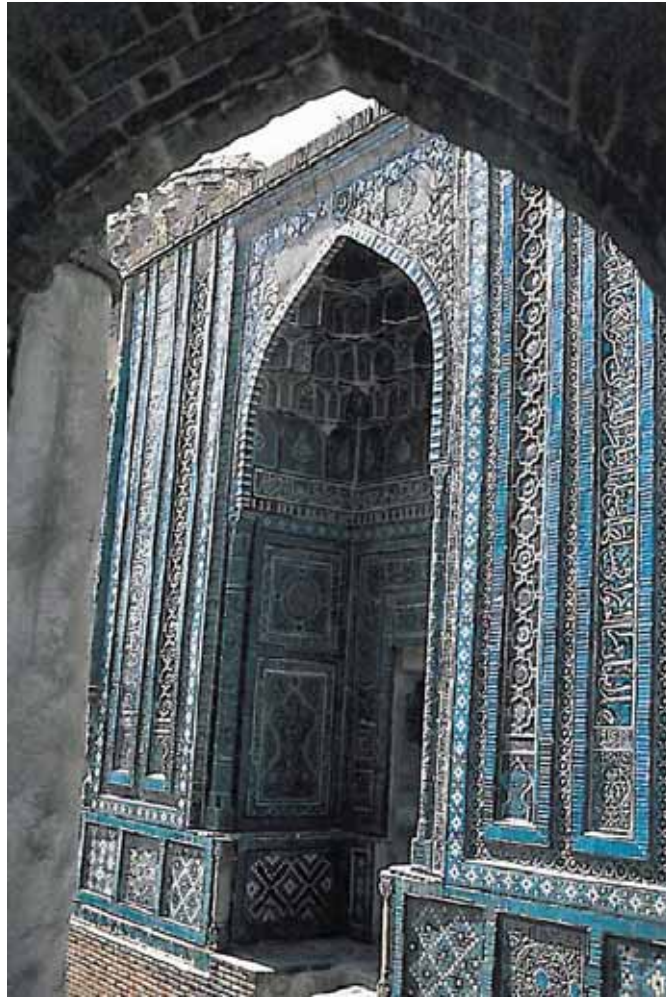


Fig. 51. Samarkand. Shah-i Zinda complex. Portal of Shād-i Mulk Aqa. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)

the town or in the still of the graveyard, formed the aesthetic tastes of the population as a whole, and it would only be just if we were to record the names of the builders rather than their royal clients. Eastern authors only give the name of the court architect of Gawhar Shād, Qawām al-Dīn Shīrāzī, who carried out his patron's grandiose schemes in Herat and Mashhad and who, towards the end of his life, built the *madrasa* at Khargird, which was completed by his associate, Ghiyāth al-Dīn.

The names of some architects and masters of architectural decoration are, however, recorded on discreetly placed plaques on the monuments; certain of these names include the *nisba*, indicating the place of birth, the others being the names of local craftsmen. The names of the following citizens of Samarkand have been preserved in the mausoleums of the Shah-i Zinda: Fakhr °Alī, Shams al-Dīn, Bahr al-Dīn, °Alī Nasafī (Fig. 54), Zayn al-Dīn Bukhārī, Sayyid Yūsuf Shīrāzī, Muhammad b. Khwāja Bandgīr Tabrīzī. Muhammad Yūsuf

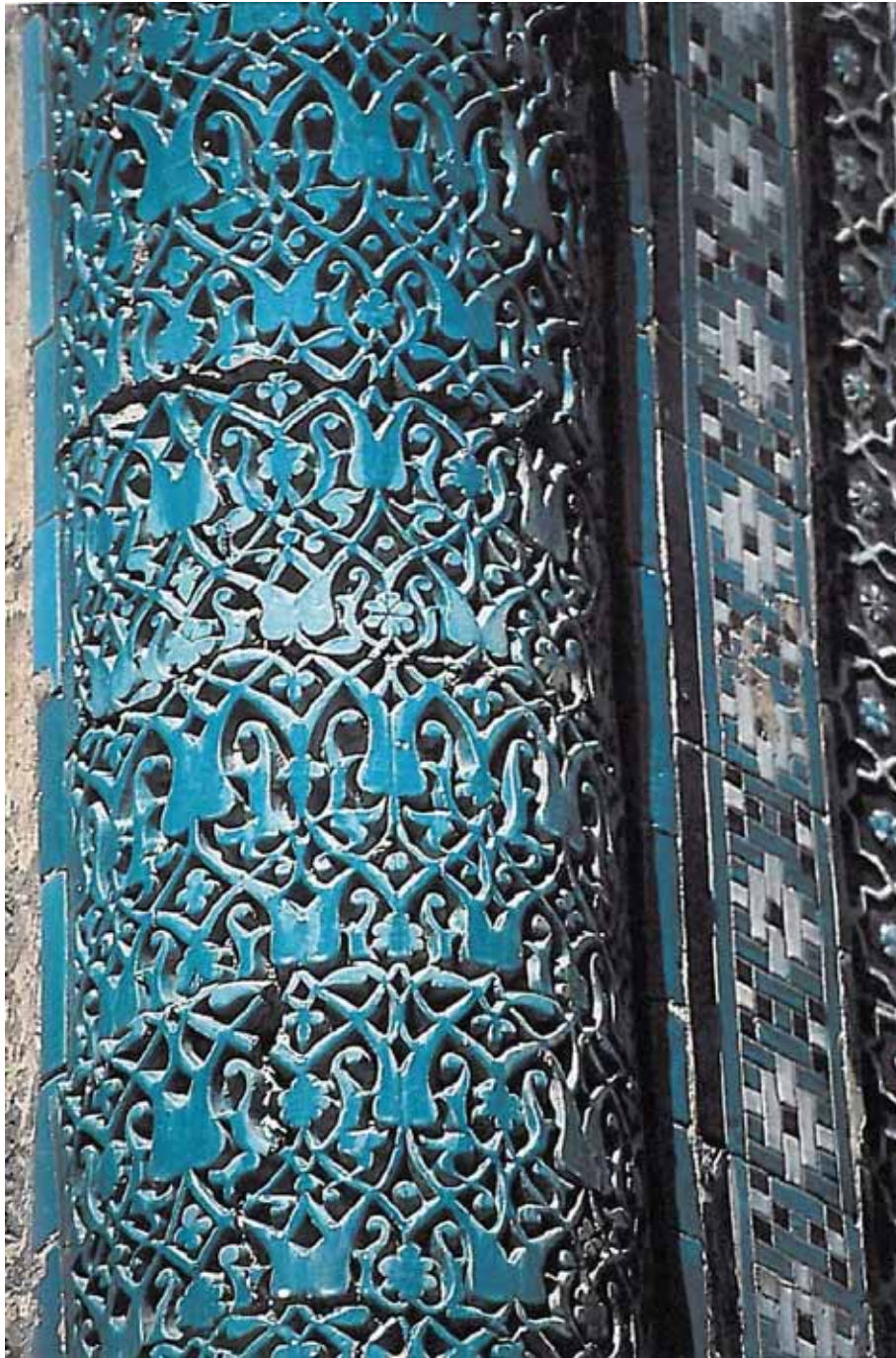


Fig. 52. Samarkand. Shah-i Zinda complex. Detail of the portal of Shād-i Mulk Aqa. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)



Fig. 53. Samarkand. Shah-i Zinda complex. Portal of Qutham b. 'Abbās. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)



Fig. 54. Samarkand. Signature of the master °Ali Nasafī. (Photo: © Reproduced from: F. Beaupertuis-Bressand, *The Blue Gold of Samarkand*.)

