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THE KHOJA ZAINUDDIN MOSQUE IN BUKHARA

...the Beauty (sic) will arise from the harmony and correspondence between the whole and its various parts, and of the various parts between themselves; for then the building will appear one complete and perfect body in which one member answers to another, and all together to the whole; so that it may seem absolutely necessary to its existence.

A. Palladio, *Architecture in Four Books*¹

This paper documents and analyzes the Khoja Zainuddin Mosque, one of the most sumptuous buildings in the old city of Bukhara and deserving of special study due to its architectural merits. However, the monument also provides important clues to better understanding cultural life in Bukhara in the first half of the sixteenth century, a historical period still seldom analyzed.²

The prominent role played by Bukhara in Transoxiana after the fifteenth century has already been recognized with respect to its literary production.³ Building activities can be seen as further evidence of the city's leading position. Nevertheless, unlike the second half of the sixteenth century, little is known about the urban development of Bukhara⁴ in the first half of that century (1500–1557), under the rulers from the house of Shah Budaq b. Abu'l-Khayr Khan (d. 1460).⁵

By 1512 the Safavid threat had been eliminated and the battles of Kul-i Malik and Gijduvan, which also took place that year, had put an end to Timurid attempts to reconquer the region. At that time 'Ubayd Allah b. Mahmud Sultan (d. 1540) was reinstated by Kuchkunji Muhammad b. Abu'l-Khayr Khan, Supreme Khan of the Abu'l-Khayrids (r. 1512–30), as ruler over his "old realms," the apanage of Bukhara.⁶ Soon afterwards, 'Ubayd Allah b. Mahmud Sultan ordered the reconstruction of the Friday mosque, the Masjid-i Kalan, which was completed in 1514, as can be seen in the inscription above its main

entrance.⁷ The mosque of Mulla Aridi was founded in 1515–16 (fig. 1).⁸ Some years later, the Taq-i Sarrafan (Dome of the Moneychangers) was erected in front of the mosque, having been commissioned for Amir Yari b. Jan Wafa Bi in 1539.⁹ The endowment deed for the shrine of Abu Hafs-i Kabir, just outside the northern city wall, was reinstated,¹⁰ and a memorial mosque, which still exists today, was probably built slightly thereafter.¹¹ Around 1533, a complex containing a mosque (known as the Mulla Amiri), a bath, and several caravanserais was commissioned on the street stretching from Taq-i Tilpaq Furushan (Dome of the Hatsellers) to Taq-i Targaran (Dome of the Fletchers) (fig. 1). The benefactor is identified as Mirak Latif b. Baba Bikchi, a vizier of 'Ubayd Allah b. Mahmud.¹² The mosque, a domed rectangular structure clearly recognizable in historical photographs, stood there until the end of the nineteenth century.

Building activity in Bukhara increased after the capital was relocated there from Samarqand in 1533, when 'Ubayd Allah b. Mahmud Sultan was declared Supreme Khan of the Abu'l-Khayrid apanages (r. 1533–40). A particular emphasis was placed on the south street, leading from the mosque of Mulla Aridi to the city gate of Salar-i Haj. Along this street, a madrasa, no longer extant, was constructed in the Gaziyan quarter.¹³

Opposite the northeast façade of the Masjid-i Kalan, another madrasa was built (1527–36); commissioned for Mir-i 'Arab, it still exists today (fig. 1).¹⁴ In 1540, the mosque of 'Abd al-'Aziz b. 'Ubayd Allah was built *extra muros*,¹⁵ not far from the Shaykh Jalal city gate, named after a shaykh buried in its vicinity.¹⁶

On the street stretching from Taq-i Sarrafan to the Namazgah city gate in the south, the mausoleum of Turki Jandi was rebuilt, this time with a mosque annexed

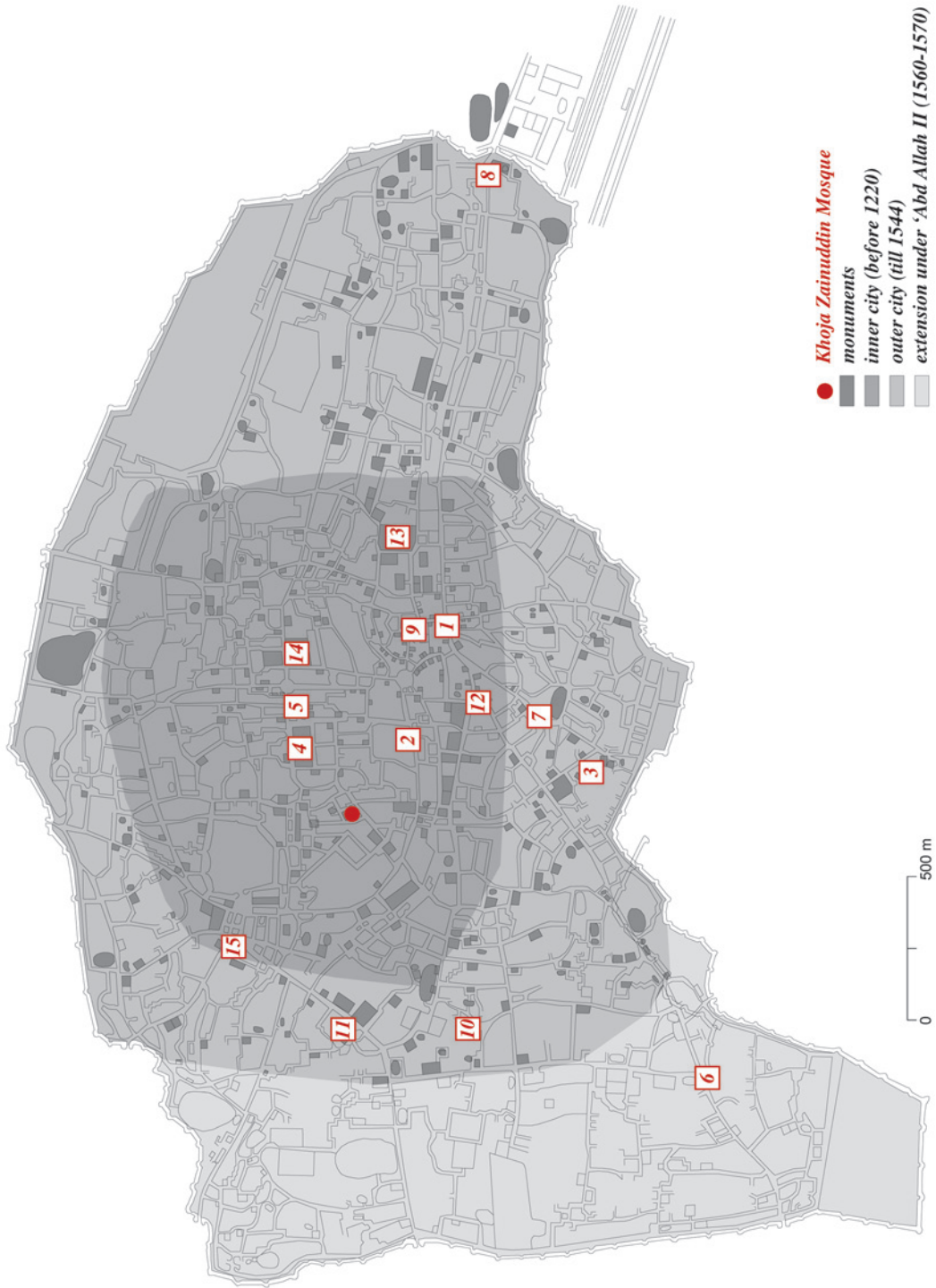


Fig. 1. Map of the medieval city of Bukhara: 1) Mulla Aridi Mosque; 2) Mulla Amiri Mosque; 3) Gaziyan Madrasa; 4) Masjid-i Kalan (Friday mosque); 5) Mir-i 'Arab Madrasa; 6) Valida-i 'Abd al-Aziz Khan Mosque; 7) Mausoleum of Turki Jandi; 8) Shaykh Rangriz Mosque; 9) Maghak-i Attari Mosque; 10) Baland Mosque; 11) 'Abd Allah Khan Madrasa; 12) Gawkushan Madrasa; 13) Qul Baba Kukaltash Madrasa; 14) 'Abd al-Aziz Khan Madrasa; 15) Bala Hawz Mosque. (Drawing: Jasmin Badr, after the map of Parfenov-Fenin and the version published by Anette Gangler, Heinz Gaube, and Attilio Petruccioli, Bukhara: *The Eastern Dome of Islam* [Stuttgart, 2004], 69, fig. 5.05)

to it (fig. 1).¹⁷ The northeastern fringe of the old city saw the construction of the Shaykh Rangriz Mosque (fig. 1).¹⁸ And the most famous mosque of Bukhara, the Maghak-i Attari (fig. 1), was completely reconstructed in 1546–47.¹⁹

After the death of ‘Ubayd Allah Khan in 1540, Nawruz Ahmad (Barak) b. Suyunjuk Sultan, ruler of the apanage of Tashkent, who was to become Supreme Khan between 1552 and 1556, undertook two unsuccessful sieges of Bukhara before he ultimately succeeded in taking the city in 1543–44.²⁰ However, ‘Abd al-‘Aziz b. ‘Ubayd Allah was able to reclaim Bukhara, ordering a reinforcement of the city walls in 1544–45.²¹ One of the most impressive buildings from the first half of the sixteenth century, a khanqah at the burial site of Baha’ al-Din Naqshband, was also constructed at that time, and still dominates the complex today.²²

Little is known about the dignitaries—the sultans, amirs, and shaykhs—who played a role in the politics and cultural life of Bukhara during the first half of the sixteenth century. The history of the period has been presented mainly as a series of military campaigns. This is especially evident in the case of ‘Ubayd Allah b. Mahmud, whose name is primarily connected with his attempts to re-establish the Abu’l-Khayrids’ control over Khurasan.²³ Even less is known about the reign of his son and successor, ‘Abd al-‘Aziz b. ‘Ubayd Allah, aside from the fact that he ruled as governor of Bukhara from 1533 onwards and as sovereign of the entire apanage between 1540 and 1550.²⁴ The history of the city prior to the conquest of ‘Abd Allah b. Iskandar in 1557 is similarly shrouded in mystery.

Consequently, nothing is known about the history of the two buildings that are often mentioned as the most important architectural monuments in Bukhara from the first half of the sixteenth century: the Baland Mosque (fig. 1) and the Khoja Zainuddin Mosque. Research on the well-preserved interior decoration of the former, built in the southwestern part of the city, not far from the Khiyaban roadway, has been published in Russian.²⁵ However, this article did not recognize the importance of the Baland Mosque as an example of the aesthetic conceptions behind the interior design of early Abu’l-Khayrid buildings, and although its interior decoration was compared with Timurid buildings from the last

quarter of the fifteenth century, this was primarily done to prove that the ornament of the Baland was, from the author’s perspective, inferior in quality. No attempt was made to analyze its architecture in terms of the formal trends, continuities, and innovations that informed the planning and construction of Central Asian buildings after the Timurid period.²⁶ The Baland Mosque also bears a great resemblance to the Khoja Zainuddin Mosque (figs. 2 and 3), in its building type, dimensions, and decoration. The present article presents an extensive study of the latter, with a focus on its building history.

DESCRIPTIVE ANALYSIS

The Khoja Zainuddin Mosque is situated close to the *Ark*, the city citadel (235 meters to the north of the mosque), which was the seat of the Abu’l-Khayrid ruler of the apanage of Bukhara from the sixteenth century onward. The mosque lies approximately 160 meters southwest of the qibla wall of the city’s Friday mosque (the Masjid-i Kalan). Built at the intersection of two small streets, the building forms the core of a cluster of relatively intact traditional houses, with a large pool (*hawz*) to the northeast (fig. 2).