Tabrīzī is named in the Aq-Saray palace in Shahr-i Sabz; Shams °Abd al-Wahhāb Shīrāzī and Khwāja Hasan Shīrāzī are named in the mausoleum of Ahmad Yasawī in Turkistan; and the name of a local master, °Īsā, is preserved on a carved column from the mosque in the same town. The entrance portal to the Gur Amir complex in Samarkand (Fig. 55) records the name of Muhammad b. Mahmūd Isfāhānī, and the Ulugh Beg *madrasa* in Bukhara that of Ismā°īl b. Tahir Isfāhānī. As can be seen, architecture in the days of Timur and the Timurids was shaped by the interaction between the best creative talents of the Central Asian and Iranian worlds; tribute should be paid to them and to the many others whose names have been forgotten but whose works are part of the heritage of Eastern architecture, a continuing source of delight for us and for generations to come.



Fig. 55. Samarkand. Entrance of the Gur Amir complex (after restoration). (Photo: Courtesy of I. Iskender-Mochiri.)

Part Two

SOUTHERN CENTRAL ASIA

(A. H. Dani)

The period of Arab rule in Sind

This region covers the southern and eastern parts of what is now Afghanistan, together with Pakistan and northern India. The Arabs came into this region from two different directions: the Arabian Sea route and the land route through southern Persia and Makran. The first led to a pattern of sea-coast settlements and the second eventually led to an urban system connected by new trade routes, as described by al-Bīrūnī and other early historians. Among the coastal port towns Debal (or Daybul), correctly *Devālaya* (Temple), is described in detail. It is generally identified with the recently excavated remains at Banbhore, 64 km

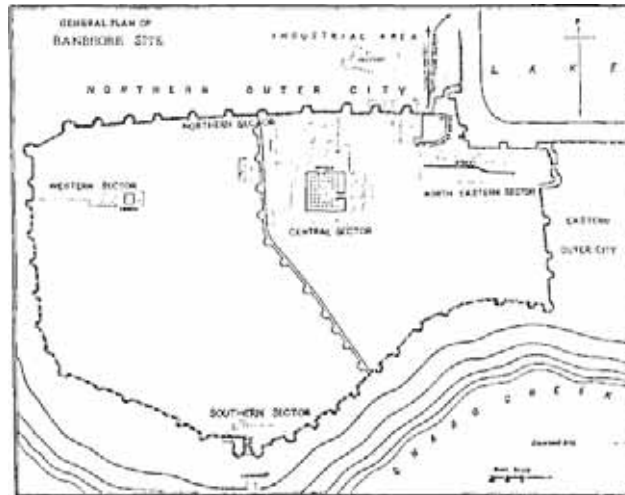


Fig 56. Banbhore. Plan of the fortified city. (After F. A. Khan, 1969.)

south-east of modern Karachi. Later, ^cAmr, a son of Muhammad b. Qāsim and deputy of the governor al-Hakam (728–37), founded the city of al-Mansura near the old site of Brahmanabad – a fortified city fully developed by the Habbārī Arab amirs of Sind (861–1031). The Arabs penetrated up the Indus valley to Multan in south-western Panjab and occupied the pre-Muslim city with its citadel and its low-lying commercial and industrial settlement.

The port of Banbhore is located on the eastern bank of Gharo Creek, where the Indus debouched into the sea in the past. The Arab city stood on the ruins of the older settlement. It consisted of two main parts: the fortified city (Fig. 56), later subdivided into eastern and western sectors, and an outer, unwalled city extending over a large area on the north and east round an ancient lake. The unwalled portion included an industrial area probably answering to the *shahristān* (city proper) and the *rabad* (suburb). The city was well planned. The residential sectors were divided into blocks separated by streets and lanes. The houses of the élite were built of semi-dressed stone blocks and also of square-shaped baked bricks with lime-plastered walls and floors. The main citadel was later reduced to a smaller fortified area on the east with a great mosque, the *dār al-imārā* (government headquarters) and other civic buildings.

The fortification walls were built with large, heavy blocks of semi-dressed and undressed limestone set in mud mortar, and strengthened by large semicircular bastions at regular intervals. They were supported by a solid stone revetment at the base. Later in the ^cAbbasid period, mud-bricks filled the core of the wall. So far, three gateways have been traced in the citadel. The eastern gateway overlooked the unwalled city, with a flight of steps to the lake. The other two gateways have fine dressed stone blocks, and one of them in the south is flanked by semicircular bastions. In the middle a semicircular palatial house is discernible.

The great mosque is almost square in shape, measuring 36 m × 37 m, with its outer wall of solid stone masonry. In the middle is a brick-laid open courtyard with a prayer chamber on the west and cloisters on the three other sides. The prayer chamber has no *mihṛāb*, but shows three rows of stone bases for wooden pillars. Only two gateways, one on the north and another on the east, are known. The design of the mosque is probably derived from those of early Islamic Iraq, at Kufa and Wasit, with their traditional *zulla* (prayer chamber), *sahn* (courtyard) and *aiwāns* (chambers with arched portals and open at the front), but the *mihṛāb* is notably missing. The earliest Kufic inscription found here gives the date 109/727.

Al-Mansura is a typical example of an Arab town founded to give protection to the Muslims against surrounding foes. We also hear of the fortified town of al-Mahfuza, although this has not yet been excavated. However, it may not have been much different from the planned fortified city of al-Mansura, which is situated about 19 km south-east of Shahdadpur in modern Sangar district, Sind. The city, which had a burnt-brick fortification wall in the shape of an ovoid, had semicircular bastions, of which 245 have been exposed. Of the 4 gateways, only 2 have been excavated on the north-western and north-eastern sides of the city. The first was planned with brick-on-edge and was flanked by semicircular bastions. The city seems to have been laid out on a grid system. One main street running from north-east to south-west divided the city into two main blocks, with side streets subdividing the two blocks into sub-blocks. Out of them, the north-western block contained administrative buildings and the northern and southern blocks were industrial sectors.

The great mosque is located in the heart of the city. It is of traditional type, rectangular in plan, measuring 46 m × 76 m and is composed of a covered prayer chamber and an open courtyard, flanked by 7.6 m-wide cloisters on either side. The roof was supported on wooden pillars resting on square brick bases, with 6 rows of 14 pillars. The *mihṛāb* is semicircular in plan and faces the central aisle. There was an elaborate arrangement for water supply and sewage disposal; the drains were covered and some of them had terracotta pipes.

The Ghaznavids in Afghanistan and north-western India

There are several monuments in eastern and southern Afghanistan and in what is now Pakistan from the time of the Ghaznavid sultans (see Volume IV, Part One, Chapter 5). Among the cities, the most important were Bust or Qal'ā-i Bist in the Helmand valley, the old city of Ghazna and the new city of Lahore. During the Arab period, Bust was one

of the two main cities in the province of Sistan. In the eleventh and twelfth centuries, the Ghaznavids made it their winter capital and also used it as a hunting resort. The ancient city is marked by a high citadel (*arg*), what is now known as Qal'ā-i Bist. On its top there was a stepped well (like an Indian *bāolī*) with a spiral staircase going down to the water level 40 m deep. Three tiers of four circular chambers were provided for shade and shelter. At the foot of the citadel mound, ruined walls reveal the existence of what were bazaars, palaces, baths, mosques, etc. The approach to the citadel is through a magnificently decorated arch built in the eleventh century.

Outside the citadel and the commercial city, the nobles' palaces and villas spread out to the north along the banks of the Helmand river from Bust to Girishk. Here also were the royal court and military barracks and cantonments. Hence this area came to be known as Lashkar Gah (Army Camp), but more popularly as Lashkar-i Bazar. Three important palaces were built here on a bluff overlooking the Helmand river, the southern one being the largest and most elegant. In plan, the palace has a central court with four *aiwāns*. The northern one leads into a spacious rectangular audience hall, spanned by columns and decorated with frescoes and sculptured stuccoes. In the centre of the hall there is a rose-petalled water basin, fed by a canal. At the south-east corner, a small mosque stands opposite the audience hall. Towards the east lay a large garden with a central pavilion. The design of Lashkar-i Bazar introduces many architectural features that are borrowed from the Persian tradition.