The complex was erected within the walls of the medieval city of Bukhara, a rectangular area clearly recognizable in the relief (fig. 1).²⁷ By the beginning of the sixteenth century, the medieval walls, which had guarded the city on the eve of the Mongolian conquest, no longer existed. However, historical sources still distinguished between an “inner city” (*shahr-i darūn*), or “old city” (*hiṣār-i qadīm*), and an “outer city” (*shahr-i bīrūn*).²⁸ These designations provide an important clue to Bukhara’s urban development between the second half of the fifteenth century and the middle of the sixteenth century, after which the city’s expansion is easier to follow.²⁹

The main façade of the building faces south while the cenotaph of “Khoja Zainuddin,” the eponymous patron saint of the complex, lies in the northwestern corner of the mosque. Several adjoining rooms are aligned in the west and open toward the street. The core of the construction consists of a square-shaped, domed prayer

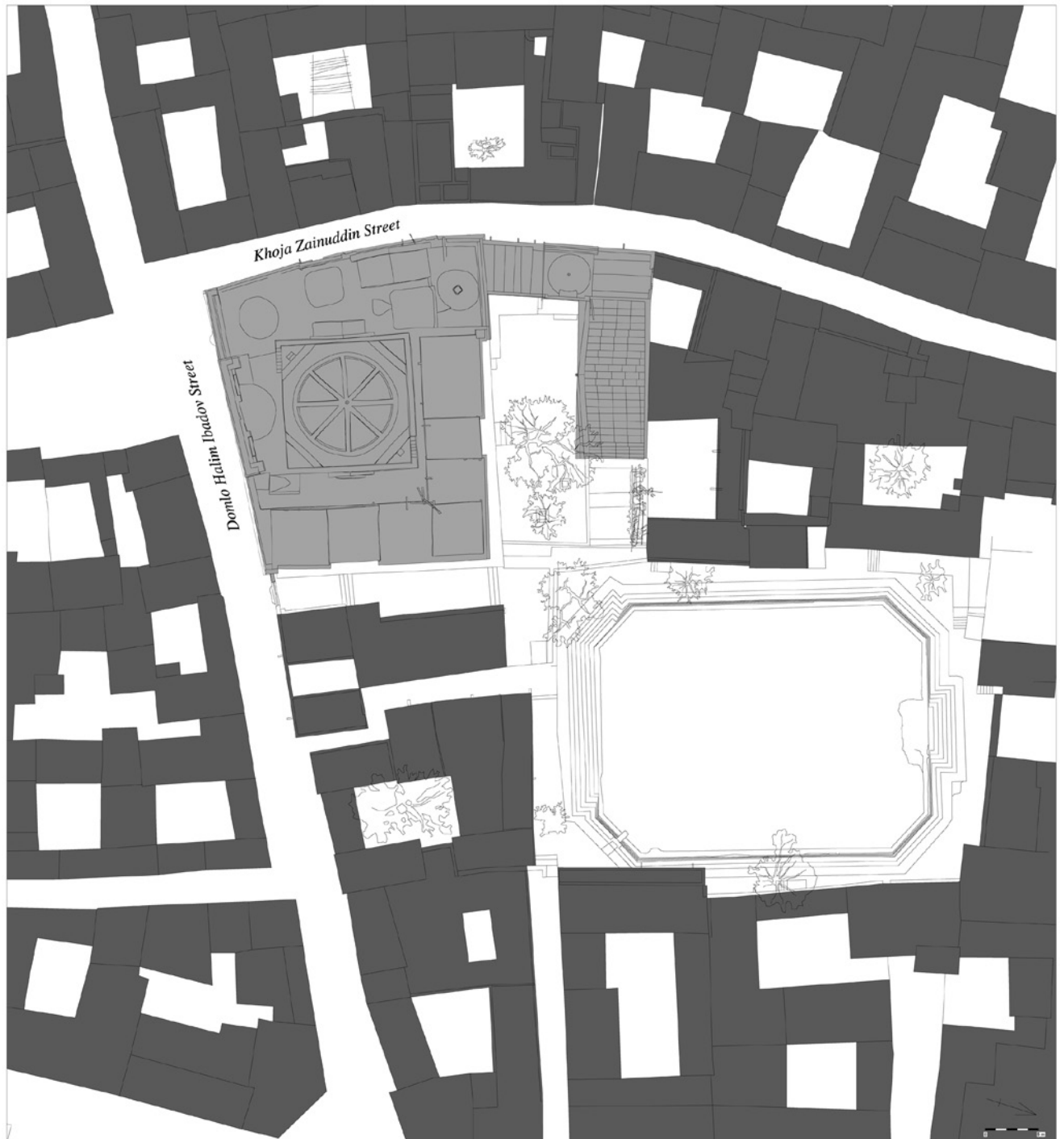


Fig. 2. Site plan of the Khoja Zainuddin Mosque. (Drawing: Jasmin Badr)



Fig. 3. The Khoja Zainuddin Mosque: view from the minaret of the Masjid-i Kalan. (Photo: Jasmin Badr)

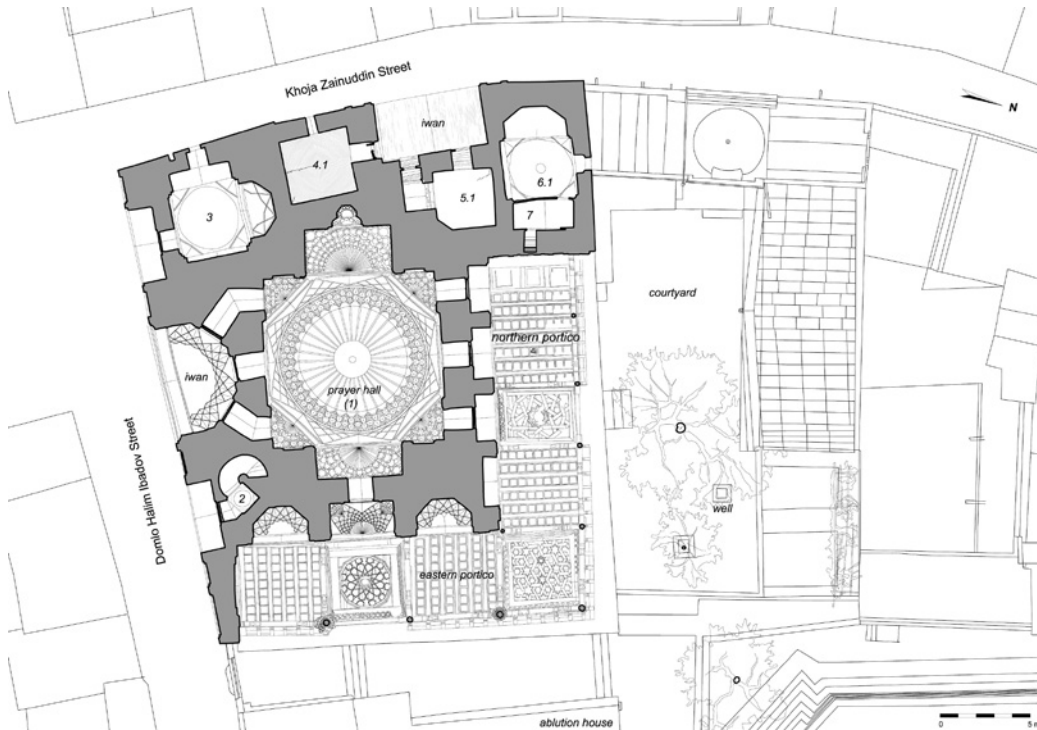


Fig. 4. Reflected ceiling plan of the first floor of the Khoja Zainuddin Mosque. Rooms 4.0, 5.0, and 6.0 are situated below the corresponding upper levels visible in this plan, Rooms 4.1, 5.1, and 6.1. (Drawing: Jasmin Badr)



Fig. 5. Southern façade of the Khoja Zainuddin Mosque. (Photo: Jasmin Badr)

hall. An L-shaped portico, erected on a platform, makes up the northeastern part of the building (fig. 4).

The southern façade

Symmetrically designed, the southern façade is dominated by a central *pishtāq* (a portal projecting from the façade of a building), which is enframed on each side by three superposed blind niches (fig. 5). On both sides of the iwan, lower niches can be seen under pointed arches. The pointed arches are each flanked by two blind niches, one above the other, similar to those on the sides of the iwan. Under the niches with pointed arches, two entrances lead to the compartments behind them, the western one opening onto a room in the southwestern corner (Room 3) and the eastern one onto a spiral staircase linking the portico with the roof of the mosque. The eastern entrance was walled up at some point, as is made clear by the gray plaster in the opening,

in contrast to the unplastered bricks of the façade. An additional, taller blind niche can be seen in the southeastern corner of the façade. The iwan has a semi-occluded plan with reticulated vaulting in its upper part. The prayer hall was accessible through three entrances under the iwan. At present, the front of the iwan is enclosed by a wooden screen.

Remnants of decoration in the spandrels of two blind niches on the right side of the iwan point to the fact that a tile mosaic ornament originally graced the main façade (fig. 6). The frame of the *pishtāq* was probably meant to bear an inscription, also made of tile mosaic. All the spandrels above the blind niches were plastered in the last twenty years. It is likely that tile mosaic was also applied in those areas, but it was either not preserved or remains in very bad condition under the mortar. Remnants of underglaze tile work in dark blue, turquoise, and white are found in the spandrel of a blind niche in the southeast corner of the building (fig. 7).



Fig. 6. Tile mosaic in the spandrel of a blind niche in the southern façade of the Khoja Zainuddin Mosque. (Photo: Jasmin Badr)



Fig. 7. Underglaze tile in the spandrel of a blind niche in the southern façade of the Khoja Zainuddin Mosque. (Photo: Jasmin Badr)

The prayer hall (Room 1)

The importance of the prayer hall, which measures 9.5 by 9.4 meters,³⁰ is emphasized by its central position and reinforced by its huge dome, measuring approximately 8.2 meters in diameter and 16 meters in height.³¹ The design of the dome is unique, and its existence does not simply highlight the importance of the building: it makes the Khoja Zainuddin Mosque a remarkable exception among the many other quarter mosques in Bukhara. Unlike most of the neighborhood mosques, which have simple, flat, wooden roofs, the domed Khoja

Zainuddin Mosque is clearly recognizable in the skyline of the old city.

A new type of dome construction, known as the *chahār tāq*, made its appearance in Timurid architecture during the second half of the fifteenth century, allowing for larger spans. In this type of construction, two huge parallel arches and two arches in the orthogonal direction were erected, creating a base on which the dome rests and also reducing the surface to be covered.³² In the corners, two vault segments converge towards the supporting arches of the squinches. These caps are visible from the outside and do not fulfill any structural function. The large supporting arches are usually enclosed by half-domes. In some cases, a combination of crossing arches and a double-shelled dome was used to increase the external height of the dome; such a solution was often employed in the Timurid era.

However, even though this construction method was already known in Bukhara at that time, it was not used in the Khoja Zainuddin Mosque. Here, eight small supporting arches above the walls of the prayer hall serve as a transition zone to the dome. Four of the supporting arches are filled with squinches (fig. 8). The four windows in the arches above the sidewalls, each covered with a grille (*pandzhara*), provide the prayer room with diffuse lighting from above. The pendentives between the supporting arches are filled with grids of crossing ribs, forming a kite-like pattern. Their upper corners lead into a thirty-two-edged cavetto molding with an inscription from the Koran.³³ The dome itself is divided into two zones. The lower zone is decorated with four rows of muqarnas; the upper one is divided into thirty-two segments, separated by ribs that end in a ring around an omphalos.

The ground plan of the prayer hall is square-shaped, with two bigger recesses in the east and west. While the western recess is 5 meters wide and 2.8 meters deep, the eastern one measures only 4.9 meters by 1.9 meters, thus emphasizing the direction of prayer. The design concept of the walls comprises several areas; above the tile panels covering the dados, there are deep blind niches with frames and fillings (fig. 9).

The western recess of the prayer hall is covered by a half-dome composed of eight rows of muqarnas, ending in a fan-shaped hood. The wall beneath it is divided



Fig. 8. Interior view of the transition zone and the dome in the prayer hall of the Khoja Zainuddin Mosque. (Photo: Jasmin Badr)

into two horizontal zones, separated by a cavetto molding, and decorated with Koranic inscriptions.³⁴ The mihrab lies in a further small recess, its upper part filled with plane muqarnas cells (fig. 10). The eastern recess contains the main entrance to the prayer hall (fig. 11). Above the entrance, a window with a *pandzhara* fills the main space of the building with natural light. The recess is covered by a half dome composed of eight rows of muqarnas, identical to the ones on the western side. The zones above the dados of the western and eastern walls are covered with blind niches, with square-shaped recessed panels above them.

A similar division is visible in the design of the north and south walls of the prayer hall (fig. 9). Large blind niches in the middle, reminiscent of the recesses in the east and west walls, are flanked by the same narrow niches and squares as in the east and west. But unlike the east and west walls, they are not highly decorated, and are dominated by three doors and three windows on each side. A panel with a hadith is placed above the central window niche.³⁵ The walls end up with a cornice running along all four sides. The similar composition of the walls and the cornice highlights the harmony of the design in the interior and emphasizes the central, square-shaped space of the prayer hall.

The dados of the prayer hall are decorated with panels of mosaic faience. Today, only eighteen of the original twenty panels, each with a different design, can be seen: two panels were completely destroyed and two-thirds of another panel was severely damaged. In historical photographs dated to 1947, traces of the latter panel, which is located on the left side of the mihrab, are still visible (fig. 12).³⁶ On its right side, a recess behind the place of the minbar marks the place of one of the now-missing panels.³⁷ The edges of each panel are framed with tendrils, with leaves and blossoms in white, green, turquoise, and ochre (fig. 13). Although the forms of the tendrils and leaves differ, the buds and blossoms in the frames are always the same. The colors of the tiles used in the mosaics are white, green, turquoise, blue, manganese purple, and ochre.

The largest panels are on the sidewalls of the western recess. Within the repeating frame, the design consists of a central medallion, tapering to smaller motifs above and below on the vertical axes. The inside of the medallion features arabesques on a predominantly green background. The corner pieces repeat the same design, and even the smaller floral motifs were meticulously designed. The spaces in between are filled with a delicate ochre vine on a blue background (fig. 14).