The city of Ghazna presents a second example of the Ghaznavid metropolitan city, replanned to meet the empire's needs on the foundations of an earlier Saffarid town, which in turn had been rebuilt on an earlier, pre-Islamic site. The old city was marked by a prominent citadel, which was reconstructed several times, with mud-brick walls and semicircular bastions. At the foot of the citadel there extended the commercial and industrial quarters. Far to the south stand the two minarets, one built by Mas'ūd III (1099–1115) and the other by Sultan Bahrām Shāh (1117–?1157). The minarets follow the style of the one at Yarkurgan, in so far as their face is varied with fluting and further decorated in brick design intermixed with epigraphic friezes and floral and geometric patterns. Although the minarets now have three zones and are crowned by a cupola, they do not have balconies and, whatever ruins lie around them, they appear to be associated with mosques which have not so far been traced.

The most important remains are those of a palace, probably built by Mas'ūd III. It consists of a large open rectangular court paved with marble, with *aiwāns* on four sides. On the northern side is the entrance vestibule and on the south is a throne room, which must have been decorated with paintings, stucco and terracotta motifs. On the east and

west, there are smaller rooms on either side of the *aiwāns*, and at the north-west corner there is a hypostyle mosque. The lavish ornamentation, with frescoes and marble flooring, immediately distinguishes the palace from others of its kind and reflects the royal taste and metropolitan nature of the city. In general design, the Persian tradition is apparent, although the decorative motifs reflect Central Asian taste as known in Transoxania. Similar influences may be noted in the overall pattern of city planning, which is comparable with other cities in Central Asia which show the tripartite division of *arg*, *shahristān* and *rabad*.

The Ghaznavids carried the Central Asian architectural style to the eastern part of their empire. In Bukhara, Merv and other places on the left bank of the Oxus, from Charjuy to Sarakhs, there are single-domed square tombs of brick with cut-brick ornamentation on them. In the same fashion, four brick-built tombs survive at Mahra Sharif in the Dera Ismaʿil Khan district of the North-West Frontier Province, also of single-domed square type. Two of them have round towers at the four corners. Of the two without towers, one shows a high drum below the dome, and its interior has a series of arched panels at the level of the transition zone, while the second has two of its three entrances blocked up to floor level. All of them show the same type of brick-design ornamentation as in Central Asia, and, in addition, they are decorated with glazed tiles, probably the earliest used in South Asia. Such tiles, however, have been found in the excavations at Ghazna. The tombs are anonymous, but their dates fall within the Ghaznavid period.

A newly excavated mosque of the Ghaznavid period from the vicinity of the hill fortress at Udegram in Swat illustrates the rectangular type of mosque which became common in this region. A marble slab inscription attributes the mosque to Anūshtegin Nawbatī, a governor of the Ghaznavid sultan ʿAbd al-Rashid (?1049–52). It is a hypostyle mosque of rectangular plan, built of schist slabs and blocks, and consists of three parts: the oblong prayer hall, a verandah on the east with a square ablution basin in the middle and an additional structure, possibly *hujrās* (cells) on the north. The flat roof rested on square columns, with five running north to south and eight running east to west. Only one square *mihṛāb* is placed in the western wall that faces the main entrance on the east. There is, however, another entrance in the corner of the western wall. The inscription slab shows the lotus motif on the other face.

Several tombs from this period, and from the transition stage to that of the Ghurids, are still in existence in Baluchistan and Panjab. One of them is attributed to Muhammad b. Hārūn al-Numayrī, a governor reportedly appointed by the Umayyad caliph al-Walīd b. ʿAbd al-Malik. Standing at Bela in the midst of a vast graveyard, it is a single-domed square tomb with an arched entrance on the east and south and a *mihṛāb* on the west, built of fine red bricks laid with mud mortar. Externally, the walls have a series of rectangular

panels in the lower half, and the upper one shows cut-and-moulded brick ornamentation. Internally, the square room is turned into an octagon by simple squinches, which carry the dome.

The second is the so-called tomb of Khālid b. al-Walīd at Kabirwala, 120 km south-east of Multan. Near it is a huge mound known as the *saray*. The square tomb was built on the orders of ʿAlī Karmakh, governor of Multan in the later twelfth century under Shihāb al-Dīn Muhammad Ghūrī. It stands in the centre of a rectangular fortress, the brick walls of which are strengthened by semicircular bastions. The perimeter wall has a plain brick surface, except for a frieze of dentil at a height of 24 m. On the west is a *mīhrāb* in the thickness of this wall, presenting an elaborate arched recess, which is faced with cut-brick panels. A double frame also running on the sides has Qurʿanic verses in floriated Kufic. The half-dome of the highly ornate *mīhrāb* also shows different cut-brick designs and verses. The main square chamber of the tomb has an opening on all four sides, leading into vaulted galleries and two rectangular halls on east and west. A staircase in the south-east corner leads to the roof of the tomb, which is covered by a dome. The transition phase inside the tomb shows corner corbelled pendentives, above which is a series of arched panels. The interior of the tomb also shows cut-brick ornamentation.

The third tomb stands in the middle of a graveyard in the village of Jalaran, about 30 km from Muzaffargarh (Fig. 57). It is attributed to Shaykh Sadan Shahīd, and a recent inscription dates it to 1275, but the single-domed square tomb is similar to the one described above and has trefoil, arched openings on all four sides. The outer face is decorated with panels. The square of the interior is converted into an octagon at the zone of transition by means of arched squinches with projecting brick pendentives. The exterior of the tomb is superbly decorated with cut brick.

The fourth tomb, at Adam Wahan near Bahawalpur, is attributed to Shah Gardīz, a saint of unknown origin. It is also square in plan but has one entrance by the side of which is a staircase leading to the roof. It is entirely built of mud-brick, with outer and inner facings of burnt brick. The elevation shows three stages of construction. The top of the interior square hall, which has three arched niches on three sides, is sealed with a wooden course which takes the squinches and turns the upper story into an octagon. A second wooden beam course on the top bears a second series of squinches that convert the room into sixteen sides, on which sits the high dome. The base of the dome is decorated with glazed tiles in blue and white within an arched frame. Externally, the tomb presents a three-tier elevation and thus becomes a precursor of staged tomb constructions in the Multani style of architecture.



Fig. 57. Muzaffargarh. Tomb attributed to Shaykh Sadan Shahīd. (Photo: Courtesy of A. H. Dani.)

Of secular Ghaznavid buildings, nothing survives at their north-west Indian provincial capital of Lahore, but there is little doubt that they continued to use the older high citadel area that is buried beneath the later Mughal fortress-palace. Below the citadel extended the commercial and industrial sector of the *shahristān*. To the north of the citadel, along the left bank of the Ravi river, lay the old *rabad*, identified by the ruins of an old *°īdgāh* (open prayer ground). It is in the *shahristān* that the tomb of Qutb al-Dīn Aybak was later built, and not far from this stands the *khānaqāh* of °Alī Hujwirī, popularly called Dātā Sāhib.

One great change in the urban setting of the Ghaznavid period from that of the pre-Muslim location of hill forts and fortifications was the new layout of the cities in the plains, and the new military and trade routes connecting them with Ghazna and other urban centres of Afghanistan and Central Asia – a new land-route connection established by the conquests of the sultans and the penetration into the steppe interior by Central Asian Sufi saints. Both these activities influenced the nature of urban development and the type of architectural forms, such as the tombs, which we find in the period.

The Ghurids

The next historical stage is marked by the role of the Ghurid sultan, Shihāb al-Dīn or Muʿizz al-Dīn Muhammad. Starting from his capital city of Firuzkuh in Ghur, he introduced the new style of architecture borrowed from the Seljuqs and implanted in the capital city of Delhi, founded on the site of an older Hindu capital of the Tomara rulers, called Qalʿa-i Raʿi Pithaura, at Vishnupadagiri, presently called Mihrauli. The site of Firuzkuh is not identified for certain, but may be marked by the minaret at Jam in the valley of the Hari Rud (see Fig. 12 above), which was built by Ghiyāth al-Dīn Muhammad b. Sām. The minaret displays unusual features, tapering like the minar at Kunya-Urgench, but it is octagonal in the first stage and becomes round in the two successive stages, with a six-arched circular arcade crowning the top. Each stage is topped by projecting corbelled balconies resting on stalactites. Each face of the first stage has elaborate ornamentation in moulded, buff-coloured brick relief, all contained within eight vertical panels. The upper portion contains an epigraphic band. Below the first balcony is a Kufic inscription in blue giving the name of the builder. Inside the minaret a double spiral staircase leads up to the first balcony, probably suggesting that one could ascend to this height and, if necessary, give the call to prayer. Unfortunately, the remains of a possibly adjacent mosque have not yet been traced.