On both sides of the western recess, panels are subdivided into three arched rectangles, similar to the design of a prayer rug (fig. 15).³⁸ The border motif is here replaced by a shape resembling a maple leaf. A similar composition is present on the now-damaged panels to the left of the mihrab, within the large recess. The rectangle in the middle is filled with an ochre floral design,

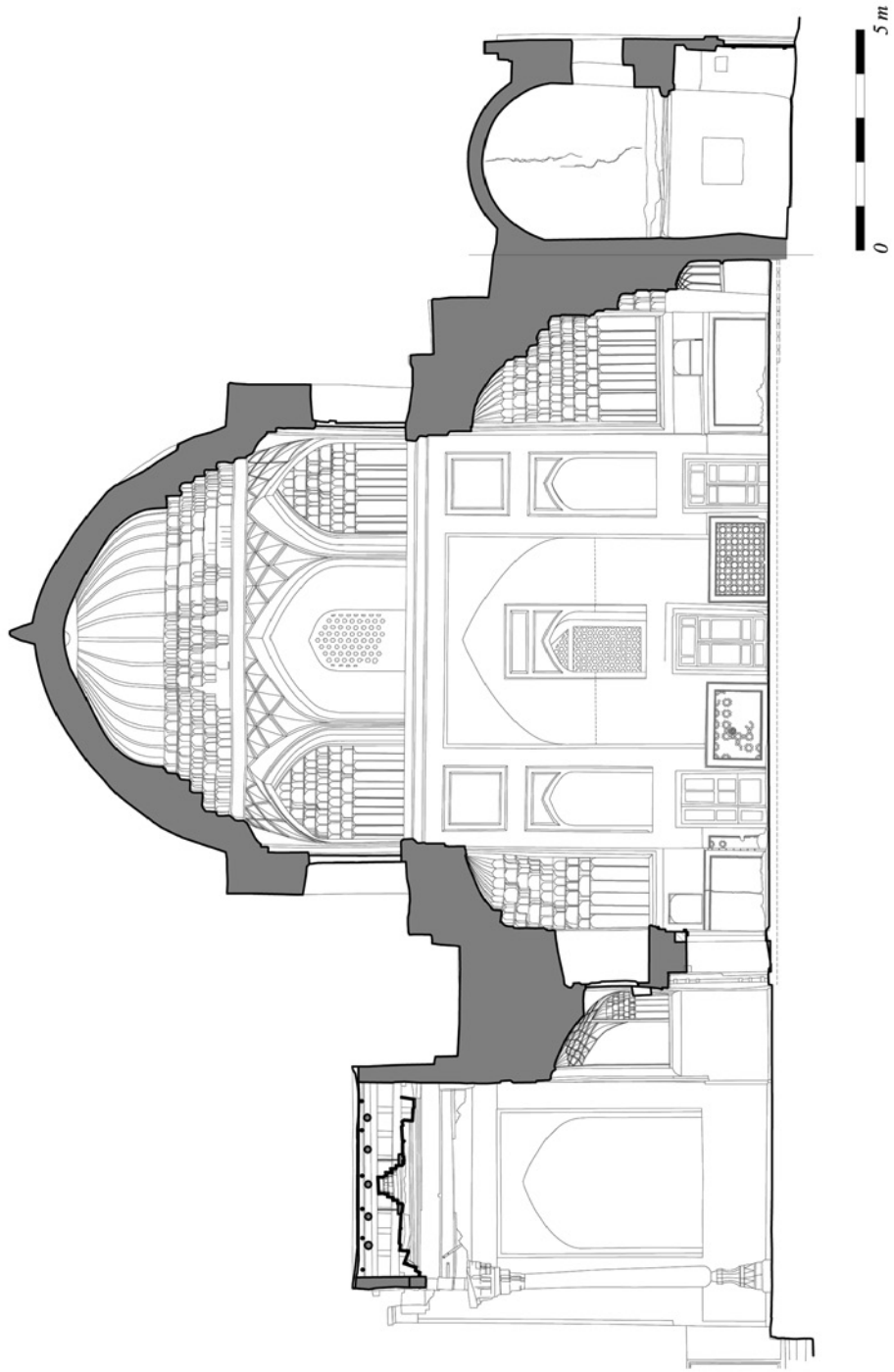


Fig. 9. Longitudinal section of the Khoja Zainuddin Mosque. (Drawing: Jasmin Badr)



Fig. 10. Western wall of the prayer hall. (Photo: Jasmin Badr)

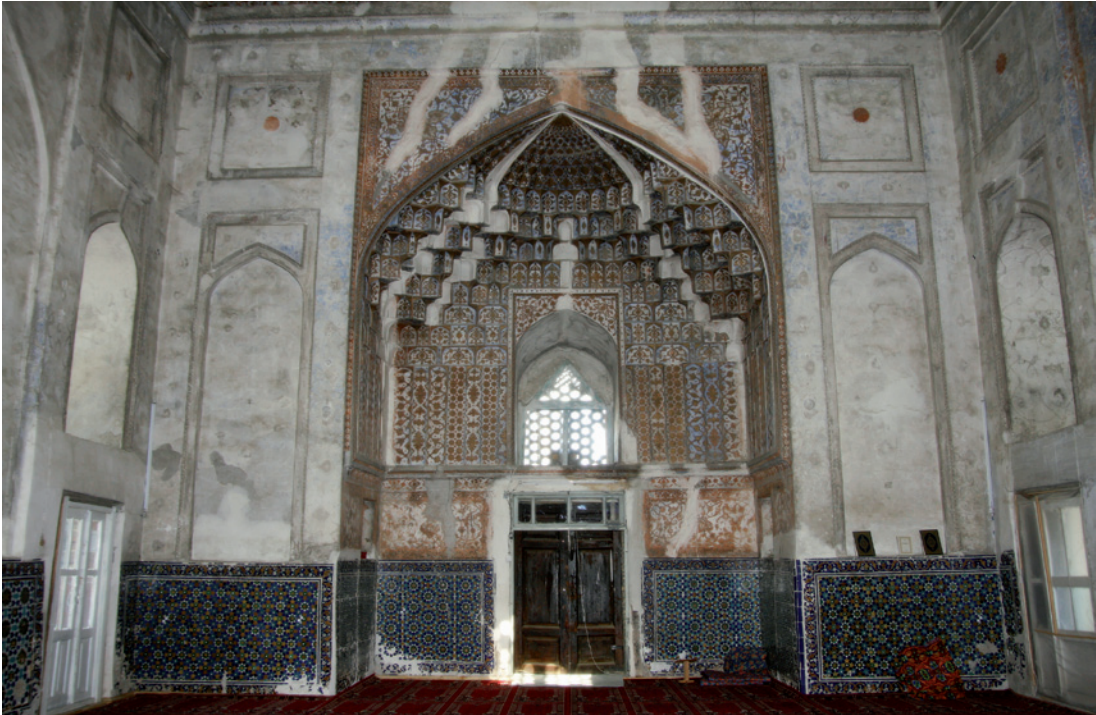
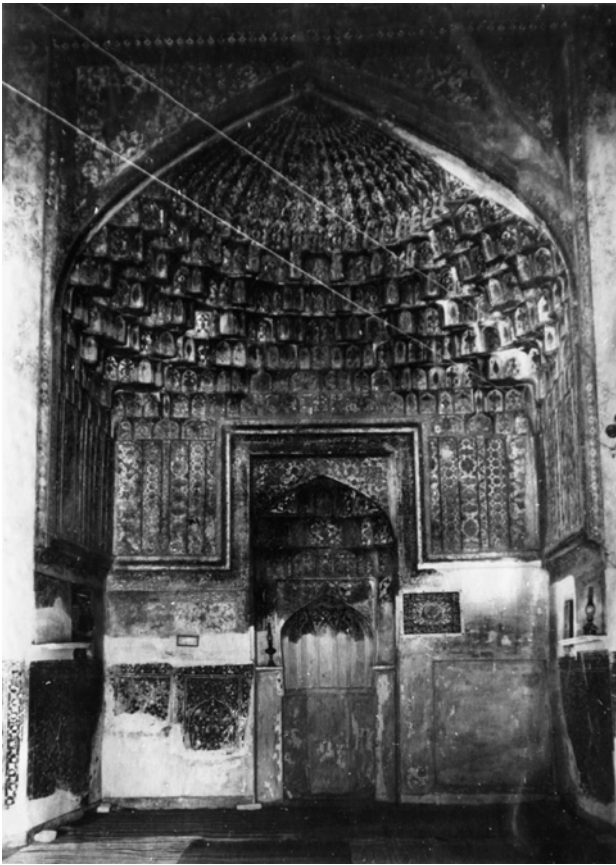


Fig. 11. Eastern wall of the prayer hall. (Photo: Jasmin Badr)



with blossoms and forked leaves on a blue background. On the longitudinal axis, five leaves, each with a distinct shape, one on top of the other, tie the tendrils of the floral composition together. The side rectangles are of a different design. Under a curved arch as in the central rectangle, an ocher palmette with a very thin blue stem in the middle of its trunk bears larger blooming flowers in its axis and small blossoms on the sides. The green spandrels are filled with arabesques.

The decoration of the remaining panels in the prayer hall is a stark contrast to that chosen for the qibla and the mihrab area. Designed with the help of an underlying polygonal matrix, which itself is organized according to a rigid geometry, these panels present a type of decoration highly appreciated in Transoxiana, Khurasan, and Iran from the fifteenth century onwards (fig. 16). Known as the “star-and-polygon design” or *girih*

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Fig. 12. Photograph dated to 1947 showing the western recess. Tashkent, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, inv. no. 25882, code 136. (Photo: courtesy of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings)



Fig. 13. Detail of the frame surrounding the mosaic panel to the left of the main entrance. (Photo: Jasmin Badr)



Fig. 14. Mosaic panel on the southern wall of the western recess. (Photo: Jasmin Badr)



Fig. 15. Mosaic panel on the left side of the western recess. (Photo: Jasmin Badr)



Fig. 16. Mosaic panel on the left side of the eastern recess. (Photo: Jasmin Badr)

(Persian for “knot”), both terms are used synonymously, as a contrast to *islīmi*, “the spiraling ivy or vine-and-tendrill motif.”³⁹ The method for creating such a design is well known from surviving scrolls (*tumar*) with muqarnas and *gīrih* designs, drafts for *bannāʿī* (builder’s) inscriptions, and even ground plans of a domed structure on a geometrical grid. Some other scrolls found in Bukhara and dated to the sixteenth century on the basis of the paper used are also significant for the Khoja Zainuddin Mosque.⁴⁰

An identical design is applied to the dados on the south and north wall, though in one of the panels on the south wall the dodecagon star is filled with a different motif: in place of the six-pointed snow crystals occupying the centers of the other three panels is an ocher bud, from which the dodecagon star emerges in radiating circles of different colors. Two new types of *gīrih* are introduced in the panels on the east wall, with a new color scheme containing far less white and no manganese purple; instead, turquoise, blue, and ocher are predominantly employed. The panels on the sidewall of the

eastern recess appear to be far more delicate as a result of the smaller star pattern used.

The parts of the walls between the dados and the cornice, the transition zone, and the dome are covered with paintings. Three different phases are clearly distinguishable. The remains of the first one, recognizable on all surfaces of the walls in the transition zone, as well as in the window niches, can be identified on the basis of the color scheme of blue, green, brown, and black.⁴¹ The first phase shows a floral design painted with ink, with a characteristic onion-shaped bud and a split leaf emerging from it in brown or green, set against a blue background (fig. 17). Only the central window niche has a different design, consisting of interconnected oblong cartouches and rosettes (fig. 18).

The second phase can only be observed in the spandrel above the blind niche of the south wall (fig. 19). The remains show that the decorators started to apply the *qizil kesak* (red clay)⁴² above the first phase within the central blind niche. The planned design, a very dense vegetal ornament, was presumably applied with a



Fig. 17. First decoration phase on the south wall. (Photo: Jasmin Badr)



Fig. 18. Central window niche in the south wall. (Photo: Jasmin Badr)

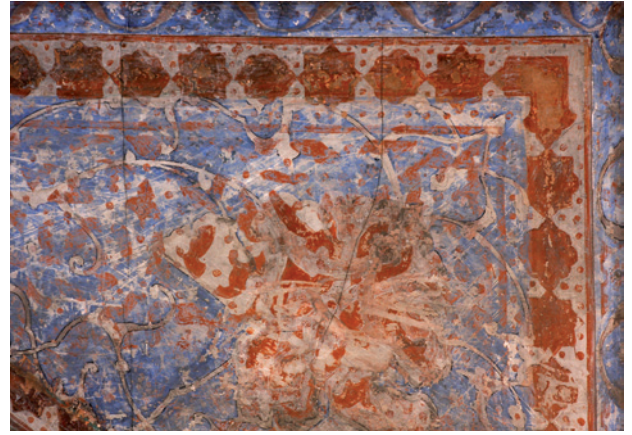


Fig. 19. Spandrel of the central blind niche in the south wall. (Photo: Jasmin Badr)

stencil. For unknown reasons, this decoration was not finished.

A clearly distinguishable third phase with *kundal* paintings decorates the large recesses in the east and west of the prayer hall, the muqarnas in the squinches of the transition zone, and the dome (fig. 20).⁴³ *Kundal* is a decoration technique characterized by its final result: a slightly elevated, gilded surface on a shallow background.⁴⁴ It is generally assumed that in the first step of the process the ornament to be gilded is drawn on the wall,⁴⁵ as can also be observed in the Khoja Zainuddin Mosque. A relief is then created by applying multiple layers of *qizil kesak* directly on the wall with a paintbrush. Sometimes a gypsum mortar (*ganch*) mixed with glue was used to create the relief, after which the *qizil kesak* was applied. The material that forms the underlying relief is applied in three different layers, the thickest stratum being the first. The relief may be as high as 2 millimeters.

A thin layer of plant glue (*cheresh*)⁴⁶ was spread on the surface of the ornament as a binder for the gold leaf.⁴⁷ The spaces between the gilded motifs were painted, most often in blue, using lapis lazuli as a coloring pigment. Tiny flowers with bending branches and leaves were drawn on the blue background, in a slightly darker shade of the color, hardly visible as a silhouette. Finally, a very fine embellishment was applied. With delicate blossoms and tendrils, this was intended to



Fig. 20. *Kunda* paintings on the south wall of the western niche. (Photo: Jasmin Badr)

further accentuate the plasticity of the gilded parts of the decoration.