The Delhi Sultans

THE SLAVE KINGS AND THE KHALJĪS

With the transition from Firuzkuh to Delhi, the setting is entirely different. The material changes from brick to stone. In India, the stonemasons had a long architectural tradition of working in different techniques for covering the space by means of corbelling and beautifying the surface with figural and floral motifs. The incoming commanders of the Ghurids created a new fortress city by integrating the older town with a new city. The fortification wall of stone masonry has been traced, but little is known of the living quarters. The name Delhi is traced to its original Dhillika, as mentioned in a Hindi inscription of the time of Muhammad b. Tughluq (1325–51). An iron pillar inscription of the time of the Imperial Guptas identifies the actual spot where the later Quwwat al-Islam mosque was built out of the spoils of 27 temples. The new workmanship is seen in the tomb of Iltutmish (d. 1236), in the ʿAlaʿi Darwaza, and in the nearby *madrasa* where later ʿAlāʾ al-Dīn Khaljī (d. 1316) is said to have been buried, with the tombs of Sultān Ghārī and Ghiyāth al-Dīn Balban. The architectural development may be traced through religious buildings, such as

mosques, tombs, *madrasas* and *dargāhs* (saints' tombs) which have survived, whereas the secular buildings are in ruins or have disappeared.

This destruction was partly due to the shifting of the residential palaces and seats of government by different kings and dynasties. As noted above, the original fortified city, generally called Lalkot, was built over the fortifications of the Qal'a-i Ra'i Pithaura. In the time of Sultan Kay Qubād (1287–90), the palaces and gardens of Dar al-Aman were built at Kilokhari on the bank of the Yamuna river. The Khaljī rulers built the new fortress at Siri and also the Hazar Sutun palace. The Tughluq ruler Ghiyāth al-Dīn (1320–5) built the fortress of Tughluqabad and other forts, including his own fortified mausoleum. His son Muhammad b. Tughluq (1325–51) built the city of Jahanpanah between Siri and Tughluqabad in order to protect the people from the raids of the Rajput Mewātīs. Fīrūz Shāh Tughluq (1351–87) built Kotla Firuz Shah at Firuzabad. This shift of residence reflected a change in the course of the Yamuna.

The first Islamic building of importance in Delhi is the Quwwat al-Islam mosque, which was erected in 1191–2 by the Ghurid amir Qutb al-Dīn Aybak (Fig. 58). In its construction and later additions, the stages of architectural evolution at Delhi are clearly marked. Four stages of development are visible. Whether the mosque stands on an older temple platform is not recorded, although the inscription speaks of the temple spoils out of which the present mosque was rebuilt. However, the mosque follows a typical traditional design, rectangular in shape with a central open courtyard, a prayer chamber on the west and three-bay deep cloisters on three sides of the court. The prayer chamber has a series of low domes built with a corbelled technique, as is also the dome of the main entrance hall on the east. There are two other gateways on the north and south. The Indian masons, whose hand is clear in the workmanship of the mosque, showed their skill in the re-use of the carved Hindu pillars and stone slabs, some of which still bear figures of Hindu deities that must have been overlooked by the Central Asian Muslim architects who doubtless supervised the work. A *mihṛāb* is provided in the western wall, but later a five-arched *maqsūra* (screen) was added to the eastern part of the prayer chamber in the Central Asian style. The screen, which has a central high archway flanked by two smaller archways, follows the Seljuq pattern and is made of originally quarried red sandstone slabs; they do not bear any Hindu figures but have Arabic calligraphy alternating with sinuous lines and floral motifs. In the detailed carving, again, the hand of the Hindu artisans is quite obvious, as is also the case with the ogee shape of the arches built in an overlapping stone technique. This first mosque in Delhi is a hotchpotch creation to meet immediate religious needs, hence it follows the traditional form except that the long side of the rectangular mosque lies east-west.



Fig. 58. Delhi. Quwwat al-Islam mosque. (Photo: Courtesy of A. H. Dani.)

To Qutb al-Dīn Aybak is attributed another religious building, the Arha'i-Din Ka Jhonpra mosque at Ajmer, built *c.* 1199, probably on the site of a two-and-a-half-day-long fair, as its Hindi name implies, and out of temple spoils. The mosque is, however, better planned and executed than its forebear at Delhi since it is square in shape, with triple colonnaded towers at the four corners; one main stepped entrance is on the east, with another smaller one on the south, leading to a central open courtyard having domed cloisters on three sides with a high pillared façade; a prayer chamber on the west is separated from the court by a seven-arched screen, the central high archway being topped by fluted columns.

This change in the plan of the mosque is also noticeable in the enlargement of the Quwwat al-Islam mosque carried out during the time of Sultan Shams al-Dīn Iltutmish (1211–36). In this enlargement, the rectangular plan has its longer side oriented north-south to meet the requirement of the worshippers, who are required to face towards the *qibla* at Mecca. In this extension again, new polygonal pillars have been used, and the addition of the screen shows a better-designed four-centred pointed archway with Arabic calligraphy and floral designs worked in finer hands.

The second extension was made in the time of °Alā' al-Dīn Khaljī (1296–1316), in which the rectangular plan follows the alignment of the last mosque. The new mosque has two entrances on the east and one each on the north and south. The southern entrance, known as the °Ala'i Darwaza, is a unique addition of its type, heavily dependent for its technique of dome construction, as well as for its external panel decoration, on the tombs near Kerki in present-day Turkmenistan. The gateway is a building in itself, presenting a single-domed square structure, with its dome resting on a series of pendentives and squinches at the corners, transforming the square room into an octagon and then into 16 sides. It is, however, the outer face with its multi-cusped arched entrance within a frame



Fig. 59. Delhi. Qutb Minar. (Photo: Courtesy of A. H. Dani.)

that is most enchanting, as it is set within double-arched niches one above the other on either flank, the use of marble enhancing the beauty of the gateway.

Another important monument attached to the mosque is the Qutb Minar, apparently built with the same motivation as the minarets of Ghazna and Firuzkuh, but it is more elegant and is the tallest of the three, with a height of 72.50 m (Fig. 59). In design it follows the next evolutionary stage, comparable with the minaret of Khwāja Siyāh Pūsh (c. 1150) in Afghanistan. At present, it is five storeys in height, each storey marked by a projecting balcony resting on corbelled stalactites. The minaret is tapering, like the one at Jam, and is circular in plan, with its lowest storey varied by alternate circular and angular flutes, the second having only circular flutes, the third having angular flutes and the remainder with no flutes at all. Conceptually, the fluted circular plan of the minaret (*minār*) cannot be compared with the offset projections at the exterior of square Hindu temples. The entire outer surface pulsates with floral ornamentation and Arabic calligraphy. Inside, there is a spiral staircase right up to the top. Although the minaret was completed in the time of Iltutmish, it was later repaired and restored in the time of Firūz Shāh Tughluq and then of Sikandar Lōdī (1459–1517), when the two upper storeys introduced marble into the building. A second minaret, larger and more ambitious, in the same mosque compound was begun by °Alā’ al-Dīn Khaljī, but remains unfinished.