The paintings of the third decoration period do not simply cover the first phase: they incorporate it. This is clearly recognizable in the western and eastern recesses, which seem to have been completely ornamented. The spandrels above the niches were embellished with fine arabesques, while medallions with a characteristic form fill the corners. The wall areas below the muqarnas were divided into narrow, vertical rectangles filled with vegetal motifs. Although the inscription band above the mihrab was meant to be decorated in *kunda*, it was not finished.⁴⁸ Historical photographs reveal that the upper part of the mihrab was also decorated with *kunda* paintings.⁴⁹ The blossom pattern here seems to be

similar to that seen in the dome, although in the dome the blossoms are separated by ribs, whereas in the mihrab they are placed between the ribs.

The portico

The portico is constructed on a raised platform with an outer shell of limestone, creating a buffer zone between the main space of the mosque and prayer hall, and the small open courtyard, as well as the *hawz* to the north-east (fig. 4). Four niches, covered by pointed arches, subdivide the walls of the northern portico; three of these contain doors to the prayer hall, each with a window above. A small mihrab, framed by differently sized recessed panels, is located in the western wall. Three large niches subdivide the wall of the eastern portico. The central niche with the main entrance to the prayer hall is covered by reticulated vaulting, the corners containing squinches filled with five rows of muqarnas. The lateral niches flanking the entrance are covered with half-domes, executed as reticulated vaulting.

The portico prevents the symmetrical niches in the northern and eastern façades from appearing as prominently as they do in the southern façade. Eight wooden columns on bases of grayish marble support this wooden construction, composed of eight bays. However, the intercolumniation of the portico is not regular: the bays above the longitudinal and orthogonal axes, containing the main entrances, are much narrower than the adjacent ones. This serves to stress the importance of the entrance bays as well as the ceiling decorations (fig. 21). The entrances are both decorated with star patterns, the northern one with a decagon, and the eastern one with a dodecagon. Both ornamented panels are mounted on plain wooden planks, supported by cross-beams, which are suspended from the beams of the roof construction by iron chains.

In both cases, small muqarnas domes form the center of the star pattern. The interior of the stars is further divided into smaller geometrical forms. Even the surface of the different polygons that form the star is filled by another grid of geometrical figures, made of fine wooden sticks.⁵⁰ A cornice with either three or four rows of muqarnas links the panels with the vertical cladding on the walls. All elements of this composition were



Fig. 21. Dodecagonal star pattern on the ceiling of the entrance bay in the east. (Photo: Jasmin Badr)

originally painted.⁵¹ The ceiling features a similarly extravagant decoration only in the northeastern corner; instead of the small muqarnas dome, two small hexagonal stars are set in the center.

The remaining bays are all decorated with paneled ceilings. A trace of the richness of forms can be seen in the preserved ceiling in the southeastern bay (fig. 22). There, two main types of wooden panels are arranged in an alternating pattern. The first one reveals a motif of connected stars of varying sizes. Pigment remains found on the wooden boards indicate the use of a decoration technique similar to *kundal*.⁵² In the second type of panel there are seven varying patterns made of wooden sticks, as in the polygons forming the stars above the entrance bays. Only two capitals have been preserved in the eastern side of the portico, with each consisting of five rows of wooden muqarnas.⁵³

Historical photographs show that the frieze on top of the portico was originally decorated with rectangular

mosaic tiles of blue, turquoise, white, green, and ocher. The only remains of this geometrical pattern can be seen on the southern part of the eastern portico.⁵⁴

The staircase (Room 2)

A spiral staircase in the southeastern corner of the complex, accessible from the eastern portico, leads to the roof of the building. The entrance to the staircase is situated in the southern niche of the eastern portico, thus connecting it and the staircase through a small vestibule. The latter is covered by a small dome and widens towards the southeast, where a window—and perhaps a former door—open toward the street. The graffiti-covered walls and traces of small holes 4 to 6 centimeters in diameter show that a light wooden structure once divided this tiny room into two levels (even though no proper access to the upper level may have ever existed). However, the fact that the moldings in the



Fig. 22. Paneled ceiling in the southeastern bay of the portico. (Photo: Jasmin Badr)

corners have been hammered away is proof that a ceiling was not originally planned. The steps of the spiral staircase rely on small wooden beams and are built of mud bricks. A small pointed vault, oriented towards the south, covers the upper part of the staircase.

The western façade

The western façade, which looks onto the narrow and ancient Khoja Zainuddin Street, is much simpler in appearance than the other sides of the mosque (fig. 4). With several small rooms (sing. *hujra*) arranged along it, the façade also presents the back wall of the qibla, which is usually not decorated. In the middle, a huge iwan highlights the cenotaph of “Khoja Zainuddin.” However, the iwan does not subdivide the façade in a symmetrical manner, as in the south. The unfinished upper part of its frame suggests that a *pishtāq* was originally planned, but that construction on it stopped at

some point. It is assumed that an inscription, never realized, was meant to run around the niche.

The small rooms on the western façade are more or less square-shaped, with side lengths of 3.5 to 4 meters. The only exception to this is Room 5, which is slightly smaller (3.15 meters). Whereas Room 3, in the southwestern corner of the building, consists only of one single space, Rooms 4, 5, and 6 are divided into two levels (a ground level [level 0] and an upper level [level 1]). Roofing constructions are nearly identical for all the rooms. Ceilings on the first floor are flat, constructed of wooden beams and a filling of bricks and mortar; the upper-level ceilings, on the other hand, are covered by cloistered vaults. However, the domes of the rooms in the corners are much more elaborate than the constructions in Rooms 4 and 5.⁵⁵

Room 3 is widened by a semi-octagonal niche in the north that is covered by reticulated vaulting. The western wall contains an arched recess, while the other two

walls have blind niches. The main entrance is in the south wall, while a secondary access in the east wall leads to the prayer hall. There was probably a third entrance in the north wall, which linked Room 3 with Room 4.0. A small niche still provides evidence of this opening, which is presently walled up. The room was recently plastered; in one damaged spot, the former monochrome plaster and a number of small graffiti are visible.

Room 4 is much simpler. Whereas the lower level (Room 4.0) is currently used for the storage of biers, the upper level (Room 4.1) has been abandoned due to the bad condition of its floor. The actual entrance to the lower level is situated in the western wall, but this opening was obviously only recently created. As seen in historic photographs dated to 1954, there was once only a small window in the place where the door to the west is currently located; this was aligned with the window in the upper level.⁵⁶ Prior to this, access to the room was provided by a door in the northern wall, leading directly to the iwan with the tomb. Although this entrance no longer exists, its location can be determined from the cracks in the plaster of the northern wall of Room 4.0. On the opposite side (the southern wall of the iwan), no traces of an opening can be observed, which is not surprising, considering that the bricks of the iwan have clearly been replaced in recent years. Room 4.1 could be reached through a door in the northern wall. Although no decorative elements were applied on the ground floor, in the upper level remnants of wallpaper can still be seen on the southern and western walls.

The hujras to the east of the iwan (Rooms 5.0 and 5.1) are accessible from a narrow corridor in the north of the building (Room 7). Two niches are visible in the western wall of Room 5.0. Although the northern wall has been only crudely closed up, the southern wall is completely plastered. The original ceiling was damaged and a second one was installed underneath.⁵⁷

The room was apparently equipped with a heating device, situated at the horizontal niche in the eastern wall. Evidence that the room at some point had a fireplace is provided by the wooden lintel, several layers of plaster (the lowest layer bearing evident traces of soot), and a hole in what seems to have once been a chimney. A simple loam rendering containing a high percentage of straw was used to plaster the other small niches.

As in Room 4.1, the upper level (Room 5.1) can be accessed from the western iwan through a door. A second opening is situated in the center of the western wall. A charred hole in the middle of the room indicates where a *sandal* (brazier) was once found.⁵⁸ As the wooden ceiling construction and the delicate mortar could not bear constant exposure to heat, the ceiling beams burned through. The upper level was consequently abandoned and only the lower level was still occupied. As mentioned above, a new ceiling was then installed below the original one.

In the southeastern corner, a fireplace is connected to the same chimney observed in the lower level.⁵⁹ Small shelves flank the arched opening of the fireplace, whose surfaces were decorated with wallpaper. The chimney has no visible outlet on the roof. However, a small rising in the northeastern corner indicates that it was redirected along the eastern wall of Room 5.1 towards the north. An outlet in the southeastern corner would have been too close to the walls of the prayer hall.

In Room 5.0, only the shelves on the western wall bear traces of paint—in blue. Room 5.1 shows the remains of several decorative phases. The first phase consisted simply of a monochrome plaster. The northern and eastern walls, as well as the sidewalls of the northern opening in the western wall, are covered with graffiti. In the second phase of decoration, a horizontal line was scratched into the plaster, thus creating a dado. This demarcating line was then decorated with leaf-like elements made of paper, reminiscent of carpet tassels. Above this, another decorated area is visible, at least on the northern, southern, and western walls. Several rows of horizontal or vertical rectangles have been drawn in ink or are also scratched into the plaster. It seems that these areas were at least partly decorated with paper. One sheet is preserved on the west wall. The niche in the north wall was also surrounded by paper bands.⁶⁰ On the eastern wall, scratched drawings of musical instruments (*dutar*)⁶¹ can be seen above the dado. Small holes in the northern wall and in the northern parts of the eastern and western walls provide evidence of what was probably a wooden structure. As the graffiti indicate that students occupied the room, it is reasonable to assume that a sleeping platform existed, similar to those generally installed in the cells of a madrasa.

At present, a light wooden construction is fitted into the small vestibule to the south.

As was the case with Room 3, Room 6 also becomes wider towards the west due to a semi-octagonal niche. The lower level (Room 6.0) is accessed from Room 7, where four steep steps lead to a very low door, which in turn leads to the upper level (Room 6.1). There, the eastern wall is raised, with an equal thickness from the ground level to a height of approximately 1 meter. Above this point, the wall is much thinner, suggesting that the only intention was to close the space, regardless of any supporting functions. As both levels are presently occupied and were recently plastered, no traces of the former decoration can be seen.

Room 7 currently serves only as a vestibule providing access to Rooms 5.0, 6.0, and 6.1. A fourth opening in the north links the space with the courtyard. A deep recess can be observed in the eastern wall, starting at a height of 3.55 meters and reaching even beyond the height of the barrel vault of Room 7. The niche measures 0.95 meters in depth, which corresponds to the thickness of the wall. It is closed on the eastern side, with fragments of a former layer of plaster still exhibiting traces of molding and painting. On the opposite side (the western wall of the northern portico), no traces of an opening can be determined. The superposition of the two wall elevations shows that the niche is situated exactly on the axis of the outside mihrab, where an ornamented square is applied as a relief in the plaster.

The rather strange construction of the eastern wall of Room 6.1 indicates that it was added in a later period. Therefore, Rooms 6.0, 6.1 and 7 were once one single space to which the separating ceiling in Room 6 was later added. The fact that the access to Room 5.0 from the southern wall of Room 7 seems to have been created in a previously existing wall also supports this thesis. The door was directly inserted into the corner and the thickness of the eastern wall in Room 5.0 was even reduced to widen the opening. The floor level of Room 5.0 is also lower by a step, so as to make the two rooms level. It is also remarkable that the floor of the western iwan is level with that of Room 5.0. It is therefore likely that the original access was through one or two niches in the western wall. In the southern niche, no cracks are visible in the mortar and its composition seems to be

very similar to one of the older layers. That is why it is also reasonable to assume that this niche was already closed in an earlier period.

No physical evidence of a means of access to the upper levels of Rooms 4 and 5 has been preserved. However, it is noticeable that scaffolding holes in the eastern wall of the western iwan are covered with mortar at a height that could very possibly correspond to the floor level of the upper floor. Similar to the wooden stair constructions that are still often preserved in private houses, it is likely that a light wooden construction provided access to the upper level.

The courtyard

The courtyard connects the complex with the pool (*ḥawz*). Historic photographs dating to 1954 show that a passage linking the *ḥawz* to Khoja Zainuddin Street once existed where the courtyard is now found (fig. 2).⁶² A wooden fence separated the building from the public passage. The well in the northeast corner of the courtyard has no evident current function; at some point it may have provided the mosque with fresh ground water for ablutions.

The current *taharatkḥāna* (ablution house) is a modern building constructed in 2002–3. In historic photographs dated to 1945, a building can be seen that was directly attached to the foundation on the eastern side of the mosque.⁶³ This former *taharatkḥāna* was measured during the architectural survey executed by French students in 2001, before it was torn down.⁶⁴

The ḥawz

The *ḥawz* of Khoja Zainuddin is situated in the northeastern part of the building complex, the other sides of which are bordered by private dwellings (fig. 2). The huge pool, measuring approximately 37 by 26.5 meters, is the second largest *ḥawz* in the ancient water system of Bukhara.⁶⁵ It features a typical elongated octagonal form and has seven steep steps of worked limestone. A wooden barrier separates the wall construction of the *ḥawz* from the unworked limestone foundation. The northern and southern sides have more gradual steps, and on the northern side, they seem to lead to what was once a platform where residents could fetch their water.

In the southeastern corner, a waterspout made of marble and decorated with a chronogram is still preserved.⁶⁶

The *hawz* was filled with water from the Rud-i Shahr canal. An extra conduit provided water exclusively for the Khoja Zainuddin *hawz* and the Lesak *hawz* through a covered channel (*tazar*).⁶⁷ This conduit apparently had a strategic importance, as it is said to have been linked to the Citadel (*Ark*) of Bukhara. Only a member of the ruling family could have ordered such a measure.⁶⁸ The fact that a conduit was specially dug for only two pools shows the importance of the Khoja Zainuddin complex, a fact reinforced by its connection to the ruler's residence.