In Delhi, two other important buildings date from the time of Iltutmish: one is the tomb of Sultān Ghārī, and the other is Iltutmish's tomb near the mosque. Sultān Ghārī's tomb lies underground in the centre of a court of the square mosque built in marble, but its low-dome construction of the *mihṛāb* shows the same technique of corbelling. The tomb of Iltutmish is of a different kind. It is square in plan and sits on a high podium with entrance doorways on three sides. The exterior is plain except for four rows of horizontal lining, but the interior is highly ornate, particularly the *mihṛāb* on the western side, which is flanked by small decorated pillars and covered with Arabic calligraphy (Fig. 60). An attempt has been made to prepare the base for the dome by the placement of cross lintels at the corners above pendentives, thus reducing the square of the room into an octagon. But the sheer size of the room was such that no dome appears to have been built. However, a single-domed square type of tomb, as known in Bukhara, was the model for this creation by the Indian masons. On the other hand, this type of tomb with a true dome over the square building was achieved in the case of the mausoleum of Balban erected c. 1280. Four archways, one on each side, also show the technique of the use of voussoirs, suggesting that the craftsmen who built this tomb were master-workers from the west. From this time onwards, there is a change in the technique of construction, as has been noted in the case of ʿAla'ī Darwaza (Fig. 61).

THE TUGHLUQS

The next change in the architectural style in Delhi comes from the time of the Tughluqs, who were Qarawna Turks and hence bore a distant relationship to the Turco-Mongol Qarawna amirs of eastern and northern Afghanistan. It is at this time that architectural influences from Khwarazm are visible in the Tughluq buildings at Delhi, as well as the contemporary Multani style of architecture. The ponderous fortified structure at Tughluqabad introduces a military style with sloping walls and bastions that dominate the character of Tughluq monuments.

The ground plan of Tughluqabad is irregular in outline, since it was built on a rocky outcrop with a massive stone wall, topped by battlemented parapets and pierced by as many as 52 gateways, further strengthened by circular bastions, sometimes in 2 storeys. The interior was subdivided into 2 parts, the city area and the palace zone containing the royal residences, the ladies' quarters and the halls of audience. There is also a long underground corridor. But most important are the outposts; the nearest is a fortified pentagon, entered by an elaborate arched entrance which is approached by a causeway. Within is the grand mausoleum of Ghiyāth al-Dīn Tughluq, a single-domed square tomb which has, however, sloping walls and panel decoration in white marble, as seen in the tombs at Kunya-Urgench.

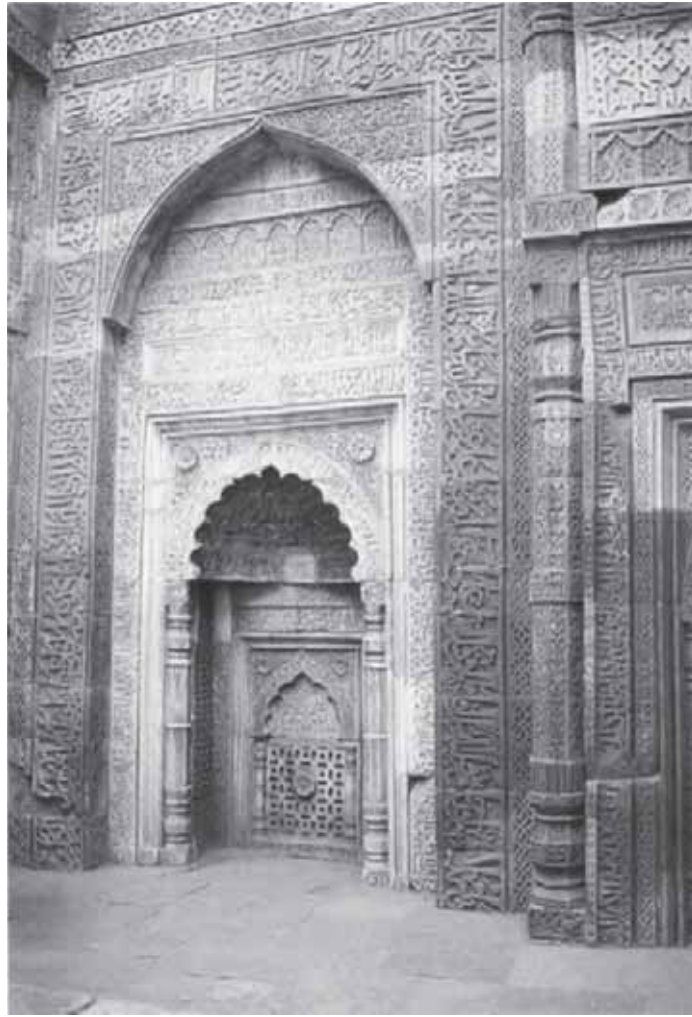


Fig. 60. Delhi. Tomb of Iltutmish. (Photo: Courtesy of A. H. Dani.)

The difference is only in the presence of a dome, here topped by a finial in contrast to the pyramidal cover used in Khwarazm. The same military character of architecture is seen in the massive construction of the walls of Jahanpanah, of unusual thickness. Within it the palace of Hazar Sutun was built, part of which has survived in a building now called Vijaya-Mandal.

In contrast to these buildings are the numerous constructions by Fīrūz Shāh Tughluq, the most important of which is Kotla Fīrūz Shāh, a series of mosques, tombs and *madrasas* at Hawz-i Khass. The Kotla, which is actually a palace-fortress with all the amenities of a royal residence, is in clear contrast to the fortress of Tughluqabad. The interior arrangements of a royal palace, audience hall, gardens, Friday mosque and other public buildings, all overlooking the Yamuna river, give a foretaste of the future fortress-palaces to be built by the Mughals. One peculiar building is a terraced pyramidal structure, on top of which



Fig. 61. Delhi. °Ala'i Darwaza. (Photo: Courtesy of A. H. Dani.)

stands the Ashokan pillar. In all these buildings, the Fīrūzī character is visible in the plastered walls and in the use of arch-and-beam for the entrances, together with multiple square or octagonal stone pillars to support the domed cover on the roof. This new feature is most apparent in the planning of the multi-domed pillared mosques, such as the Khirki Masjid or Begampura mosque, which is clearly derived from the old multi-domed mosque seen at Khiva, the later capital of Khwarazm. Similarly, the *madrasa* of Fīrūz Shāh at Hawz-i Khass, composed of a pillared hall flanked by a domed square structure and fronted by a similar domed structure, recalls the type of *madrasa* seen in the old city of Khiva. Thus the Tughluq style of architecture in Delhi is a true reflection of the troubled times caused by the Mongol invasions, as a result of which it is possible that master craftsmen from Khwarazm found refuge in India and brought about this new architectural style.

Provincial styles: Panjab, Sind and Kashmir

It seems that such craftsmen were also responsible for perfecting the Multani school of architecture and for the type of forts, such as at Dipalpur in Panjab, that initiated a new style of military architecture with ponderous sloping walls topped by battlemented parapets and further strengthened by circular bastions. The three-tier tombs of Bahā' al-Dīn Zakariyyā and Shāh Rukn-i °Ālam in Multan (Fig. 62) reflect the magnificent taste of the Tughluqs as created by the master-craftsmen of the time. They advanced the local style of architecture to



Fig. 62. Multan. Tomb of Shāh Rukn-i ʿĀlam. (Photo: Courtesy of A. H. Dani.)

a new stage, in which the influence from Central Asian tombs, such as that of Sultan Sanjar at Merv, is felt to the greatest extent. In these tall monuments, with their semicircular domes sitting on high drums, we discern the Khwarazmian features, together with glittering tiles and other surface ornamentation.

In contrast to the Multani style, we have the Thatta school of architecture in Sind, where local influences are seen in the pillared pavilions and *madrasa* pavilion of Shaykh ʿĪsā Langotī, built in the early fourteenth century. Hexagonal and octagonal pavilions were erected, using the corbelled technique for building domed tombs, in which members of the local nobility or kings were buried (Fig. 63). There are several other tomb enclosures of stone, showing profuse carved ornamentation. The most highly ornate example is the tomb of the Jām Nizām al-Dīn (1460–1508), which is a square building with all necessary arrangements for bearing the true dome; yet it seems that the local craftsmen were not able to construct one. In the ornamentation of the western wall, both inside and out, the hand of the Hindu craftsmen is clear. Here the door frames, together with the door jambs and the intricate carving, show borrowings from Hindu temple ornamentation. In fact, the back of the *mihṛāb* incorporates the Hindu temple spire in its formation (Figs. 64 and 65). The style here is typical of Sind, one that prevailed until the new wave of migration by the Central Asian Turkish Arghūns and Tarkhāns in the sixteenth and seventeenth centuries.