STYLISTIC ANALYSIS

The design of the panels on the sidewalls of the western recess is unequaled in other known panels of the same period in Transoxiana. The closest parallels seem to be in bookbindings and title pages known from Herat and Safavid Persia from the beginning of the sixteenth century.⁶⁹ Panels similar to the “prayer rug” panels on the west wall also decorated the qibla wall of the no-longer-extant mosque in the Shaykh Rangriz Quarter, in the northeastern part of the old city.⁷⁰ A tendril of a similar design is also found in book art, on the title pages of manuscripts, some of which were commissioned in the *kitābkhāna* (scriptorium) of ‘Abd al-‘Aziz b. ‘Ubayd Allah in Bukhara.⁷¹

An identical ochre tendril with a thin blue stem in the middle is preserved in the decoration of other buildings in Bukhara. There is a rosette with a similar tendril in a square above the mihrab of the Baland Mosque (ca. 1530) (fig. 23). At the Mir-i ‘Arab Madrasa, this is also seen in the intrados of the main entrance, as well as framing a window in the west courtyard iwan (1527–36) (fig. 24). A palmette with a thin stem in the middle is also found in the decoration of different Safavid buildings from the sixteenth century—though in a different color scheme—in the Friday mosque of Isfahan,⁷² in the spandrel of the qibla iwan in Imam Reza’s sanctuary in Mashhad,⁷³ and in pieces of ornament from the qibla iwan of the Masjid-i ‘Atik in Shiraz.⁷⁴ Another example of the motif can be found in the Char Bakr complex



Fig. 23. Rosette above the mihrab of the Baland Mosque. (Photo: Mustafa Tupev)

(1558–62), five kilometers west of Bukhara, where the same tendril decorates a spandrel above the entrance of the khanqah.

Panels with a star-and-polygon pattern similar to the ones visible on the southern and northern walls of the Khoja Zainuddin Mosque, yet in different colors and of varying quality, are preserved in a mosque dated to 1519 in Katta Langar, a village in Kashkadarya province (fig. 25).⁷⁵ They can also be seen in the mausoleum (*gūr-khāna*) of the Mir-i ‘Arab Madrasa (fig. 26).

In the great variety of motifs in the tile decoration of the Khoja Zainuddin Mosque it is possible to observe close connections with many of the examples quoted above. Indeed, the arrangement of the different motifs within the building can be seen as symbolic of a hierarchy among the different parts of the structure. The qibla wall is obviously of great importance. However, details

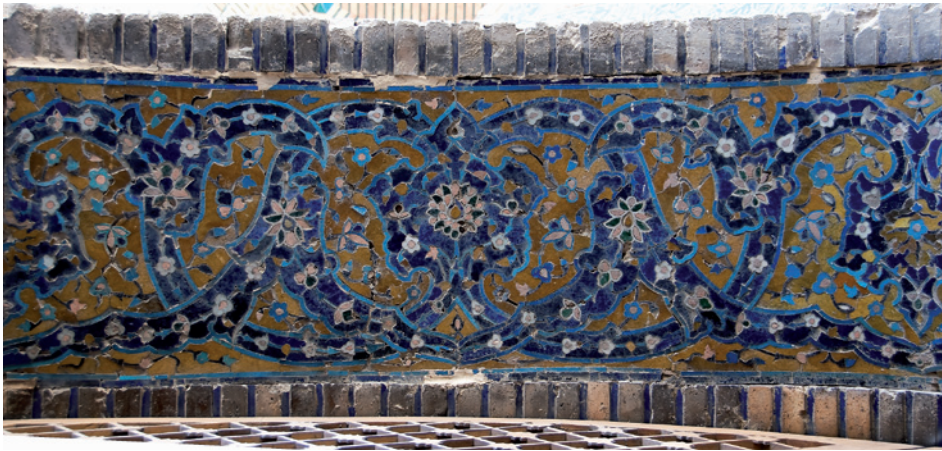


Fig. 24. Tile ornament on the intrados of the main entrance of the Mir-i 'Arab Madrasa. (Photo: Mustafa Tupev)



Fig. 25. Mosaic panel in the Katta Langar Mosque. (Photo: Mustafa Tupev)

in the artwork show that the main entrance is also of major significance, as can be discerned at the borders of the tile panels: while the buds and blossoms on these walls are the same as on the lateral walls, the shapes of the leaves are more variegated and intricate.

On the exterior, the mosaic remains in the spandrels on the right side of the south iwan are stylistically similar to those in the tile mosaic in the interior of the mosque, suggesting that they are from the same period. The underglaze tile fragment in the southeast spandrel (fig. 7), as well as the window grille in the transition zone, indicates that minor decorating efforts were made

in a later period, most probably in the 1560s. Several buildings constructed in that decade were decorated with such tiles. The fragments found on the façade of the Khoja Zainuddin Mosque have their closest equivalents in the spandrels of the main façade of the Gawkushan Madrasa (1562–66) (fig. 1). A similar window grille is found in the courtyard of the Qul Baba Kukaltash Madrasa in Bukhara (1569) (fig. 1).

As to the wall paintings of the first phase, there are no other similar examples preserved in Transoxiana. Historical sources from the second half of the sixteenth century mention the arrival of decorators who came to



Fig. 26. Mosaic panel in the *gurdhāna* of the Mir-i 'Arab Madrasa. (Photo: Mustafa Tupev)



Fig. 27. Panel with interconnected cartouches and rosettes in the *darskhāna* of the Shir Dor Madrasa. (Photo: Mustafa Tupev)

Bukhara, most probably from Balkh, after 'Abd Allah II invited them to work on the construction site of the Char Bakr.⁷⁶ A clue is found in the decoration of the Khoja Abu Nasr Parsa Mausoleum in Balkh.⁷⁷ The memorial building, founded in 1460, was extensively reconstructed, enlarged, and refurbished in the second half of the sixteenth century.⁷⁸

Two of the most characteristic elements of the paintings in the Khoja Zainuddin Mosque, the onion-shaped blossom and the split leaf, can be seen in a tile mosaic on the main *pishtāq* of the building. However, the star ornament applied in the middle window niches on the northern and southern walls of the prayer hall bears a striking resemblance to the minarets of the Husayn Bayqara Madrasa in the Gawhar Shad Musalla complex in Herat, dated to 1492–93.⁷⁹ A graffito in the southwestern window niche of the prayer hall, dated to 1008 (1599–1600), might be connected to this phase.⁸⁰

The third decoration phase in the Khoja Zainuddin Mosque, characterized by paintings done in the *kundal* technique, finds its strongest resemblance in two dated buildings from Samarqand: the Shir Dor Madrasa and the adjoining Tilla Kari. There are striking parallels in the composition of the paintings, in the palette as well as in single motifs. Different elements of decoration, which seem to have been used interchangeably (such

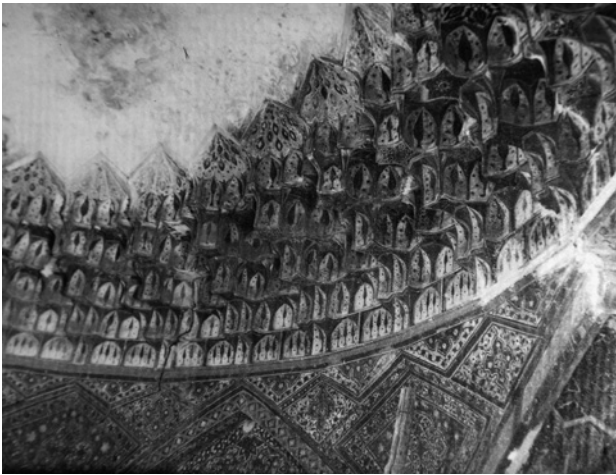


Fig. 28. Undated historical photograph of muqarnas elements in the dome of the mosque in the Tilla Kari Madrasa. Tashkent, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, inv. no. 11327, code 70-11. (Photo: courtesy of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings)

as the form of the medallions, a combination of Koranic inscriptions and hadiths in panels, and muqarnas leading into vertical rectangles on the wall below them, filled with vegetal motifs), are found in the *kundal* painting of the lecture hall (*darskhāna*) in the Shir Dor Madrasa (built in 1616–36 and decorated in the 1660s) (fig. 27), and in the Baland Mosque in Bukhara. Elements resembling little trees, a characteristic detail seen in the cells of the muqarnas of the Khoja Zainuddin, are also found in the decoration of the Tilla Kari Madrasa (1647–59) (fig. 28). The clear differences from the paintings of the ‘Abd al-‘Aziz Khan Madrasa in Bukhara (probably 1651–54 or later) (fig. 1) point to its decoration in a slightly earlier period.

A combination of a central hall with porticos on one, two, or even three sides is quite a common composition in the region; several neighborhood mosques dating from the sixteenth to the nineteenth century follow the same scheme.⁸¹ Simple ceiling constructions, consisting of wooden beams with semicircular rods in between, were often used in porticos in different mosques in Bukhara.⁸² The decoration of the paneled ceilings seems to have been quite widespread as well.⁸³ The more elaborate hanging ceiling constructions above the

entrances, were reserved for special buildings.⁸⁴ The closest parallels occur in the courtyard surrounding the tomb of Baha’ al-Din Naqshband, 12 kilometers to the east of Bukhara. Unfortunately, a detailed comparison between the paneled ceilings of the Khoja Zainuddin Mosque and the porticos of the Baha’ al-Din Nakshband complex is no longer possible, as the latter was reconstructed in 1995. A clue that the (re)construction⁸⁵ of the portico in the Khoja Zainuddin Mosque must have taken place in the seventeenth century is provided by the remaining mosaic decoration on the cornice on the eastern side. A similar motif appears on the main façade of the Tilla Kari Madrasa in Samarqand, as well as in the ‘Abd al-‘Aziz Khan Madrasa in Bukhara.

FORM AND FUNCTION

It is not an easy task to reconstruct the function and meaning of a building when no written sources on its history have been preserved and very little is known about its architect or patron. In the case of the Khoja Zainuddin Mosque, the structure itself provides a key to interpreting the building history, especially its ground plan, elevation, and decorative artifacts.

The plan and orientation of mosques throughout the Islamic world are determined by the qibla, most often without consideration of the surrounding urban fabric. In the case of the Khoja Zainuddin Mosque, this is only true with respect to the prayer hall and the porticos at the northeastern corner. Here, the east–west axis running through the main entrance and the mihrab also serves as an axis of consistently applied symmetry in the prayer hall. A second axis in an orthogonal direction was nearly as important as the longitudinal axis: it is crucial to the shape of the prayer hall and the south iwan, as well as to the decoration of the interior. A deviation from the scheme can be observed in the northern part of the portico. Here, the accentuated ceiling of the middle bay is located over the side entrance rather than emphasizing the middle entrance to the prayer hall.

In the interior of the prayer hall, the longitudinal axis determines a certain hierarchy in the design patterns used, as is evident in the arrangement of the panels. The arabesque design (*islīmi*) is reserved only for the panels in the mihrab area; the remaining panels all have a *gīrih*

pattern. The hierarchical scheme seems to have been carried out even further in the different *girih* panels, the most elaborate ones (with a dodecagonal star in the middle that contains a six-pointed snow crystal) being reserved for the south and north walls. The remaining panels on the eastern wall and eastern recess introduce, as mentioned earlier, a different design and color scheme, with far less white, no manganese purple, and a focus on turquoise, blue and ocher; this may have been intended to emphasize that wall, mirroring the mihrab area over the lateral walls.

At the same time, the longitudinal axis serves as a line of symmetry: most of the panels on both sides of it are identical (with the one exception mentioned above). In a building as sophisticated as the Khoja Zainuddin Mosque, one would expect a hierarchical development from the back to the mihrab, so as to see the most elaborate tile decoration on the qibla wall. Such tiled mihrab niches are well known in Bukhara from the first half of the sixteenth century (cf. the Masjid-i Kalan, the Baland Mosque, and the Masjid-i Valida-i ‘Abd al-‘Aziz Khan). The present appearance of the Khoja Zainuddin mihrab is overwhelmingly plain. However, remains of a tile mosaic can still be seen in the lower part, which indicates that it may also have once been decorated.

The importance of the orthogonal axis is especially relevant for the design concept of the interior paintings. This can be observed both in the division and decoration of all four walls, as well as in the paintings in the window niches of the north and south walls. This axis also determines the arrangement of the southern façade.

In an Islamic religious building, the adjoining rooms would normally be designed according to the axes of its main space, namely, the prayer hall. It is, then, necessary to consider why the compartments and the iwan in the west do not seem to conform to the strict plan of the prayer hall and the porticos. This deviation from the geometrical grid could be explained by the fact that that the mosque was built in an already-existing, dense urban fabric. The divergence in the orientation of the adjoining hujras and the iwan was either the result of a deliberate division of the complex’s functions, or it mirrors the course of the street in the period of construction. Apparently, the tomb of the saint, which was already there at the time of construction, also played a

role in the decision of the architect. This is shown in another example of a tomb integrated into a public building, the Taq-i Tilpaq Furushan (Dome of the Hatters), which was also erected in the sixteenth century. In this project, the tomb of Saint Khoja Muhammad Parvan was not relocated.⁸⁶

For over a hundred years, the complex of Khoja Zainuddin seems to have served alternately as a mosque or a khanqah, and there is evidence of both functions.⁸⁷ Although the adjacent rooms in the western part of the complex seem to have lost their original function or to have been partly abandoned, it is obvious that they once played an integral role in the life of the mosque. The preceding study indicates that Rooms 4.0 and 4.1, and Rooms 5.0 and 5.1, were most probably used as a *chillakhāna* (meditation room), while rooms 3 and 6 seem to have had a special function. As mentioned earlier, some graffiti with small verses, as well as writing exercises found on the walls, suggest that in a later period, Room 4.1, as well as Rooms 5.0 and 5.1 and Rooms 6.0 and 6.1, served as lodging facilities for students. The remains of cotton mattresses show that the rooms were used at least until the middle of the twentieth century. The main space may have also served as a gathering place for a Sufi community, another indication that the building functioned as a khanqah.⁸⁸ Its use as a mosque is attested to by the hadiths in the prayer hall.⁸⁹ The inscription plaque, found in one of the adjoining rooms, again mentions a mosque (*masjid*).⁹⁰

DATING THE KHOJA ZAINUDDIN MOSQUE

The following dating of the mosque is the result of preliminary research, which has still to be confirmed or disproved by the further study of historical manuscripts and the results of radiocarbon analyses of samples taken from wooden construction elements.

The earliest known reference to a mosque with the name of Khoja Zainuddin is in deeds of sale from the second half of the sixteenth century (table 1).⁹¹ The purchase of property close to the mosque and the pool from top-ranking family members of the Juybari clan, among them Khoja Muhammad Islam (Khoja Juybari) and his son and successor Khoja Sa’ad al-Din Juybari (Khoja Kalan), is of certain interest for the history of the quarter

Table 1. Deeds of sale from the Juybari family archive. (The first column refers to the way in which the deeds were numbered in P. P. Ivanov's *Khoziaistvo dzhuibarskikh sheikhov*.)⁹²

No.	Date	Living quarter
96.	Jan. 23, 1552	Ḥawz-i Khoja Zainuddin
77.	Jun. 11, 1554	Ḥawz-i Khoja Zainuddin
87.	Jun. 16, 1554	Khoja Zainuddin
68.	Jun. 29, 1555	Masjid-i Khoja Zainuddin
64.	Jun. 2, 1564	Ḥawz-i Khoja Zainuddin
70.	Apr. 25, 1568	Ḥawz-i Khoja Zainuddin
95.	Apr. 6, 1569	Masjid-i Khoja Zainuddin

around the mosque, but it does not answer the question of the patron's identity or provide specific information as to when the mosque was erected.

During the first half of the sixteenth century and especially after the Safavid conquest of Khurasan, the city of Bukhara attracted a significant number of Sunni emigrants who had left Herat out of fear of Shi'i persecutions. The memoirs of one of these emigrants, Zain al-Din Wasifi, are an important source for the cultural life and literary activities at the court of 'Ubayd Allah b. Mahmud Sultan, who was himself a talented poet.⁹³ His fame in this regard exceeded the boundaries of his realms,⁹⁴ and he also possessed a lively interest in literature and theology. Indeed, the high esteem in which contemporaries held his court is evident in the commentary of his opponent and brother-in-law, Haydar Dughlat:

I have neither seen nor heard speak of such an excellent ruler as he (Ubaid Ullah Khan), during the past hundred years. In the first place, he was a true Muslim, religiously inclined, pious and abstinent; he also regulated all the affairs of the religion, of the state, of the army, and of his subjects, in conformity with the ordinances of the Holy Law; never deviating from it in one hair's breadth. He was pre-eminent for his valour and for his generosity. He wrote seven different styles of handwriting, but best of all he wrote the Naskhi. He made several copies of the Koran and sent them to the two holy cities (Mekka and Medina). He also wrote Naksh Taalik well. He possessed the divans of the various Turkish, Arabic, and Persian poets. He was versed in the science of music, and several of his compositions are still sung by musicians. In short, he was a king endowed with every excellence, and during his lifetime,

his capital Bokhara reminded of Herat in the days of Mirza Sultan Husain.⁹⁵

It has often been emphasized that cultural life in Herat under the reign of Husayn Bayqara, the last Timurid ruler (r. 1470–1506), deeply influenced Ottoman Turkey and Safavid Persia.⁹⁶ This heritage could not have failed to exert an influence on Bukhara, the capital of a state that claimed to follow in the footsteps of the Timurid rulers. 'Ubayd Allah b. Mahmud Khan's numerous attempts to conquer Herat indicate the significance that the Timurid capital had for him, and even after his death a certain nostalgia for the metropolis of Khurasan was cultivated in Bukhara.⁹⁷ During the reign of his successor, 'Abd al-'Aziz Khan (r. 1540–50), who was mostly known as an impassioned collector and connoisseur of the production of costly manuscripts, Bukhara was to become a renowned center for manuscript illustration, where some of the most famous calligraphers and painters of the time lived and worked.⁹⁸ Apart from his excellent library, 'Abd al-'Aziz b. 'Ubayd Allah was also known as a "friend of the Sufis," who had a fondness for building Sufi convents (khanqahs). In general, the extent of his building activity in Bukhara in a period of "troubles" is remarkable.⁹⁹ Besides reconstructing the city walls of his capital, he built several mosques, a madrasa, a *kitabkhāna*, and several khanqahs, among them the impressive Baha' al-Din Naqshband site.

Based on a stylistic comparison of its interior decoration, it could be suggested that the Khoja Zainuddin complex was constructed in the era of 'Abd al-'Aziz Khan or slightly thereafter, under his successors Yar Muhammad Sultan (r. 1550–53) and Borhan Sultan (r. 1550–57). The aforementioned parallels in its tile decoration also speak in favor of dating the construction to the second quarter of the sixteenth century. The complex of Khoja Zainuddin may have originally been larger. One of the aforementioned deeds of sale, dated to June 16, 1554, mentions a college in the quarter known as New Madrasa. Yet, the contractor of the building remains a mystery. The same act identifies Shaykh Nazar Bi, one of the most influential amirs of 'Ubayd Allah Khan, who supported 'Abd al-'Aziz Khan in his struggle for the throne of Bukhara after the death of his father, as a resident of the quarter, and thus a possible patron for the building.¹⁰⁰

The striking similarities between the architecture in the background of miniature paintings from Bukhara and the existing design concept of the interior walls of the prayer hall may suggest a further hypothesis, namely, that the mosque of Khoja Zainuddin served as a model for the paintings.¹⁰¹ Even if the contractor of the building is assumed to have belonged to the ruling family of Bukhara, this would not explain its extraordinary plan, with the high dome, and the rich decoration, or the existence of the huge *hawz* on a strategic water channel supplying the citadel with water: such constructions would not have been possible without the personal permission of the ruler. Could the clearly recognizable name of Yar Muhammad Sultan in a “building inscription” with the year 1553–54 (960), together with the reference to the mosque in deeds of sale from the 1550s, be only a coincidence?

A number of modifications, alterations, and restorations were made in subsequent centuries. The remains of underglaze tiles on the southern façade and a window grille in the transition zone, probably dating to the 1560s, seem to indicate repairs rather than phases of redecoration. The first phase of painting can be dated to the second half of the sixteenth century, perhaps as late as the end of the 1500s.¹⁰² A major redecoration of the western and eastern interior walls of the prayer hall using the *kundal* technique was undertaken in the seventeenth century. A concept for a similar painting on the south wall, with a different pattern, was abandoned. Instead, a blue painting above the reddish substrate was applied, repeating the motifs of the first, blue phase.

The stylistic resemblance of the paintings in the Tilla Kari Madrasa in Samarqand (unfortunately heavily restored) and of the geometric mosaics in its court to the decoration in the Khoja Zainuddin complex suggests a dating of this phase to between 1641 and 1660. Yalangtush Bi Alchin, the patron of both the Shir Dor Madrasa and the Tilla Kari, was one of the wealthiest men in the khanate of Bukhara, as well as a major amir. Known for his military skills, he was also fond of architecture. In 1641, Yalangtush Bi Alchin came to Bukhara, where he participated in the dynastic struggles resulting from the blindness of Imam Quli Khan.¹⁰³ In the

spring of 1643, he took a position of great responsibility in the capital, where he was left in charge when Nadir Muhammad went hunting in Qarshi.¹⁰⁴ Although he supported ‘Abd al-‘Aziz II (r. 1651–81) in his attempt on the throne, Yalangtush Bi Alchin refused to become his commander-in-chief (*ataliq*), using his age as an excuse. He most likely returned to Samarqand at that point. There, his second madrasa, the Tilla Kari, was erected between 1647 and 1659–60. There is no explicit evidence that Yalangtush Bi Alchin was the patron of the painted decorations of the Khoja Zainuddin Mosque. Nevertheless, he remains a likely candidate, due to his stay in Bukhara in a period after the construction of the Shir Dor was completed and before the construction work on the Tilla Kari began.

Almost nothing is known about the fate of the Khoja Zainuddin Mosque between 1680 and 1900. A final period of reconstruction in the mosque is datable to the period between 1913 and 1915. Inscriptions found on the waterspout and a memorial plaque mention the name of the patron, details about the renovation that was carried out, and, most importantly, a construction date.¹⁰⁵ In this last renovation, the adjacent rooms in the western part of the complex, especially Rooms 4.1, 5.0, 5.1, 6.0, and 6.1, which seemed to have by then lost their original function and were partly abandoned, were used as living space.

These last renovations and the use of the complex in a period shortly before the conquest of the city by the Red Army show that the Khoja Zainuddin complex played an important role in the cultural life of the urban center of Bukhara. Throughout the centuries, the building was repeatedly renovated and decorated even as it retained a significant part of its original plan and decoration. This makes the mosque one of the most important monuments in the architectural history of Bukhara, as well as a significant memorial to the cultural life of Transoxiana after the “century of princes.”

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NOTES

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1. A. Palladio, *Architecture in Four Books* (London, 1736), 8.
2. The importance of the Khoja Zainuddin Mosque is clear from the numerous publications on the architecture of Central Asia in which it has been mentioned: Vasilii Afanas'evich Shishkin, *Arkhitekturnye pamiatniki Bukhary* (Tashkent, 1936), 64–66; Boris Petrovich Denike, *Arkhitekturnyi ornament Srednei Azii* (Moscow, 1939), 188; Boris Nikolaevich Zasyplin, *Arkhitektura Srednei Azii* (Moscow, 1948), 121; Galina Anatol'evna Pugachenkova and Lazar' Izrailevich Rempel', *Istoriia iskusstv Uzbekistana* (Tashkent, 1956), 333–34; Veronika Leonidovna Voronina, "Arkhitektura stran Sredizemnomoriia, Afriki i Azii (VI–XIX vv.)," in *Vseobshchaia istoriia arkhitektury*, ed. N. V. Baranov, 12 vols. (Moscow, 1969), 8:309–310; Lazar' Izrailevich Rempel', *Arkhitekturnyi ornament Uzbekistana: Istoriia razvitiia i teoriia postroeniia* (Tashkent, 1961), 344; Mavluda Yusupova [Maylyuda Yusupova], "Evolution of Architecture of the Sufi Complexes in Bukhara," in *Bukhara: The Myth and the Architecture*, ed. Attilio Petruccioli (Cambridge, 1999), 121–32; Mavluda Yusupova [Maylyuda Yusupova], "L'évolution architecturale des couvents soufis à l'époque timouride et post-timouride," trans. Margarita Filanovich, *Cahiers d'Asie Centrale* 3–4 (1997): 229–50; Anette Gangler, Heinz Gaube, and Attilio Petruccioli, *Bukhara: The Eastern Dome of Islam* (Stuttgart, 2004), figs. 4.26–4.30, fig. 9.09.
3. On the literary activity at the court of 'Ubayd Allah Sultan in general, see Janos Eckmann, "Die tschagataische Literatur," in *Philologiae Turcicae Fundamenta*, ed. Jean Deny, Louis Bazin, Pertev Naili Boratav, Alessio Bombaci, Tayyib Gökbilgin, Fahir İz, and Helmuth Scheel, 3 vols. (Wiesbaden, 1959–1960), 2:364–68; Annemarie Schimmel, "Some Notes on the Cultural Activity of the First Uzbek Rulers," *Journal of the Pakistan Historical Society* 8, 3 (1960): 158–61; Mehmet Fuad Köprülü, *İslâm Ansiklopedisi* (Istanbul, 1977), s.v. "Çağatay Edebiyatı"; Maria Eva Subtelny, "Art and Politics in Early 16th Century Central Asia," *Central Asiatic Journal* 27, 1–2 (1983): 140–41.
4. V. M. Dmitriev, "Kompozitsionnye osobnosti bukharskoi arkhitektury vtoroi poloviny XVI v.," *Materialy po istorii i teorii arkhitektury Uzbekistana* 1 (1950); Robert D. McChesney, "Economic and Social Aspect of the Public Architecture of Bukhara in the 1560s and 1570s," *Islamic Art* 2 (1987): 217–42.
5. Robert D. McChesney, *Encyclopaedia Iranica* (Costa Mesa, Calif., 1992), s.v. "Central Asia, vi: In the 16th–18th centuries."
6. On the history and government of the Shibanid dynasty, see McChesney, "Central Asia, vi"; Robert D. McChesney, *Encyclopaedia of Islam, New Edition* (henceforth *EI2*) (Leiden, 1954–2002), s.v. "Shibanids"; Svat Soucek, "The Shaybanids," in *A History of Inner Asia* (Cambridge, 2000), 149–61; on the *kurultai* (political and military council) in Samarqand and its consequences, see Robert D. McChesney, *Waqf in Central Asia: Four Hundred Years in the History of a Muslim Shrine, 1480–1889* (Princeton, N.J., 1991), 51; Florian Schwarz, "Unser Weg schließt tausend Wege ein": *Derwische und Gesellschaft im islamischen Mittelasien im 16. Jahrhundert* (Berlin, 2000), 67–76.
7. Koran 62:9–11; 9:18; construction date 920 (1514–15). B. Babadzhanov et al., *Masterpieces of Architectural Epigraphy in Uzbekistan* (Tashkent, 2011), 1185–209.
8. Vladimir Filimonov and Elizaveta Nekrasova, "L'ensemble architectural de Tâq-e Sarrafân à Boukhara," *Cahiers d'Asie Centrale* 5–6 (1998): 118; Yelizaveta Nekrasova, *Die Basare von Buchara: Das Antlitz einer Handelsstadt im Wandel* (Berlin, 1999), 31.
9. Nekrasova, *Die Basare von Buchara*, 31.
10. An endowment deed (*waqf*) is preserved in Tashkent, Tsentral'nyi gosudarstvennyi arkhiv Respubliki Uzbekistana (Central State Archive of the Republic of Uzbekistan, henceforth TsGA), fond I-323. Deed no. 1096 is dated to 1518.
11. Unfortunately, most of the information on building activities in Bukhara in the first half of the sixteenth century is of an incidental character. Casual references to contractors or dates of construction usually do not specify the names of the buildings, nor do they give any additional information concerning the location, size, or appearance of the structures, the architects in charge, or the responsible craftsmen. Still unknown is the location of a Sufi convent built for the leading Naqshbandi shaykh, Makhdum-i A'zam, by order of his disciple (*murid*), 'Ubayd Allah b. Mahmud Sultan (between 1529 and 1533). See Bakhtiyar Babadzhanov, "Mir-i Arab," in *Kul'tura kochevnikov na rubezhe vekov (XIX–XX, XX–XXI vv.): Problemy genezis i transformatsii; Materiyaly mezhdunarodnoi konferentsii, g. Almaty, 5–7 iyunia 1995 g.*, ed. N. Z. Sakhanova (Almaty, 1995), 96–97. A mosque built in Bukhara on behalf of Mirza Khojagi (1533–1534) could also not be located. There is a chronogram of the