Fig. 63. Thatta. Hexagonal pavilion tomb. (Photo: Courtesy of A. H. Dani.)

Another provincial school of architecture is seen in Kashmir and the present northern areas of Pakistan, where tombs, mosques and other secular buildings use wood as the material for construction, such as wooden logs for making walls, doors and windows, and even for covering the roof. A typical example is the mosque of Shāh Hamadān in Srinagar, a square building with a pyramidal roof crowned by a tall steeple – a feature of the Kashmiri style of construction. The same style was copied in Baltistan, Gilgit and Hunza. The Chakchan mosque at Khaplu, attributed to Sayyid °Alī Hamadānī, a noted local saint of the fifteenth century, is a typical example of a rectangular wooden structure, but is crowned by a similar steeple on a lantern (Fig. 66). The same style is seen in the case of *dargāhs*, as noted in the example of the *khānaqāh* of Mīr Yahyā at Shigar in Baltistan, with its pyramidal roof and high finial. The wide distribution of this wooden style is typical of the western Himalayan regions.



Fig. 64. Thatta. *Mihrāb* of the tomb of the Jām Nizām al-Dīn. (Photo: Courtesy of A. H. Dani.)

Part Three

EASTERN CENTRAL ASIA

(Liu Yingsheng)

The region of Central Asia lying to the east of Transoxania and Khwarazm, comprising Semirechye and the lands along the upper Ili river; Xinjiang, with its oasis towns along the northern and southern rims of the Taklamakan desert; and the great expanse of the Mongolian steppelands, deserts and mountains, all experienced many movements of peoples and



Fig. 65. Thatta. Back of the tomb of the Jām Nizām al-Dīn. (Photo: Courtesy of A. H. Dani.)



Fig. 66. Khaplu. Chakchan mosque attributed to Sayyid °Alī Hamadānī. (Photo: Courtesy of A. H. Dani.)

tribes and many changes in military and political domination during the period in question (these are described in Volume IV, Part One, Chapters 9, 11, 12, 13 and 16). Despite the ravages of war and the encroachments of nomadic groups, urban life nevertheless managed

to survive, and at times flourish, in the region, especially at such favoured spots as the oases and the river valleys running down from the Pamir, T'ien Shan and Altai mountains.

The Turfan region

The most prosperous oasis region of eastern Central Asia was Turfan, where agriculture was well developed. It was also situated on the route to inland China via the northern rim of the Tanm basin, and hence has always been a meeting-place for influences from east and west. The population here was denser than in other parts of eastern Central Asia, with urbanization developed since ancient times. In the Northern Wei period (386–534), there were eight towns in Turfan, but at the beginning of the seventh century the number of towns apparently increased, the most important of them being Lukchun, Kocho, Turfan, Yar Khoto and Toqsan.

LUKCHUN

Lukchun is mentioned in Chinese sources for the Eastern Han period (25–220). At the beginning of the fifteenth century, an envoy of the Ming government, Chen Cheng, passed through here several times. According to his description, the city wall of Lukchun was rectangular in shape and about 1 or 1.5 km long. In the area around the town there were gardens and fields and running water. The site of the ancient Lukchun town still exists; it is rectangular in shape, about 1,000 m from east to west, and 400 m from north to south. The original height of the city wall, built with *pisé*, must have been 12 m, with the width at the top about 3 m, and at the bottom about 5 m.

KOCHO

Kocho was known from the period of the Northern Dynasties. From the Han until the T'ang period, most of the inhabitants of Kocho were Chinese from inland China transplanted there. There were also Manichaeian temples. At the beginning of the fifteenth century, when Chen Cheng passed through, he noted that Kocho (which used to have a large population) was no longer prosperous and that the Buddhist temples were in ruins. Under Turkish influence, Kocho was also called Kara Kocho. It is situated in the Idikut Shahri of the Turfan basin. The outer city wall was built of *pisé* in the T'ang period and it was more than 5 km long and rectangular in shape; its original height must have been 12 m and it was 6–7 m thick. A defending trench surrounded the city wall. The whole site measures 2,200,000 km² (Fig. 67).

TURFAN

Turfan first appears as such in Chinese sources in the description of the fourth year of the Yon Le period (1406) of the *Ming Shi Lu* [The Official Daily Record of the Ming Government], and this name also appears in a Khotanese Saka manuscript in the Stael-Holstein Collection. Since An Le was its Chinese name, Turfan must have been the local name for the town. According to Chen Cheng's description, at the beginning of the fifteenth century the city wall was 0.5–1 km long. The Ming envoy found many people and houses there, and also large numbers of Buddhist temples. Shortly afterwards, in 1420, when Ghiyāth al-Dīn Naqqāsh passed through it, he also found beautiful Buddhist temples.

YAR KHOTO

Yar Khoto (in Chinese, Jao He) had existed before the time of the Han dynasty. But when Chen Cheng came there, he found the area of the town to be no larger than 1 km², with only some 100 families, though there were many ancient temples. Some ancient inscriptions still existed on these buildings, but the town was almost abandoned at that time. Yar Khoto was built on an earth mound between two valleys (Fig. 68). The area covered by houses was 220,000 m². The main street, running north–south, is 350 m long and 10 m wide; excavated in the earth, its surface is lower than the level of the houses along both sides. In the eastern part of the town there is another main street, about 300 m long but less than 10 m wide, with an east–west street connecting these two parallel main axes. Along the two sides of the main streets are many smaller lanes; 90 per cent of the houses in the town were built in the yards along the street, surrounded by 6–7 m-high walls. The gates of the yards



Fig. 67. Kocho. General view of the site. (Photo: Courtesy of Liu Yingsheng.)



Fig. 68. Yar Khoto. Northern part of the site. (Photo: Courtesy of Liu Yingsheng.)

usually faced the lane rather than the street. Domestic houses were built of mud, obtained by digging out the courtyard of the house and using this for the walls. Then cave dwellings and storerooms were dug into the surfaces of the wall. Wells in the yards could be as deep as 40 m.

TOQSAN

Toqsan (in the period from the sixth to the seventh century, called Du Jin by the Chinese) was situated at the western end of Turfan. It was also shown on the map of the *Jing Shi Da Dian* of the Yuan period and mentioned in the appendix on the North-Eastern Regions in the *Description of Geography of the Yüan Shi* [The History of the Yüan Dynasty]. According to Chen Cheng's travel narrative, more than 25 km westwards from Yar Khoto there was a small town called Toqsan, while in a geographic work of the later Ming period, the *Xi Yu Tu Di Ren Wu Luk*, it is stated that north of Su Bash (Head of Water), there was a small town called Guang Zhen. This is apparently a mistake for 'Tu Zhen', i.e. Toqsan. In early times, there were several other small towns in the Turfan basin, such as Yan Ze, etc.

Architecture of the towns of the Turfan region

The basic soil of the Turfan area is clay. The sloping topography created by the waters coming down from the T'ien Shan mountains is suitable for cave dwellings. These were built not because of poverty, but because of their suitability for the intensely hot summers and cold winters of Turfan. The caves were not only used as dwellings but also as temples, and ruins outside them show that storage buildings were associated with them.

The main architectural material for houses was clay, with sun-dried bricks usually measuring around $46 \times 23 \times 14$ cm. The roofs of richer people's houses were covered with stems of plants, on which tiles and clay were placed, and on the surface of the ceiling a thin covering of clay was smeared. The houses of poor people were usually built of clay mixed with short-cut straws.