- famous calligrapher Mir 'Ali al-Husayni in the Kevorkian Album: Stuart Cary Welch, Annemarie Schimmel, Marie L. Swietochowski, and Wheeler M. Thackston, *The Emperors' Album: Images of Mughal India* (New York 1987), pl. 14, 106.
12. Nekrasova, *Die Basare von Buchara*, 34–41.
 13. Between 1527 and 1533, a madrasa was built on behalf of Mulla Mirak Latif Divan: *Tārīkh-i Rāqim*, Ms. Edinburgh, fols. 101b–102a (trans. Florian Schwarz). It could not be proven whether the Mulla Mirak Latif Divan Madrasa and the Gaziyan Madrasa are, in fact, the same construction. Endowment deeds for the Gaziyan Madrasa are preserved in Tashkent, TsGA, fond I-323. Endowment deeds nos. 12 and 1194/2 are dated to 1535; endowment deed no. 1186/5 is dated to 1542.
 14. On the patron of the building, see Babadzhanov, "Mir-i Arab," 88–102; the endowment deed for the madrasa of Mir-i 'Arab, dated to 1527, is also preserved in Tashkent, TsGA, fond I-323, no. 16.
 15. Bakhtiyar Babajanov, "Datation de la mosquée Vâlidaye 'Abd al-'Aziz Xân à Boukhara d'après les données épigraphiques et historiographiques," *Studia Iranica* 28, 2 (1999): 227–35.
 16. According to Ḥasan Nişārī, 'Abd al-'Aziz b. 'Ubayd Allah was a disciple of Shaykh Jalal (d. 1548–49): Bahā' al-Dīn Ḥasan Nişārī Bukhārī, *Muzakkiri aḥbob: Düstlar ědnomasi; Tazkira*, trans. Ismoil Bekzhon (Tashkent, 1993), 40–43.
 17. According to unpublished excavation reports from 1971–72, there were four different building periods, the third one in the sixteenth century. See B. Kochnev, *Zakliuchenīia po shurfam* (Tashkent, 1973), folder no. B 3565/K76, in the Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
 18. The patron of this complex, which consists of a madrasa and a mosque, has not been identified. The authors of the present article stylistically compared the now-vanished panels of the mosque with the panels of the Mir-i 'Arab Madrasa. This comparison suggested a similar date of manufacture.
 19. Vasilii Afanas'evich Shishkin, "Mechet Magaki Attari v Bukhare," *Trudy Instituta Istorii i Arkheologii* 1 (1948): 3–21.
 20. V. L. Viatkin, "Sheikhi Dzhuibari, I. Khodzha Islam," in V. V. Bartol'du, ed. A. E. Shmidt and E. K. Betger (Tashkent, 1927), 8.
 21. Viatkin, "Sheikhi Dzhuibari," 9; Shishkin, *Arkhitekturnye pamiatniki Bukhary*, 24; V. A. Lavrov, *Gradostroitel'naiia Kult'ura Srednei Azii* (Moscow, 1950), 104.
 22. Nişārī, *Muzakkiri aḥbob*, trans. Bekzhon, 46.
 23. Martin B. Dickson, "Shah Tahmasb and the Uzbeks: The Duel for Khurasan with Ubayd Khan" (PhD diss., Princeton University, 1958).
 24. Schwarz, "Unser Weg schließt tausend Wege ein", 86.
 25. I. F. Borodina, "Mechet' Baland v Bukhare," *Arkhitekturnoe Nasledstvo* 19 (1972): 175–82.
 26. An article on the architecture of the Baland Mosque, its interior decoration, and design is currently under preparation by Mustafa Tupev (Otto-Friedrich-Universität Bamberg).
 27. On the topography and history of Bukhara up to the tenth century, see Petruccioli, *Bukhara: The Myth and the Architecture*, 15–61; Gangler, Gaube, and Petruccioli, *Bukhara*, 39–52.
 28. Nekrasova, *Die Basare von Buchara*, 14.
 29. One of the few documents describing the historical topography of Bukhara in the fifteenth century is an instruction book for pilgrims, written around 1425; see Ahmad b. Mahmud, *Kitab-i Mullazade* (Tashkent, 1992). On the urban development of Bukhara in the second half of the sixteenth century, see McChesney, "Economic and Social Aspect," and Nekrasova, *Die Basare von Buchara*.
 30. The square-shaped main space measures approximately 9.5 m × 9.4 m, equivalent to nearly 20 × 20 Persian cubits (*gez*), according to Albert Houtum-Schindler, "On the Length of the Persian Farsakh," *Proceedings of the Royal Geographical Society and Monthly Record of Geography*, new monthly series, 10, 9 (London, 1888): 584–88. O'Kane has also examined the metrology of several buildings dating to the sixteenth century. Taking a certain degree of inaccuracy into consideration, it is surprising that the *gez* used in Turbat-i Jam (67.5 cm) seems to match well with the dimensions of the Khoja Zainuddin Mosque. See Bernard O'Kane, *Timurid Architecture in Khurasan* (Costa Mesa, Calif., 1987), 34–37, for more information on the *gez* used in Turbat-i Jam. A similar specification is given by Hinz (66.5 cm) for the *dhirā' al-Hāshimīyya*, also known as the *dhirā' al-malik*: Walther Hinz, "Islamische Maße und Gewichte," *Handbuch der Orientalistik*, Supp. 1, Bk. 1 (Leiden, 1955), 58–59.
 31. These are internal lengths.
 32. On the dome constructions in sixteenth century, see K. S. Kryukov, *Progressivnye tendentsii zodchestva Srednei Azii XVI veka* (Tashkent, 1965), 9–15.
 33. Koran 67:1–15. The verse was not completed and the typical ending (*ṣadaqa Allāhu al-'azīm*) is missing. This is due to an obviously later restoration, where the beginning and the end were repainted. Yet, the craftsman does not seem to have been well versed in Arabic writing, so that not only the verse but also a word (*rizqihi*) has not been completed, and only the first two letters were painted.
 34. Koran 2:255.
 35. Southern wall: *Qāla Rasūl Allāhi ṣalla Allāhu 'alayhi wa-salam al-masjid bayt kull taqī* (The messenger of God, peace be upon him, said: The mosque is the home of every pious person); Muḥammad Nāṣir al-Dīn al-Albānī, ed., *Ṣaḥīḥ al-targhib wa 'l-tarhib* (Beirut, 1982), pt. 1, no. 325; northern wall: *Qāla al-Nabī 'alayhi 'l-salām al-mu'min fi l-masjid ka 'l-samak fi 'l-mā'* (Allah's Prophet, peace be upon him, said: a believer in the mosque is like a fish in water). The second hadith could not be identified in any of the known collections of hadith.
 36. Historical photograph, 1947, inv. no. 25882, code 136, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.

37. Historical photograph, 1947, inv. no. 25887, code 136, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
38. Volkmar Enderlein, Almut von Gladiss, Gisela Helmecke, Jens Kröger, and Thomas Tunsch, *Museum für Islamische Kunst: Staatliche Museen zu Berlin Preußischer Kulturbesitz* (Mainz, 2001), 109.
39. Gülru Necipoğlu, *The Topkapı Scroll: Geometry and Ornament in Islamic Architecture; Topkapı Palace Museum Library MS H. 1956* (Santa Monica, 1995), 9.
40. N. B. Baklanov, *Arkhitekturnye chertezhi uzbekskogo mastera XVI veka*, Soobshcheniia Instituta istorii i teorii arkhitektury (Moscow, 1944), 4–21.
41. An examination and chemical analysis of the color pigments are currently being conducted at the Otto-Friedrich-Universität Bamberg. All blue pigments have so far been identified as pure lapis lazuli from the region of Badakhshan. Green pigments show different compositions, mainly based on copper compounds, whereas brown and red pigments vary between minium and cinnabar.
42. Red clay: aluminium silicate with significant percentages of iron oxide, gypsum, and anhydrite, as well as an organic binder. It is usually applied to the elevated ornaments as part of the famous *kundal* technique.
43. Although considered a typically “Transoxianan” technique, this kind of decoration exists in a number of Safavid buildings in Isfahan, like the Harun Vilayat, Ali Kapu, and Chihil Sutun. Most of the publications on the *kundal* technique are in Russian: see B. V. Krusman, “K voprosu o stile arkhitekturnykh pamiatnikov Samarkanda XV v.,” in *Iskusstvo Srednei Azii*, ed. Boris Petrovich Denike (Moscow, 1930), 28–41; Denike, *Arkhitekturnyi ornament*, 199–220; A. V. Vinner, *Materialy i tekhnika monumentalno-dekorativnoi zhivopisi. Stennaia, plafonnaia i dekorativnaia zhivopis* (Moscow, 1953); B. N. Zaspikin, “Dekorativno-hudozhestvennye elementi mavzoleia Ishratkhana,” in *Mavzolei Ishratkhana*, ed. M. E. Masson (Moscow, 1953), 92–109; Rempel’, *Arkhitekturnyi ornament Uzbekistana*; V. A. Nilsen and V. N. Manakova, *Arkhitekturnyi dekor pamiatnikov Uzbekistana* (Leningrad, 1974).
44. There are two explanations for the meaning of the term. The first one (Persian: low wave) was recorded by Mrochkovskii in 1925 from Abdul Kadir Bakiev, a famous old master-builder from Samarkand. Mrochkovskii was the first person to conduct extensive research on the technique applied at the Ak Sarai Mausoleum: see Denike, *Arkhitekturnyi ornament*, 208. The second explanation goes back to Pugachenkova, who, in a work on the architecture of the second half of the fifteenth century, mentions the existence of a type of brocade with the same name in the region of Bukhara. Thus, *kundal* became the name of the enhancements on the brocade textile. Galina Anatol’evna Pugachenkova, *Pamiatniki arkhitektury Srednei Azii epokhi Navoi* (Tashkent, 1957), 50.
45. G. N. Nikitin, *Otchet po razchistke zhivopisi v mecheti Baliand v 1951–1952* (Tashkent, 1951–52), 6; folder B 193/H 62, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
46. *Cheresh* is the Uzbek name for *Eremurus inderiensis* (fam. *Liliaceae*). The lime, which is used as a binder for painting pigments as well as for the stabilization of the *qizil kesak*, is extracted from the roots of this plant. See Gustave Gintzburger, K. N. Toderich, B. K. Mardonov, and M. M. Mahmudov, *Rangelands of the Arid and Semi-Arid Zones in Uzbekistan* (Montpellier, 2003), 207.
47. Vinner, *Materialy i tekhnika*, 517.
48. Koran 2:255.
49. Undated historic photograph, inv. no. 3983, code 35–9, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
50. On the composition of the glues, see P. Chamberlain, R. Drewello, L. Korn, W. Bauer, T. Gough, A. Al-Fouzan, N. van Doorn, O. Craig, and C. Heron, “Construction of the Khoja Zaynuddin Mosque: Use of Animal Glue Modified with Urine,” *Archaeometry* 53, 4 (2011): 830–41.
51. See n. 41 above.
52. Ibid.
53. A study of the wooden construction and design of the capitals of the Khoja Zainuddin Mosque is currently being conducted by Manfred Schuller and Andrij Kutnyi (Technische Universität München).
54. Samples of each color were analysed at Otto-Friedrich-Universität Bamberg and initial results were published in Jasmin Badr, Christiane Huck-Stiasny, Rainer Drewello, and Uli Schüssler, “Materialwissenschaftliche Untersuchung des Fliesendekors an der Moschee Khoja Zainuddin in Buchara (Usbekistan),” in *Archäometrie und Denkmalpflege 2010: Proceedings of the Jahrestagung im Deutschen Bergbau-Museum Bochum, 15.–18. September 2010*, ed. Oliver Hahn, Andreas Hauptmann, D. Modarressi-Tehrani, and Michael Prange, special issue, *Metalla* 3 (Bochum, 2010), 172–74.
55. A similar room shape can be observed in other khanqahs, such as the Hazrat-i Imam or the Baha’ al-Din Naqshband, for example.
56. Historic photograph, 1954, inventory no. 7762, code 58-3, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
57. An alternating system of worked beams (approximately 18 cm × 19 cm) and round beams (approximately 18 cm in diameter) was applied. In between, bricks were fixed with a very delicate mortar. Chunks of bricks were employed for a leveling layer, which was finished with a floor screed. See Jasmin Badr, Christiane Huck-Stiasny, and Rainer Drewello, “Gypsum Mortars of the Khoja Zainuddin Mosque in Bukhara (Uzbekistan)—A Contribution to Building Archaeological Studies,” in *Historic Mortars and RILEM TC 203-RHM Final Workshop HMC2010: Proceedings of the 2nd Conference and of the Final Workshop of RILEM*