As mentioned above, all the towns of the Turfan area had city walls, and those of Kocho had battlements. The base of the city walls was so wide that people even built cave dwellings in them. On the surface of surviving walls, small niches used for lights or lanterns can sometimes still be seen. The gates of the city walls were very high and had two leaves, normally opening to the outside. On the top of the walls, remains of buildings can be found, including vestiges of watch-towers, etc.

The towns of the eastern end of the Tarim basin

Here, towns like Kashghar and Khotan were ancient centres of urban life and culture. Kashghar is situated on a river running down from the region where the southern T'ien Shan merges into the Pamir, with the possibility of routes over the mountains and passes into northern India southwards and into Transoxania westwards. Khotan lies on the Khotan river running down from the Kunlun mountains. Kashghar appears in the Chinese *T'ang-shu* [Records of the T'ang Dynasty] as K'iu-cha, while Khotan appears from Han times onwards as Yu-t'ien. In the period of the Mongol conquests in particular, Kashghar was a key point for traffic between the Mongol heartland and northern China and the Mongol Khanates of Western Asia, and Marco Polo (later thirteenth century) describes its flourishing crafts and industry and its lively transit trade. Both towns have today developed urban identities which do not allow the past to be easily discerned, but the numerous remains of Buddhist buildings in the vicinities of Kashghar and Khotan, as discovered and described by Sir Aurel Stein in the early part of the twentieth century, testify to the ancient origins of town life there.

The region north of the T'ien Shan mountains

This area is mainly steppeland and mountain pasture. East of it was Uighur territory, north of it was the territory of the Naiman, west of it were the middle reaches of the Ili river, and to the south was the T'ien Shan. In the more favoured, lower regions, urban settlements developed from ancient times.

BESHBALĪK

Beshbalik (Turkish, Five Towns) was also called Bei Ting by the Chinese, meaning 'Northern Court'. The name Beshbalik first appears in the description of the events of 713 given in the ancient Turkish Kül Tegin inscription. The lexicographer Mahmūd al-Kāshgharī described it as one of the largest of the five towns of the Uighurs. After the fall of the Uighur Kaghanate of Mongolia in 840, some of the Uighurs fled to the eastern region of the T'ien Shan, and these were named the Kocho Uighurs by the Chinese; Beshbalik was the summer residence of the Uighur Khans, and the political centre of the Kocho Uighurs. In the early thirteenth century, the Idikut of the Uighurs submitted to Chinggis Khan. Beshbalik became a part of the Mongol empire controlled from the capital Karakorum, but still ruled by the Idikut. At the beginning of the fourteenth century, it finally became a part of the Chaghatay Khanate, but its political importance was apparently reduced, and towards the end of the fifteenth century, Beshbalik was gradually abandoned.

At the end of the tenth century, Wang Yande, the envoy of the Northern Song dynasty, mentions in his record that within the town were the Gao Tai temple and the Ying Yun Tai Ning temple and that the local people were skilled craftsmen, famed for metallurgy and the making of jade ornaments.

The present site of Beshbalik is at Jimsar in Xinjiang (Fig. 69). It consisted of five parts: an outer town; the northern gate district of the outer town; the extended town of the west; the inner town; and a small settlement within the inner town. The outer town had an irregular rectangular shape; the distance between north and south was greater than that between east and west. The wall of the outer town was 4,430 m long and was made of *pisé*. There was a gate, and there were defensive structures on each side of the wall and at the base of the buildings at each corner. This part of the city must have been built in the time of the T'ang dynasty. There was a fortress at the northern city wall, and leading out of it was the northern gate town, the gate of which faced east. This part of the city must also have been built in the T'ang period. From the western wall of the outer town to the gate there was an extended town, measuring 690 m long from north to south and 310 m wide from west to east, and again datable to T'ang times. In the middle of the outer town, a little to



Fig. 69. Beshbalik. A temple on the site. (Photo: Courtesy of Liu Yingsheng.)

the north, stood an inner town, around the four sides of which was a trench; this part must have been built in the Kocho Uighur period. In the eastern part of the inner town, a little to the north, was a small settlement, attributable to the same period.

BIRBALİK

This name means ‘One Town’ in Turkish. In the Kara Khitay and Mongol periods, different Chinese transcriptions of this name appear in Chinese sources, and it also had a Chinese name, Du Shan Cheng (One Hill Town). At the end of the Kara Khitay period, there was a severe famine and all the inhabitants moved elsewhere, abandoning the town. When Chinggis Khan passed by it *en route* for his western campaign, he found it deserted. A Uighur called Kara Ikach Buiruk then settled a group of families there, so that when Chinggis Khan passed by here again, he found that the town was recovering, the fields were being cultivated and the population was on the increase.

Birbalik was a key point on the route from Mongolia to Central Asia. Hetum, the king of Armenia, passed through here during his journey to the Mongol court. After the Mongolian civil war of the 1260s, Birbalik was controlled by representatives of Qubilay Khan, but at the end of his reign, Birbalik became part of the territory of the Chaghatay Khanate. The site of Birbalik is the so-called ‘Po Cheng Zi’, 0.5 km south of Mulei. It is roughly rectangular in shape. The remaining eastern city wall is 340 m long and almost all of the western city wall (540 m in length) still survives. The southern wall was destroyed, but there are remnants of the northern wall (140 m long). There was also a trench around the wall.

PULAD

This name means ‘Steel’ in Persian, and has many different Chinese transcriptions. It was situated on the main route from the Uighur region and Mongolia to Central Asia, and is mentioned by many travellers. In the Mongolian civil war of the 1260s, Pulad was occupied by the troops of Ariq Böke and then after Ariq Böke surrendered, it was controlled by Qubilay Khan’s forces. In 1276 a rebellion took place in the garrisons of the Yuan army, and Pulad became a part of the Chaghatay Khanate. In 1313, however, on the eve of the war between the Chaghatay Khanate and the Yüan, the *shihna* (military governor) of Pulad on behalf of the Chaghatayids defected to the Yüan side and sent them information about the coming war.

According to travellers, Pulad had three to five dependent towns, and in the suburbs of Pulad rice and wheat were planted. The houses in the town were made from impacted earth and some windows were decorated with coloured glass. Chinese archaeologists have found the ancient site of a town, which is tentatively identifiable as the site of Pulad.

ALMALİK

Almalik, meaning in Turkish ‘Place where Apples are Plentiful’, first appears in the historical sources for the Kara Khitay period, and it played an important role in Mongol affairs, eventually coming within the Chaghatayid Khanate. Almalik was an important point on the route between east and west. According to the description of the Chinese traveller Liu Yu, there was abundant running water in the town, and many different fruits were grown there, the best being melons, grapes and pomegranates. By the end of the fifteenth century, however, the town had been abandoned.

The site of Almalik is at Qurghas in the Ili area between modern Kazakhstan and China. The only remaining building of this period is the *mazār* (tomb) of Tughluq Temür, the first ruler there of the Eastern Chaghatay Khanate, who died in 1363. It is situated in the village of Great Mazar, 40 km north-west of Kulja. The tomb is built of bricks, without roof beams and with a dome (Figs. 70 and 71). It is rectangular, standing 7.7 m high, and inside measure 6 × 15.8 m. There are steps in the middle of the room and also a corridor at the four sides of the room, both leading to the top of the tomb; the façade was decorated with purple, white and blue tiles, and at one side are the tombs of Tughluq Temür’s father and son (Figs. 72 and 73).

EMIL

Emil was built by the founder of the Kara Khitay dynasty and the remaining forces of the Liao dynasty. At the beginning of the thirteenth century, the surviving troops of the

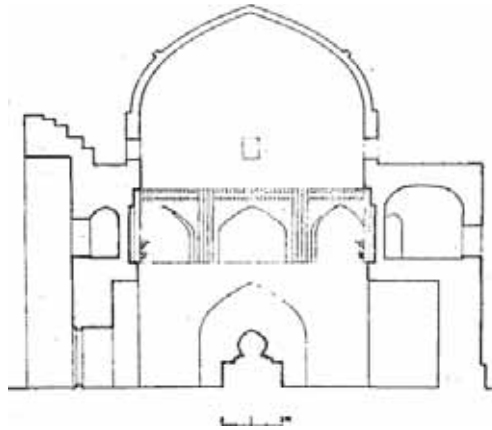


Fig. 70. Almalik. Façade of the Great Mazar. (Drawing: Courtesy of Liu Yingsheng.)