- TC 203-RHM Prague, 22.–24. September 2010*, ed. Jan Válek, Caspar Groot, and John J. Hughes (Bagneux 2010), 3–10.
58. A *sandal* is a simple heating device, in which the charcoal is heated in a large metal bowl embedded in the floor and covered by a table.
 59. Similar fireplaces are still preserved in the Ulugh Beg Madrasa and in the ‘Abd Allah Khan Madrasa (fig. 1) in Bukhara.
 60. The decoration of some rooms in the ‘Abd Allah Khan Madrasa features a similar arrangement. Wallpaper was also employed for the decoration, as well as the same blue color that can be observed in Room 5.0 of the Khoja Zainuddin Mosque.
 61. Also *dombura*, a long-necked lute with two strings. This instrument is also sometimes used to play Sufi music. See Jean Jenkins and Poul Rovsing Olsen, *Music and Musical Instruments in the World of Islam* (London 1976), 14.
 62. Historic photographs, 1954, inv. no. 25860, code 136, and inv. no. 7760, code 58–3, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
 63. Historic photograph, 1945, inv. no. 25860, code 136, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
 64. See Clémence de Selva and Cédric Trentesaux, “Persistances et changements dans l’habitat boukhariote” (master’s thesis, École d’Architecture de Paris-Belleville, 2002); and Emmanuelle Roux and Rémi Fromont, “Boukhara: un ordre caché” (master’s thesis, École d’Architecture de Paris-Belleville, 2002).
 65. V. I. Kochedamov, “Gorodskie vodoemy Bukhary i Samar-kanda,” *Arkhitekturnoe nasledstvo* 8 (1957): 173.
 66. The inscription refers to a restoration of the pool in 1915 (trans. Florian Schwarz). The work was commissioned by the *qushbegi* Nasrallah, first minister in the Emirate of Bukhara during the reign of Amir Alim Khan.
 67. Rempel’ mentions that the fifth branch provided only the pools of Khoja Zainuddin and Lesak with water. However, in the map of the water system of Bukhara drawn at the Uzbekistan Institute of Tropical Medicine, also published by Rempel’, a third pool named Ataliq is seen next to that of Khoja Zainuddin. See Lazar’ Izrailevich Rempel’, *Dalëkoe i blizkoe: Stranitsy zhizni, byta, stroitel’nogo dela, remesla i iskusstva Staroi Bukhary* (Tashkent, 1981), 143–50.
 68. Robert Valievich Almeev, Director General of the Bukhara State Architectural and Art Museum and Preserve, personal communication.
 69. François Déroche and Almut von Gladiss, *Buchkunst zur Ehre Allahs: Der Prachtkoran im Museum für Islamische Kunst* (Berlin, 1999), 81, 89–91; Duncan Haldane, *Islamic Bookbindings in the Victoria and Albert Museum* (London, 1983), 99–101.
 70. An architectural survey of the complex was carried out by K. S. Kryukov and V. V. Chernyaev in March 1951. Historic photographs, inv. nos. 9711 to 9714, code 61-9, ground plan in folder 144, Bukhara and Region: Quarter mosques, 1951, Archive of the General Directorate of Scientific Production for the Preservation and Utilization of Cultural Heritage Buildings, Tashkent.
 71. Arthur Upham Pope and Phyllis Ackerman, *Survey of Persian Art From Prehistoric Times to the Present*, 16 vols. (Tehran, 1977), 10: pl. 949; Olympiada Galerikina, *Mawaran-nahr Book Painting* (Leningrad, 1980), pl. 2.
 72. Pope and Ackerman, *Survey of Persian Art*, 8: pl. 414.
 73. *Ibid.*, pls. 430–31.
 74. On the history of the Masjid-i ‘Atiq, see Donald N. Wilber, *The Masjid-i ‘Atiq of Shiraz* (Shiraz, 1972).
 75. R. R. Abdurasulev and L. I. Rempel’, “Neizvestnye pamiatniki arkitektury baseina Kashkadar’i,” in *Iskusstvo zodchikh Uzbekistana*, ed. Galina Anatol’evna Pugachenkova, 4 vols. (Tashkent, 1962), 3:5–44.
 76. Unfortunately, nothing is known about the style of this painting. Hāfīz-i Tanīsh ibn Mīr Muḥammad Bukhārī, *Sharaf-nāma-i shāh = Kniga shakhskoī slavy: Faksimile rukopisi D 88*, trans. M. A. Salakhetdinova, 2 vols. (Moscow, 1983), 1:225–28.
 77. See www.archnet.org, image ID IMG08858, dated to 1933–34, photographer Robert Byron, © Conway Library, Courtauld Institute of Art, Source ID Byron Neg. # A38_203; image ID IMG10409, dated ca. 1980, photographer and © Lisa Golombek, Source ID 154.2 B 199 2Ab.
 78. On the dating of the mausoleum, see Lisa Golombek and Donald Wilber, *The Timurid Architecture of Iran and Turan*, 2 vols. (Princeton, N.J., 1988), 1:295–96. On reconstruction work done at the shrine under ‘Abd al-Hadi Parsa, shaykh al-Islam of the city of Balkh in 1552, and a consequent enlargement and refurbishment of the complex between 1577 and 1587 under his brother and successor as shaykh al-Islam, ‘Abd al-Wali Parsa, see Robert D. McChesney, “Architecture and Narrative: The Khwaja Abu Nasr Parsa Shrine. Part I: Constructing the Complex and Its Meaning, 1469–1696,” *Muqarnas* 18 (2001): 104–5, 107. On reconstruction work under ‘Abd al-Mu’min b. ‘Abd Allah (r. 1584–98), see Bernard O’Kane, “The Uzbek Architecture of Afghanistan,” *Cahiers d’Asie centrale* 8 (2000): 130–47.
 79. Golombek and Wilber, *Timurid Architecture*, cat. no. 77, 314–15.
 80. The graffito is framed by a cartouche similar to those in the central window niche of the south wall.
 81. Between 1920 and the present day, many religious buildings in Bukhara have disappeared. Thanks to the efforts of Kryukov, who in the 1950s conducted his architectural survey of different quarter mosques, valuable information about these historical buildings has been preserved. On changes in the urban fabric after the Bolshevik conquest of the city, see Mounira Azzout, “The Soviet Interpretation and Preservation of the Ancient Heritage of Uzbekistan: The Example of Bukhara,” in Petruccioli, *Bukhara: The Myth and the Architecture*, 161–73; on the results of the survey undertaken in the city *intra muros* in March 2002 by Florian Schwarz, see Gangler, Gaube, and Petruccioli, *Bukhara*, 72.

82. See the Bala Hawz Mosque (fig. 1), Mawlana Sharif Mosque, Abdallah Cho'qor Mosque, Dust Chukhr Akasi Mosque, Valida-i 'Abd al-'Aziz Khan Mosque, Khoja Tabband Mosque, Zabbayan Mosque, and Sayyid Kamal Bi Mosque.
83. See the Baland Mosque and Imam Muhammad al-Ghazali Mosque.
84. Examples are still preserved in the Baha' al-Din Naqshband Complex, Bala Hawz Mosque, Mawlana Sharif Mosque, and Pa-i Astana Mosque, as well as in the interior of the Baland Mosque, with its ceiling and small muqarnas dome in the center, which are suspended from the roof construction by chains.
85. Radiocarbon analysis (AMS) of different wood samples from the portico revealed results ranging from 1443 to 1740, a dating that requires further investigations and, at present, could hardly find any reasonable explanation. Similar portico constructions in Bukhara obviously existed in the sixteenth century, as they can be seen in miniature paintings dated to 1540–50 (see Stuart Cary Welch, *India: Art and Culture 1300–1900* [New York, 1986], 211, pl. 139) and 1553–1554 (Francis Richard, *Splendeurs persanes: Manuscrits du XIIe au XVIIe siècle* [Paris, 1997], 120, pl. 97).
86. Nekrasova, *Die Basare von Buchara*, 27.
87. On the map drawn by Parfenov-Fenin, the building is marked as a mosque: see Gangler, Gaube, and Petruccioli, *Bukhara*, 166. In the same publication, the authors mention the building as both a mosque and a khanqah (ibid., 104). However, Yusupova regards the building only as a khanqah: see Yusupova, "Evolution of Architecture," 121–32; Yusupova, "L'évolution architecturale des couvents soufis," 229–50.
88. In Khurasan and Transoxiana, several centrally-planned, domed khanqahs, with hujras in the corners of the buildings, are dated to the last quarter of the fifteenth century. In the latter region, examples from the sixteenth and seventeenth century are also known. In the case of the Khoja Zainuddin Mosque, the peculiar focus on the central, square-shaped space of the prayer hall may support the additional function as a khanqah. O'Kane, *Timurid Architecture*, cat. nos. 34, 49, 265–66, 319–21; Golombek and Wilber, *Timurid Architecture*, cat. no. 32, 267–68; on constructions dated to the sixteenth and seventeenth century, see Yusupova, "Evolution of Architecture," 121–32; Voronina, "Arkhitektura stran Sredizemnomoriia," 304–31.
89. See n. 35.
90. The inscription plaque was not found *in situ* (Room 7). The text refers to the restoration of a hujra in 1913, a donation from a certain Haji Rahmat (trans. Florian Schwarz and Lorenz Korn).
91. This was mentioned by Davidovich in an article on the dating of the mosque: see E. A. Davidovich, "K datirovke mecheti Khozha Zaineddina v Bukhare," in *Materialy po istorii i teorii arkhitektury Uzbekistana* (Tashkent, 1950), 25–30. The possibility that the deeds mention a preceding structure, unlikely as it is, cannot be excluded with an absolute certainty.
92. P. P. Ivanov, *Khoziaistvo dzhuibarskikh sheikhov: K istorii feodal'nogo zemlevladieniia v Srednei Azii v XVI-XVII vv.* (Moscow and Leningrad, 1954), 149–150, 140, 145–46, 133–34, 130–31, 134–35, 149.
93. Zayn al-Din Majmūd Wāsifi, *Badā'i' al-waqā'i'*, 2 vols., ed. A. N. Boldyrev (Moscow, 1961).
94. Some of the sultan's mystical religious ghazals and mathnawis found their way into an anthology assembled in Istanbul in 1534: Ms. Nuruosmaniye 4904. Muharrem Ergin, "Cami-ül-Meāni'deki Türkçe Şiirler," *Türk Dili ve Edebiyatı Dergisi* 3 (1949), cited in Eckmann, "Die tschagataische Literatur," 365.
95. Haydar Mirzā, *A History of the Moghuls of Central Asia: Being the Tarikh-i-Rashidi of Mirza Muhammad Haidar, Dughlat*, ed. N. Elias, trans., E. Denison Ross (London, 1898; repr. New York, 1972), 283.
96. Gülrü Necipoğlu, "From International Timurid to Ottoman: A Change of Taste in Sixteenth-Century Ceramic Tiles," *Muqarnas* 7 (1990): 136–70.
97. Schwarz, "Unser Weg schließt tausend Wege ein," 86–87.
98. M. M. Ashrafi-Aini, *Bukharskaia shkola miniatiurnoi zhi-vopisi: 40e–70e gody XVI veka* (Dushanbe, 1974); Oleg F. Akimushkin, "Biblioteka Shibanidov v Bukhare XVI veka," in *Bamberger Zentralasienstudien: Konferenzzakten ESCAS IV, Bamberg 8–12. Oktober 1991*, ed. Ingeborg Baldauf and Michael Friederich (Berlin, 1994), 325–41.
99. Nisāri, *Muzakkiri ahhob*, trans. Bekzhon, 46.
100. Ivanov, *Khoziaistvo*, 145–46. On Shaykh Nazar Bi, see Hasan Rūmlū, *A Chronicle of the Early Şafawīs, Being the Aḥsanu't-Tawārīkh of Hasan-i-Rūmlū*, ed. C. N. Seddon, 2 vols. (Baroda, 1931–34), 2:132–34.
101. See n. 85 above.
102. See n. 80 above.
103. J. Audrey Burton, "Nadir Muhammad Khan, Ruler of Bukhara (1641–1645) and Balkh (1645–1651)," *Central Asiatic Journal* 32 (1988): 24–25; Audrey Burton, *The Bukharans: A Dynastic, Diplomatic and Commercial History, 1550–1702* (Richmond, 1997), 206.
104. Burton, *The Bukharans*, 213.
105. See n. 66 above.