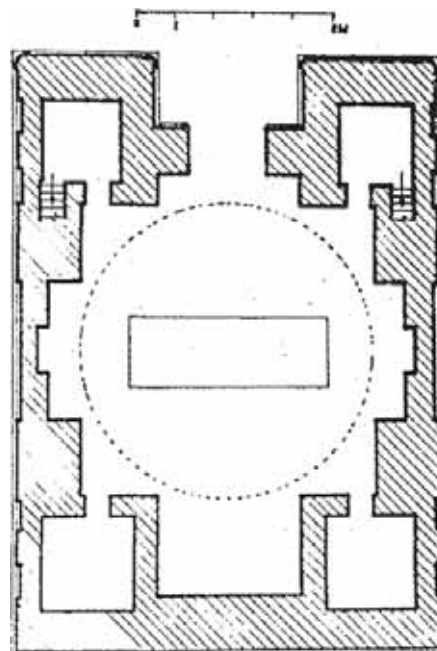


Fig. 71. Almalik. Plan of the Great Mazar. (Drawing: Courtesy of Liu Yingsheng.)

Naiman, defeated by Chinggis Khan, gathered here. After the western campaign of Chinggis Khan, Emil was given to Ögedey, Chinggis' third son, who later gave it to his own son Güyük. In the Mongolian civil war of the 1260s, Emil was occupied by Ariq Böke, but it subsequently reverted to the family of Ögedey. After 1306 it became a part of the Chaghatay Khanate. The site of ancient Emil is at the centre of the present-day town of Emil, situated on the banks of the Emil river. The ancient site has almost disappeared, the only remaining ruins being a part of the city wall and a platform of *pisé*.



Fig. 72. Almalik. façade of the Great Mazar. (Photo: Courtesy of Liu Ymgsheng.)

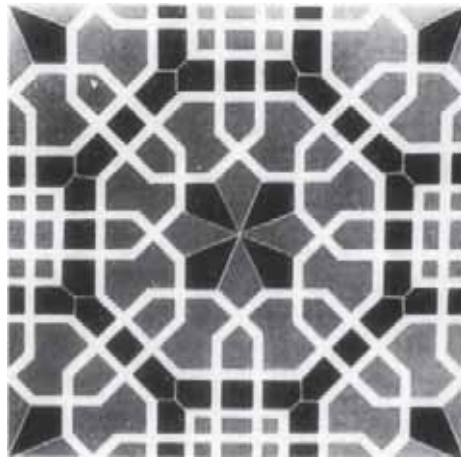


Fig. 73. Almalik. Detail of the decoration of the Great Mazar. (Photo: Courtesy of Liu Yingsheng.)

Towns in Mongolia

Towns appeared very early in Mongolia. In the T'ang period, the Uighur Kaghanate built its capital of Ordu Balık, and in the Liao period, there was a settlement at Kemkemjek; but the most important period for urbanization in this area was the Mongol-Yüan period, when Mongolia was the heartland of a world empire (see Volume IV, Part One, Chapter 12).

KARAKORUM

Karakorum was situated outside the main urban settlement of the Inner Khanghai province of Mongolia, i.e. the town of Khar Khorin. This place had been the summer pasture of the Kerait (Kereyit) tribe and there had been a Buddhist temple in the Liao period. In the time of Chinggis Khan (d. 1227), an *ordu* (military camp) was established near Karakorum,

inhabited by his womenfolk. At that time, there were thousands of *gers* (felt tents) and carts. Ögedey ordered the building of a palace called Wan An and of residences of princes and ministers, temples and storehouses on the eastern bank of the Orkhon river. The project was organized by a Chinese official, Liu Ming, and the Wan An palace was finished the following year.

According to the travel narrative of William of Rubruck, Wan An had three doors on the south side. Inside the palace were two rows of pillars, and at the northern end was the exalted seat of the emperor with two stairways leading up to the seat. On the right-hand side of the emperor were the seats of the princes, and on the left side were the seats of the queens and imperial concubines. Outside the palace, before the middle door, there was a large silver tree, at the foot of which were four silver lions each with a pipe, and all giving forth white mare's milk. Inside the trunk, four pipes led up to the top of the tree; the ends of the pipes were bent downwards, and over each of them was a gilded serpent whose tail twined round the trunk of the tree. These pipes poured out different drinks.

In Rubruck's estimation, Karakorum was as big as Saint-Denis in France. There were two districts in the town, one inhabited by Chinese merchants and craftsmen and the other by Saracens (i.e. Muslims). There were twelve temples belonging to different peoples, two mosques and one Nestorian church. The city wall had four gates. At the east gate, millet and other types of grain were sold; at the west, sheep and goats; at the south, oxen and carts; and at the north, horses. The building of Karakorum continued until Möngke Kaghan's reign (1251–9). In a place 35 km north of Karakorum, a town called Sahurin and the Gegen Kaghan palace were built on the orders of Ögedey (1229–41); and more than 15 km south of Karakorum, Tuzqu town and another palace were also built on his orders.

Excavations have shown that the Wan An palace was situated at the south-western corner of Karakorum and that it had a wall around it about 1 km long. The base walls of the palace are 3 m high, 80 m long and 55 m wide. There were 9 lines of pillars from south to north and 8 lines from east to west, in all, 72 pillars. The central hall measures 2,475 m² and was built in Chinese style. The length of the city walls was about 6 km. There was a main street running from east to west and another from south to north, and along these streets were residences of officials, temples, houses and workshops.

CHINQAI

This was the political and economic centre of western Mongolia in the Yüan period, and the only town which was more important than Karakorum. It was built by captured Chinese craftsmen on the orders of Chingay, the great secretary of Chinggis Khan; hence the town was named 'Chinqai Town' after him. Those Chinese artisans built the city walls

and storehouses and established military settlements and workshops. Chinqai was near the Altai mountains, and later played an important role in the war with the rebellious princes of the north-west. The soldiers of the Yüan garrison there were mainly Kipchak Turks. At the beginning of the fourteenth century, the Yüan court made it the centre of a local administrative unit. The grain produced each year by the military farms amounted to more than 100 tons. The site of Chinqai has not yet been found, but it must be somewhere in the north of the Zun Khairkhan mountains, which are situated in the east of Khovd province of modern Mongolia.

KEMKEMJEK

This was situated in the north-west of the Mongolian plateau, north of the Tangly mountains, where the terrain and climate were suitable for agriculture; urbanization began to develop at least from the Liao period, so that in Kara Khitay times, Kemkemjek was one of the most important places in the country. In the time of Chinggis Khan, Kemkemjek belonged to the wife of Tolui, his fourth son. At that time, the population comprised several thousand families, most of whom were Mongols or (presumably Turkish) Muslims. The Chinese there were mainly craftsmen who had been transferred from inland China at the beginning of the establishment of Mongol rule, and they were forced to work in the state workshops. These Chinese were skilled in metal-working, so that Kemkemjek became an important centre for the production of agricultural tools and weapons, as well as silk. Russian archaeologists have found the site of an ancient town called Den Terek dating back to the thirteenth century, in which the ruins of houses, old weapons and agricultural tools have been found, probably the site of Ilan town in this same region. But with the decline of the Yüan dynasty, Kemkemjek gradually lost its importance.

Conclusion

The accounts of both Chinese and Western travellers during the period of the *pax mongolica* indicate that the mass movements of peoples at that time brought with them an increase in trade and the transmission of cultural influences, with a consequent florescence of the urban centres along the well-travelled routes which lasted into the fourteenth century. However, with the division of the Mongol patrimony into separate, often warring *ulus*, or territorial and political units, the trend towards pastoralization seems to have increased in many regions of Inner Asia, probably accounting for the decline and even disappearance of many of the towns mentioned above by the fifteenth century.